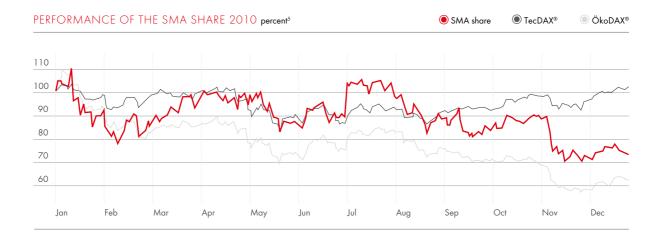


ANNUAL REPORT 2010 SMA SOLAR TECHNOLOGY AG THE FUTURE OF SOLAR TECHNOLOGY

#### BUSINESS GROUP FIGURES

SMA Group		2010	2009	2008	2007	2006
Sales	€ million	1,920.1	934.3	681.6	327.3	192.9
Export ratio	%	44.9	38.4	42.3	29.4	20.1
Inverter output sold	MW	7,750	3,381	2,180	950	430
Capital expenditure <sup>1</sup>	€ million	158.3	82.1	63.9	12.3	15.0
Depreciation	€ million	31.3	16.3	8.9	16.0	9.0
Operating profit (EBIT)	€ million	516.8	228.4	167.4	59.3	33.4
Operating profit margin	%	26.9	24.4	24.6	18.1	17.3
Consolidated net profit	€ million	365.0	161.1	119.5	36.8	20.5
Earnings per share <sup>2</sup>	€	10.52	4.64	3.44	1.06	0.59
Employees (average during the period) <sup>3</sup>		5,519	3,412	2,513	1,600	1,164
in Germany		5,179	3,236	2,400	1,535	1,133
abroad		340	176	113	65	31
SMA Group		12/31/2010	12/31/2009	12/31/2008	12/31/2007	12/31/2006
Total assets	€ million	1,251.5	718.6	469.6	163.2	112.3
Equity	€ million	728.4	407.6	280.8	64.4	40.7
Equity ratio	%	58.2	56.7	59.8	39.5	36.2
Net working capital <sup>4</sup>	€ million	284.6	98.6	78.0	59.4	34.3
Net working capital ratio	%	14.8	10.6	11.4	18.1	17.8
Net Cash	€ million	523.4	344.8	239.4	41.2	20.9



<sup>1</sup> excl. finance leases

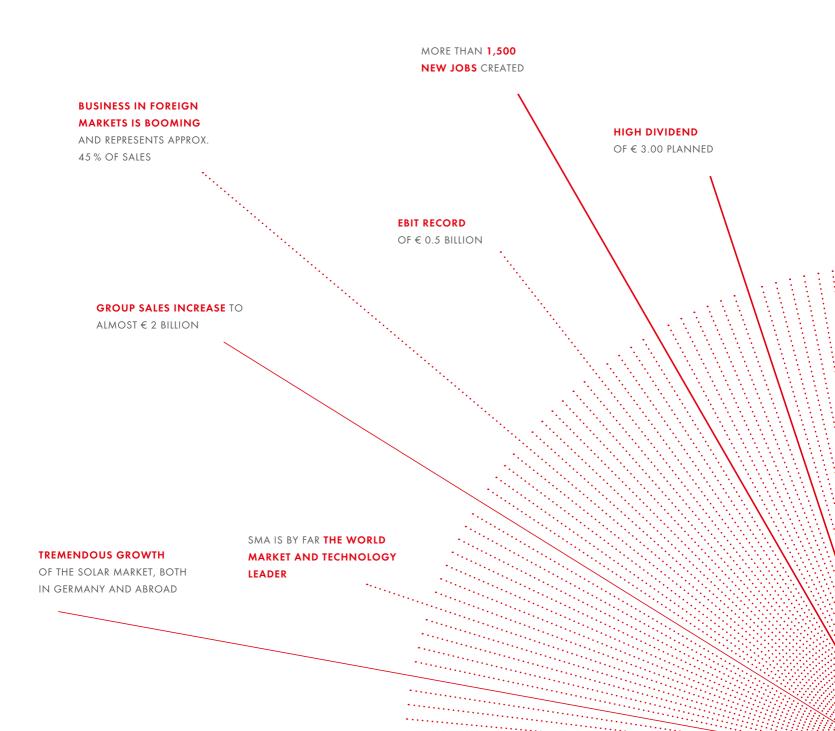
<sup>&</sup>lt;sup>2</sup> converted to 34,700,000 shares

 $<sup>^{\</sup>rm 3}$  incl. temporary employees

<sup>&</sup>lt;sup>4</sup> inventories and trade receivables minus trade payables

<sup>&</sup>lt;sup>5</sup> rebased to 100%

#### HIGHLIGHTS 2010



THE SUPPORT AND THE USE OF RENEWABLE ENERGIES ARE WAY TOO EXPENSIVE - THEY CRIPPLE THE ECONOMY. SOLAR POWER IS A TOPIC FOR AFICIONADOS. IT IS WAY TOO COMPLICATED AND TOO EXPENSIVE FOR THE AVERAGE CITIZEN. AT THE END OF THE DAY, ONLY THE ASIAN MODULE MANUFACTURERS BENEFIT FROM THE SUPPORT PROGRAMS OF THE FEDERAL GOVERNMENT. SOLAR ENERGY IS A TOPIC FOR AFICIONADOS. THE SOLAR INDUSTRY IS NOT VIABLE WITHOUT SUPPORT. THE SUN SIMPLY DOES NOT SHINE ENOUGH FOR SOLAR POWER IN GERMANY. THE SYSTEM COMPONENTS OF THE SOLAR SYSTEMS ARE SIMPLY WAY TOO EXPENSIVE!

### TALKS STRAIGHT.

SMA MAKES RENEWABLE ENERGIES COMPETITIVE

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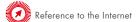
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### SMA 1981-2011

#### ON THE SUNNY SIDE FOR 30 YEARS

#### 1995

Innovation award for the Sunny Boy with string technology; installation of more than 550 small string inverters for the at the time biggest roofintegrated PV system of Academy Mont-Cenis in Herne, Germany

#### 1999

Introduction of the system solution Sunny Island for the stand-alone power supply; the innovation is characterized by simple scalability and the integration of other energy sources (wind, water)

#### 2002

Introduction of multi-string technology to control multiple strands of solar modules by means of an inverter in an ideal manner

#### 2000

Incorporation of the first foreign company SMA America; SMA has 400 employees

#### 2003

Start of the serial production of the multifunctional central inverter Sunny Central; sales grow to more than € 100 million; incorporation of SMA China

#### 1991

Start of the serial production of the PVWR 1500

#### 1989

Fitting of Deutsche Bundesbahn trains with SMA power electronics and more than 1,200 battery chargers for the first time

#### 1987

Development of the first transistor inverter for photovoltaic systems (PVWR 1500)

#### 1981

Incorporation of SMA (System-, Mess- und Anlagentechnik) Regelsysteme GmbH

#### 2001

SMA is the first inverter manufacturer to receive the UL certificate for the

#### 2006

The Sunny Mini Central 8000TL with an efficiency of 98% is world champion; the Sunny Island 5048 is the first modular off-grid inverter; incorporation of SMA Korea

#### 2004

Sunny Beam: First radio-controlled communication device for plant monitoring; first delivery of the Sunny Central MV station with an output of 1 MW

#### 2005

SMA has 1,000 employees; incorporation of SMA Iberica and SMA Italia

#### 2007

Innovation award for Sunny Backup (solar power, in case of a grid failure); SMA is the first manufacturer to open an own test center for solar technology; incorporation of SMA France, SMA Hellas, and SMA Australia

#### 2008

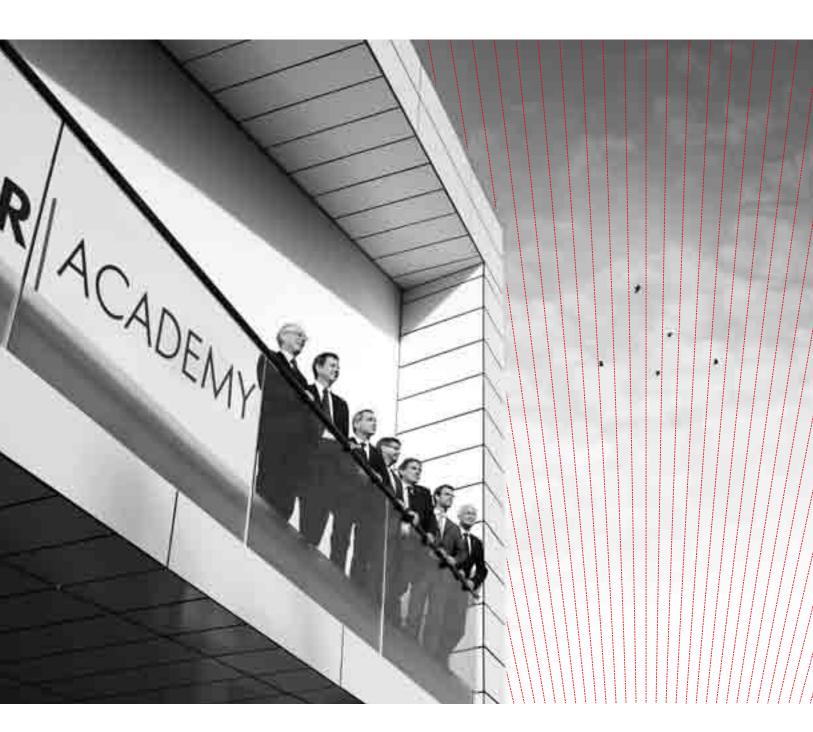
Biggest initial public offering in Germany; German Fairness Prize; SMA Bluetooth® standard for wireless system monitoring; SMA has more than 2,500 employees; SMA has equipped more than 4,000 rail vehicles worldwide as system supplier for onboard electrical system inverters.

#### 2009

Opening of the world's biggest CO<sub>2</sub>-neutral inverter factory in Niestetal; incorporation of SMA Czech Republic, SMA Belgium, SMA Middle East; SMA delivers 72 Sunny Central 500HE units for the at the time biggest PV system in the world (110 hectares) near Leipzig

#### 2010

More than 5,000 employees for the first time; new inverter production in the United States and Canada; SMA opens the power-grid-independent Solar Academy; the first three-phase solar inverter Sunny Tripower 17000TL receives an innovation award; record sales and result; incorporation of SMA India, SMA Canada, and SMA UK; SMA has 17 foreign companies on four continents





#### LETTER TO OUR SHAREHOLDERS

Dear shareholders, SMA is looking back at an excellent year 2010. We achieved the highest sales in the history of the Company with € 1.92 billion. The operating profit (EBIT) of the Group grew to € 516.8 million. In other words, we once again increased the EBIT margin in comparison to the previous year. And we produced approx. 8 GW of inverter capacity in a single year. For comparison: This corresponds to the power generated by nearly six nuclear power plants.

#### 1,500 NEW JOBS

The dynamic growth of SMA is also reflected in the organization. The number of our employees including the temporary employees worldwide exceeded the threshold of 5,000 for the first time in the year 2010. More than 1,500 new employees were permanently hired last year. Our employees constitute a crucial pillar of our corporate success. Their performance and their special dedication have once again contributed in a vital manner to the excellent result of SMA in the last year. I would like to take this opportunity to express my deep appreciation for this strong commitment on behalf of the entire Managing Board!

#### MARKET LEADERSHIP STRENGTHENED

In the year 2010, the globally attractive framework conditions resulted in the global market for photovoltaic systems developing in an extremely positive manner and achieving clear growth in comparison to the 2009 market development once again. For example, we estimate that solar power plants with a capacity between 17 GW and 20 GW have been newly installed worldwide. This corresponds to a growth between 125 % and 170 % compared to the previous year. Newly installed capacity of approx. 7 GW has been added in Germany, which continues to be the biggest photovoltaics market in the world.

We more than doubled our production capacities to 11 GW due to the sustained high demand at the beginning of 2010. However, we were unable to fully utilize them due to substantial global shortages of electronic components and semiconductors. The result was delays in the shipment of our inverters. The availability of electronic components at our suppliers gradually improved during the second half of the year, resulting in our delivery times to normalize again as well.

The fourth quarter 2010 was dominated by a severe drop in demand in Germany, in particular due to the continued reduction of the feed-in tariff: Many retailers waited with their new orders to see which effects the new reduction of the solar subsidy at the beginning of 2011 will have on the purchasing behavior of the plant operators. In addition, the winter conditions made new installations more difficult. This drop in demand still continued at the beginning of the new financial year 2011.

However, this development is not new for SMA; after all, being the global market leader, we have always been very closely linked to the global development of the photovoltaics markets. For example, changed framework conditions in the individual markets or even differences in demand that are due to the seasons have always caused extreme fluctuations in the order situation. However, SMA is able to quickly respond to such fluctuations due to its special flexibility strategy and its unique global market positioning.

SMA possesses a unique market position: No other company possesses such a comprehensive know-how in the field of inverters as SMA. Our product portfolio comprises inverters for all applications, power classes, and module types. It is flanked by an exceptionally customer-focused international sales and service network.

As a result, in 2010 SMA strengthened its position as global market leader with a market share of approx. 40 % in an environment which is characterized by increasing competition.

#### TECHNOLOGY LEADERSHIP EXPANDED

SMA has been a symbol of highest innovative strength for thirty years now. Our products are always characterized by a variety of innovations and a continuous cost reduction. In addition, we are trailblazers for grid integration and substantially contribute to the possibility for integrating even growing PV shares into the power grid in the future.

We have also expanded our technology leadership further in 2010. An example for outstanding product innovations is our Sunny Central Compact Power (CP) which lowers the costs of an entire system by up to 35 % and simultaneously also provides a nominal power that is up to 10 % higher at an outside temperature of up to 25 °C thanks to its innovative temperature management. Due to its innovative strength, the Sunny Central 800CP won the "Intersolar Award" that is awarded at one of the most important trade fairs of the industry in the year 2010.

A special product innovation is also our Sunny Tripower which won multiple awards and is characterized by its highly flexible system configuration as well as its globally unique safety concept. We consider our high level of technological competence an important core element for a corporate development that continues to be successful.



See p. 59 ff.

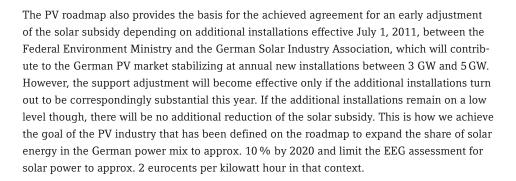
#### INCREASING IMPORTANCE OF THE FOREIGN MARKETS

While the German PV market was still the biggest photovoltaics market in the world in 2010, the biggest part of the market growth already took place abroad. Strong growth impulses primarily originated from the countries of Southern Europe and the United States. This development also affected the export rate of SMA which continued to grow to almost 45.0 %.

SMA already recognized the importance and the growth potential of the international markets at an early stage and is globally present on 4 continents in 15 countries with 17 companies and 66 service stations, accordingly. We continued pushing forward the internationalization in financial year 2010. Furthermore, we put into operation our first foreign productions in the United States and Canada and founded new sales and service companies in Canada, India, and Great Britain.

#### **FUTURE MARKET DEVELOPMENT**

The next years will be particularly decisive for the future of photovoltaics in Germany. The German Solar Industry Association BSW has detailed a full and comprehensive expansion plan for photovoltaics in Germany and the energy transformation with its PV roadmap 2020 "Directions for the Solar Economy", to which we have dedicated a separate chapter in our Annual Report.





See chapter "Photovoltaics as a Competitive Factor for Germany"p. 28 ff.

The PV roadmap will be a milestone for the continued success of photovoltaics in Germany and pave the way for the industry to have a constructive dialog with politics, the society, and the industrial sector in the future. In addition, it will contribute in combination with the early adjustment of the solar support depending on additional installations to a continued high acceptance of solar energy by the population.

In light of the changes to be expected for the support conditions in the individual countries, forecasts for the overall development of the global photovoltaics markets can only be made with difficulties for the year 2011. We expect additional installations between 17 GW and 20 GW of newly installed capacity worldwide in 2011. In that context, the market development will be substantially shaped by the European PV markets, North America, and India. SMA is already present in these solar markets with own sales and service companies.

Thanks to our high level of flexibility, our broad product portfolio of inverters for all PV applications, and our international presence, we are also in an excellent position and able to respond to all developments of the market this year.

#### **OUTLOOK**

We are convinced that the development of the global PV markets is still at the beginning. However, the essential growth impulses will originate from the foreign markets in the future. The trend to bigger solar systems with a power between 10 kW and 500 kW will also continue in that context. Accordingly, our sales forecast ranges from  $\in$  1.5 billion to  $\in$  1.9 billion at constant and/or slightly growing market shares. We expect an EBIT margin between 21 % and 25 % because of the growing intensity of the competition and the required development of structures.

The competition for market shares is primarily decided via technological progress. SMA is the technology leader among the inverter manufacturers. We have focused on research and development a great deal from the beginning in order to be able to expand our technology leadership. Today, SMA employs more than 600 engineers in that area alone that permanently work on the improvement of existing and the development of new products. We will expand our developer team further and also continuously invest in research and development in the future. In that context, we plan to increase our development expenditures to up to  $\[mathbb{e}\]$  100 million in the year 2011. This corresponds to 5 % to 7 % of the sales forecast. In addition, we will expand our network of strategic research and development cooperations in a targeted manner.

The essential priority for the current and future development of our inverters is the reduction of the total system costs of a PV system and the grid integration. When it comes to the reduction of the life cycle costs, the efficiency – that our inverters already reach top efficiencies in excess of 98 % for today – plays an important role; in addition, factors like the lifespan, reliability, simple installation and low service costs become very important. As the additionally installed PV capacity grows, the grid integration of photovoltaics also becomes increasingly significant. For example, PV systems increasingly need to realize control functions and grid services in order to ensure the grid stability and grid quality. The inverters are particularly responsible for these tasks. We have already achieved first successes with the Sunny Tripower 17000 and the Sunny Central 800CP. These devices already fulfill the considerable requirements of the Medium Voltage Standard of the German Association of Energy and Water Industries (BDEW).

Dear shareholders, we see SMA in an excellent overall position for the future. In addition to the expansion of our technology leadership and the cost reduction, we will push forward our development into a group with an even stronger focus on global operations. This also includes the adjustment of our organizational structure which aims to strengthen our focus on the customer further and account for the increasing internationalization. We will also continue our proven strategy to be one of the first solar inverter manufacturers represented with an own subsidiary in new markets with consistency in the next years.

Günther Cramer Chief Executive Officer





From left to right:

Günther Cramer

Roland Grebe

Uwe Hertel

Marko Werner

Jürgen Dolle

Peter Drews

Pierre-Pascal Urbon

#### GÜNTHER CRAMER

#### CHAIRMAN

#### OF THE MANAGING BOARD

Günther Cramer (\* 1952) studied electrical engineering and was one of the founders of SMA in 1981. He significantly shaped the development and the expansion of the power electronics competence of the SMA Group, especially with regard to the specific use in decentralized energy supply systems. Mr. Cramer is responsible for the areas of strategy and corporate communication. He is president of the German Solar Industry Association (BSW-Solar) and chairman of the Managing Board of deENet e. V. He has also been a member of the university advisory council of the University of Kassel since 2008.

#### ROLAND GREBE

#### CHIEF DEVELOPMENT OFFICER

Roland Grebe (\*1960) studied electrical engineering and has been working in various management positions in the area of development at SMA since 1984. He developed the first PV inverters that form the basis of the Sunny Boy and Sunny Central inverters of SMA. Roland Grebe transformed the central inverter area from an individual project processor into a serial manufacturer for power plant technology and developed the grid integration competence of SMA for the purpose of securing the future commercial viability of the products. Roland Grebe has been the member of the Managing Board responsible for development since June 2009.

#### UWE HERTEL

#### CHIEF OPERATING OFFICER

Uwe Hertel (\*1960) studied electrical engineering. Among others, he was working in the development division at Siemens AG until 1990. In 1990, he began his work at SMA and was responsible in various management positions for the development of the serial production of flat modules, to name but an example. Uwe Hertel has developed a highly flexible production concept for SMA and introduced it with great success in Germany and the United States. Uwe Hertel has been responsible for the operative business area on the Managing Board since April 2010.

#### MARKO WERNER

#### **CHIEF SALES OFFICER**

Marko Werner (\*1963) is an electrical engineer. He began his career at SMA in 1987. He was working in various management positions in the areas of product management, sales, and marketing until 2009. He has built a global sales organization as well as successful key account sales and developed innovative marketing concepts at SMA. In addition, he supported the Managing Board in the expansion of the corporate internationalization strategy. Marko Werner was appointed Chief Sales Officer in 2009. He is a member of the board of the European Photovoltaic Association (EPIA).

#### JÜRGEN DOLLE CHIEF HUMAN RESOURCES

#### OFFICER

Jürgen Dolle (\*1954) studied German and social studies for the teaching profession, and social affairs. From 1981 through 2000, he worked in various positions as social educator at Diakonisches Werk Kassel, last as deputy managing director. He headed the human resources of SMA as vice president since 2001. He designed the models for the personnel development and anchored the corporate culture in all areas of the Company. Jürgen Dolle has been responsible for the area of personnel management on the Managing Board since April 2010.

#### PETER DREWS

#### **CHIEF PRODUCT OFFICER**

Peter Drews (\*1956) studied electrical engineering and was one of the founders of SMA in 1981. He built the microelectronics area (hardware and software), an essential base technology of today's intelligent decentralized energy supply systems of the SMA Group. He has been responsible as member of the Managing Board for the area of systematic product cost reductions since 2009.

#### PIERRE-PASCAL URBON

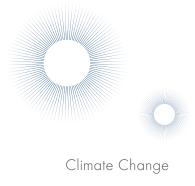
#### **CHIEF FINANCIAL OFFICER**

Pierre-Pascal Urbon (\*1970) studied business administration. Until 2005, he worked in the areas of M&A and corporate finance at the consulting company Drueker & Co., last as vice president. Pierre-Pascal Urbon has been at SMA since 2005 and was appointed to the Managing Board in 2006. He has been responsible for the area of finance since 2009. Pierre-Pascal Urbon planned the initial public offering of SMA and decisively advanced the internationalization. He is a member of the central regional advisory council of Commerz-bank AG.



# 

THE POLAR BEARS DISAPPEAR
WITHOUT CLEAN POWER.



# IT IS STILL TOO EARLY FOR THE ENERGY TRANSFORMA-TION, IT IS A FUTURE TOPIC.

**WIDESPREAD PREJUDICE** 



#### WHEN MAN MAKES THE CLIMATE

The temperatures on Earth are determined by the sunlight and the Earth's atmosphere. As life could not exist on Earth without it, the atmosphere plays an important role in that context. It stores part of the solar irradiation of the Earth as heat energy. An average temperature of – 18 °C would predominate on Earth without this natural greenhouse effect.

#### **GLOBAL WARMING WITH SERIOUS CONSEQUENCES**

Man has produced additional greenhouse gases that greatly heat up the atmosphere since the beginning of the industrialization. Because of that, it is also referred to as anthropogenic, i.e. man-made, greenhouse effect. Especially the  $\mathrm{CO_2}$  concentration due to the combustion of fossil energy sources is problematic in that context. If the  $\mathrm{CO_2}$  emissions were to continue increasing in an unchecked manner, we would still have to expect a drastic temperature increase in this century. This is the conclusion of the Max Planck Institute for Meteorology in Hamburg. If we wanted to limit the warming to  $2\,^{\circ}\mathrm{C}$ , the  $\mathrm{CO_2}$  emissions would have to be reduced by  $56\,\%$  from the year 2015 to the year 2050. It would even be necessary to completely avoid all emissions until the end of the century in order to achieve a long-term stabilization of the  $\mathrm{CO_2}$  concentration in the atmosphere. However, this only keeps the global warming below the  $2\,^{\circ}\mathrm{C}$  limit; it will still get warmer afterwards as well. The climatologists in Hamburg expect that a stabilization of the global climate systems could take centuries.

We will clearly feel the effects, even if the warming is by just 2°C – man destroys his living space with the climate warming. This is already noticeable today.

1982 Ice cores from Greenland document drastic temperature changes.

1983 The US Environmental Protection Agency publishes studies according to which the increase of CO<sub>2</sub> might cause warming of the Earth's atmosphere.

1985 The first photovoltaic power plant becomes operational in the United States.

1990 The first IPCC report concludes that the Earth has already warmed

that the Earth has already warmed up and further warming is probable in the future.

1995 The second determines a signary area to a second as a second area to a second area to

1995 Increase of the temperature of the Earth's atmosphere by 4 °C since measurement started.

1995 The second IPCC report determines a signature of the manmade greenhouse effect and global warming.



1998 The "Super El Nino"
causes weather catastrophes
and the warmest year in documented history.

1999 Massive "brown clouds" of poisonous chemicals, soot, and smog cover the skies in many parts of Asia and affect the local climate.

2003 Numerous observations give cause for the concern that the melting of the ice cover causes the sea level to rise more quickly.

**1997** The international climate conference adopts the Kyoto Protocol.

**2002** The third IPCC report states that global warming with severe consequences is very likely.

**2005** The Kyoto Protocol officially becomes effective.

#### Ü

In the future, the economy will play an increasing role in providing important impetuses in the fight against global warming.

#### **CLIMATE SUMMIT IN CANCUN DEVELOPS A COMPROMISE**

Following failed accords of prior summits, an agreement that the greenhouse gases are responsible for the global climate change and must be reduced as quickly as possible was finally reached at the climate summit in Cancun in December 2010.

The environmental goals are:

- Limitation of the global warming to 2°C in combination with the option to define a goal of 1.5°C in case of new scientific findings.
- Reduction of the  ${\rm CO_2}$  emissions that are harmful to the climate by 25 % 40 % below the level of 1990 by 2020.
- Setup of a forest protection program and a Green Climate Fund for the countries that are most affected. The industrialized nations are to pay approx. 100 billion dollars into the program each year until 2020.
- A decision regarding a possible second commitment period of the Kyoto Protocol expiring in 2012 will be made at a later time. It defines emission reduction goals for all industrialized nations. However, the United States have not ratified the agreement to this day.

In any case, this is just a draft which is not yet binding, especially with regard to limiting the global warming to 2 °C. After international politics have only responded with much reluctance to the imminent dangers, national initiatives are in demand. Germany is considered the trail-blazer in the world in that context. The Renewable Energy Sources Act does not just force the transition to regenerative energies, but also benefits the development of an industry that is globally leading in that field. Accordingly, essential impulses for fighting global warming will originate from the industry in the future.

#### **GERMANY INVESTS INTO A CLEAN FUTURE**

The largest part of the  $CO_2$  emissions in Germany may be attributed to the energy industry. The Federal Environment Agency quantifies the share at more than 45 % for the year 2007. As a result, the reorganization of the German energy system provides the biggest leverage for the reduction of the  $CO_2$  emissions – also coinciding with positive effects for the German economy. The technologies and products of German companies are used for climate protection; they

2007 Hurricane Kyrill, one of the most violent storms of the last ten years, passed over Germany in January. It caused the deaths of 13 people. Approximately 50 million trees were knocked over; the total damage ran into billions.

2007 The CO<sub>2</sub> content of the atmosphere reaches record values.

2009 A new study indicates that the rain forests might become sources of greenhouse gas in the context of the climate change.

2009 Trees grew slower and considerably more trees died than the long-term average.

2007 The European Union passes an ambitious energy and climate package: The quota of renewable energies is to reach 20% by 2020.

**2007** The fourth IPPC report warns that severe results of global warming are already visible.

2009 EU guidelines for the support of the renewable energy usage become effective in view of the limited availability of fossil energy resources and for reasons of environmental and climate protection.

STRAIGHT TALK 021

harbor big economic opportunities at the same time. That was the result of a BDI climate study which was already concluded in 2007. According to the study, while Germany caused just 3 % of the global  $\rm CO_2$  emissions, it increasingly invests in research and development for innovative environmental technologies – and consequently forms the global spearhead in the fight against global warming.

If we do not emphasize investments in renewable energies, energy efficiency, and climate protection, the consequences of the climate change could become a serious problem for the economy. "The consequential costs of the climate change could be far greater than the investments in climate protection and result in a minus of the gross domestic product of up to 20 %", the Fraunhofer Institute for Systems and Innovation Research forecast, among others.

#### CLIMATE AND RESOURCE PROTECTION VIA RENEWABLE ENERGIES

The Fraunhofer Institute has evaluated the data from research project ADAM – Adaptation and Mitigation Strategies: Supporting European Climate Policy. This represents the further development of the Kyoto Protocol for the time after 2012. According to that, it is technically and economically feasible to reduce greenhouse gases by 80 % from the 1990 level by 2050, in particular in Europe. One path is the emissions trade which is characterized by the fact that a part of the European industry may sell authorizations for the emission of CO<sub>2</sub>. However, that alone is not enough. "We have to start with climate protection now", says Dr. Wolfgang Schade from the Fraunhofer Institute. The renewable energies, electric mobility, and innovative material technologies are the driving force for the replacement of fossil fuel for the generation of energy in the medium term. Increasing scarcity of resources, in particular oil and coal, makes the transition to the renewable energies a current topic. The protection of resources and climate protection go hand in hand in that context.

2010 Oceans increasingly acidify due to absorbing the  ${\rm CO_2}$  from the atmosphere. Because of that, corals and other sea dwellers can no longer form their calcareous skeleton.

2011 Maximum credible accident in the Fukushima I nuclear power plant makes the energy transition even more necessary.

2100 Researchers expect in the best-case scenario further global warming by 1.0°C to 2.7°C until the end of the 21st century. The worst-case scenario even forecasts a temperature increase by 2.4°C to 6.4°C in the next 100 years.

### **THE TRANSITION TREND -**CHANGE MUST BE BORNE BY ALL

Trend researcher and communication designer Peter Wippermann has been tracking social changes for more than 20 years. "The renewable energies as ecological and economic alternative to the conventional power supply will play the decisive role in the supply mix of the future", of that he is certain. A conversation about the global climate change, the role of renewable energies, and the attitude shift of the Germans.

#### Professor Wippermann, climate change is a scientifically accepted problem. Which trends may be associated with it?

I understand trends to be joint adaptation strategies for a changed environment. Our environment changes, that can be determined without a doubt. The causes were argued for a long time – two opposing explanation strategies could be observed in that context in the last years: One group traced the climate change back to solely natural phenomena; another one determined human causes to be the reason of global warming. The second group has become accepted on the international level since then. This explains the trend to technologies and behaviors that stop the human causes of global warming and consequently mitigate the effects of the climate change. This trend is definite.

#### The climate change is a global phenomenon. Does it require a global response?

Of course there is a need for global efforts – however, international politics respond in a very lethargic manner as could be seen at the climate summit in Cancun at the end of 2010. I believe that the most important impulses must be given on a much smaller level; and a broad effect is then achieved via the networking of human beings – for example through social media.

#### So a global problem is supposed to be solved locally?

At the end of the day, climate change affects each person individually – and everybody is able and required to confront the effects of the climate change with his daily behavior. For example by making ecologically sensible consumer decisions – purchasing regenerative power, perhaps installing a solar system as homeowner. We, the Western consumers, already receive numerous offers for consumption behavior that is good for the climate. We have a special



situation here in Germany: We are able to immediately start with the world's best technology to initiate the energy transformation. And if this is accepted and moved along by the broad majority, we will experience another effect: We will become independent from coal, oil, and gas imports and consequently even ensure our standard of living. Us Germans, we have every reason for optimism; after all, we can start protecting the climate immediately.

#### Does the German consumer go along with that?

It is always important to distinguish between what humans say and what they actually do. The consumer is generally opposed to climate change, but he still does not wish to give up his car, air travel, or discounts in the supermarket. There are almost no reconsideration processes in that context. The excitement about the climate change which has socially been borne by all – in other words not just certain groups of the population, but also politics – has slowed down since the economic and financial crisis. The interest in climate protection has clearly dropped, especially with the younger ones. Now money has become the focal point again. Sure, the people want to have the problem resolved. But by the politicians and companies, please! Resistance starts when it comes to changing the own lifestyle.

#### That sounds like emotional, not rational decisions ...

Consumers are extremely emotional and sometimes contradictory with regard to the energy supply; simply put: Nobody wants to be responsible for the Earth becoming uninhabitable. The topic of regenerative energies has taken many years to get out of a political niche, to reach general awareness. It is now the responsibility of the renewable energy industry to build



the bridge between emotion and rational mind. Germans generally accept the product "clean power" on an emotional level. Simply because it is doing something good or preventing something bad. All offers conveying strong emotional stories and symbols work. However, the economic advantage is still not big enough at this time.

#### That is sobering. How do you evaluate the relevance of the renewable energies for the energy supply in Germany?

It is exciting to observe which parts of society consider which future scenarios to be realistic. The future of renewable energies in Germany is currently a bit under pressure from politics. That surprises in light of the successful path that politics have ventured on during the last decades in that context. However, the decision of the Federal Government to extend the operating times of the nuclear power plants last year, to name but an example, has caused uncertainty. In contrast, the companies are highly interested in integrating regenerative energies in their office buildings, factories, storage facilities, and logistics in order to become more independent from the big energy supply companies. The financial advantage decides. If an investment in regenerative energies makes the energy cheaper afterwards, the motivation will be substantially higher than it just being a matter of the climate. The consumers view it the same way as well.

#### What is the significance of solar power in that context?

Photovoltaics have developed in an excellent manner over the years. The Germans love solar power; it is an innovative and economic approach that ensures one thing in particular: independence from the big energy suppliers. And that even goes down well in the industrial sector. Companies have already started to install photovoltaic systems on their roofs in order to be more self-sufficient.

#### There are recurring voices in politics that speak of excess support which might result in an acceptance problem for the expansion of renewable energies. What is your assessment?

It appears as if politicians currently do not know what they actually want. Does a nation like Germany have an interest in becoming more self-sufficient from foreign energy supplies and strengthening its economic power? Then it makes sense to invest in technologies and support those that bet on renewable energies: solar, wind, bio, or water energy. That would be an appropriate focus for the future.

#### What is your opinion on the extension of the operating times for nuclear power plants?

The billions of subsidies for coal mining have passed in almost complete silence; those for nuclear energy in combination with the operating time extension have truly split society. As a result, the social consensus has broken. This has released enormous frustrations and oppositions again that had actually been overcome and satisfied; after all, a large majority of the Germans is against nuclear power. This resistance line will have to be socio-politically pacified at great expense. The entrepreneurs that currently invest in solar energy and the creation of separate energy sources etc. do not take such a short-term approach in their thinking.

#### But a significantly higher share of renewable energies also coincides with substantial efforts, e.g. when it comes to expanding the power grids.

That is similar to the development of the Internet. If one considers the flexibility and dynamics of everyday life, this is also reflected in the energy generation and use. We need flexible distribution and usage systems for that as well. For example intelligently controlled domestic appliances that switch on when the power is cheapest or – if you take the case of an owned photovoltaic system – exactly when a particularly big quantity of power is being produced. The different producers must be controlled in as dynamic a manner as is the case with the data traffic on the Internet. A very interesting future development; however, it has not been accepted yet as a central task by politics. This requires investments of the state or at least support.

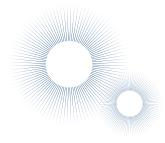
Professor Wippermann, thank you very much for this interview.

## TRENDS ARE NOT BEING MADE.



THE TRENDBUERO, FOUNDED BY PETER WIPPERMANN, Professor for Communication Design at Folkwang University of the Arts Essen, was founded together with the futurologist Matthias Horx 20 years ago now. Wippermann has been tracking social change since then. "Trend research originally came from the United States. The goal was to find out how humans behave in saturated consumer goods markets, what they do with the products, which longings or fears they trigger. The age structure greatly affects trends and lasting future scenarios in Germany. We observe that older consumers do not wish to perceive future scenarios, even suppress the new. That continues until it is accepted and incorporated in the group", Wippermann says. In 2010, Prof. Wippermann dedicated the presentation "The Trend of Climate Change – Urban Climate Change Strategies" to consumption behavior in light of a changing environment. The Trendbuero conducts basic research in connection with plausibility studies of other institutes in order to obtain solid data. The Trendbuero published the "Value Index" – a tool for the analysis of movements, opinions, and trends in social networks – for the first time in 2009.

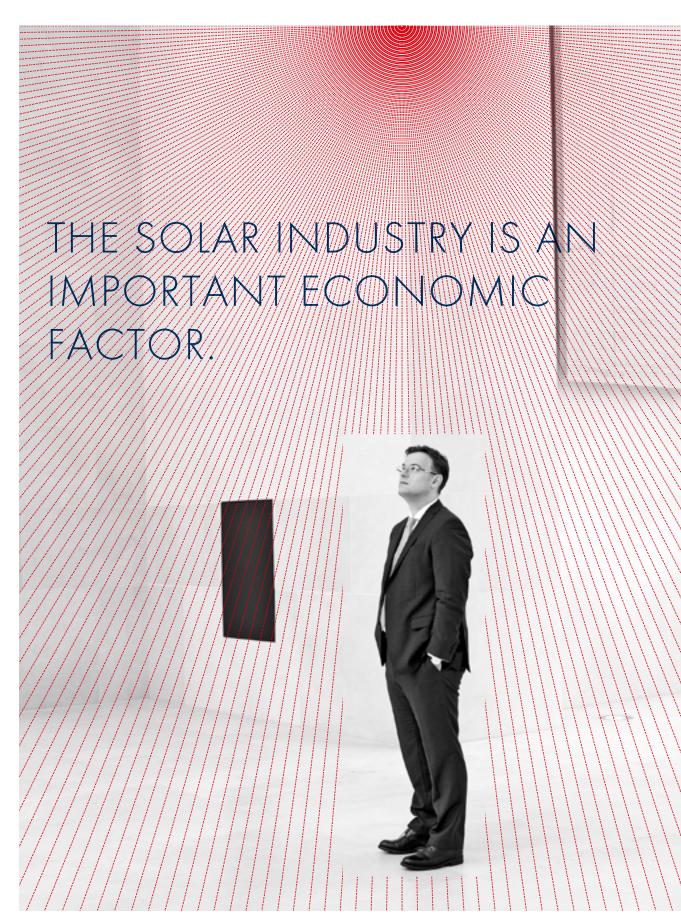
## TRENDS MAY ONLY BE OBSERVED.



Photovoltaics as a Competitive Factor for Germany

# THE SOLAR INDUSTRY IS NOT VIABLE WITHOUT SUPPORT.

WIDESPREAD PREJUDICE



### ENERGY TRANSFORMATION UNTIL 2020 THE SOLAR INDUSTRY IS READY

The next years are decisive for the future of photovoltaics and the solar industry in Germany. The study "Directions for the Solar Economy: PV Roadmap 2020" concludes: The German solar companies may play a key role in the switch to 100% renewable energies by 2020, provided they target their efforts. We talked about the visions and the goals of the solar industry to Prof. Torsten Henzelmann, Partner in the Civil Economics Competence Center at Roland Berger and co-author of the study.

#### Studies are published every day - what are we to think of the "PV Roadmap 2020"?

Real pioneering work has been done with the study jointly prepared by us at Roland Berger and Prognos as well as the solar companies. The companies of the German solar industry sat down at a table, developed a joint vision, and derived specific strategies for the period until the year 2020 on that basis for the first time.

#### Facing the pressing global problems of climate change and scarcity of resources, what then is the relevance of an industry study?

The PV roadmap is more than just an internal industry document. It contains long-term perspectives for the expansion of photovoltaics as well as the energy transformation in Germany and the world and clearly demonstrates the feasibility of this energy transformation. Using the roadmap, the German solar industry very clearly states: We are aware of our responsibility to society and the entire economy – and we face this responsibility.

#### You talk of the vision of the solar industry - what form does it take?

The German solar companies use this vision to express their claim to guarantee competitive, secure, and clean power generation from solar energy by the year 2020. The solar industry is an essential pillar in the system transformation to an independent power supply based 100 % on renewable energies – in Germany and around the world. The expansion of photovoltaics results in a cut of the  $\rm CO_2$  emissions and consequently counters the effects of climate change in a tangible manner. In addition, it makes an indispensable contribution to energy safety, the protection of resources, and the independence from other countries.

#### Why do photovoltaics have to play a decisive role in the energy transformation?

Because they exhibit certain advantages like almost no other technology: Power from photovoltaics is generated in a decentralized manner, i.e. close to consumers. The generation is virtually without competition with other uses and takes place at times of the day with the highest consumption, i.e. covers the peak load that way. In addition, the systems are easy to install and maintain. As a result, we have affordable and sustainable power generation that can be integrated into the overall power plant and make a significant contribution to the energy supply.

#### Is the vision of a national industry sufficient for resolving a global problem?

Germany is the photovoltaics leader in the world. On the one hand, we are the biggest photovoltaics market in the world – that is also due to the fact that politics already recognized the advantages of photovoltaics and supported them in a targeted manner here more than 20 years ago. As a result, photovoltaics have been able to dynamically develop in the past years – we possess a cumulative installed capacity of approx. 18 GW by now. On the other hand, the German photovoltaics industry is the global technology leader, and many of our companies are global market leaders in their sector. The industry will maintain this position with competitive costs on the global scale. There is a high demand for photovoltaics products "made in Germany" that are produced here for export. This means that photovoltaics are also an important economic factor in Germany.

TORSTEN HENZELMANN Partner in the Civil Economics Competence Center at Roland Berger Strategy Consultants, has substantially contributed to the "PV Roadmap 2020". Henzelmann studied industrial engineering at the Technical University of Kaiserslautern; he gained practical experience in the fields of energy management and consulting at energy supply companies. After that, he completed his dissertation on change processes in energy supply companies. "But externally, as I wanted the practical relevance. Science and research interest me, but so does corporate management", Henzelmann says. Meanwhile, he holds a professorship for sustainable business at Trier University of Applied Sciences. His successful book "Success through Green Transformation" gives companies food for thought on the future, "for climate change and the scarcity of resources redefine the economic rules."



THE GERMAN PHOTOVOLTAICS INDUSTRY IS THE GLOBAL TECHNOLOGY LEADER, AND MANY OF OUR COMPANIES ARE GLOBAL MARKET LEADERS IN THEIR SECTOR. THE INDUSTRY WILL MAINTAIN THIS POSITION WITH COMPETITIVE COSTS ON THE GLOBAL SCALE. PHOTOVOLTAICS ARE ALSO AN ECONOMICALLY IMPORTANT FACTOR IN GERMANY."

## However, the international pressure for the German photovoltaics industry grows, especially from China ...

The Asian module manufacturers and inverter producers give a clear direction with regard to costs and cost development now. I would put it this way: Asian manufacturers have set the pricing policy, and the German industry should get its bearings from it – in a global market. Of course the personnel expenditure is very low in China – that is a clear competitive advantage. However, it only accounts for 6 % to 10 %, even in Germany. Approximately 90 % of the production costs are caused by raw materials, depreciation, and interest on external capital here. When weighing the competitive advantages and disadvantages, the gross, auxiliary, and operating costs in particular must also be included, not just the personnel expenditure. And the government in China facilitates simple access to capital with lowest interest for the Chinese photovoltaics companies. This is a substantial competitive advantage over the German companies.

#### We need a quick energy transformation – how does the solar industry want to set its vision?

Nine specific goals detailing the line of approach until 2020 have been defined on the basis of

"When cutting the system prices by more than 50%, the first household systems could already manage without support in 2017."

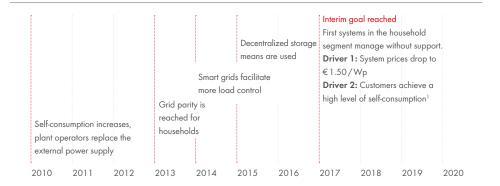
the vision. On the one hand, the system prices must be cut by more than  $50\,\%$  as this could result in the first solar systems in the household segment already managing without support in 2017. On the other hand,  $52\,\text{GW}$  to  $70\,\text{GW}$  of installed photovoltaics capacity are to be achieved; this corresponds to a  $10\,\%$  share of the annual gross

consumption. An additional goal relates to the extra costs for solar power. It may be limited to approx. 2 eurocents per kilowatt hour as we expect additional installations to stabilize between 3 GW and 5 GW per year.

#### So does supporting photovoltaics remain on the agenda after all?

We are talking about a technology that is not efficient during its development stage as it still has to pass a certain life cycle, but will become efficient after that. And exactly that period from the beginnings to its competitiveness with other power generation technologies is being supported.

## MILESTONES FOR THE COMPETITIVENESS OF PV



<sup>&</sup>lt;sup>1</sup>60 % share of self-consumption in the private household area – requires consumption by multiple parties (e.g. multiple family dwelling) and an adapted system size

#### Supported ... or rather subsidized after all?

I find it interesting that the talk always turns to subsidies; after all, the Renewable Energy Sources Act does not contain provisions for subsidies, but a support of the demand. The Company is not being subsidized; instead, demand is being stimulated. Sales and production occur in the companies of the photovoltaics industry because of this demand stimulation. And that with the clear goal to efficiently generate power from photovoltaics and fully forgo the support in the near future.

#### What other goals has the industry set for itself?

At least 5 % of the industry turnover are to be invested in research and development in order to defend the German technology leadership. The global market share from the German production will permanently remain at a level of 12 % and more – with greatly increasing global demand for photovoltaics and a noticeable increase of German export. There will also be a capacity expansion in the module production of approx. 8.5 GW.

#### Which effects are to be expected for the economy and the energy sector?

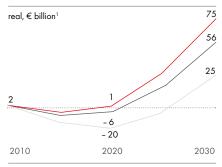
Here the goal is to employ at least 130,000 people around photovoltaics in Germany. The industry will succeed in balancing the economic benefits and the economic costs through investments in further productions and innovations along the entire value chain by 2020. Then we expect a positive contribution of at least € 25 billion by 2030. Regarding the energy sector: The significant expansion of photovoltaics poses considerable requirements for the grids – we are talking here about increased fluctuation, decreased suitability for planning, a decentralized nature, and consequently increased control complexity of the solar power generation. However, these challenges can be overcome with innovation.

#### So the utility operators are also being challenged?

The discussion regarding the grid integration that we hold here in Germany is highly emotionally charged. Most of the time, the distribution grids, i.e. the low-oltage, medium-voltage, and high-voltage grids and their capacities, are the issue in that context. For example, if hundreds of MW of power arrive from the planned offshore wind farms in the Northern and Baltic Seas on shore in the future, there will be striking problems due to the fact that the current power grid is unable to readily accommodate such capacities.

However, the feed into the medium- and particularly the low-voltage grid of towns where a substantial part of the generated power will be consumed again matters for photovoltaics. As fewer people live in rural areas, there are naturally still problems with the substantial feeds because they overload the grids. These problems do not occur in urban centers. It follows that investments are primarily needed in the rural areas. In other words, enhancing transformers and possibly installing new – double circuit – lines. It goes without saying that the solar industry recognizes its own responsibility; after all, photovoltaic systems need to realize ever

### CONTINUOUS ECONOMIC NET BALANCE OF PV



- Net effect dynamically included avoided CO<sub>2</sub> costs
- igotimes Net effect NAP included avoided  ${\rm CO_2}$  costs
- Net effect NAP excluded avoided CO<sub>2</sub> costs

<sup>1</sup>NAP scenario, discounted values, low oil price path Source: Prognos, Roland Berger



Low voltage grids are "the last mile" for private households or small companies. Medium voltage grids distribute the power to the transformer stations of the low voltage grid or establishments, e.g. authorities or schools. The high voltage grid ensures the broad distribution of electrical power and constitutes a distribution grid. It is characterized by the fact that lines reach different regions, urban centers, or major industrial facilities, cf. the diagram on p. 055.



Source: Roland Berger, various PV companies

Lower price path



Desertec Foundation: International initiative for the generation of power from renewable energies in desert areas and for the transmission to consumption centers. The Desertec Industrial Initiative is the corresponding association that has undertaken the realization and the financing of Desertec in Europe, North Africa, and the Middle East. It joins the forces of, i.a., energy supply companies, finance groups, and companies of the EG industry.

increasing control functions and grid management tasks. The industry already has and will also continue to contribute its part to the grid integration through system technology innovation, e.g. via reactive power-controllable inverters or with solutions for the self-consumption of solar power.

## Handelsblatt recently wrote that the sun does not shine enough in Germany. Is that justified criticism?

The sun generally shines longer and more frequently in Spain and Italy, that is correct. However, we also have a good solar yield with 950 to 1,200 kilowatt hours per square meter in Germany. Photovoltaics play a substantial role here in the mix of renewable energies because they harbor the biggest generation potential: They are theoretically able to cover 40 % of the German power demand just by using suitable building areas.

In addition, it is one-dimensional just to consider the solar irradiation. I always ask critics whether they wish to have just a physical discussion or also one relating to industrial policy. You simply have to consider the overall economic dimension of the photovoltaics industry – with everything it includes: jobs, tax quotas, research and development, export quotas.

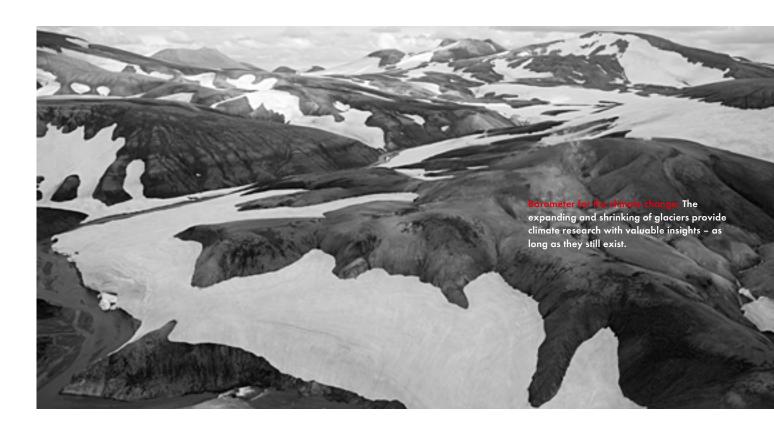
#### The decentralized nature is one of the essential advantages of photovoltaics. How do you assess major projects like Desertec in that light?

Desertec is a project that essentially utilizes three technologies: wind power, solar-thermal power plants and photovoltaics. However, the latter to a minor extent only as the installation of photovoltaics technology is less than ideal in desert areas. Factors like excessive temperatures or sand storms, to name but a few, may have a detrimental effect on the power. We may critically discuss generating power in Africa – a region that is currently being rocked by riots – and then transmitting it thousands of kilometers to Europe despite efficient and economical decentralized alternatives being available right on our doorstep anyway. Not even to mention the loss of efficiency falling into the range of 5 % to 10 %. However, it certainly makes sense to generate power with photovoltaic systems on site in Africa – for example, stand-alone power plants are perfect for supplying areas that are off the grid with power.

# The solar industry has clarified its goals for the near future. In your opinion, what can we expect in 40 to 50 years?

My future scenario for the time after the turn of the century assumes a total revision of the opinions in the direction of decentralization – in particular now. Today there is the big central energy supplier on the one side and the consumer on the other side. However, we will have other innovative production and consumption structures, other "ownerships", in the future. The classical suppliers will still exist, but they will also increasingly offer regenerative energies then – even if there is still opposition against decentralized power generation and supply from that side at this time. Industrial companies will install their own supply systems in order to be independent from the big energy supply companies and also form alliances in that context. I also think totally new energy supply concepts are highly probable, for example regenerative combined-cycle power plants that utilize photovoltaics, wind, and biomass for the generation of power and exhibit more efficient storage technology. As a result, the intelligent mix of renewable energies ensures the reliable and clean power supply of tomorrow.

#### Professor Henzelmann, thank you very much for this interview.



### THE EEG - A SUCCESS MODEL IN ENVIRON-MENTAL POLICY MADE IN GERMANY

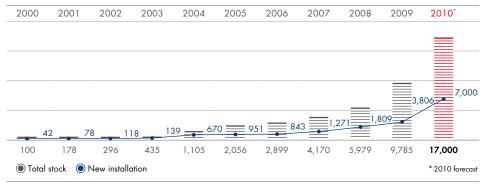
The Renewable Energy Sources Act is the trailblazer for the transition to an environmentally friendly, secure, and sustainable energy supply. Even more: It is a driving force of innovation, creates many new jobs, and paves Germany the way to technological leadership in the field of renewable energies.

#### MILESTONE 2020: 35 % OF POWER FROM RENEWABLE ENERGIES IN GERMANY

2010 was an anniversary year for German environmental policy: 20 years of the Electricity Feed Act, ten years of the Renewable Energy Sources Act (EEG). Parliament laid the cornerstone for a rapid development, in particular in the field of wind energy, with the Electricity Feed Act. The legal support paved the way for technical innovations and resulted in the development of many sustainable jobs. The EEG replaced the Electricity Feed Act and transferred its successes to additional renewable energy sectors in the year 2000.

The core objective of the law is the further development and distribution of technologies for the generation of clean power from renewable energies. In addition to the development of an emerging industry with numerous jobs and the domestic value creation that Germany is globally leading in, the renewable energies minimize environmental damage and make Germany independent from power imports. According to the Federal Government, the mix of wind, water, sun, and biogas contributes 10 % to total energy consumption and more than 17 % to power consumption. The set target for power was just 12.5 % for 2010 and was consequently exceeded by 4.5 %. The energy concept of the Federal Government provides for 50 % of the entire energy supply and 80 % of the power supply to be transitioned to renewable energies by the year 2050. The first milestone on the path to the middle of the century is the year 2020: The share of regenerative energies in the power supply is supposed to reach 35 % in Germany by that time. The renewable energies industry sees additional potential in that respect to actually increase its share to 47 % by then.





In comparison to 1990, the emissions of greenhouse gases are supposed to drop with regenerative energies by 40 % by 2020 and by 80 % by 2050 as well. Essential positive effects are already visible now: Greenhouse gases were successfully reduced via the increasing share of renewable energies in Germany by more than 25 % until the end of 2009. According to the Environmental Report 2010 by the Federal Environment Ministry, that equals approx. 55 million tons of climate-harming emissions less.

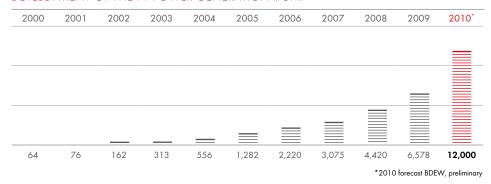
#### **DEGRESSION CAUSES THE EEG ASSESSMENT TO SHRINK**

The EEG provides for guaranteed feed-in tariff for the producers of regenerative energies since 2000. For example, the operator of a photovoltaic system receives a certain amount per generated kilowatt hour that has been set for 20 years. The energy supply companies are required to purchase this power and compensate accordingly. The difference between the compensation level for power from renewable energies and the market price for power is passed on to the consumer. The compensation rate drops every year by a certain percentage (degression) for the newly installed systems. The degression of the compensation rates creates incentives for cost reduction, moves the renewable energies into the market, and ensures that they will manage without any support in the medium term.

#### THE EEG AS THE DRIVING FORCE OF INNOVATION

Today, the renewable energies industry employs more than 350,000 people; according to information provided by the Federal Government, that number is supposed to reach half a million by the year 2020. The investment amounts in renewable energies are also impressive – these are the results of the study "Investments through the Expansion of Renewable Energies in Germany" which was jointly commissioned by the German Renewable Energy Federation (BEE), the German Renewable Energies Agency, and Deutsche Messe AG. Last year approx. € 13.5 billion were invested in the installation of systems for the generation of power and heat from renewable energy sources and the sustainable transport sector. The investments are even expected to more than double to almost € 29 billion by 2020. The total investment in renewable energies would then amount to approx. € 235 billion until 2020.

#### DEVELOPMENT OF THE PV POWER GENERATION in GWh



"Climate and environmental protection as well as resource and energy efficiency greatly and increasingly contribute to the economic development, value creation, and technological development in our country. Today, the German share of the global market for environmental technologies and services amounts to € 224 billion; in other words 16 %. Our companies maintain shares between 5 % and 30 % of the export of environmental protection goods", Federal Minister of the Environment Dr. Norbert Röttgen stated on the occasion of the publication of the Environmental Report 2010. Almost 50 countries have used the feed-in tariff model as an example for national laws since the introduction of the EEG in Germany. Twenty EU member states and even large BRIC nations like China and India bet on the export hit of German environmental policy – the EEG has internationally proven to be the most effective support tool for the expansion of renewable energies.

## INVESTMENTS IN RESEARCH AND DEVELOPMENT – INNOVATION ALLIANCE PHOTOVOLTAICS

The Federal Environment Ministry (BMU) plans to increase its research budget for regenerative energies this year. First projects within the framework of the "Innovation Alliance Photovoltaics" jointly established with the Federal Ministry of Research have been selected for support and approved at the beginning of 2011. "Companies and science need to invest more in research and development in order to strengthen the renewable energies further. [...] We will clearly expand our research support. The goal is to make German companies and research institutions even fitter for the competition in an international emerging market", Röttgen affirmed at the beginning of  $2011 - \varepsilon$  120 million were allocated in the year 2010;  $\varepsilon$  128 million are available for 2011.

#### SUBSIDIES FOR AN OVERHAULED POWER GENERATION

The Bundestag passed the law for the extension of the nuclear power plants – with a relatively close majority - in September 2010. Depending on the respective age, Germany's nuclear power plants remain operational for another twelve years on average. The explanatory statement detailed that the goal is to use nuclear energy as temporary solution until that point in time when renewable energies are able to handle a majority of the energy supply. In addition, the operator companies are supposed to provide financial means in the amount of € 13.5 billion via the energy and climate fund to third parties. These are to be used for developing renewable energies, converting the power grid, and increasing the energy efficiency. However, the Öko-Institut in Freiburg determined that the four major power suppliers RWE, E.ON, EnBW, and Vattenfall may expect additional income in the amount of € 127 billion – though a quarter of the additional income will be paid as fuel rod tax and special charge for the expansion of renewable energies to the government until 2016. However, the institute expects that these charges will be passed on to the end customer, resulting in an increase of electricity prices. In that context, the means that would need to be invested in the safety have not been quantified yet. According to the Greenpeace study "State Support of Nuclear Energy" of October 2010, each kilowatt hour of nuclear power is subsidized with at least 4.3 eurocents of taxpayers' money. According to statements by the environmental protection organization,

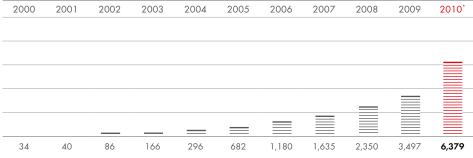
subsidies in the amount of  $\in$  204 billion went into nuclear power since 1950; a further  $\in$  100 billion will still be added.

Another relic from the past, black coal mining, could not have survived without subsidies at all. Approx. € 1.9 billion went into German mines in 2009. The Federal Government put up almost € 30 billion for that between 1997 and 2006. An additional € 10 billion are expected until 2018: The decision of the European Commission in December 2010 grants coal production a reprieve in Germany until 2018. However, a speedy reduction of the subsidies is expected from the Federal Government in return.

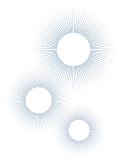
#### SUPPORT: EQUAL OPPORTUNITIES FOR RENEWABLE ENERGIES

The discussion regarding the support of regenerative energies is often reduced to the cost issue in Germany: Consumer protectors make renewable energies responsible for the growing electricity prices. And the difference to subsidies that are paid from tax revenues is truly noticeable in this context: The support is distributed in accordance with the polluter-pays principle to the consumers. The additional cost for renewable energies is supposed to increase to 3.5 eurocents per kilowatt hour in 2011. Critics point out that preferential treatments of renewable energies burden the national budget. However, differentiation is required in this context. The EEG has proven to be the most important and most successful tool for the market introduction of renewable energies in the power sector since its introduction. They face unfair competition in this sector from power that has been generated from conventional energy sources, the price of which has been kept low by subsidizing coal and nuclear power for decades. In addition, the external costs of these energy sources - e.g. pollution of the environment, CO<sub>2</sub> emissions, and costs for the final disposal – are not reflected in the price of the electricity. The EEG compensates these disadvantages. The majority of the population supports the EEG. For example, a Forsa survey found that more than 95 % of German citizens support the expansion and the increased utilization of renewable energies. Accordingly, the EEG has not just fulfilled its direct purpose, but also increased the acceptance of energy transformation in society and created a broad ecological conscience.

#### $CO_2$ SAVED DUE TO PV SYSTEMS in 1.000 t $CO_2$



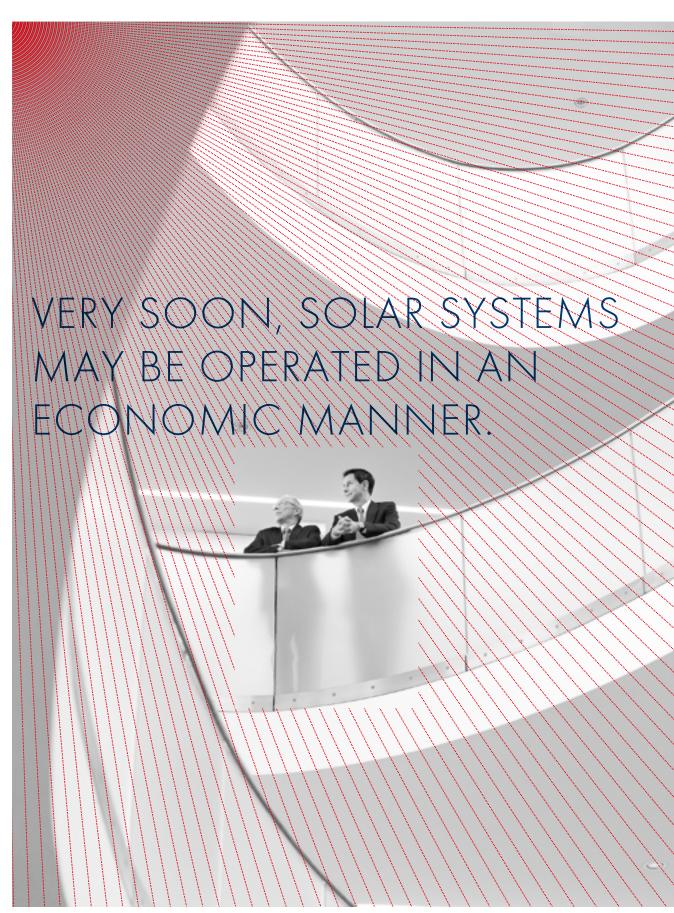
 $^{\star}2010$  preliminary forecast, own calculations on the basis of the BMU CO $_{2}$  avoidance factors



With Vision and Traction - 30 Years of Photovoltaics

# SOLAR SYSTEMS ARE NOT PROFITABLE.

WIDESPREAD PREJUDICE



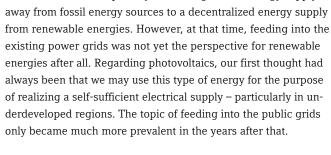
From a small engineering office to a global player: Founded with the vision to shape the transition to 100% power from decentralized generated regenerative energies in 1981, SMA is the global market and technology leader for photovoltaic inverters today. An interview with Günther Cramer and Peter Drews about a special company, innovations, and the future of solar technology.

## Mr. Cramer, Mr. Drews: What motivated you to start your own company in 1981?

Cramer: Following our degree, we were employed as scientific staff of Prof. Kleinkauf and developed control and system technology, in particular for wind turbines, at the University of Kassel. During that time, we recognized that renewable energies may and have to make a substantial contribution to the global energy supply in the future. We were thrilled by the challenge to join in laying the technological foundation for the regenerative energy supply and successively improve this technology as well as make it competitive.

# Would you have thought that your developments would once form the basis for a clean and secure energy supply?

**Cramer:** 30 years ago, it was not visible yet that renewable energies would become accepted and develop with such a speed at all. We were bitten by true pioneer spirit: namely to develop a technology that makes it possible to achieve a complete system change in the energy supply –



Drews: Our fascination with the topic of regenerative energies certainly was an essential motivation for founding SMA. It was important for us to work in an independent and entrepreneurial manner.







#### Was SMA supposed to be a special company from the very beginning?

Cramer: Yes, you could put it that way. We came from the university and have lived another, unconventional corporate culture from the beginning. We simply adopted the manner used for working with students – constructive, but without regulations – when we founded the Company. Later, we also put this corporate culture in words, and we refer to it as cooperative business management now.

Drews: We involve our employees with their heads, their hearts, and their wallets in SMA. This also enables our employees to identify with the Company in a special manner. This high level of identification has proven to be very valuable, especially in the time when we grew particularly fast. If employees are willing to help tackle the changes in a constructive manner, they are able to achieve what particularly characterizes SMA: a high level of flexibility and a culture of innovation. And they are also willing to accept responsibility. We all have the feeling of working for a common goal in our Company. Our cooperative business culture has been one of the crucial pillars of our success during the last years.

#### And what accounts for the success of your technological developments?

Drews: It has always been vital for us to not just develop the technology, but also produce it and consequently get it used. Back then, we were the first to identify the huge potential of microprocessor technology for the field of regenerative energies and the pioneers in the

market with our technology. And we succeeded in realizing relatively inexpensive systems with this technology that were still very complex with regard to their regulation and control. That was a first important milestone; additional leaps in technology followed after that.

#### So it was part of your development strategy to make your products more and more affordable from the beginning?

Drews: Yes, of course. The competitiveness with other energy generation methods and a widespread adoption of photovoltaics were our goals from the beginning. They depend to a great extent on the specific prices of the individual components. But also on the costs that a photovoltaic system incurs as complete system during its operation.

#### The roadmap of the photovoltaics industry has defined the goal to cut the costs by 50 % by 2020. Is SMA also able to do that?

Cramer: The goals that have been defined on the roadmap apply to the entire industry – but we are even more ambitious. SMA has already reduced the specific prices per watt for the inverters by more than 75 % from 1990 until today. In the next five years, we will significantly reduce the acquisition, installation, and operating costs of solar power systems. This way we contribute to the regenerative energies, in particular solar energy, being competitive with the conventional energy sources.

#### How do you manage that?

Cramer: That is primarily possible via new technological approaches. Because of that, we have also already intensively invested in our R&D activities for a long time; more than € 80 million in 2010 alone. While it is also possible to utilize economies of scale from the mass production, such a significant cost reduction can still not be achieved from just that alone. However, the efficiency of an inverter is of great importance in that context, to name but an example. We have made enormous progress in that respect at SMA during the last years; after all, we have been able to increase the former efficiency of 90 % to currently far above 98 % for the majority of our devices from 1990 until today. Our goal that we are currently working on is reaching efficiencies of approx. 99 %. Regarding the cost reduction, achieving an efficiency of 99 % means that the conversion losses are cut in half again. At the same time, the inverter needs to discharge less thermal losses because of that; we are able to build it smaller and save material and production costs as a result. However, a limit is reached at 99 %; the input/benefit ratio no longer makes sense above that limit.

Drews: This is also why we focus on the cost reduction of the entire system for the entire life cycle here, in other words the consideration of the total cost of ownership (TCO). Ultimately the inverter may have quite a substantial effect on the system costs: with high efficiency, but also limited installation and operating costs as well as a high level of reliability. One example in that context: We integrate all components that had to be externally installed as additional

#### SOLAR POWER PLANTS APPROX. 45% CHEAPER SINCE 2006



roof systems up to 100 kWp (without VAT)

Source: Independent, representative survey of 100 installers by EUPD-Research on behalf of BSW-Sola

"WE CLEARLY DISTINGUISH OURSELVES FROM THE COMPETITION WITH OUR APPROACH TO OPTIMIZE THE ENTIRE SYSTEM. WE AIM TO CREATE THE MAXIMUM UTILITY FOR OUR CUSTOMERS."



"ALL FACTORS ARE DECISIVE FOR THE ECONOMIC OPERATION AND THE YIELD OF A PHOTOVOLTAIC SYSTEM, FOR EXAMPLE THE LIFESPAN OF THE INVERTERS, THE RELIABILITY, THE EFFICIENCY, AND INSTALLATION AS WELL AS SERVICE COSTS."

REDUCTION

100%

IN THE SPECIFIC PRICES in %

93%

2000

2005

2010

Price / watt (rebased to 100 %)

2015

1995

PETER DREWS ACKNOWLEDGES THAT
THE MARKET FOR ISLAND POWER SOLUTIONS HOLDS BIG OPPORTUNITIES IN
THE FUTURE. MORE THAN TWO BILLION
PEOPLE ARE WITHOUT POWER. PHOTOVOLTAICS CAN ASSIST THEM IN ACHIEVING POSITIVE ECONOMIC DEVELOPMENT.

components on the DC side in the inverter, i.e. string fuses or the string monitoring. Our Sunny Tripower is characterized by the fact that even surge protection is integrated in the device. In the past, it was necessary to wire it separately in the field. Now the strings are just directly connected by means of a plug to the inverter, all other functions are integrated in the inverter.

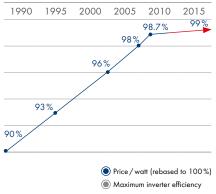
#### Could you give us another example?

Cramer: A good example in that context is also the Sunny Central 800 Compact Power (CP). We have now stored 800 kW – and also additional system functions – in a housing volume that held an inverter with a nominal power of 500 kW in the past. What characterizes all devices of the CP series to the same extent: In addition to high efficiency and the simple installation, they are easy to transport, can be loaded without problems, and are suitable for installation almost anywhere – a heavy concrete station is no longer required for protection.



Drews: We clearly distinguish ourselves from the competition with our approach to optimize the entire system. We aim to create the maximum utility for our customers. Because of that, all factors are decisive for the economic operation and the yield of a photovoltaic system, for example the lifespan of the inverters, the reliability, the efficiency, and installation as well as operating costs.

#### INCREASE IN EFFICIENCY in %



## But when you speak about the entire system, you cannot stop at the photovoltaic system – after all, the power has to get into the grid!

Cramer: You are referring to the topic of grid integration which has of course been discussed in a highly controversial manner in the media. It is important to understand that a clear political commitment to renewable energies exists in Germany and a broad consensus has been reached in the population in that context. The reorganization of our energy supply necessarily means that there will be an ever-increasing number of decentralized generation systems and the conventional central systems will become obsolete step by step. We have set us the goal to generate more than 10 % of the electric energy via photovoltaics in Germany by 2020. The inverters face big challenges with regard to the regulation due to the daily fluctuations. We actively approach the issue to ensure that photovoltaic systems will be able to realize control functions and grid services in the future that have been the responsibility of conventional power plants so far.

Drews: Our inverters are the heart and brain of each photovoltaic system; they take over the grid and load management. We received the certificates in accordance with the Medium Voltage Guideline of the German Association of Energy and Water Industries (BDEW) for the Sunny Tripower 15000TL and the Sunny Central 800CP in 2010. That makes us the first company to offer certified solar inverters both for decentralized and centralized system concepts.

Cramer: We also have our backup and island power solutions that are perfectly suitable for consuming the solar power they generated as well. A clear load reduction for the grids can be ensured in combination with efficient storage solutions this way. This truly characterizes SMA: We always have the right solutions for all requirements at a very early stage.

#### So technological innovations are the basis for the strong market position of SMA?

Cramer: When it comes to our products in the field of photovoltaics, we have focused on the technological leadership from the very beginning. We were the first to introduce many of those things in the market that are considered a standard for inverters today. This is how we created our position in the international competition, achieved a market share of approx. 40 %, and also maintained it. 600 developers are working on the design of products that subsequently can also be manufactured in a cost-effective manner – here in Germany, under competitive conditions – to ensure that things will stay that way in the future.

#### Exactly how important is the location Germany to SMA?

Drews: We have always made a clear commitment to the location Germany and also produced a majority of our inverters here at the Kassel/Niestetal site during the year 2010. We are very well able to adapt our capacities with our flexible and scalable manufacturing model, both upwards and downwards. In addition, the development of our inverters should also cooperate as closely as possible with the sales and production. The goal of the development is to develop products in such a manner that we are also able to continue producing them in a competitive manner in Germany.

Cramer: But when it comes to Germany as solar market, she will definitely surrender her position as global number one soon. The German market will no longer grow as much as we have observed in the past years. For the time being, we have probably reached the maximum with 7 GW of newly installed photovoltaic capacity in the year 2010. The growth will now happen in the international markets; they hold enormous potentials. Two thirds of the photovoltaics market were already outside Germany in 2010. This is also the reason why we increasingly see the need to locally produce in some markets – directly for the corresponding market in that country.

#### Does SMA have to become more international?

Cramer: Internationalization is not a new topic for us. We are the inverter manufacturer that has been present in all new markets from the beginning. We already founded our subsidiary in the United States and introduced our technologies there in the year 2000. It has always been our strategy to be the first inverter manufacturer in all new markets. We enter these markets with a sales and service subsidiaries.

Drews: To give you a current example, we founded a sales and service company in India at the end of 2010. This gives us strategic advantages due to the fact that we are able to secure appropriate market shares in the emerging photovoltaics markets from the beginning. We rely on our extensive product portfolio for the market development in India. We are the only manufacturer that next to sophisticated system technology for grid-connected power systems also offers an excellent solution for backup and island systems. This is rather essential for a country characterized by the fact that large parts of the population are without connection to the public power grid.

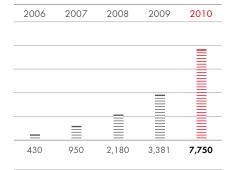
Cramer: However, we are also among the first in locations where it is necessary to conform to the requirements of the markets with local production. For example, local value creation is required for photovoltaic systems in Ontario; as a result, we simply produce our inverters there as well.

# Mr. Cramer, Mr. Drews, you are going to leave the Managing Board of SMA this year. Is the change in position easy for you?

Drews: We change our function – from the operational to the strategic field, from the Managing Board to the Supervisory Board. And now we already look forward to accompanying the further strategic development of SMA in our new function as members of the Supervisory Board. We will still face exciting challenges in the next years. In addition, being major shareholders, it goes without saying that we will remain closely connected with our Company.

Cramer: Well, we have been working in this Company for 30 years now and have built a company that is truly very successful and operates internationally from a small engineering office. Now is a good time to put this Company into the hands of the new Managing Board. We have systematically prepared the change of the generations in the last years. Even the conversion of the GmbH into the AG was already realized with an eye towards this objective. The initial public offering was rather decisive for the purpose of being in perfect shape for the future, also with regard to the financial foundation. And for years we already expanded the Managing Board in such a manner that it will be able to continue acting without a longer transitional phase upon our departure one day. It will remain in the current form – a top team of experienced, long-term SMA employees.

#### INVERTER OUTPUT SOLD in MW



# Which perspectives do you see for photovoltaics in the long term, and which role will SMA play in that context?

Drews: In addition to the continued growth of the photovoltaics markets around the world, we will also see the market for the supply of consumers that are off the grid, in other words grid-independent systems for the supply of villages and regions in developing nations, grow further in the future. We currently have more than three billion people without access to power and water in the world.

Today, photovoltaics make it possible to build decentralized supply systems that are cost-efficient in comparison to other energy types and consequently create the principal foundation for positive economic development of many people. Our island power systems have been technically advanced enough for such a long time that we can say today: We are able to build a truly reliable energy supply with them. That will certainly become a big new market in the future.

Cramer: 30 years ago, we laid the technological foundation for being the global market leader for photovoltaic inverters today. Photovoltaics have the biggest potential of all renewable energies – the sun supplies an indefinite amount of energy, and the decentralized generation makes solar power the cheapest power generation technology off the grid for large parts of the world. Our system solutions contribute to photovoltaics being used in a comprehensive manner. And that is not just due to secure and efficient grid integration, but simply also due to the supply of areas that are off the grid. Today the big objective of SMA is to participate with a significant market share in the growth of photovoltaics and consequently remain one of the very substantial market actors in this field – and I believe that this will not change at all.

Mr. Cramer, Mr. Drews: Thank you very much for this interview.



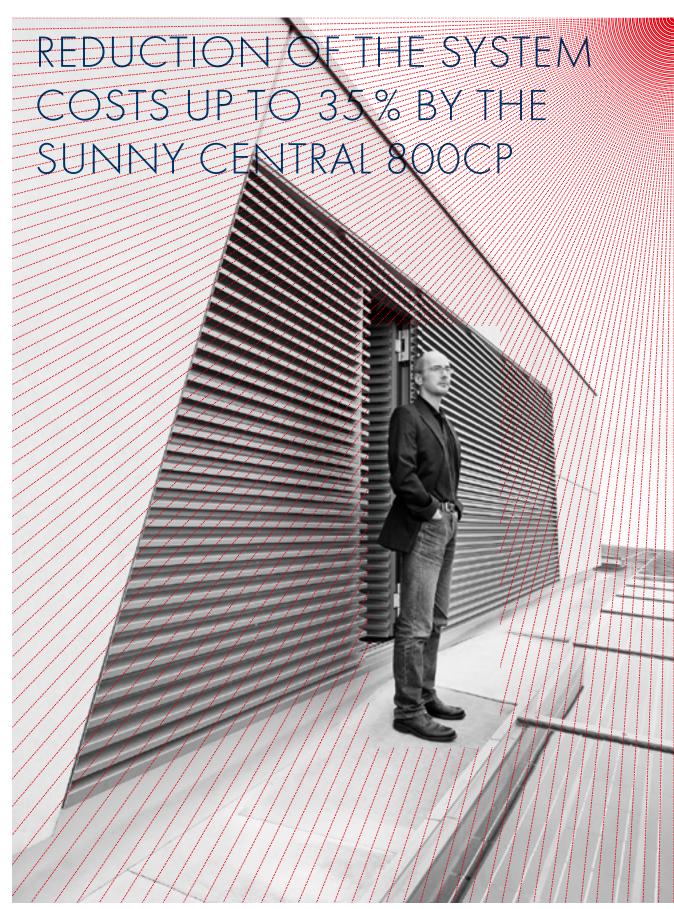
GÜNTHER CRAMER HAS SET THE COURSE FOR THE FUTURE TOGETHER WITH HIS MANAGING BOARD TEAM. A TOP TEAM ENSURES THAT SMA IS AND REMAINS ONE OF THE SUBSTANTIAL PHOTOVOLTAICS PLAYERS.



Technology Leadership

# THE SYSTEM COMPONENTS OF SOLAR SYSTEMS ARE SIMPLY WAY TOO EXPENSIVE.

WIDESPREAD PREJUDICE



Jörg Jahn works at Sunny Central Operative Product Management where he is the expert in grid integration.

# SMART INTO THE GRID INTELLIGENT SOLUTIONS BY SMA

Renewable energies such as solar power are the future of our energy supply. Here, SMA pursues clear development goals in order to make the use of photovoltaics even easier and especially more economic: the consistent reduction of the costs of a PV system over its entire life cycle (so-called Total Cost of Ownership), the conception of technological approaches for the optimal grid integration of solar power plants, and the development of advanced solutions for the intelligent optimization of self-consumption.

For the reduction in life cycle costs, SMA keeps the entire system in view to exploit the entire cost-saving potential of a PV system:

- Using innovative technological approaches, efficiency and output can be increased and the use of materials can be reduced.
- In addition, installation and operating costs of a PV system can be reduced by a device design that is easy to maintain, by integrating external system components and system functions into the inverter as well as by parameterizing and servicing the inverters via Bluetooth®.

Furthermore, intelligent procedures to monitor the systems and to analyze the operating data provide the operators of a PV system with maximum profits and a high level of investment security.

In the three-phase Sunny Tripower, the team of developers has integrated more innovations than have ever before been integrated in an inverter (see page 60). And even today already, this is done with an eye towards future challenges: "The next generations of SMA solar inverters are going to become increasingly more compact while their output remains similar – this is possible, among other things, due to the further increase in efficiency", says Sybille Pape, Medium Power Solutions – Technology Development. "We have made enormous progress here at SMA in recent years. Thus, we were able to increase efficiency from 90 % in 1990 to more than 98 % today; our current goal is about 99 % efficiency. Apart from the increase in earnings, this means that the inverter has to dissipate less heat loss. We can therefore build it smaller, thus saving further material and production costs."

Smaller, more lightweight, more intelligent – these are challenges presented to the Sunny Central CP product series as well. The abbreviation CP stands for "Compact Power" since maximum output was accommodated on a minimum amount of space with this production series. This in turn entails a whole series of cost advantages. The novel outdoor concept, for example, eliminates the need for the previously required concrete substation, which helps to significantly reduce both material costs as well as transportation costs. All in all, intelligent power management, the OptiCool® cooling concept as well as new integrated monitoring functions result in a reduction in system costs by up to 35% compared to the previous model.



See Productinnovations 2010 p. 60

In addition, like the Sunny Tripower, the universal genius, the Sunny Central has the capability to take on important grid services when feeding it into the medium-voltage grid. "We are developing solutions on the subject of grid integration to allow the inverter to actively participate in grid management, for it is ultimately the crucial component in taking over key control functions and thus actively contributing to grid stability", says Jörg Jahn, the grid management expert at Sunny Central Operative Product Management.

#### **SMA INVERTER AS A GRID MANAGER**

In Germany, the starting shot was fired in January 2009, in France, in 2008 already: Since that time, large PV systems have to participate in grid management and provide so-called grid services. Similar requirements are expected to apply until July 1, 2011 – at least in Germany – to smaller PV systems as well that feed into the low-voltage grid. The continuously growing renewable generative output forms the background of this. Thus, more than 17 GW of photo-voltaic power were on the grid in Germany in early 2011 already. However, increasing output means more responsibility as well, particularly as only a stable grid will allow the unlimited expansion of renewable energies. Reason enough for SMA to be strongly involved here from the start. And as the technology leader in solar inverters, SMA is also a pioneer where the subject of grid management is involved.

#### REMOTE SYSTEM CONTROL IN CASE OF GRID OVERLOAD

60 seconds: Inverters in Germany have just one minute to implement possible specifications of the utility operator. If a section of the grid is overloaded temporarily, the utility operator can and must limit the power from decentralized generating systems. The plants make a major contribution to the stability of the grid. Here, communication products by SMA ensure the problem-free controlling of the inverters and log the external setpoint specification of the utility operators.

#### MORE SECURITY BY STABILIZING THE GRID FREQUENCY

The frequency in alternating current grids is kept constant within strict limits – typically at exactly 50 Hz or 60 Hz. If, however, less energy is withdrawn from the grid than what is fed in by the generators, the frequency will rise. Until now, all solar inverters had to disconnect abruptly from the grid in case of a minor increase in frequency already, even though the



"I DEVELOPED THE REGULATION CONCEPT FOR POWER
AND CURRENT LIMITATION
IN THE DEVICE FOR THE
SUNNY TRIPOWER IN PARTICULAR. THIS INVOLVES
ESPECIALLY THE APPROPRIATE ALGORITHMS AND THE
INTERACTION BETWEEN
DIRECT CURRENT AND
ALTERNATING CURRENT "

Sybille Pape, Technology Development Medium Power Solutions threshold value was exceeded only for a brief moment. By now, devices must reduce their output continuously as grid frequency increases, and must not disconnect from the grid until the increase in frequency is more pronounced. Thus, SMA inverters are able to stabilize the grid – while at the same time preventing the sudden disconnection of many solar power plants.

#### LESS GRID DEVELOPMENT DUE TO THE COMPENSATION OF VOLTAGE INCREASES

Apart from frequency, grid voltage must be kept within defined limits as well – in particular in the distribution grid. With their ability to make reactive power available in a controlled manner, solar inverters can assist in ensuring the voltage quality stipulated in European standard 50160 at the respective grid connection point. Specifically: By means of reactive power, the devices can significantly reduce undesired voltage increases. Thereby, classical grid development measures can be avoided as far as possible. A study by Roland Berger performed on behalf of the Bundesverband Solarwirtschaft e. V. (BSW; German Solar Industry Association) has shown that the greatest potential for the grid integration of decentralized power-generating plants lies in the provisioning of reactive power. Thus, the absorbing capacity of existing power grids could be increased by up to 200 %.

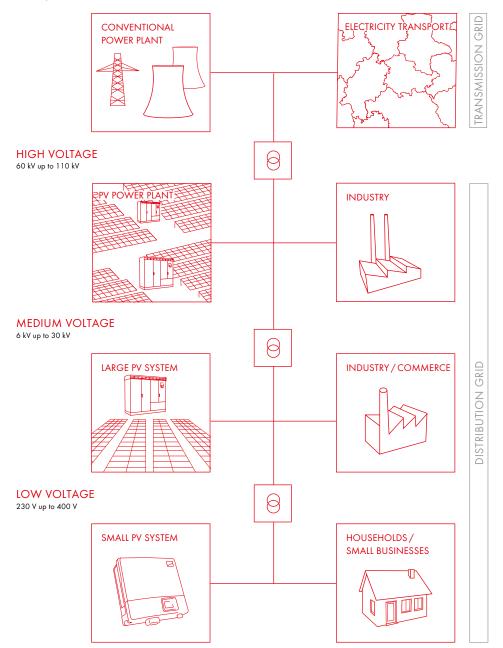
#### GRID SUPPORT IN CASE OF BRIEF VOLTAGE DIPS

Until now, PV systems had to disconnect from the grid immediately even if grid voltage dipped only briefly – this is problematic considering the increasing PV output in the grid. For even brief grid disruptions that are easy to control in principle could result in the abrupt disconnection of larger generation outputs, thereby throwing the grid out of its energy balance. The Medium Voltage Guideline therefore requires that PV inverters support the grid in the event of failure. They should remain in the grid during voltage dips that last up to 1.5 seconds and be able to feed electricity again in the usual manner immediately afterwards. The devices must also be able to feed reactive current into the grid during a voltage dip, thereby assisting in triggering the grid protection facilities. The SMA inverters of the Sunny Central CP and Sunny Tripower series have had these functions from the start, so that SMA is the first manufacturer able to produce the unit certificates that are mandatory starting in April 2011 both for decentralized as well as for centralized system concepts.

#### GRID LAYERS

#### MAXIMUM VOLTAGE

220 kV up to 380 kV



The German power grid is divided into multiple grid layers with different voltage levels. The maximum voltage grid utilizes 220 kV or 380 kV and is used for long-distance transport and international load balancing.

The transregional energy distribution is realized via the high-voltage grid with 60 kV to 110 kV. Even big wind farms and individual large PV systems feed on this grid layer.

The voltage in the medium-voltage grid ranges from 6 kV to 30 kV; this grid distributes the energy to major consumers and transformer stations of the low voltage grid. Municipal combined heat and power plants with cogeneration, larger solar systems, and individual wind turbines feed the generated energy on the medium-voltage level.

The low-voltage grid exhibits a voltage of 400 V (three phases) or 230 V (single phase). It realizes the distribution of energy to the end consumer, though the biggest part of the PV systems installed in Germany also feeds on this voltage level.

# **SOLAR WASHING**SELF-CONSUMPTION OF SOLAR POWER

While remuneration for solar power has been regulated for years independent of self-consumption, the coordination of consumption and generation is playing an increasingly important role by now. The amended Renewable Energy Sources (Erneuerbare-Energien-Gesetz, EEG) picks up on the notion of sensible consumption of internally generated power with the self-consumption regulation decided by the Bundestag.

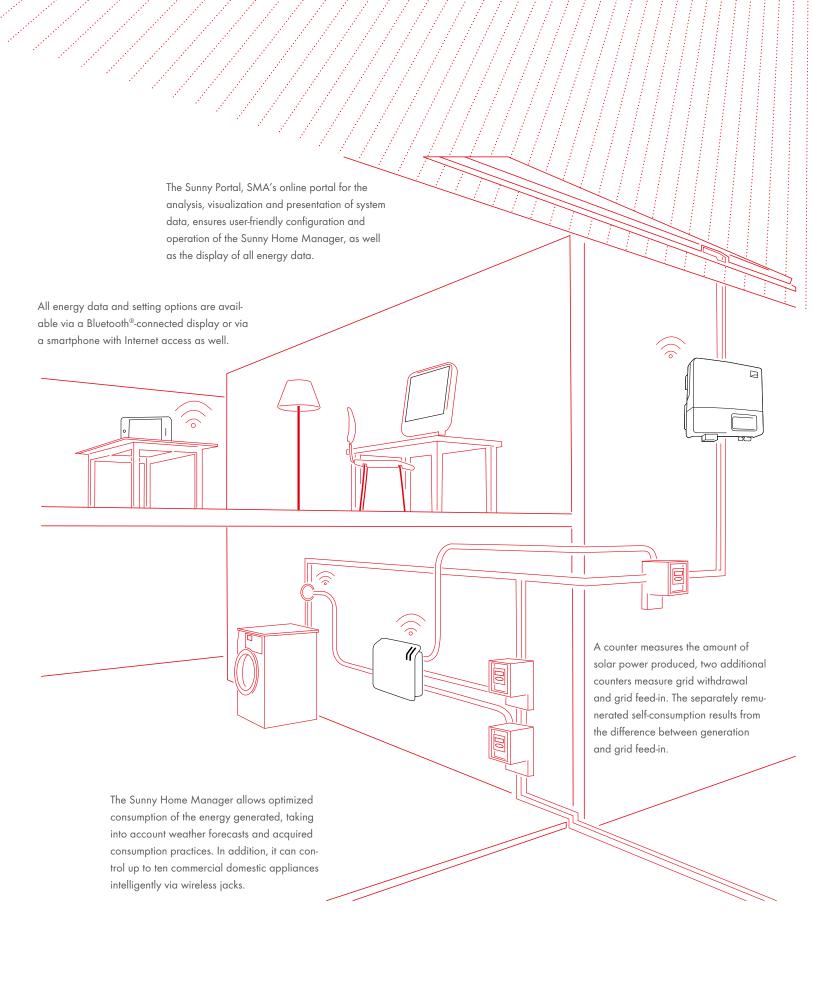
SMA wants to systematically and proactively promote grid integration of growing PV output. Intelligent self-consumption optimization and the reliable prognosis for solar power are two significant approaches that are currently being systematically developed at SMA.

The Renewable Energy Sources has been promoting the consumption of solar power in the "immediate vicinity of the facility" since January 1, 2009. For consuming energy directly inhouse avoids transportation losses, thereby relieving the grid. "The second the PV system supplies the required power, the dishwasher, for example, is de facto running on solar energy – drawing power from the grid for consumption, as well as feeding the solar power generated into the grid, is no longer required", explains Jonathan Blanz, product manager of Off-Grid Solutions. "This is where solar power fully displays its special potential: At noon, when photovoltaic systems supply most of their energy, most of that energy is usually needed as well." The self-consumption of solar power thus becomes a decisive topic where the profitability of solar power plants is involved.

#### **SELF-CONSUMPTION IN PRIVATE HOUSEHOLDS**

SMA has conducted extensive analyses to determine typical self-consumption quotas: For a four-person household and a 5-kWp system, the annual average percentage of self-consumption in the amount of energy generated is about 20 % to 40 %. The demand for electrical energy usually increases in winter while generation capacity decreases – it is the other way round in summer. And there are daily consumption peaks that cannot readily be covered by solar power. This is where self-consumption faces "natural" limits for the time being.

The simplest way to increase the self-consumption quota in private households is by adjusting one's consumption practices. The quota can be raised by up to 10 percentage points by purposely switching in major energy consumers at times of high solar radiation. In doing so, however, one must keep an eye on the current output of the solar power plants – this can be done very conveniently using e.g. the Sunny Beam monitoring solution – and major consumers must be powered up one after the other, to avoid giving away a self-consumption potential by excessive power consumption. Automatic switching of consumers using intelligent energy





management can contribute to this as well. The new Sunny Home Manager by SMA, in conjunction with the inverter, is becoming a key element in consumer management. With the soon-to-be variable tariffs for reference current as well as a solar prognosis, the Sunny Home Manager extrapolates recommendations for action and takes on the optimal control of the connected consumers in automatic operation.

#### IN FUTURE: INTERMEDIATE STORAGE OF SOLAR POWER

Against the backdrop of intelligent self-consumption, the intermediate storage of solar power increasingly takes center stage in the considerations. For anyone able to freely choose the moment of consumption of solar power can considerably increase the self-consumption quota once again. The Sunny Backup sets by SMA provide a well-engineered technical solution for this already. According to SMA's calculations, self-consumption can be almost doubled by using a Sunny Backup set M for a four-person household and a 5-kWp system – up to 55 % of solar power will then be self-consumed. Battery technology is, however, not yet advanced enough to allow backup systems to increase self-consumption to be used economically. Jonathan Blanz knows that "Lithium ion batteries already exist that can accomplish exactly what we need for intermediate storage in self-consumption but this technology is still too expensive today. From a present-day perspective, it will take another three to five years maybe until batteries come on the market that can be used economically for intermediate storage."

The first applications of PV will be competitively viable in Germany as early as 2017 already, that is, they will manage without any funding. At that time, the crucial factor for determining the profitability of a solar power plant will primarily be that the internally generated power is self-consumed as completely as possible. When coupled to decentralized storage reservoirs, load management and smart grids, i.e. to spatially distributed, interconnected power generators, batteries and consumers and combined with a flexible grid infrastructure, the inverters will be the crucial intelligent interface.

# SMALLER, LIGHTER, SMARTER - MILESTONES OF 2010

Five global innovations are embedded in the Sunny Tripower. SMA received the innovation award for the most innovative solar product at the 25th Symposium on Photovoltaic Solar Energy for it. It was also awarded a prize for the completely redesigned Sunny Central 800CP which received an Intersolar Award in the "Photovoltaics" category at the Intersolar 2010.





#### **SUNNY BOY 3000HF**

#### **ECONOMICAL**

- Maximum efficiency 96.3 %
- Best adaptive efficiency through OptiTrac MPP regulation
- Shading management through OptiTrac Global Peak\*

#### SAFE

- Galvanic isolation
- Integrated DC switch disconnector
- Theft protection

#### **EASY**

- Quick and easy configuration
- Easy installation with DC connector system SUNCLIX
- Suitable for generator grounding

#### COMMUNICATIVE

- Easy country-specific configuration
- Graphic display
- Standard Bluetooth® technology

#### FLEXIBLE

- Input voltage range 175 V to 700 V covers the majority of modules with two strings only
- Parameterization to the respective country-specific particularities by means of a rotary switch
- Design for the USA: slim housing for easy integration into post-and-beam structure walls



#### **SUNNY TRIPOWER**

#### **ECONOMICAL**

- Maximum efficiency 98.2%
- Best adaptive efficiency through OptiTrac Global Peak\*
- Bluetooth® communication

#### SAFE

- · Electronic string fuse
- Integrable DC surge arrester
- Self-learning string failure detection
- · Certified for BDEW Medium Voltage Guideline

#### FLEXIBLE

- DC input voltage up to 1,000 V
- Integrated grid management functions
- Precisely fitting system configuration through Optiflex

#### EASY

- Three-phase feed-in
- Tool-free cable connection
- DC connector system SUNCLIX
- Easily accessible connection range



#### **SUNNY CENTRAL 800CP**

#### ECONOMICAL

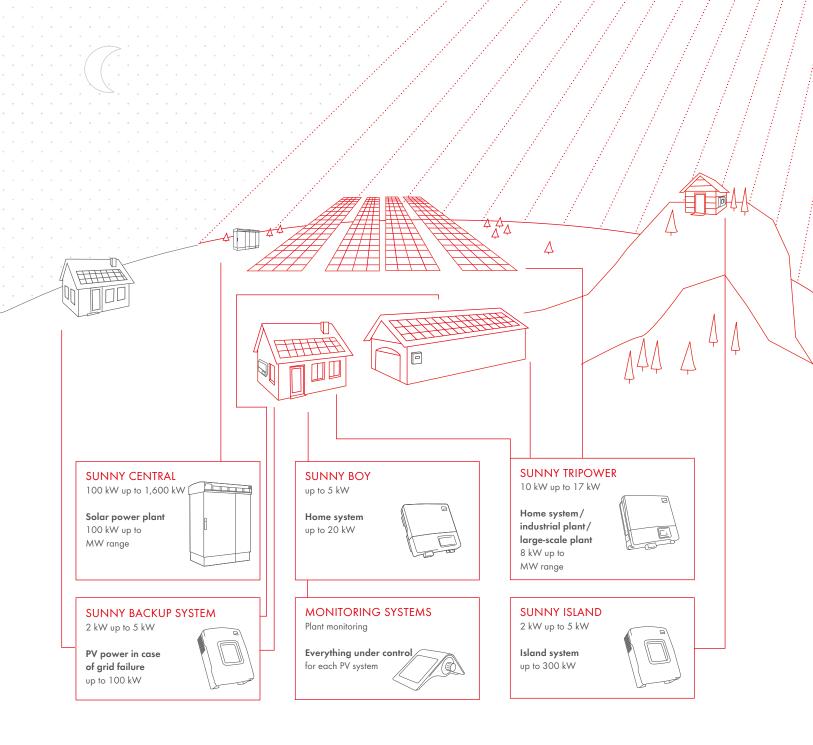
- Direct outdoor use thanks to the outdoor housing
- Cost-effective transportation due to the omission of the concrete substation
- First outdoor-compatible PV inverter with more than 500 kVA output
- Full nominal capacity up to 50°C ambient temperature
- 10% increased efficiency in continuous operation up to 25°C ambient temperature

#### SAFE

- Easy and safe installation through separate connection range
- Cost-optimized control of operations by Optiprotect
- Optional: Expanded input voltage range up to 1,100V

#### STATE-OF-THE-ART

- Extensive grid management functions
- Certified for BDEW Medium Voltage Guideline



#### THE RIGHT INVERTER FOR ANY REQUIREMENT

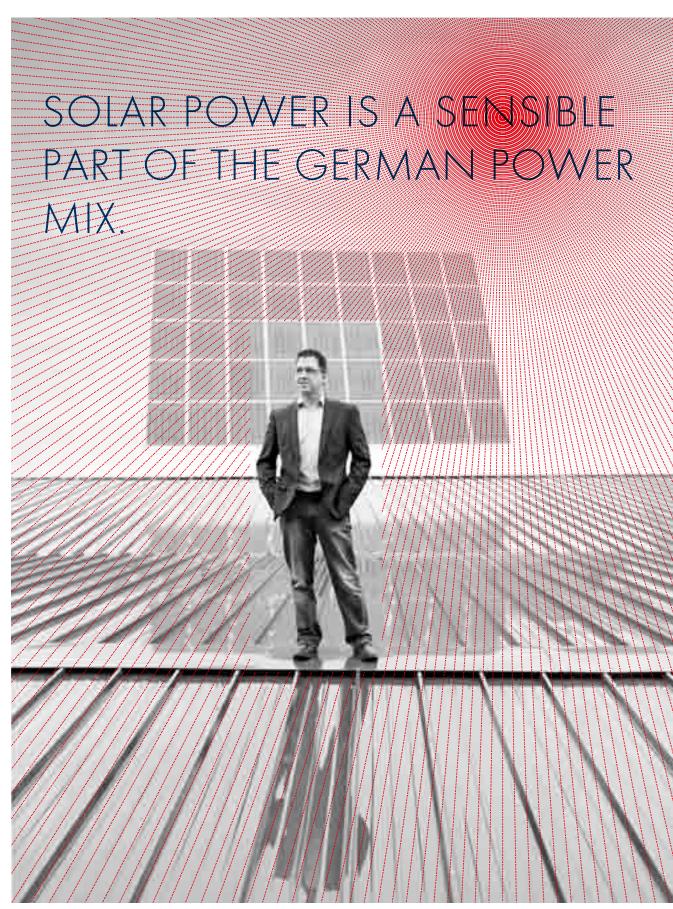
Since each photovoltaic system has to be constructed individually, SMA has a broad range of products available. We are the only manufacturer worldwide that offers the right inverter for every requirement: whether grid coupling, island power supply or backup operation. From kilowatt to megawatt. For all types of modules – whether thin film, crystalline or concentrator technology.



Location Germany

# THE SUN SIMPLY DOES NOT SHINE ENOUGH FOR SOLAR POWER IN GERMANY.

WIDESPREAD PREJUDICE



Lars Kirchner and his employees have installed more than 5,500 photovoltaic systems.

# THE SUNNY PRO CLUB THE PRINCIPLE OF GIVE AND TAKE

Achieving more together - that is the motto of the Sunny PRO Club. The SMA alliance with the companies of the photovoltaics industry represents an effective strategy with benefits for both sides. The solar energy specialists receive professional support from the technology leader for the marketing and first-rate expertise as well as technical support at attractive conditions. And in return they strengthen the profile of the SMA products.

Almost 2,000 solar power professionals have already joined by now, and new members are being added continuously. Sandra Deiseroth, Head of the Sunny PRO Club, even knows why: "SMA and the industry have the common goal to make photovoltaics even more popular and advance them. And those that do not advertise face increasing difficulty. Relying on recommendations has already been insufficient for a long time. The time and competitive pressures increase at the same time. We are able to join forces in the Sunny PRO Club: The club members save time and gain new customers. In addition, the specialized companies benefit from exclusive education and training measures."

#### THREE-PILLAR STRATEGY

The offer of the Sunny PRO Club consists of three parts in practice: On the one hand, the solar power professionals may access professional marketing services and strategies of SMA – though individually tailored to the needs of the respective company. In addition, they are presented with their specific service on the SMA Web site and may consequently be found with ease by the end customer. Third, there is a direct transfer of knowledge and personal exchange between the solar companies and SMA. Specifically, these are newsletters and info letters, the solar industry meeting in the respective region, and comprehensive training and seminar opportunities.

#### VARIOUS TRAINING OPPORTUNITIES IN THE SMA SOLAR ACADEMY

A majority of these events take place in the SMA Solar Academy which has solely been established for training purposes. The new building which was opened on the Company premises in Niestetal at the end of 2010 impresses with its attractive learning environment for installers. Various training opportunities ranging from basic to professional training measures are available to them in the Academy.

#### AN ACTIVE EXCHANGE OF EXPERIENCES CREATES (ADDED) VALUES

One of the many enthusiastic partners in the Sunny PRO Club is Lars Kirchner. The managing director of Kirchner Solar Group is one of the first members and particularly values the professional exchange among colleagues: "The Sunny PRO Club is an important communication platform for us, and we make extensive use of it. After all, what the manufacturer communicates is one thing, but the experience of the colleagues with the products is another. Here, transfer of knowledge happens on a level that is extremely hard to find. In addition, the Club provides a good opportunity to quickly get information about new products and services in the stressful daily business."

#### **COOPERATION WITH CONSISTENCY**

By the way, it was already clear to Lars Kirchner at the end of the 1990s: "The future of the energy supply is the sun." And as such, he already installed the first photovoltaic system in 1996. By now, the systems that he and his employees have installed must be around 5,000 in number. Kirchner is happy to admit that his company has also benefited from the very good reputation of the global technology leader for inverters: "Of course it is not like we cooperated with SMA from the very beginning. Sure, we also have many visits to competitors behind us. In any case, the supposedly most advantageous price is simply not what decides in the end, but the quick availability of the devices and the portfolio of a provider. And, of course, the service! It must simply be ensured that a replacement device is quickly available in case of a system or inverter failure. It is simply that not everybody is able to do that."

#### SMA SERVICE PROVIDES A DECISIVE COMPETITIVE ADVANTAGE

Kirchner also found that the customers fortunately value brand quality with increasing tendency – despite cheap competition from abroad. They would simply have purchased a piece of photovoltaic equipment just a few years ago. By now, customers with an expectation for high quality pay attention to the products that make up a system. "And in that context we definitely have a very big competitive advantage with the global market and technology leader of the inverter manufacturers", Lars Kirchner is convinced. A crucial factor for him is also that the inverters are easy to install, a requirement that he believes the SMA products have already fulfilled for a very long time; keyword SUNCLIX: "The SUNCLIX is a substantial simplification for the installers on the construction site because they do not have to work with a multitude of different plug types, but instead can simply connect the inverter with a click and a configuration."



Lars Kirchner founded the Kirchner Solar Group in the year 1996. Today, the company is a leading provider in the field of renewable energies.

#### **EXCEEDING CUSTOMER EXPECTATIONS WITH SMA**

The reliability due to the SMA service also enables the partner companies to assist the customers, e.g. in case of malfunctions or a defective inverter. "This way even we can score in the market!" Lars Kirchner says. If an inverter fails, a replacement device is available on short notice in the replacement pool. "Most of the time, the customers only know a response time of several days. However, if we are able to respond in just a few or no more than 24 hours due to the well-prepared service of SMA, we have exceeded the expectations and used a service situation in a positive manner for us."

#### SUNNY PRO CLUB RECOGNIZED WITH A SPECIAL PRIZE

Not just Lars Kirchner and his Club colleagues are convinced of the SMA partner program: The Sunny PRO Club was recognized with a special prize by Initiative Mittelstand in 2008. The club concept prevailed against more than 600 filed applications and primarily convinced the jury "with the consistent focus on the medium-sized trade", the explanatory statement detailed. By the way: The partnership association is not just available in Germany. SMA successfully started the Sunny PRO Club USA in September 2007. Of course, the offer was adapted to the local particularities. The club concept was also introduced in Italy and France in 2009 – the Sunny PRO Club already had almost 2,000 members at the end of 2010.

# **SMA SOLAR ACADEMY -** GENERATING ENERGY AND SHARING KNOWLEDGE

The training center of SMA already sets architectural standards from the outside, and it also offers an attractive ambiance on the inside. However, the actual highlight is the energy concept which is predominantly based on solar energy.



Elegance, innovation, and future are what it emits, the new training facility of SMA at the Company site Niestetal. The distinctive structure is built on stilts – prevention against flood waters of the Fulda River – and consequently appears almost like an island. The comparison fits: The Solar Academy is a self-sufficient power island, the operation of which functions without connection to the public supply grid.

This is made possible by an innovative energy concept in combination with high-tech products of SMA, linking different renewable energy sources in an intelligent manner. However, it is not just energy that is being generated here; it is also being demonstrated how that works: The SMA Solar Academy teaches everything in relation to photovoltaics, inverters, and energy generation – in theory and practice. A special training concept which bets on the transfer of knowledge, internationality, and respect as well as partnership.

#### CHALLENGE: ENERGY MANAGEMENT FOR AN EDUCATIONAL INSTITUTION

Each year, the Academy trains more than 15,000 seminar participants that require quite a bit of power, e.g. for lighting, computers, notebooks, or projectors. And they like it comfortably warm in winter, pleasantly air-conditioned in summer. "The energy concept of an educational institution like the Solar Academy is determined by the many visitors and the changing occupancy of the building. Everything stands and falls with the supply reliability in case of such a fluctuating air-conditioning and power demand", Prof. Norbert Fisch says. The director of the Institute of Building and Solar Technology of TU Braunschweig knows the fine details of the energy supply like no other: He and his team developed the energy concept with the SMA experts. The energy designer refers to himself as a "preacher for solar energy". So it does not come as a surprise that the concept borne by the sun and a combined heat and power plant thrills him.

#### HOW POWER IS GENERATED FROM THE SUN

Not only do the solar modules attached to the roof and the facade give a futuristic appearance to the floating structure; rather, they also contribute in a substantial manner to the power supply. In addition, nine pivoting photovoltaic tracking systems with a size of  $45\,\mathrm{m}^2$  are available around the building. These may also be activated without problem – if the power demand were to increase or the weather be bad sometime. "We use this power for the lighting, ventilation, and also for supporting the cooling", Norbert Fisch explains. The extended glass facade of the Academy facing south that the solar modules are integrated in lets the temperature rise on the inside during strong solar irradiation at times – despite high quality thermal glazing. However, a very practical solution offered itself instead of installing expensive cooling systems: Ground water which exhibits a temperature of 11°C all year round 40 m below the surface – an ideal and cost-efficient air-conditioning system. Two pumps push the cold water into heat exchangers behind the lining of the ceiling, and these keep the room air pleasantly cool.

#### **POWER ON CLOUDY DAYS AS WELL**

If the skies are cloudy, the combined heat and power plant (BHKW) that is operated with biogas is being used. It generates heat and produces  $\mathrm{CO}_2$ -neutral power at the same time. "The BHKW is characterized by the fact that biogas is placed in the motor and combusted there. The motor drives a generator which generates power that we may feed parallel to the solar

power into the building", Fisch details. If the power is not consumed directly, it passes just like excess power from the photovoltaic systems for storage purposes into high-capacity batteries. These may supply the building, even in case of full seminar operations.

#### CENTRAL CONTROL INSTANCE MONITORS COMPLEX TECHNOLOGY

Photovoltaic systems, the BHKW, energy storage means, and various consumers as well as voltages, frequencies, and phase offsets must be harmonized with each other during the self-sufficient energy generation. The objective is to exactly adhere to and coordinate complex technical processes. The Sunny Island inverters by SMA form the central control system; twelve are connected to high capacity batteries and control the entire island power grid. "The inverters define the voltage and frequency of the alternating current and consequently also control the other power generators. If the photovoltaic systems supply more power than needed, it is stored in the batteries. If the sun does not shine, the inverters transform the direct current from the batteries into alternating current and feed it into the internal building grid", Thomas Heinzemann explains. The SMA project manager had a decisive role in shaping the energy concept.

#### **USING ENERGY IN AN IDEAL MANNER**

However, energy is not just being generated; it is also being saved: "We use daylight, power-saving notebooks and projectors as well as lighting with fluorescent and LED lamps", Thomas Heinzemann says. Intelligent load management which temporally coordinates the various consumers and balances the power budget is vital in that context. "In other words, why shouldn't we take all the participants' notebooks off the grid and let them run via rechargeable batteries sometimes?" Heinzemann asks.

#### SMA LIGHTHOUSE PROJECT POINTS THE WAY INTO THE FUTURE

The SMA Solar Academy as independent power island for Prof. Norbert Fisch is a "prime example for energy generation from the sun. I can certainly imagine that in bigger units. The fossil energy sources dwindle, and solar power has a big future. If we demonstrate that this works here in our region and Germany, it will also work in other areas of the world. This concept sets a global precedent."

#### NO CONVENTIONAL TRAINING CONCEPT

Qualification is in high regard at SMA; after all, not every company values it right away with a new building. In particular since the energy concept is so fitting that it facilitates further training in a concrete and hands-on manner. This appeals as is demonstrated by the large number of participants each year. Marc Clinckaert, Head of the Solar Academy: "We want to make it possible for technology to be experienced and for knowledge to be concrete. Our products are technologically sophisticated, innovative, and user-friendly. And that is exactly what the Solar Academy reflects with its modern architecture and facilities".

# **SMA -** GLOBAL MARKET LEADER AND EMPLOYER IN NORTHERN HESSE

SMA as market leader produces approx. 40% of all solar inverters for the global market in Niestetal near Kassel. And the devices are not just produced here, but also designed, researched, and readied for the market. SMA employs a staff of more than 5,000. Why are so many people attracted to Northern Hesse in order to contribute their talent to SMA?

SMA is an attractive employer with a corporate culture that makes it easy for the employees to identify with the Company. SMA encourages its employees to act responsibly with great commitment, to contribute their knowledge, and to constructively take part in shaping the development of the Company. The keys for that objective are open communication on all levels, the integration in the corporate goals, the joint design of changes and freedom for work participation in individual responsibility. Fairness, equal treatment, and respect as well as material participation in the success of the Company are a matter of course at SMA - just as is the opportunity for further personal training. Many measures ensure that SMA employees get to work with happiness and a high level of commitment each day, and consequently ensure the success of their Company. Jörg Jahn summarizes it as follows: "SMA is a company that is actually able to live flat hierarchies. One is always able to go to anybody at any time, regardless of the position of the approached - and one is always taken seriously. This is not just limited to the solely technical issues. I like that SMA is a company that is not pretentious at all." Jonathan Blanz also appreciates the special working atmosphere: "It is important that we have truly flexible working hours. This means a high level of individual responsibility due to the fact that we are able to individually organize the work. This means a lot of freedom to make decisions for the own working environment which also has a motivating effect."

#### **AWARDED INNOVATIVENESS**

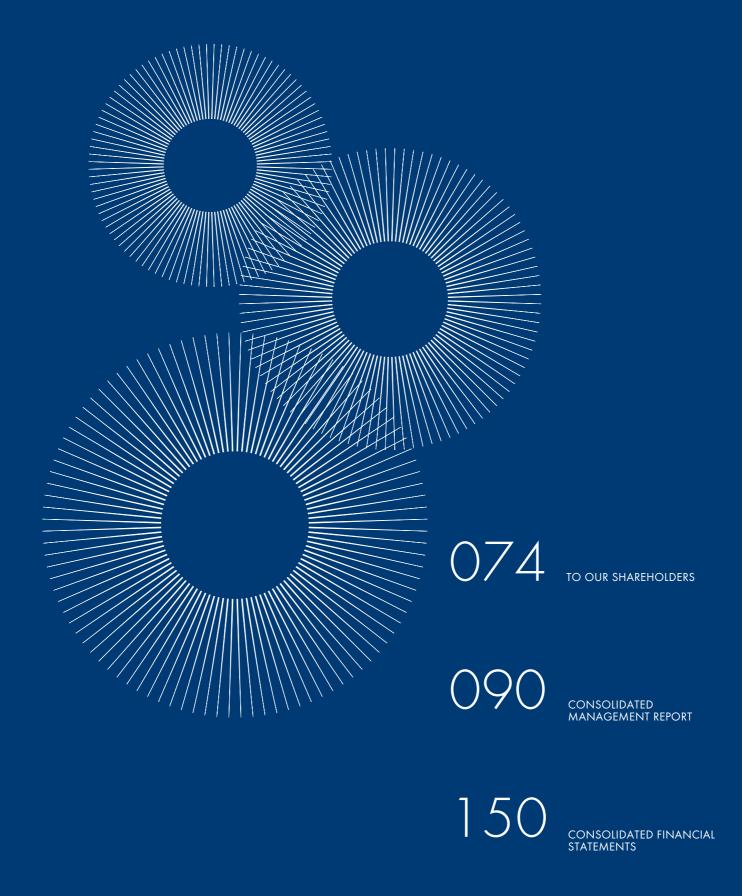
Unpretentious, down-to-earth – and with an award-winning innovation culture. Just recently, SMA was awarded the Axia Award in the Rhine-Main region which the auditing and consulting company Deloitte uses to honor medium-sized companies for their exceptional innovativeness. Innovation and technological development have been the driving forces at SMA since the beginning, and they are greatly supported by the cooperative culture of the Company. Sybille Pape expresses it this way: "What motivates me the most is the trust that I am being furthered and the responsibility one is immediately assigned upon joining SMA. One is integrated from the beginning, the own opinion is immediately accepted – regardless of the age and the duration of the job tenure. That is what is special when working here." And the jury in its explanatory statement also placed special emphasis on the fact that employees are systematically included in the information, innovation, and decision-making processes.



#### ONE OF THE BEST EMPLOYERS - IN ALL OF EUROPE

SMA faces a special challenge at regular intervals: The employees in the context of the competition "Great Place to Work®" (GPW) i. a. evaluate cooperation, employee management, professional development opportunities, compensation, and satisfaction in the workplace. SMA reached second place in the category "Companies with 2,000 to 5,000 employees" of the GPW competition in 2010. In addition, SMA received the special prize for "Lifelong learning". This honored the concept of the learning organization for the second time in a row. SMA very recently achieved first place for companies with more than 5,000 employees in the GPW competition 2011.

SMA also proved itself to be exemplary on the European level. SMA achieved third place among companies with more than 500 employees in the competition "Europe's best employer", which is also held by the GPW Institute in 2010. SMA already achieved high ranks in the previous years, both in the German and also in the European competition of the GPW Institute.



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#### THE SHARE

#### BASIC DATA

AODIAI Security code number DE000A0DJ6J9 ISIN Stock market code S92 S92G.DE Bloomberg S92 GR Listing Prime Standard of Frankfurt Stock Exchange Share class Bearer shares without par value Share capital € 34.7 million 34.7 million Number of shares TecDAX® Index

#### **SMA SHARES EXPERIENCED UPS AND DOWNS DURING 2010**

Developments on the stock markets in 2010 were on the one hand marked by the economic recovery in many countries and on the other hand by the debt crisis in the euro zone and the uncertainty about the development of the economy in the USA. In Germany, the leading index DAX surpassed the expectations of many analysts with an increase of 16 % to 6,914 points. The TecDAX notched up significant losses over extended periods but at the end of the year, it had managed to regain its initial value and closed with a modest growth of just 2 %.

The SMA share price evolved unevenly over the year. It began the year with a market price of € 94.51 (January 4, 2010, closing price Xetra trading platform) and closed the year at € 69.50. It reached its maximum value of € 103.70 on January 14, 2010 (closing price Xetra trading platform) and its minimum in November at € 66.99 (both on November 19 and November 30, 2010, closing price Xetra).

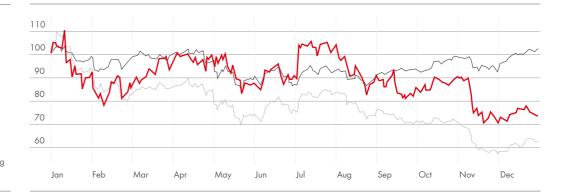
There were opposing trends from September 2010 onwards: Whereas the DAX and the TecDAX consistently moved upwards, SMA shares lost ground. A possible reason for this may have been the reduction in feed-in tariff on July 1, 2010 and October 1, 2010.

#### FIRST QUARTER WITH HIGHS AND LOWS

The development of SMA stock in the first quarter of 2010 was marked by high volatility. After a clear increase in the value of SMA stock in January up to the year's high-water mark of  $\in$  103.70, the share price had fallen back to  $\in$  73.75 (Xetra trading platform) by the middle of February 2010. A decisive factor in this fall was the discussion about the Federal Government's plans to bring forward the date of the reduction in the feed-in tariff for solar energy in Germany. The sector was worried about a fall in demand for solar installations and increased price pressure. The ongoing speculation in the world's largest photovoltaics market about how great the reductions would be unsettled the stock market and resulted in falls in the value of solar stock. SMA shares were unable to escape the effects of this development. After the publication of provisional data and the positive sales and earnings forecast for the current fiscal year, SMA stocks picked up once again from the end of February 2010 onwards and closed the quarter at  $\in$  90.75 (closing price Xetra trading platform, March 31, 2010).

#### PERFORMANCE 2010

in %, rebased to 100 points



The price of SMA shares successfully stabilized following sharp falls at the beginning of the quarter.

SMA share

● TecDAX®

ÖkoDAX<sup>®</sup>

#### SECOND QUARTER: FALLING SMA SHARE PRICE DESPITE THE COMPANY'S EXCELLENT PERFORMANCE

Despite the Company's excellent performance in the first quarter 2010 and the positive outlook, the second quarter saw a significant share price reversal. From the middle of May onwards, SMA shares fell away even more significantly and on May 25, 2010, they reached their minimum for the quarter of approx. € 80.00. The SMA share price had recovered slightly by the middle of the year and closed at € 84.56 (June 30, 2010, closing price Xetra trading platform).

#### SHARE PRICE JUMP OF 16 % IN THE THIRD QUARTER

SMA stock began the third quarter at € 84.07 (July 1, 2010, closing price Xetra trading platform). Following publication of the provisional figures for the successful first half of 2010 and the first increase in the sales and EBIT forecasts, the share price climbed 16 % on July 6, 2010 within the space of a day to € 98.00 (closing price Xetra trading platform). By the middle of July, SMA shares had reached their maximum for the quarter of € 99.60 (July 15, 2010, closing price Xetra trading platform) and managed to remain above € 90.00 until the beginning of August.

Despite publication of outstanding figures by SMA for the first half year on August 13, 2010, the share price nevertheless fell by 13 % within a few days to € 78.32 (August 25, 2010, closing price Xetra trading platform). The share price recovered by the middle of September to € 88.52 (September 14, 2010, closing price Xetra trading platform). The development of the share price reflected the uncertainty surrounding possible changes in the future to government incentive programs and their effects on the global PV market. From the middle of September onwards, the development of SMA stock was negative. The reason: This was when the Managing Board disclosed its market forecast for the first time for 2011, which neither excluded an increase in the amount of newly installed PV power worldwide of up to 20 % nor a downturn in the market of up to 10 %. The share price closed the third quarter at € 81.03.

#### FOURTH QUARTER: FALLS IN SMA STOCK DESPITE GOOD NEWS FROM SMA

The share price opened the fourth quarter at € 80.65 (October 1, 2010, closing price Xetra trading platform). On the same day, the four founders and main shareholders of SMA Solar Technology AG announced that they would transfer an equity stake of 25.2 % to a pool and transfer these shares to the next generation by way of a gift. The news about this adjustment in the shareholder structure had a positive effect on the share price.

On October 26, 2010, SMA announced that the Group would reinforce its global presence with a new sales and service subsidiary in India. This also fuelled a positive development in SMA's stock price and on November 1, the quarterly high of € 85.44 (closing price Xetra trading platform) was attained. In November 2010, the share's volatility increased once again. The share price hovered just below the quarterly maximum up to November 8, 2010. However, within a few days, it lost around 16 % and was being traded at € 71.00 (closing price Xetra trading platform) on November 12, 2010. This development in the share price was primarily attributable to the discussion about the adjustment in the subsidies for solar energy.

Following publication of record sales and EBIT figures in the nine-month report on November 12, 2010, the fall in the price of SMA stock was arrested. The share price rose slightly on the next trading day. The subsequent development of SMA stock was once again marked by the political discussion about the incentive conditions in Germany and important European solar markets. The price of SMA shares ceded significantly and fell to the year's minimum value of € 66.99 (closing price Xetra

#### SHARE KEY FIGURES

\	Volume-weighted average price in 2010	€ 84.95
1	Market capitalization (Ø)	€ 2.94 billion
[	Daily trading volume (Ø)	110.980 shares
1	Maximum price (January 14, 2010)	€ 103.70
1	Minimum price (November 19, 2010)	€ 66.99
(	Closing price (December 30, 2010)	€ 69.50

#### SHAREHOLDER STRUCTURE





25.20% Pool SMA Solar Technology AG

12 79 % Günther Cramer

Peter Drews

1281% Reiner Wettlaufer

9.25% Prof. (em.) Dr. Werner Kleinkauf 074 To our Shareholders
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trading platform) on both November 19 and November 30, 2010. In December, the share price climbed significantly to over  $\in$  70.00. The year's closing price of  $\in$  69.50 was at a similar level (December 30, closing price Xetra trading platform). The volume-weighted average price of SMA stock for the fiscal year 2010 stood at  $\in$  84.95. The average volume of shares traded was 110,980 (Xetra) and thus around 57% above the previous year's figure of 70,695 shares per day.

#### TRANSFER OF SHARES FOR A STABILE FUTURE

The four founders and main shareholders in SMA Solar Technology AG have transferred part of their shares to their families in order to ensure SMA Solar Technology AG has a stabile future. 25.2 % of all SMA shares will be bundled in a pool agreement for a period of at least seven years. In addition, further shares will be placed in charitable trusts. This is also being done to guarantee the stability of the shareholder structure.

#### **BROAD RANGE OF REPORTING ON SMA INCREASES TRANSPARENCY**

Numerous banks, securities firms and independent institutes observed SMA Solar Technology AG in 2010 and published their evaluations on the Company. In the first quarter 2011, other banks announced that they would begin reporting. The following list shows the spread of reporting in 2010:

Institution	Analyst
Arete Research Services	Joel Silverman / Jim Fontanelli
Bank of America / Merrill Lynch	Claus Roller / Gerhard Orgonas
Barclays Capital	Rupesh Madlani / Arindam Basu / Julien Roques
Berenberg Bank	Lars Dannenberg
Bryan, Garnier & Co	Julien Desmaretz
Cheuvreux	Philipp Bumm
Citi	Andrew Benson
Commerzbank	Lauren Licuanan
Deutsche Bank	Alexander Karnick
DZ Bank	Sven Kürten
Goldman Sachs Group	Stephen Benson
HSBC Trinkaus & Burkhardt	Christian Rath
HVB UniCredit	Michael Tappeiner
Landesbank Baden-Württemberg	Walter Schneider
Macquarie Group	Robert Schramm
Metzler	Ruxandra Haradau-Döser
Steubing	Alla Gorelova
UBS	Patrick Hummel
WestLB	Peter Wirtz

#### INTENSIVE DIALOG WITH INVESTORS

Openness, continuity and credibility are what characterize our communications culture and investor-oriented information policy. We maintain an intensive dialog with all the players on the capital market with the aim of building up a trusting, long-term relationship. Our Investor Relations Web site www. IR.SMA.de provides comprehensive and up-to-date information about our Company – this includes, for instance, financial publications and a financial calendar. An interactive share chart enables



comparisons between SMA share prices and selected stock market indices. SMA has been singled out on many occasions for its good investor relations work and its Annual Report. For example, we won silver at the ARC Awards International 2010 in the area of alternative energy.

#### CONSIDERABLE INTEREST SHOWN BY INTERNATIONAL INVESTORS

SMA maintains personal contacts with institutional investors. In 2010, the Chief Financial Officer Pierre-Pascal Urbon and those employed in the IR department conducted around 200 one-to-one discussions with investors at home and abroad. During the year under review, we organized eleven road shows elsewhere in Europe. The road show stopped at London, Edinburgh, Brussels, Amsterdam, Paris, Zurich, Geneva and Vienna. In addition, SMA participated in investor conferences organized by Commerzbank and WestLB in Frankfurt and in the Macquarie Alternative Energy Conference 2010 held in December 2010 in London.

Günther Cramer (Managing Board Spokesperson) and Pierre-Pascal Urbon presented the Consolidated Financial Statements 2009 at the press conference convened to announce the annual results on March 31, 2010 in Frankfurt am Main. SMA also offers quarterly telephone conferences and one-to-one discussions. In September 2010 and for the second time, SMA organized the "Capital Markets Day" at its headquarters in Niestetal. The event, which was aimed at financial analysts and institutional investors, included presentations, a factory visit as well as workshops with trainers from the SMA Solar Academy. They explained the complex functions and the service- and installation-friendliness of SMA inverters to financial experts. In addition, Roland Grebe, the Chief Development Officer, highlighted the technological perspectives of the SMA Group. The Capital Markets Day presentation is available on our Web site in the Investor Relations section.



#### ANNUAL GENERAL MEETING: LARGE MAJORITY IN ALL RESOLUTIONS

The ordinary Annual General Meeting of SMA was held on May 27, 2010 with approx. 600 shareholders at the Kassel Congress Center. The shareholders granted discharge to the Managing Board and the Supervisory Board with a clear majority of over 99.9 % and set a dividend of € 1.30, which means that the dividend has risen by approx. one third on a year-on-year basis (2009: € 1.00 per share). The dividend payout ratio stood at around 30 %. The resolutions concerning amendments to the Articles of Incorporation, the election of the auditor of the Annual Financial Statements and approval of the acquisition of its own shares were also carried with large majorities. Following the strong growth of our Company, the Supervisory Board was increased from six to twelve members in February 2010 − in accordance with the provisions of the Co-Determination Act − and the appointment of its members on a parity basis with six shareholder representatives and six employee representatives was decided. This means that SMA now complies with statutory provisions following the increase in its workforce.

The General Meeting reelected Dr. Erik Ehrentraut, Dr. Winfried Hoffmann, Prof. (em.) Dr. Werner Kleinkauf and Reiner Wettlaufer to the Supervisory Board. Siegfried L. Drueker and Dr. Martin Hoppe-Kilpper were newly elected to the Supervisory Board. The employees had previously elected Dr. Günther Häckl, Johannes Häde, Ullrich Meßmer, Alexander Naujoks, Joachim Schlosser and Mirko Zeidler to the Supervisory Board. The General Meeting approved the remuneration system for the Managing Board by a large majority, which will henceforth comply with the principles of the German Corporate Governance Code. The General Meeting was followed by the constituent meeting of the Supervisory Board, which elected Dr. Erik Ehrentraut as its Chairman and Reiner Wettlaufer as its Deputy Chairman. In addition, the Supervisory Board appointed the members of the Presidial, Audit, Nomination and Mediation Committees. The speech given by the Chairman of the Managing Board Günther Cramer and all the documents pertaining to the Annual General Meeting 2010 are available on our Web site at www. SMA.de/Hauptversammlung.



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	orporate	Corporate Governance

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#### CORPORATE GOVERNANCE STATEMENT

The Managing Board and the Supervisory Board of SMA Solar Technology AG are firmly convinced that good and transparent corporate governance complying with internationally and nationally recognized standards is a crucial factor in corporate success. From our point of view, compliance with the principles of good corporate governance is extremely important if we wish to secure the confidence of shareholders, business partners, employees, other groups affiliated with the Company and the public in the long run. The Managing Board will now proceed to report pursuant to Section 289a of the German Commercial Code on corporate governance and at the same time – also on behalf of the Supervisory Board – pursuant to point 3.10 of the German Corporate Governance Code ("DCGK") on corporate governance.

#### **CORPORATE GOVERNANCE REPORT**

SMA attaches great importance to adherence to the principles of good corporate governance and is guided by the recommendations and suggestions in the DCGK. Accordingly, the Managing Board and the Supervisory Board have continually examined its requirements.

On July 2, 2010, a series of amendments to the DCGK dated May 26, 2010 came into force. The Managing Board and the Supervisory Board dealt with these amendments extensively. In particular, these amendments concern the criteria and objectives that must be taken into consideration when appointing persons to managerial posts and to the Supervisory Board. On November 30, 2010, following deliberations on these matters, the Managing Board and the Supervisory Board issued an amended Declaration of Conformity pursuant to Section 161 (1), sentence 1 of the German Stock Corporation Act (AktG) replacing the Declaration of Conformity dated February 23, 2010, which was published on our Web site. Further changes concerning the election of a new shareholder representative to the Supervisory Board on May 27, 2010, the renewed candidacy of Prof. (em.) Dr. Werner Kleinkauf for election to the Supervisory Board and the announcement by Günther Cramer and Peter Drews of their wish to stand for election to the Supervisory Board in 2011 had to be explained in this Declaration of Conformity.



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#### **DECLARATION OF CONFORMITY**

#### PURSUANT TO THE GERMAN CORPORATE GOVERNANCE CODE

Pursuant to Section 161 of the German Stock Corporation Act, the Managing Board and the Supervisory Board of SMA Solar Technology AG declare as follows:

Since the last Declaration of Conformity dated February 23, 2010, SMA Solar Technology AG has complied, with the following exceptions, and will comply, with the following exceptions, with the recommendations set down in the "Government Commission German Corporate Governance Code", first published in the version dated June 18, 2009 and published in the Electronic Federal Gazette (Bundesanzeiger) on August 5, 2009 or since they came into force in the version dated May 26, 2010 and published in the Electronic Federal Gazette (Bundesanzeiger) on July 2, 2010, whichever applies:

In a departure from point 5.4.1, sentence 2 of the old version of the German Corporate Governance Code ("DCGK") and the recommended age limit of 75 years stipulated in the Rules of Procedure of the Supervisory Board, Prof. (em.) Dr. Werner Kleinkauf, at the end of his current period of office, was proposed to the General Meeting on May 27, 2010 for the upcoming new election of the Supervisory Board. The Supervisory Board considered that in view of his experience and notwithstanding his age, Prof. (em.) Dr. Werner Kleinkauf, as one of the founders of the Company and main shareholders, was the right candidate.

In a departure from point 5.4.1, sentences 2 and 3 DCGK (new version), the Supervisory Board, beyond the recommendation already contained in the Rules of Procedure of the Supervisory Board regarding age limits, did not lay down any specific objectives regarding its composition because proper treatment of this subject matter by the Supervisory Board was not yet possible. In a departure from point 5.4.1, sentence 4 DCGK (new version), no such objectives will therefore be taken into consideration when discussing proposed candidates for election to the Supervisory Board.

At the General Meeting held on May 26, 2011, Mr. Günther Cramer and Mr. Peter Drews announced that they wished to stand as candidates for election to the Supervisory Board. Were these two gentlemen, who are the founders and main shareholders in the Company, to be elected to the Supervisory Board, this would mean that, in a departure from point 5.4.2, sentence 3 DCGK, more than two former members of the Managing Board would sit on the Supervisory Board. Mr. Reiner Wettlaufer, likewise a founder, main shareholder and former member of the Managing Board, already sits on the Supervisory Board.

The Supervisory Board considers that, in order to pursue the pioneering work of the Company's founders, it is of paramount importance from the Company's point of view to retain them within the Company as members of the Supervisory Board even if they have already sat on the Managing Board. In this way, the desirable generational change in the Company's management can be ideally accompanied while excluding any uncertainties on the part of employees, customers, business partners and investors from the outset. In view of the fact that these persons are main shareholders, it is justifiable for more than two former members of the Managing Board to sit on the Supervisory Board.

Niestetal, November 30, 2010

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#### **TRANSPARENCY**

Transparency is a key element of good corporate governance. Our aim is to provide all shareholders, financial analysts, media and interested members of the public at large with timely information about the business situation and significant corporate changes. All important information is also made available on our Web site www.SMA.de. Reporting on the business situation and the results of operations takes place in the Annual Report, in the press conference convened to present the Annual Results, in the Quarterly Reports and in the Half-Yearly Financial Report. Furthermore, the public is informed through press releases and wherever stipulated by the law by means of ad-hoc statements. Transparency is particularly important whenever transactions concluded by the Company might lead to conflicts of interest. Any conflicts of interest that may have arisen were disclosed by those members of the Supervisory Board affected when discussion of this subject commenced. The member concerned did not participate in the adoption of any necessary resolutions by the Managing Board or the Supervisory Board. In respect of the fiscal year that has concluded, the following points should be mentioned:

Lease agreements have been concluded between SMA Solar Technology AG and SMA Immo GmbH concerning several Company buildings at the headquarters in Niestetal, Sonnenallee 1. By means of a deed of purchase dated January 11, 2010 authenticated before a notarial officer, the Company acquired 94% of the company shares in SMA Immo GmbH from SMA Technologie-Holding GmbH. The shareholders of SMA Technologie-Holding GmbH are the founders of the Company. The acquisition had been approved by the Supervisory Board at its meeting on November 26, 2009 on the basis of a valuation report prepared by an auditing firm. The members of the Supervisory Board affected by the conflict of interest did not participate in the vote. Likewise, the Managing Board members affected did not participate on behalf of the Company when the deed of purchase was drawn up. On August 11, 2010, SMA Immo GmbH became SMA Immo GmbH & Co. KG. The Company had a 94 % stake in the general partner of SMA Immo GmbH & Co. KG, SMA Immo Beteiligungs GmbH, and SMA Technologie-Holding GmbH had a 6 % stake. On December 30, 2010, the Company acquired the 6 % stake held by SMA Technologie-Holding GmbH at a purchase price of € 82,200.00. Calculation of the purchase price took place on the basis of the aforementioned valuation report.

There is an employee allocation agreement between SMA Solar Technology AG and team-time GmbH regulating the allocation of temporary employees. The sole shareholder and manager of team-time is the wife of a member of the Supervisory Board. Confirmation that the agreements concluded between the Company and team-time GmbH are in line with prevailing market conditions was provided by a report prepared by a leading German auditing firm. The auditors examined this report as part of the audit of the Annual Financial Statements 2010 and did not challenge it. Furthermore, a fairness opinion drawn up by a leading auditing firm confirmed that the contractual offer made by team-time GmbH was financially fair. The member of the Supervisory Board affected by the conflict of interest did not participate in the resolution that dealt with cooperation with the team-time GmbH.

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#### **REMUNERATION REPORT**

The Remuneration Report summarizes the principles that are decisive when it comes to determining the remuneration of the members of the Managing Board of SMA Solar Technology AG and also explains the structure and the emoluments payable to the Managing Board and to the Supervisory Board.

#### MANAGING BOARD EMOLUMENTS

The remuneration system for the Managing Board - including the most important contractual elements - is decided at a plenary session of the Supervisory Board. All the contracts concluded with Managing Board members currently in force have a term of five years. The Supervisory Board regularly examines the remuneration system for the Managing Board and lays down targets for the variable components of the emoluments. The criteria when determining the commensurateness of the remuneration include the tasks of the individual members of the Managing Board, their personal performance, the economic situation and success of the Company and the benchmark remuneration customary in the peer environment. The remuneration is assessed in a way that ensures that it is competitive in the market for highly qualified managerial staff. In March 2010, all the contracts with Managing Board members, with the exception of the contracts for Messrs. Cramer and Drews, were adapted to a new remuneration system for the members of the Managing Board adopted by the Supervisory Board. The current system will continue to apply to Messrs. Cramer and Drews without any long-term bonus. Apart from statutory requirements, the new remuneration system also complies with the stipulations of the German Corporate Governance Code in its current version and with case law and was approved by the General Meeting on May 27, 2010. Under this new system, the remuneration of the Managing Board will consist of the following components in which the fixed component of the emoluments is 40 % to 50 % and the variable component and the long-term bonus in the case of good business performance amounts to 50 % to 60 % of the total remuneration before additional benefits. At least one half of the variable component of the emoluments must correspond to the long-term bonus:

#### NON-PERFORMANCE-BASED FIXED REMUNERATION

The annual fixed emoluments are divided up into 13 monthly salaries. The 13th monthly salary is paid together with the salary for November, on a pro-rata basis in the case of persons taking up or leaving their posts during the year

#### PERFORMANCE-BASED VARIABLE REMUNERATION

The members of the Managing Board also receive a performance-based variable salary, which depends on earnings before taxes (EBT) as recorded in the Consolidated Financial Statements for the current fiscal year audited by the auditor. In the case of negative earnings in any given fiscal year, they are set off against the earnings recorded for the next fiscal year. The target value (EBT) is adjusted annually by the Supervisory Board. If at least  $100\,\%$  of the target value is attained, then the full agreed variable remuneration may be claimed whereas if less than 20 % of the target value is attained, no claim may be asserted for the variable component. Intermediate values are determined on a straight-line basis. If the target value is exceeded, this does not entitle payment of a higher variable component of the emoluments (cap). A maximum of one half of the performance-based annual remuneration that it is anticipated will become due is paid out after submission of the Half-Yearly Financial Report. The remainder is paid out after the approval of the Consolidated Financial Statements, which usually takes place at the end of March. If the Managing Board member's duties do not extend beyond one full fiscal year, then he/she receives one twelfth of the performance-based variable remuneration determined for the entire fiscal year for each month of the fiscal year in which he/she carries out his/her duties.

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#### LONG-TERM BONUS

Managing Board members also receive a long-term bonus, which depends on the mean EBT margin as recorded on the Consolidated Financial Statements audited by the auditors over a period of three fiscal years. The target value (EBT margin) is determined annually by the Supervisory Board for the following three fiscal years. If 100 % of the target value is attained, then the full agreed long-term bonus may be claimed whereas if less than 50 % is attained, no bonus is payable. Values in-between are determined on a linear basis. If the target value is exceeded, this does not entitle payment of a higher long-term bonus (cap). The bonus is payable at the very earliest upon expiry of the three-year period. Payment takes place after the third Consolidated Financial Statements have been approved, usually at the end of March, even if the employment contract ends before the end of the performance period. If the employment contract still has a term of at least two years to run when payment becomes due, then the Managing Board member is expected to invest the net amount payable, in part, in shares in SMA Solar Technology AG and to hold these shares until his/her Managing Board duties in the Company have concluded.

#### **ADDITIONAL BENEFITS**

All Managing Board members are entitled to

- · a company car,
- reimbursement of travel costs and any expenses incurred on company business,
- the employer's contribution up to the contribution assessment ceiling of the statutory social insurance scheme (pension, health, nursing care), even in the case of voluntary insurance and without furnishing any proof, and
- adequate D & O insurance.

Any taxes due must be borne by the Managing Board member.

#### OTHER CONTRACTUAL BENEFITS

In the event of death or permanent disability, the emoluments will continue to be paid for six months. In the event of early termination of duties on the Managing Board without a good cause, the compensation payable is limited to the total remuneration for the remaining term of the contract and up to a maximum of one year's emoluments (severance pay cap). If the employment contract with a member of the Managing Board ends because it is amicably cancelled within a period of nine months from a change of control, this member is also entitled to a severance payment amounting to his/her remuneration claims. The same calculation basis applies as in the case of the severance pay cap. All members of the Managing Board are subject to a post-termination covenant not to compete for a period of two years that provides for a compensation payment amounting to 50 % of the average gross monthly salary. The calculation basis is the annual salary (fixed and variable components) paid out for the last full calendar year. The Managing Board member must set off any monies earned while he/she is otherwise employed during the non-compete period. The maximum cash value of the compensation sums payable in the case of a covenant not to compete after conclusion of Managing Board duties amounts to € 0.106 million for each of the Managing Board members Jürgen Dolle and Uwe Hertel, € 0.151 million for each of the Managing Board members Roland Grebe und Marko Werner and € 0.146 million for Pierre-Pascal Urbon. Günther Cramer, Peter Drews and Reiner Wettlaufer waived their rights to compensation payments for the post-contractual covenant not to compete upon conclusion of their Managing Board duties.

The total emoluments payable to all members of the Managing Board amounted to € 2.466 million (previous year: € 2.048 million) in fiscal year 2010 of which € 0.996 million (previous year: € 0.936 million) correspond to variable performance-based emoluments. The Managing Board members receive no separate remuneration for carrying out tasks at subsidiaries.

No credits were granted nor were any advances paid to Managing Board members during the fiscal year. There are no pension commitments.

#### SUPERVISORY BOARD EMOLUMENTS

At the General Meeting held on April 30, 2008, remuneration of the Supervisory Board from the fiscal year 2008 onwards was newly regulated in Section 11 of the Articles of Incorporation. Since then, it has remained unchanged. Under these arrangements, at the end of the fiscal year the Supervisory Board members receive a fixed remuneration of  $\in 10,000$  in addition to reimbursement of their cash expenses. In addition, they receive annual variable emoluments based on the Company's success amounting to  $\in 200$  per  $\in 1$  million of net earnings as recorded in the Company's Annual Financial Statements, however not exceeding  $\in 20,000$ . The remuneration is payable after the General Meeting that resolves on granting discharge to the Supervisory Board for the fiscal year. The remuneration payable to the Chairman amounts to twice the amount mentioned above and the remuneration payable to his/her deputies amounts to one and a half times the aforementioned amounts. If a Supervisory Board member does not participate in a meeting of the Supervisory Board, then the total emoluments are reduced by a percentage based on the ratio of the meetings of the Supervisory Board that have taken place during the fiscal year with respect to the number of meetings not attended by the Supervisory Board member.

Supervisory Board members who sit on a committee also receive € 1,500 per meeting day and each committee chairman receives twice the aforementioned amount. No remuneration is payable for meetings of the Nomination Committee. The remuneration is payable at the end of the fiscal year. Supervisory Board members who have only sat on the Supervisory Board or a committee for part of the

Remuneration of the Managing Board		Remuneration not based on success		Success-based remuneration		Long-term bonus <sup>1</sup>		penefits	Total	
€ '000	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009
Günther Cramer	250	250	250	250			22	20	522	520
Jürgen Dolle (from April 1, 2010)	135	_	83		_	_	10	_	228	_
Peter Drews	250	250	250	250	_	_	20	19	520	519
Roland Grebe (from June 11, 2009)	200	111	110	84	_	_	14	9	324	204
Uwe Hertel (from April 1, 2010)	135	_	83		_	_	11	_	229	_
Piere-Pascal Urbon	188	200	110	180	_	_	18	18	316	398
Marko Werner (from June 11, 2009)	200	111	110	84	_	_	17	9	327	204
Reiner Wettlaufer (until June 10, 2009)	_	107	_	88	_		_	8	_	203
Total	1,358	1,029	996	936	_	_	112	83	2,466	2,048

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fiscal year receive remuneration pro-rata temporis.

No other remuneration or benefits for personally rendered services, in particular consultancy and mediation services, were granted to Supervisory Board members. Similarly, in the year under review, no Supervisory Board member was granted credits or advances.

The performance-based remuneration payable to Supervisory Board members does not contain any components that depend on the Company's long-term success (e.g. share options or phantom stocks). As at December 31, 2010, eight of the members of the Supervisory Board held shares in SMA.

The total emoluments payable to the members of the Supervisory Board amounted to a total of  $\[ \in \]$  0.353 million in the fiscal year 2010 (previous year:  $\[ \in \]$  0.225 million) of which  $\[ \in \]$  0.217 million (previous year:  $\[ \in \]$  0.150 million) were variable emoluments. The increase in the total amount of emoluments paid is attributable to the expansion of the Supervisory Board from six members to the new figure of twelve members and to the fact that committees were set up.

Remuneration of the Supervisory Board	Remunerat not based on s		Success-based remuneration		Remuneration for committee duties		Total	
€'000	2010	2009	2010	2009	2010	2009	2010	2009
Dr. Erik Ehrentraut (Chairman)	20.0	20.0	40.0	40.0	12.0		72.0	60.0
Reiner Wettlaufer (Deputy Chairman from June 10, 2009)	15.0	8.3	30.0	16.7	4.5		49.5	25.0
Jürgen Dolle (until June 10, 2009)	_	4.4	_	8.9	_	_	_	13.3
Siegfried L. Drueker (from May 27, 2010)	6.0	_	12.0	_	_	-	18.0	_
Dr. Günther Häckl (from May 27, 2010	6.0	_	12.0	_	1.5		19.5	_
Johannes Häde	10.0	10.0	20.0	20.0	4.5		34.5	30.0
Dr. Winfried Hoffmann	9.4	10.0	18.9	20.0	_		28.3	30.0
Dr. Martin Hoppe-Kilpper (from May 27, 2010)	6.0	_	12.0	_	_		18.0	_
Prof. (em.) Dr. Werner Kleinkauf	9.4	12.2	18.9	24.5	_		28.3	36.7
Ullrich Meßmer (from May 27, 2010)	5.3		10.7	_	_	_	16.0	_
Alexander Naujoks (from May 27, 2010)	6.0	_	12.0	-	4.5	-	22.5	_
Joachim Schlosser (from May 27, 2010)	6.0	_	12.0	_	_	-	18.0	_
Sabine Weber (until June 10, 2009)	_	4.4	_	8.9	_	_	_	13.3
Mirko Zeidler	9.4	5.6	18.9	11.1	_		28.3	16.7
Total	108.5	74.9	217.4	150.1	27.0	_	352.9	225.0

#### **MISCELLANEOUS**

The Company has taken out professional indemnity insurance (D&O insurance) for all members of the corporate bodies at the SMA Group. It is effected or extended every year. The insurance covers the personal liability risk of the members resulting from a breach of duty when exercising their duties in the event any claims for economic losses are asserted against them. The deductible in the policy for the fiscal year 2010 was 10% of the damage, however no higher than 1.5 times the fixed annual emoluments of the member of the corporate body.

#### SHAREHOLDINGS / DIRECTORS' DEALINGS

At the end of the fiscal year and at the time this Report was published, the current members of the Managing Board and the Supervisory Board held, either directly or indirectly, 48.4 % (previous year: 75.0%) of all the shares issued. The Managing Board members held a total stake of 26.2% (previous year: 38.8 %) in the share capital and the Supervisory Board members held a stake of 22.2 % (previous year: 36.2 %) in the share capital. The changes in the figures result primarily from the transfer of 25.2 % of all the shares by the founders of the Company to family members.

Under Section 15a of the German Securities Trading Act (WpHG), members are obligated to give notice of the acquisition or disposal of SMA shares or related financial instruments as soon as the value of transactions conducted by a member of the Managing Board or the Supervisory Board or by a related person reach the sum of  $\odot$  5,000.00 in any calendar year. The transactions notified to SMA Solar Technology AG in fiscal year 2010 have been published on our Web site www.IR.SMA.de.



#### **CORPORATE GOVERNANCE PRACTICES**

In our mission statement, we explain the framework for our activities and our strategy to our customers and shareholders and, in particular, to all employees. Our mission statement is meant to portray our self-conception and awaken enthusiasm for our enterprise. It is also meant to communicate the values that are the pillars of our success. The mission statement explains the vision and objectives of the Company as well as our corporate strategy and provides insight into our values: innovation, excellent quality, collaborative customer orientation, commitment through employee participation, flexibility and continuous improvement, economic success, ecological responsibility as well as fairness and honesty. The mission statement published at the beginning of 2009 is the result of an intensive coordination process that involved all employees, who were granted the opportunity of making active contributions. SMA's mission statement has been published on our Web site www.SMA.de.

In 2009, SMA acceded to the Code of Conduct issued by the German Association Materials Management, Purchasing and Logistics, a registered association (BME). Under this Code of Conduct, SMA undertakes to ensure fair dealings with suppliers. The Code of Conduct is based, amongst other things, on the principles of the UN Global Compact, the ILO conventions and the Universal Declaration of Human Rights drafted by the United Nations. It sets out to firmly anchor the universal principles of fairness, integrity and corporate responsibility in business relationships. SMA regards this Code of Conduct as an addendum to its own mission statement and corporate culture in which fairness, integrity and corporate responsibility are firmly anchored. The BME Code of Conduct may be consulted on the Association's Web site www.bme.de.





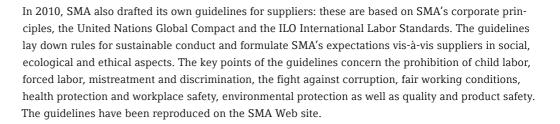
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On January 13, 2011, the Company issued a declaration addressed to the General Secretary of the United Nations in which it declared that the ten principles in the UN Global Compact were binding guidelines for the Company's management. The principles in the UN Global Compact lay down standards that must be met in order to ensure respect for human rights, the rights of workers, protection of the environment and the prevention of corruption. They have been published on the Web site www.unglobalcompact.org.

## FUNCTIONS OF THE MANAGING BOARD AND THE SUPERVISORY BOARD

SMA Solar Technology AG is a stock corporation governed by German law. Accordingly, it possesses a dual management structure in which one corporate body is devoted to managing the Company (The Managing Board) and is supervised by another corporate body (The Supervisory Board). Both bodies are endowed with different powers and work closely with one another in an atmosphere of trust when managing and supervising the Company.

#### MANAGING BOARD

The Managing Board is responsible for independently and jointly managing the Company. It is obliged to pursue the objective of the sustainable creation of value and is responsible for managing the business. It decides on fundamental issues of business policy and corporate strategy as well as on short- and medium-term financial planning. The Managing Board is responsible for preparing the Quarterly, Half-Yearly and Annual Financial Statements of SMA Solar Technology AG and of the SMA Group as well as for adhering to all legal and official provisions and internal policies.

As a collegiate body, the Managing Board, in principle, strives to adopt resolutions unanimously. However, the Rules of Procedure for the Managing Board, adopted by the Supervisory Board (available on our Web site www.IR.SMA.de) stipulate that individual members of the Managing Board shall be responsible for specific areas of responsibility and shall have sole executive powers for such areas. The Managing Board lays down how responsibilities are assigned. The members of the Managing Board notify each other on an ongoing basis about all material events in their area of responsibility and about any matters covering several areas of responsibility. If the desired unanimity cannot be reached when adopting resolutions, then the Managing Board decides on the basis of a simple majority of the members present. However, no resolutions may be adopted on matters that have been assigned to the area of responsibility of a member absent from a meeting. Under legal provisions or the Rules of Procedure, in the case of certain transactions, a unanimous resolution of the Managing Board is mandatory. For a certain number of transactions, the Supervisory Board has a reservation of consent.



to our shareholders

The Managing Board of SMA Solar Technology AG currently consists of seven members. Günther Cramer is responsible for the functions of strategy, public relations, liaising with associations and corporate development. He is also the spokesperson for the Managing Board. Jürgen Dolle is responsible for the areas of human resources and internal corporate communications. Peter Drews is responsible for product cost reduction and also heads the IT area, facility management, quality management and service. Roland Grebe is responsible for the area of development, including knowledge and innovation management and patent management. Uwe Hertel heads the operative business area, which in particular comprises the corporate areas of production, materials management and order processing. Pierre-Pascal Urbon's area of responsibility embraces finances including investor relations, internal auditing, the legal department and compliance and risk management. Marko Werner is responsible for sales and marketing.

Directors & Officers insurance has been taken out for the members of the Managing Board, which envisages a deductible complying with the legal requirements.

#### SUPERVISORY BOARD

The Supervisory Board advises the Managing Board in all matters and supervises its activity. It is involved and consulted by the Managing Board in all matters of fundamental significance and whenever particularly important business decisions have to be taken. Under the Rules of Procedure that apply to the Managing Board and adopted by the Supervisory Board, the Managing Board must obtain the prior approval of the Supervisory Board for certain decisions. Such decisions include for instance approval of the annual budget including the investment plan, the incorporation, acquisition or sale of companies and the acquisition or sale of pieces of real estate, whenever certain threshold values are exceeded. The Supervisory board must also approve the assignment of areas of responsibility. When evaluating proposals for the election of Supervisory Board members, attention is paid to the knowledge, skills and expert experience required to carry out their duties. A number of independent persons sit on the Supervisory Board who have no business or personal relationship with the Company or its Managing Board.

The Supervisory Board is currently made up of twelve members and its composition complies with the provisions of the German Stock Corporation Act and the Co-Determination Act. Under these provisions, the employees of German Group companies and their shareholders (General Meeting) each elect six representatives to the Supervisory Board. The current members of the Supervisory Board are: Dr. Günther Häckl, Johannes Häde, Ullrich Meßmer, Alexander Naujoks, Joachim Schlosser and Mirko Zeidler as employee representatives and Siegfried L. Drueker, Dr. Erik Ehrentraut, Dr. Winfried Hoffmann, Dr. Martin Hoppe-Kilpper, Prof. (em.) Dr. Werner Kleinkauf and Reiner Wettlaufer as shareholder representatives. Dr. Erik Ehrentraut, Dr. Winfried Hoffmann, Prof. (em.) Dr. Werner Kleinkauf and Reiner Wettlaufer were reelected to sit on the Supervisory Board at the General Meeting held on May 27, 2010 while Siegfried L. Drueker und Dr. Martin Hoppe-Kilpper were elected as members of the Supervisory Board for the first time. The employee representatives were elected by all the employees of the German Group companies on May 19, 2010. At its meeting on May 27, 2010, the Supervisory Board elected Dr. Erik Ehrentraut as its Chairman and Reiner Wettlaufer as its Deputy Chairman.

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Following the expansion to twelve members, the Supervisory Board set up four committees at its meeting on May 27, 2010, which were made up as follows:

#### **Presidial Committee:**

Dr. Erik Ehrentraut (Chairman), Dr. Günther Häckl, Reiner Wettlaufer, Mirko Zeidler.

#### **Audit Committee:**

Dr. Erik Ehrentraut (Chairman), Johannes Häde, Alexander Naujoks, Reiner Wettlaufer.

#### **Nomination Committee:**

Dr. Martin Hoppe-Kilpper, Prof. (em.) Dr. Werner Kleinkauf, Reiner Wettlaufer (Chairman).

#### **Mediation Committee:**

Dr. Erik Ehrentraut, Dr. Günther Häckl (Chairman), Joachim Schlosser, Reiner Wettlaufer.

Dr. Ehrentraut, as an independent member of the Supervisory Board, possesses the necessary expertise in the fields of accounting or auditing as stipulated under Section 100 (5) of the German Stock Corporation Act (AktG).

The committees prepare topics and resolutions for the Supervisory Board that are due to be deliberated at the plenary session of the Supervisory Board. They regularly meet important informants such as for instance the auditor or the head of the Internal Auditing Department for this purpose. The content of committee meetings is then reported by the chairmen of the committees at the next plenary session of the Supervisory Board. Any member of the Supervisory Board may attend the meetings of a committee, provided the relevant committee chairman does not decide otherwise. The minutes of the content and resolutions adopted by committees are made available to all the members of the Supervisory Board.

The Supervisory Board reports annually on the focus of its activities and deliberations in the Supervisory Board Report (see page 207). You may consult the Rules of Procedure of the Supervisory Board on our Web site www.IR.SMA.de.

Directors & Officers insurance has been taken out for the members of the Supervisory Board, which envisages a deductible in line with the recommendation in point 3.8 of the German Corporate Governance Code.



See also "Report of the Supervisory Board" p. 207



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COOPERATION BETWEEN THE MANAGING BOARD AND THE SUPERVISORY BOARD

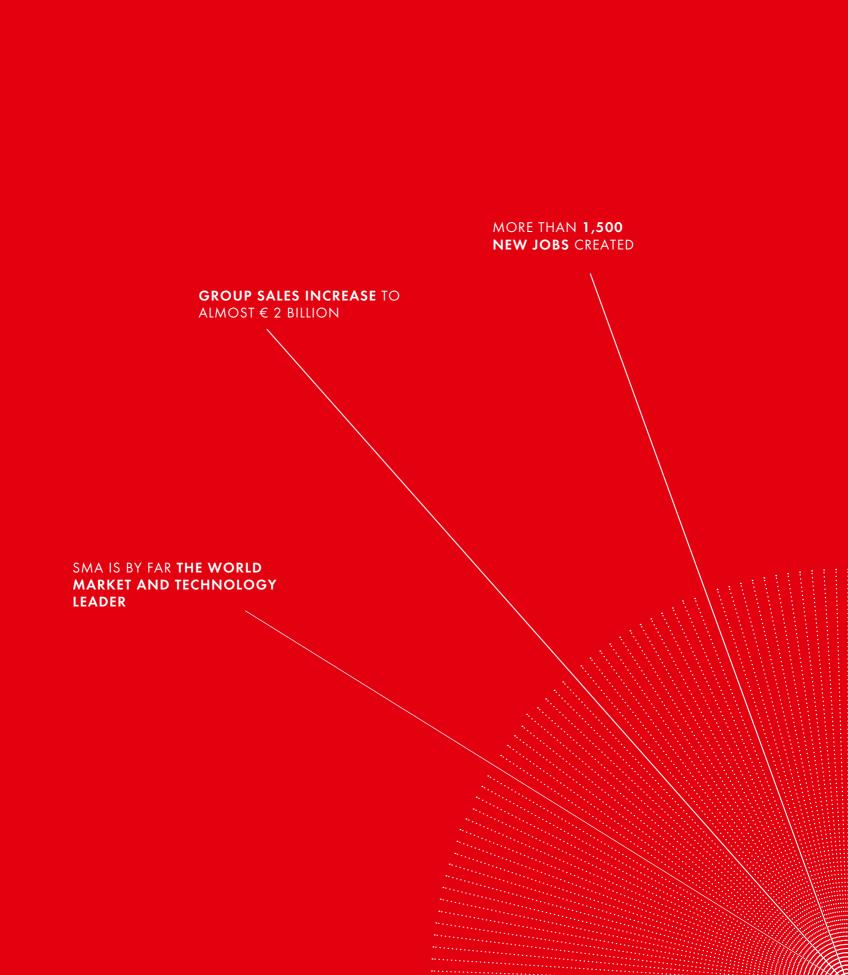
The Managing Board and the Supervisory Board work closely with one another in an atmosphere of trust for the good of the Company, thus fulfilling both the requirements of effective control of the enterprise and the need to be able to take decisions quickly. Their common goal is that of securing the continued existence of the Company and steadily increasing its value. To this end, the Managing Board keeps the Supervisory Board promptly and comprehensively informed, both in writing and by word of mouth and during regular meetings about the Company's position, current business developments and all relevant questions pertaining to strategic planning, risk management and important compliance matters. In the case of significant events, the Managing Board proposes to the Chairman of the Supervisory Board that an extraordinary meeting of the Supervisory Board be convened. The Quarterly Financial Report and the Half-Yearly Financial Report are discussed on a regular basis during meetings of the Audit Committee before their publication.

Outside meetings, the Chairman of the Supervisory Board was also in contact with the Managing Board and discussed significant business transactions and upcoming decisions with it.

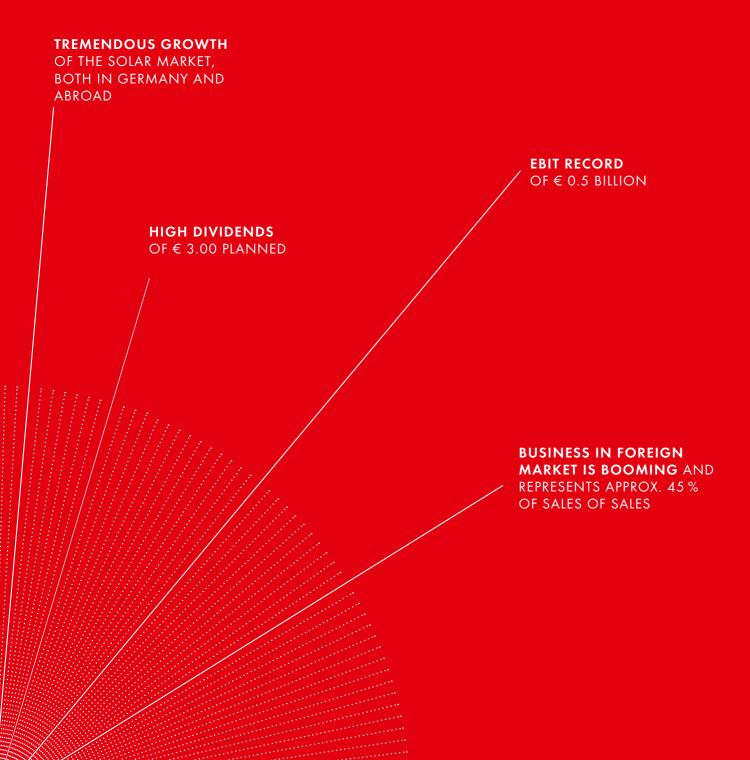
#### SHAREHOLDERS AND GENERAL MEETING

The shareholders of SMA Solar Technology AG discuss their co-determination and control rights at the General Meeting which takes place at least once a year. The General Meeting adopts resolutions with binding effect and each share grants one vote. Every shareholder who registers on time is entitled to participate in the General Meeting. In addition, shareholders may have their voting rights exercised by a credit institution, a shareholder association, the proxies deployed by SMA Solar Technology AG and bound by the shareholder's instructions or by another authorized representative. The invitation to the General Meeting and all reports and information necessary for adopting resolutions, including the Annual Report, are published in accordance with the provisions of the Stock Corporation Act and are available in the run-up to the General Meeting on our Web site at www.IR.SMA.de.





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### BUSINESS AND GENERAL CONDITIONS

## BUSINESS FIELDS AND ORGANIZATIONAL STRUCTURE

#### **BUSINESS ACTIVITY**

SMA IS THE WORLD MARKET LEADER FOR SOLAR INVERTERS

SMA Solar Technology AG (SMA) and its subsidiaries (SMA Group) develop, produce and distribute solar inverters, monitoring systems for solar power plants and power-electronic components for rail-way technology. SMA is the world market leader for solar inverters and is the only manufacturer that maintains a product range capable of offering the right type of inverter for every type of photovoltaic module and all power classes – both for grid-connected applications and for stand-alone and backup operation. Its international presence in 16 countries and comprehensive service infrastructure with 66 stations worldwide means that SMA is uniquely positioned in the solar market.

The inverter is the heart and mind of each solar power plant: It converts the direct current generated into grid-conforming alternating current. In addition, it also functions as an "intelligent system manager" responsible for yield monitoring and grid management. SMA solar inverters stand out because of their especially high efficiency of up to 98.6%, outstanding reliability and long lifespans of over 20 years.

#### LEGAL STRUCTURE OF THE GROUP

THE CORPORATE GROUP COMPRISES 21 SUBSIDIARIES

As the parent company of the SMA Group, SMA Solar Technology AG (SMA) with headquarters in Niestetal near Kassel provides all of the functions required for the operative business. The parent company holds, either directly or indirectly, 100 % of the shares of all the operating companies that belong to the SMA Group. Via the subsidiary SMA Railway Technology GmbH, the SMA Group additionally holds 10 % of the shares in the Chinese company Changzhou SMA Electronics Co. Limited, engaged in the field of the electrical retrofitting of railway vehicles. The company was not included in the group of consolidation.

The Consolidated Financial Statements include the parent company and all 21 (previous year: 16) subsidiaries of which four are domestic companies and 17 are based abroad. In 2010, we founded five new companies and included them for the first time in the scope of consolidation in the year under review: These consist of the sales and service companies SMA Solar Technology Canada Inc. (Vancouver), SMA Solar India Private Limited (Mumbai) and SMA Solar UK Limited (London) as well as SMA Solar Technology Beteiligungs GmbH (Niestetal) and SMA Immo GmbH & Co. KG (Niestetal), previously trading as SMA Immo GmbH. The company that previously traded under the name SMA Service GmbH (Niestetal) now trades under the name of SMA Immo Beteiligungs GmbH.



You will find a detailed description of the Group's legal structure in the Notes to the Consolidated Financial Statements on p. 160 ff.

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#### **ORGANIZATIONAL STRUCTURE**

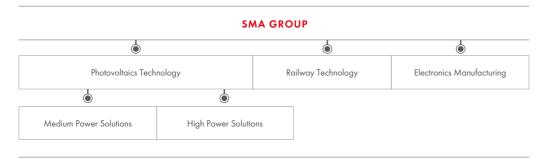
THREE DIVISIONS: PHOTOVOLTAICS TECHNOLOGY, RAILWAY TECHNOLOGY AND ELECTRONICS MANUFACTURING

The division Photovoltaics Technology develops, produces and distributes solar inverters and monitoring systems for solar power plants. It is divided into the two segments Medium Power Solutions and High Power Solutions. The headquarters of this division with all the necessary functions for operative business is located in Niestetal near Kassel. Part of the production and development activities are located in the nearby urban area of Kassel. One marketing department is located in Krefeld. Production headquarters are located at the site in Kassel with an annual capacity of approx. 10 gigawatts (GW). In 2010, SMA opened the first production sites outside Germany. In the middle of 2010, we began operating at a production site in Denver/Colorado (USA) with an annual production capacity of approx. 1 GW. At the end of the business year, the first SMA products were produced for the Canadian market in Ontario (Canada). We will increase the annual production capacity in Canada before the beginning of the second quarter 2011 to approx. 0.5 GW. Within the space of a few months, SMA has doubled its production capacity and at the end of 2010, it was the world's largest manufacturer of solar inverters with a figure of approx. 11 GW p. a.

At the end of the fiscal year, SMA with its Photovoltaics Technology division was represented with its own subsidiaries in 16 countries on four continents. SMA is one of the few companies on the market that maintains its own worldwide service infrastructure. At the end of the fiscal year, SMA operated 66 service centers.

The division Railway Technology develops and supplies system solutions for static converters for various applications in rail-bound short- and long-distance traffic. The division Railway Technology with its functions of development, production and marketing is fully integrated into the subsidiary SMA Railway Technology GmbH with headquarters in Kassel and is a segment of the SMA Group for segment reporting pursuant to IFRS.

The division Electronics Manufacturing produces electronic assemblies almost exclusively on behalf of the SMA Group at the parent company site in Kassel. The assemblies are produced using fully-automated, high-performance placement machines and used primarily in the two divisions Photovoltaics Technology and Railway Technology. For segment reporting pursuant to IFRS, the Electronics Manufacturing division is also a segment of SMA.





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#### MANAGEMENT AND CONTROL

GROWTH-RELATED EXPANSION IN THE MANAGING AND SUPERVISORY BOARDS

As required by the German Stock Corporation Act (AktG), the Group's bodies consist of the Managing Board, which manages the Company, and the Supervisory Board, which appoints, supervises and advises the Managing Board.

On April 1, 2010, the Supervisory Board decided to expand the Managing Board from five to seven members until the retirement of the founding board members Günther Cramer und Peter Drews in the summer of 2011. The Supervisory Board appointed Uwe Hertel (Chief Operating Officer) and Jürgen Dolle (Chief Human Resources Officer) as new members of the Managing Board. The goal pursued by the Supervisory Board in expanding the Managing Board is that of ensuring optimum familiarization with these functions and a smooth transfer of responsibilities as part of the generational shift. Since then, the following persons have sat on the Managing Board of SMA: Günther Cramer (Chief Executive Officer), Jürgen Dolle (Chief Human Resources Officer), Peter Drews (Chief Product Officer), Roland Grebe (Chief Technology Officer), Uwe Hertel (Chief Operating Officer), Pierre-Pascal Urbon (Chief Financial Officer) und Marko Werner (Chief Sales and Marketing Officer).

In February 2010, following the growth of our Company and in line with the provisions of the Codetermination Act (MitBestG), the Supervisory Board was expanded from six to twelve members and the members of this body were also appointed on a parity basis with six representatives each from the shareholders and the employees. The Annual General Meeting once again appointed Dr. Erik Ehrentraut, Dr. Winfried Hoffmann, Prof. (em.) Dr. Werner Kleinkauf and Reiner Wettlaufer as the Supervisory Board members representing shareholders; in addition, the shareholders elected Siegfried L. Drueker and Dr. Martin Hoppe-Kilpper as new members of the Supervisory Board. Dr. Günther Häckl, Johannes Häde, Ullrich Meßmer, Alexander Naujoks, Joachim Schlosser and Mirko Zeidler were elected to the Supervisory Board in advance by the employees. At the constituent meeting of the Supervisory Board following the Annual General Meeting 2010, the members of the Supervisory Board elected Dr. Erik Ehrentraut as their Chairman and Mr. Reiner Wettlaufer as the Deputy Chairman. The Supervisory Board also appointed the members of the Presidial, Audit, Nomination and Mediation Committees.

#### PRODUCT PORTFOLIO

PRODUCTS FOR DECENTRALIZED ENERGY SUPPLY

SMA is the sole inverter manufacturer worldwide offering a complete range of products for grid-connected solar power plants. These consist of solar inverters with outputs ranging between 700 watts (W) and 1.6 megawatts (MW). SMA offers the optimal inverter solution for all types of photovoltaic modules available on the market. The grid-connected inverters we manufacture are distributed under the proprietary brand names of Sunny Boy, Sunny Mini Central, Sunny Tripower, Sunny Central and Sunny Tower.

Due to its extensive experience with grid-connected inverters, SMA masters the key technologies for photovoltaic systems of the future. Today, the Company's product portfolio already contains numerous innovative product solutions. The off-grid inverter Sunny Island for example is used to supply solar power to outlying, off-grid locations. It plays a decisive role in the economic development of many threshold countries. The Sunny Backup System addresses the needs of the growth market of emergency power supply and is suitable for the grid-connected energy storage of photovoltaic power: With the aid of the Sunny Backup System, operators of solar power installations also have access to a secure



You will find the Corporate Governance Report on p. 78 ff. of this Annual Report.

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power supply with grid quality even if the supply grid breaks down, since battery and solar inverters ideally complement each other. Moreover, the system may also be used for the intermediate storage of solar power thus increasing the share dedicated to cover self-consumption needs.

The products Sunny Boy, Sunny Mini Central, Sunny Tripower, Sunny Island, Sunny Backup and other products used for monitoring solar power plants belong to the segment Medium Power Solutions. The grid-connected inverters Sunny Boy, Sunny Mini Central and Sunny Tripower and the Sunny Backup are mainly deployed in residential and commercial installations - the Sunny Island is used in stand-alone applications, known as off-grid systems. According to estimates of the management of SMA Solar Technology AG, around 80 % of new photovoltaic power installations worldwide correspond to the segment Medium Power Solutions.

The product families comprise a total of 42 inverters with an additional 24 country-specific and 78 customer variants. The power classes range from 700 watts to 17 kilowatts (kW). The products from the Medium Power Solutions segment feature a particularly high efficiency of up to 98.2 %, simple installation and a service life of over 20 years. In addition, they maintain an especially wide input voltage range, which is decisive in order to cover all the photovoltaic modules available on the market – a clear competitive advantage.

The High Power Solutions segment comprises central inverters such as the Sunny Central. These devices cover the market for large-scale solar power plants with outputs ranging from over 100 kW to several megawatts. The product family Sunny Central is made up of 23 central inverters whose numerous variants provide optimal solutions for any large-scale photovoltaics project. In order to increase the energy yield from large-scale solar projects, SMA, as the market leader in this segment, also produces central inverters that directly feed into the medium-voltage grid of energy suppliers. The exceptional efficiencies of these devices range up to 98.6 %. Other competitive advantages displayed by Sunny Central inverters are their wide input voltage range and integrated plant monitoring systems.

As a pioneer in grid integration, SMA is the first manufacturer to offer product solutions that fully meet the binding Medium Voltage Guideline for requirements in Germany drafted by the German Association of Energy and Water Industries - including the latest requirements level in force since April 1, 2011. The storage solutions it proposes, the support for advanced solar power forecasting and upcoming product solutions for energy management at a domestic level all demonstrate SMA's commitment to providing optimal integration of more photovoltaic power into the integrated grid.

The division Railway Technology develops and supplies system solutions for static inverters in railway applications. The product spectrum ranges from individual devices such as battery chargers and air conditioner inverters to complete energy supply systems for railway coaches and multiple-unit trains. The Railway Technology division equips short- and long-distance railway traffic with technologically outstanding power-electronic components and systems and is one of the leading manufacturers in Europe. All these products can be employed worldwide both for first integration and for retrofitting older vehicles. The most important markets for this division are found in Europe, South America and Asia.

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#### PHOTOVOLTAICS TECHNOLOGY: COMPETITIVE SITUATION AND IMPORTANT SALES MARKETS

SMA IS THE GLOBAL MARKET LEADER

Thanks to our unique range of innovative products, our presence in 16 countries and our well-developed service structure, SMA is uniquely positioned in the solar market. If reference is made to the sales figure of inverter output in 2010 of approx. 7.8 GW (previous year: approx. 3.4 GW) then SMA is the global market leader. According to its own estimates, SMA's market share was between 39 % and 45 % (in comparison with the estimated figure of 40 % in the previous year). This is an outstanding result since 2010 was characterized by intense competition. The fact that SMA continues to be a technology leader was a major contributing factor to this success. SMA's nearest competitor, according to its own estimates, had a market share of less than 15 %.

According to our estimates, new solar power plants with a total output of between 17 GW and 20 GW were installed worldwide in 2010. In 2010, Germany was once again – as in past years – the largest photovoltaics market worldwide thanks to its attractive incentives. In 2010, the newly installed output doubled the previous year's output and amounted to approx. 7 GW. However, international solar markets grew more quickly than the German solar market in 2010 thanks to broad political support. The most important foreign markets included Italy (approx. 3.0 GW), the USA (approx. 1.7 GW), France (approx. 1.5 GW) and the Czech Republic (approx. 1.4 GW).

#### LEGAL AND ECONOMIC INFLUENCING FACTORS

#### THE PHOTOVOLTAICS MARKET DEPENDS ON INCENTIVE PROGRAMS

Germany is a world leader in renewable energies. This success may be mainly attributed to the state subsidies available through the Renewable Energy Sources Act (EEG). The EEG's market incentive program promotes the expansion of energy generated using renewable sources. This means that in the photovoltaics sector alone, Germany has built up a powerful industrial sector employing some 130,000 persons that has a considerable technological edge when compared with other countries. The annual degression of subsidies is an additional incentive for industry to continue lowering the costs of renewable energies. The aim of the EEG is to render renewable energies competitive in comparison with energy generated using conventional means.

The German tool of feed-in tariffs for electricity generated using photovoltaic devices is regarded as the most effective incentive model. Producers of solar power receive a guaranteed feed-in tariff for each kilowatt-hour fed into the grid. This "minimum reimbursement" lasting 20 years provides every operator of a solar power plant with the necessary investment security. Support measures are currently yet another important incentive for investing in photovoltaic power. The German EEG has thus served as a model for many countries to develop their own incentive systems to promote the expansion of renewable energies. It is likely that the introduction of support programs in other countries will result in market developments similar to those observed in Germany.

Some countries grant state subsidies or tax credits for solar power plants that merely lower the initial high investment costs incurred by plant operators. The disadvantage: The long-term output potential of the solar power plant is not taken into account and so the incentive to install high-quality system components is rather small. Therefore, many countries employ investment allowances and additional subsidy schemes at a regional level. A further form of state support is the quota system in which the state lays down fixed quotas for the share of renewable energies in national energy provision. These quotas, known as "portfolio goals", in the USA for example create a powerful incentive, above all for energy supply companies, to invest in electricity generated using renewable energies.



For more information on the EEG, please refer to p. 36 ff. of this Annual Report and to p. 127 of the Supplementary Report.

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#### CORPORATE STRATEGY AND CONTROL

#### **OUR VISION AND MISSION**

Our vision and mission map out the framework for today's tasks and the strategic orientation of SMA. In addition, they clarify our way of thinking and actions to our employees, shareholders, creditors, customers, suppliers and the public.

#### **OUR VISION:**

#### THE FUTURE OF GLOBAL ENERGY SUPPLY BELONGS TO RENEWABLE ENERGIES

This is because fossil fuels are not only getting more expensive but they are also in large part responsible for climate change. Given its advantages, electricity generated by solar power plants will in the future constitute an important part of electricity generation. Decentralized energy generation will mean for example that electricity is generated precisely where it is consumed. New technologies will make a decisive contribution to ensuring that solar power is globally competitive. As in no other type of energy carrier, the applications of solar power range from residential installations, the commercial sector up to megawatt class solar power stations. When coupled with smart grids, decentralized storage facilities and intelligent network and/or load management, the solar inverter will be a decisive switch and control unit. But even threshold and developing countries will be able to spur electrification with the aid of photovoltaic power and thus lay the basis for economic growth and wellbeing. Today, more than three billion people still have no access to electricity.

#### **OUR MISSION:**

#### THANKS TO ITS INNOVATIVE STRENGTH AND BASED ON GROWING BASIC VALUES, SMA WILL ACCELERATE PHOTOVOLTAIC POWER WORLDWIDE

Through continued cost reductions, further enhancements and innovations, we will make the installation, operation and maintenance of solar power plants even simpler, more reliable and secure and above all more cost-effective. We will thus ensure a high degree of satisfaction for our customers and at the same time enable solar power plants to be operated in a cost-efficient manner. Here, we do not only have the specific pricing of our inverters in mind but also the life-cycle costs of solar power plants over their entire service life. Here, we will increase yields through ever-improving efficiencies and reduce costs through simpler installation options and the broadest possible integration of components and protective mechanisms into inverters, which normally have to be additionally installed in the field of solar power. By certifying that new SMA inverters such as the Sunny Central Compact Power or the Sunny Tripower comply with the requirements of the Medium Voltage Guideline, we offer our customers a high degree of investment security in addition to technologically outstanding devices. Moreover, we spur on the grid integration of the growing output of photovoltaic power in a systematic and proactive manner. In this respect, intelligent optimization of self-consumption and reliable forecasting for solar power are two important technological approaches that are developed and expanded by SMA experts together with qualified partners. We participate in national and international bodies, associations and institutions such as the German Solar Industry Association (BSW) or the European Photovoltaic Industry Association (EPIA) in order to accelerate the competitiveness of solar energy in the long run, transmit the advantages of renewable energies to the public at large and make an active contribution to creating the framework conditions for the expansion of solar energy. We complement this strategy on an international level with our service teams stationed worldwide, a Solar Academy which operates internationally and the Sunny PRO Club, our program designed for professionals and operating in Germany, Europe and the USA. Through these activities, we tap into new markets and support tradespeople and installers on site with our know-how in building up and

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expanding solar power. Thanks to our strong market position in all solar markets, we also generate momentum for ecological and social matters and furthermore, thanks in no small measure to our special corporate culture, we are especially attractive as employers for workers all over the world.

#### **OUR MAJOR FINANCIAL GOAL IS TO INCREASE OUR ENTERPRISE VALUE**

THE SALES TARGET IN 2011 IS BETWEEN  $\leqslant$  1.5 BILLION AND  $\leqslant$  1.9 BILLION WITH AN EBIT MARGIN OF BETWEEN 21 % AND 25 %

The sustained creation of enterprise value at SMA lies at the heart of our financial goals. In addition, we set ourselves ambitious goals in terms of sales, the operative earnings margin (EBIT margin), development expenditures, investments and net working capital ratio.

Given the dynamic development of the photovoltaics market, it is difficult to lay down long-term sales targets. In the past five years, SMA has increased sales by an average of 80 % p. a. and this means that – according to our own estimates – we have grown faster than the global photovoltaics market. For 2011, the Managing Board predicts both a reduction in support for solar power plants in important markets and high pricing pressure for solar inverters. Given this background, we project sales in 2011 of between  $\in$  1.5 billion and  $\in$  1.9 billion.

In the medium term, SMA is aiming for an EBIT margin of over 20 %. We believe the key to high profitability lies in the continued technological development and cost optimization of our products. In 2011, the Managing Board of SMA predicts an EBIT margin of between 21 % and 25 %.

SMA is a technology-driven company. The long-term expansion of the development area lies at the heart of our corporate strategy. Therefore, development expenditure constitutes an important control parameter. In 2010, SMA employed over 600 developers and set new standards in all application fields for inverters for the photovoltaic industry. SMA will continue to press ahead with its development activities in the future in order to retain its technological leadership. In 2011, we plan development expenditure (incl. capitalized development projects) of up to  $\in$  100 million. In addition, SMA will expand the network of strategic research and development cooperation in a targeted fashion.

In the medium term, SMA aims for a net working capital ratio of 18 % to 20 %. In this respect, short delivery periods constitute a fundamental success factor for SMA. Therefore, the Managing Board intends to increase stockpiling of raw materials, consumables and supplies in order to be additionally capable of meeting demand peaks. We will stick to our successful strategy of only producing SMA solar inverters after orders have been placed.

Investment is another important control parameter at SMA. In the medium term, SMA intends to invest in real estate and buildings with a figure ranging from  $\leqslant$  60 million to  $\leqslant$  120 million p. a. – mainly at the Niestetal and Kassel sites; realization of the planned growth presupposes that SMA will invest the same amount annually in machinery and equipment. Investments in intangible assets primarily concern the capitalization of development expenditure and in the medium term, they amount to between  $\leqslant$  10 million and  $\leqslant$  30 million. The aim of SMA is that total investments do not surpass 15 % of sales.

SMA attaches great importance to a balanced dividend policy. By setting a target dividend payout ratio of between 20 % and 40 %, we want to ensure that the SMA Group has enough funds both for future growth and to see it through temporary crises while securing a fair share of the profits for our shareholders.

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#### SMA OFFERS THE OPTIMAL INVERTER SOLUTION FOR ALL SOLAR APPLICATIONS

SMA BENEFITS FROM GLOBAL MARKET DEVELOPMENT

The photovoltaics market is divided up into solar power plants for residential installations with an output of up to 30 kW (Residential), commercial installations with an output of up to 500 kW (Commercial) and large-scale solar projects (Industrial). The different installation sizes require a differentiated treatment for individual customer groups.

The segments "Residential" and "Commercial" are mainly served by specialist dealers. The solar installers decide on the configuration of the solar power plant and obtain the relevant components from specialist or electronics wholesalers. Through the Sunny PRO Club, SMA conscientiously seeks partnerships with solar installers and provides them with support in questions relating to marketing, technology and know-how. In addition, we run training courses for installers showing them how they can optimize the efficiency of SMA solar inverters and communication products. At the end of 2010, SMA had access in the high-volume solar markets through the Sunny PRO Club to over 2,000 solar installers. The Sunny Boy, Sunny Mini Central, Sunny Tripower, Sunny Backup, Sunny Island and communication products are sold to specialist or electronics wholesaler and not directly to the solar installer.

The segment "Industrial" is a project business whose projects and investments are considerably more complex in comparison to the segments "Residential" and "Commercial". These projects are mostly handled by what is referred to as system integrators, who buy all the components of a solar park directly from the manufacturers. SMA is also very well positioned in this segment and along-side supplying powerful and innovative system technology to customers, also advises customers on the design and dimensions of their large-scale projects. Our broad service network also allows us to perform important tasks related to maintaining solar parks and guarantee short reaction times in case of malfunctions.

SMA is the only inverter manufacturer worldwide that has adjusted its business model and products to all market structures. This positioning allows SMA to constantly offer the optimal inverter for each photovoltaic installation and thus profit from the development of the global market.

#### PHOTOVOLTAICS TECHNOLOGY & ELECTRONICS MANUFACTURING STRATEGY

TECHNOLOGY LEADERSHIP AS AN IMPORTANT DIFFERENTIATING CHARACTERISTIC

In the opinion of the Managing Board, solar power is only at the start of its development. In previous years, the Managing Board has successfully positioned SMA allowing the Company to benefit from the development of global solar markets; this has allowed SMA to offer the optimal solar inverter for each segment and each output class. SMA will continue to pursue its successful strategy of continually expanding its technological leadership in the years to come. Our uppermost development goals include a significant reduction in the life cycle costs (total cost of ownership) of solar systems, the implementation of all the important functions required for the optimal grid integration of photovoltaic plants and intelligent systems for the optimization of self-consumption. The reduction in life cycle costs therefore not only encompasses a reduction in investment costs through lower specific selling prices but also a lowering in the installation and operating costs of solar power plants. Opportunities for reducing average specific selling prices are provided by increased integration of components, weight savings, reductions in volume and higher outputs. The installation and operating costs of a photovoltaic system can be reduced through the use of low-maintenance modules and the integration of components that are otherwise installed at the site. In addition, we will expand our range of products in order to better serve the needs of the various segments. Thus, SMA will once again unveil

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at least five product innovations at the leading branch trade fairs to be held in Germany and North America in 2011. In the Medium Power Solutions segment, SMA will for example extend the three-phase solar inverter range Sunny Tripower to include devices with an output of less than 10 kW. This extension to its product range will allow SMA to better serve the high-growth segment of solar power plants with outputs of between 5 kW and 10 kW. With the aid of the new Sunny Tripower, it will now be possible to operate these installations with just a single solar inverter. In the High Power Solutions segment, SMA will present new system concepts for constructing large-scale photovoltaic power stations. This will enable a further reduction in life cycle costs (total cost of ownership).

## MARKETS THAT ARE DIFFICULT TO FORECAST REQUIRE EXTREMELY FLEXIBLE PROCUREMENT AND PRODUCTION PROCESSES

In order to be able to meet demand even in the case of large fluctuations within a short space of time, SMA has in the last few years put in place an extremely flexible procurement and production process. SMA has countered the regional shift in demand by expanding production sites in the USA and Canada. With an eye on the enormous growth potential of international solar markets, SMA will further increase production capacities in 2011, mainly abroad. In order to remain flexible, SMA employs temporary employees in manufacturing in accordance with the order situation and only maintains about 20 % of electronic manufacturing (Electronics Manufacturing) within the Company itself. SMA will also continue to internationalize its procurement organization in 2011: It plans to expand and/or set up purchasing organizations in North America and Asia.

## IN FUTURE, INTERNATIONAL MARKETS WILL HAVE A GREAT IMPACT ON THE DEVELOPMENT OF BUSINESS

SMA recognized the international dimension of the solar market early on and to date, it has set up subsidiaries in 15 foreign markets. This presence will be of incalculable worth, above all in 2011. With over 1,000 sales and service employees, SMA is prepared like no other solar inverter manufacturer for the rapid internationalization of this business. In 2011, SMA will continue to build up its international presence and plans to open subsidiaries in Japan and Thailand. Furthermore, we will continue to expand our existing organizations abroad.

#### NO PLANS FOR LARGE ACQUISITIONS

SMA maintains a unique position in the solar inverter manufacturers market. The SMA Group masters all the decisive technologies and is represented in all important markets with its own companies. The Managing Board assumes that the development of photovoltaics is only at an initial stage; therefore, in the medium term, there are no plans to open up adjacent market segments or make large acquisitions. Only small acquisitions are conceivable with a view to optimizing SMA's value-added and supply chains.

#### STRATEGY RAILWAY TECHNOLOGY

#### **EXPANDING ITS POSITION IN THE NICHE MARKET**

The Railway Technology division of the SMA Group will continue to expand its market position for energy supply systems for railway coaches and multiple-unit trains in South America and Asia by setting up sales and service companies. The consistent implementation of this internationalization strategy means that the Railway Technology division is projected to grow 10 % faster than the relevant market.

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#### CUSTOMER-SPECIFIC DEVELOPMENT CREATES LONG-TERM LOYALTY

In 2011, the Railway Technology division will concentrate its development activities on customer-specific applications and on completing its range of products. The development of new technologies will also be accelerated, including for example the use of energy supply systems for the active compensation of harmonics in AC grid feeds.

#### **GROWTH THROUGH ACQUISITIONS**

The Railway Technology division operates in an attractive niche market and is a fixed component of the SMA Group. SMA Railway Technology concentrates on its organic growth while continually evaluating opportunities for external growth. Here, SMA Railway Technology has in mind profit-bearing system housings for static inverters, which from a technological or regional point of view would be a logical extension to established business in the Railway Technology division.

#### STRATEGY SMA GROUP

#### INCREASING EFFECTIVENESS

The functional organization of SMA in place today is reaching its limits. By deploying a divisional organizational structure in the future SMA will place different customers and different market requirements more effectively at the center of its activities. This will mean that individual divisions will be assigned clear tasks and powers. The divisions will be able to avail themselves of existing expert knowledge, above all concerning accounting, human resources, law, IT and facility management, through the corporate center. The new organizational structure for solar technology distinguishes between the divisions Medium Power Solutions, Power Plant Solutions, Off-Grid Solutions and Service. All the divisions are equipped with the necessary functions such as for example sales, development, production, finance and human resources service. The heads of the divisions are responsible for domestic and foreign business and report directly to the Managing Board. The company SMA Railway Technology will remain largely unaffected by this organizational change. This new arrangement will probably have been concluded during 2011.

#### **ENSURING FINANCIAL FLEXIBILITY**

The SMA Group's high-sales markets are extremely dynamic. In order to remain flexible, SMA relies on outsourcing, temporary employees and interim solutions for office and production buildings. In addition, there are plans to use funds available in the short term to cover fixed costs for a period ranging up to 18 months. This requirement will serve the goal of maintaining medium- and long-term strategy even in the case of short-term fluctuations. Based on the current available cash and the freely available cash flow that is forecast, there are no plans to borrow or perform capital measures in 2011 to any significant extent.

#### LEADING INDICATORS ARE ONLY SUITABLE TO A CERTAIN EXTENT FOR DETAILED FORECASTING

#### THEREFORE, SMA IS PREPARED FOR DIFFERENT SCENARIOS

In order to be able to react to market changes in time, it is very important for us to recognize opportunities and risks early on. For this purpose, we discuss what is commonly referred to as operative early indicators both at board level and with the divisional managers and the managers of the subsidiaries. Such early indicators include for example changes in support programs for solar power plants and their effects on regional market potential, the development and competitive position of SMA in regional markets, the acceptance by our customers of new products as well as market-relevant information from discussions with customers, suppliers and associations. The myriad of influencing factors and the complex way they interact make it difficult to produce a detailed forecast that holds good in the long term. Therefore, on the basis of operative early indicators, we have drawn up scenarios

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for annual and medium-term planning. The Managing Board, divisional managers and the managers of the subsidiaries are informed on a monthly basis both about the financial development of the SMA Group and about operative early indicators. The monthly reporting includes detailed comments on for example the development of orders placed and order volumes, the amount of inverter output sold, sales figures, operating results, statements of cash flows, development activities, investments, net working capital and the number of employees. In addition, other important key figures are disclosed. The aim is to compare the changes in decisive items on the income statement and balance sheet both with the budget and with the previous month and to take any corrective measures as required. Annual planning and medium-term planning are both checked and adjusted if necessary every six months. The basis of the information used for reporting is provided by an electronic management information system (SAP Business Warehouse).

#### **EFFECTIVE INTRA-GROUP CONTROL SYSTEM**

The basic elements of the intra-Group control system are the Managing Board meetings that take place twice a week, the monthly joint meetings of the Managing Board, divisional managers and departmental heads and the monthly discussions with the managers of the subsidiaries. During these meetings, the individual departments and subsidiaries set out implementation of corporate strategy and whether corporate goals have been attained in their strategy reports – on a quarterly or monthly basis depending on their relevance. In addition, the intra-Group control system encompasses the regular risks and opportunities report and the report prepared by the Internal Auditing Department.



#### CORPORATE SOCIAL RESPONSIBILITY

Assuming social and ecological responsibility is the basis of our business model and has remained an important part of corporate culture since SMA was founded. For SMA, Corporate Social Responsibility (CSR) means combining long-term economic success with the protection of the environment and social responsibility.

We pursue a CSR strategy in which protection of the environment and climate as well as corporate responsibility and our employees are placed at the center. We continually develop our strategy and adjust it to new challenges as they come to the fore.

The strategic mainstays of our CSR activities are: promotion of the use of solar power in projects as a social task, keeping environmental burdens in our production to a minimum and in daily activities, assumption of ecological and social responsibility in the region together with support for cooperative management.

The Company's activities centering on CSR are coordinated at SMA by the Public Affairs department. Its task consists of laying down the strategic orientation of CSR, implementing measures and projects and optimizing CSR management throughout the Company. Thanks to an organizational structure with clearly defined responsibilities, CSR is systematically anchored in our Company.

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#### WE MAKE AN ACTIVE CONTRIBUTION TO ENVIRONMENTAL PROTECTION

SMA develops and distributes products that contribute to climate protection and promote the use of renewable energies. By continually optimizing the use of materials and the efficiency of SMA inverters, we ensure high energy efficiency and as a result, the careful use of natural resources. There are no special environmental requirements for production at SMA since only very small quantities of materials harmful to the environment are generated; we contract certified disposal companies to recycle such materials.

#### SUSTAINABLE ENERGY CONCEPT

SMA would not only like to make a contribution to climate protection with its products but also during their manufacture and within the Company itself. Therefore, SMA pursues a comprehensive sustainable energy concept in which energy efficiency and the use of renewable energies play an important role. Thus the use of solar power, which was adopted early on at the Company's sites, is consistently applied during the construction of new buildings.

The inverter factory "Solar Factory 1", which was completed in 2009, is CO2-neutral and is the world's largest inverter factory; it allows SMA to avoid generating polluting emissions during the manufacture of inverters themselves. The concept of CO2 neutrality is based on two pillars: First, the factory's energy requirements are reduced to a minimum and second, renewable energies are employed in order to cover any energy needs after the potential for savings has been fully exhausted.

With this factory, SMA shows that modern industrial production on a high technical level that is CO<sub>2</sub>neutral is possible today. In 2010 the factory, amongst other awards, won first place in the "Energy Efficiency Award" run by the German Energy Agency (dena).

In addition to its unique architecture, the new training center run by the SMA Solar Academy and inaugurated in October is characterized by a special energy concept: The new building has an offgrid electricity and heat supply system based on decentralized renewable energies. SMA shows that a large-scale, stand-alone supply system supported by solar power with a supplementary biogas-fired combined heat and power unit (CHP) is possible all year round even when operated under demanding commercial conditions.

SMA will also employ a sustainable energy concept at its new site in the industrial park "Sandershäuser Berg" in Niestetal, which will be based on the greatest possible reduction in energy consumption, on a high degree of efficiency both of the building and production, and on energy supplied from renewable sources. A subsequent expansion of this sustainable energy concept to the entire industrial park is planned.

In October 2010 and thanks to its sustainable energy concept in the area of buildings and production, SMA was included in the "German Industry Climate Protection and Energy Efficiency Group". This group brings together companies from different sectors and of differing sizes that take a leading role in climate protection and energy efficiency. The activities of the member companies are meant to convince other companies that energy efficiency pays for itself and can be a real competitive advantage. Since October 2010, SMA has also been a member of the learning network in the project "CO<sub>2</sub>-neutral regional state administration" run by the federal state of Hesse. The regional government of Hesse

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will operate on a  $\rm CO_2$ -neutral basis up to the year 2030. In order to achieve this goal, it will exhaust the potential for making energy savings and increasing energy efficiency and spur the use of renewable energies.

#### CERTIFIED ENVIRONMENTAL MANAGEMENT SYSTEM

In August 2010, SMA received certification for its environmental management system complying with DIN EN ISO 14001. This enabled environmental protection at the Niestetal site to be spurred on and strengthened. The measurable environmental performance is evaluated by means of regular internal audits, analyzed, improved and communicated. This allows an environmental awareness, characterized by open information and goal-orientated cooperation, to be also fostered amongst employees.

#### IN-COMPANY MOBILITY MANAGEMENT

Mobility management within SMA is also part of climate and environmental protection. It comprises various measures designed to improve mobility at the Company and is intended to foster mobility behavior amongst employees that is more environmentally friendly. It achieves this by working towards integrated mobility management that includes both in-house measures and measures with external players. SMA's mobility management concept was awarded first place at the "Innovative Concepts in Mobility Management" competition in the category "In-Company Mobility Management" awarded by the German Energy Agency (dena) and the Federal Ministry of the Environment.

#### CORPORATE SOCIAL RESPONSIBILITY HAS A LONG TRADITION AT SMA

SMA promotes many charitable projects, organizations and initiatives whether in the field of education and research, culture and social matters or in third world regions. The Company achieves this through the use of donations and sponsoring as well as providing support in theory and in practice, for example through voluntary work by employees or the transmission of know-how.

#### **EDUCATION AND RESEARCH**

Research and development constitute the driving force for long-term, successful innovations and this is impressively borne out by SMA's history. In order to awaken the interest of children and young people in natural sciences and technology early on and encourage students to take up these subjects, SMA once again supported the "Jugend forscht", "Hessen SolarCup" and "Solar Decathlon" competitions in 2010.

#### **CULTURAL AND SOCIAL EVENTS**

As one of the biggest companies in the region of North Hesse, SMA is well aware of its responsibility as part of society and would therefore also like to make a positive contribution to regional development. Here, SMA's attention is not only focused on the maintenance and promotion of Kassel culture but also on social issues in the immediate neighborhood. In 2010 for example, SMA supported the Kassel Museum Night, the Kassel Music Days and the Volunteer's Center, Kassel as well as the Diakonische Werk (pastoral outreach) Kassel and the women's helpline Göttingen.

#### PROJECTS IN THIRD WORLD REGIONS

Completely decentralized power supply – SMA has pursued this strategic goal since the days of the Company's foundation. This matter has special importance for the billions of people in regions that are either disconnected or only partially connected to the public grid. These areas are often located in regions that offer ideal conditions for self-sufficient solar stand-alone networks. SMA is involved in various development aid projects aimed at simplifying or even enabling people's access to elec-

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tricity. In this way, we do not only make a significant contribution to energy supply that is more climate- and environmentally-friendly, but we also deliberately support development work in crisis and developing countries with the aid of modern solar technology. In 2010, thanks to our employees and our project partners, we realized various projects in third world countries. Three selected examples are described below:

One of the projects SMA supported was the association "Gegen Noma e.V." which equipped a hospital in Burkina Faso with a photovoltaic plant. Every year, 14,000 children suffering from the children's disease noma visit the hospital in Ouahigouya. Electricity costs are very high in Burkina Faso, which means that expenditure on power makes up 35 % of the hospital's overall expenses. The photovoltaic system is based on a stand-alone installation, thus ensuring that the hospital has a stabile power supply while at the same time lowering energy costs.

In the Mali city of Kati, SMA, together with other project participants, equipped a women's center with a solar power plant. The women's center with meeting, teaching and production areas and an associated health station is designed above all to provide widows, young women and single mothers with self-help. Here, the photovoltaic plant guarantees an independent power supply.

In addition, SMA has worked together with the Kassel association "TOGETHER Hilfe für Uganda e.V." over the last few years. In 2009, SMA equipped a school center in the region of Kooki in West Uganda with a powerful photovoltaic stand-alone plant: Some SMA employees traveled to Kooki in their spare time in order to construct the 10.4 kWp photovoltaic plant. The stand-alone system now also supplies the school building with light in the evening and ensures that the attached teaching workshop has a power supply. In summer 2010, SMA employees once again traveled to Kooki. On this occasion, they helped in setting up and equipping this teaching workshop, which is designed to provide practical training in the occupational area of electronics. This will lay the basis for subsequent employment in this locality and a sustained improvement in the living standards of the people who live here.

#### WE LAY DOWN SOCIAL STANDARDS AND GUIDELINES

The social and ecological responsibility of a company increasingly extends to the choice of its suppliers and business partners. Therefore, SMA has decided to also take into account social and environmental standards when selecting its suppliers and partners in addition to quality, price and flexibility. In a first step, SMA undertook as early as 2009 to enforce various social and environmental standards in the Company and when dealing with suppliers by signing the inter-branch Code of Conduct issued by the German Association Materials Management, Purchasing and Logistics (BME). Monitoring to determine whether these guidelines are adhered to takes place within the framework of annual voluntary disclosure reporting. In a second step, SMA developed and approved its own guidelines for suppliers in 2010. These are based on SMA's corporate principles and on international principles and conventions – e.g., the United Nations' Global Compact and the International Labor Standards issued by the ILO. The guidelines lay down rules for sustainable behavior and describe SMA's expectations vis-à-vis suppliers and business partners concerning social, ecological and ethical aspects. The prohibition of child labor, forced labor, mistreatment and discrimination, the fight against corruption and for fair working conditions, occupational health and safety as well as quality and product safety all lie at the heart of this code.

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#### **NETWORKS AND COOPERATION**

Apart from activities in the area of Corporate Social Responsibility, SMA is also involved in numerous networks, cooperation projects and initiatives in North Hesse, because these activities play an increasingly important role in the further development of the region. In this way, the Company made a decisive contribution to the foundation of the "Kompetenznetzwerk dezentrale Energietechnologien (deENet)". The association's goal is to create around 20,000 new jobs by 2020 through technological progress and sustainable regional development in North Hesse. In 2010, SMA also intensively participated in deENet.

Based on its own experience, the Managing Board believes that it is also important to support the foundation of companies in the region. With this in mind, in 2006, SMA began participating in the Incubator Project at the University of Kassel, whose founding team drawn from universities paves the way for the application of science in the economy. In 2010, it supported the founder's competition Promotion North Hesse, the subject of which centered on "decentralized energy supply and e-mobility".

SMA also participates in the project "Regional Energy Supply 2020", within the framework of which a municipal energy supply system with a high share of regional renewable energies and an intelligent electricity network (smart grid and smart metering) will be developed and presented in a selected municipality in the region.

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#### **EMPLOYEES**



#### **JOB MOTOR SMA - OVER 1,500 NEW JOBS**

At the end of the year under review, the SMA Group employed 4,466 persons (previous year: 2,954, figures in each case excluding temporary employees), which is 51% more than the previous year. In 2010, we expanded our existing foreign subsidiaries and set up new companies. The number of persons employed by us abroad rose in 2010 by 88% to 409 employees (previous year: 218 employees). The fluctuation of employees was unchanged at less than 1% at the previous year's extremely low level. The sickness ratio was 3.25% (previous year: 3.3%). At the end of the year, we employed 1,140 temporary employees, mainly in production and production-related areas (previous year: 1,277 temporary employees). The annual average of persons employed by us was 3,783 employees (previous year: 2,566 employees) and 1,736 temporary employees (previous year: 846 temporary employees).

#### **SHAPING GROWTH**

#### WE GIVE YOUNG PEOPLE A FUTURE

SMA provides training for specialists in a total of 15 job profiles of which seven are commercial-technical jobs requiring training and six are commercial jobs requiring training: Two of these are electro-technical study courses in combination with training. In the last few years, we have increased the number of apprenticeships so that at the end of 2010, SMA employed 333 apprentices. In addition, we trained 37 older persons and/or underqualified persons in a special program. As a rule, SMA takes on apprentices and students after they have completed their education.

#### FURTHER TRAINING IS A CENTRAL BUILDING BLOCK IN PERSONNEL WORK

We attach great importance to the specialist and personal development and further training of our employees. We offer each employee the chance – and advise him or her of this opportunity – to undergo further training at least five days a year. We revise our personnel development program every year in accordance with the demand shown by employees, the needs of areas and departments and SMA's corporate goals. In 2010, this program offered internal training in more than 140 subjects on 510 training days with 7,889 participants. Our comprehensive range of further training initiatives also includes special programs for apprentices, new employees and specialist and managerial staff – for example, a trainee program for upcoming managers in production or special programs for engineers embarked on careers leading to technical experts, project managers and managerial posts.

#### **DIVERSITY AT SMA**

As of December 31, 2010, the share of female employees throughout the Group stood at 25.1 %. On the same date, women occupied 14.5 % of managerial posts. SMA Solar Technology AG is explicitly dedicated to promoting equal opportunities in all areas of activity and at all managerial levels. In order to achieve this, we are in the process of drafting a concept as part of our working group "Diversity" that we intend to implement in 2011. The cornerstones of this concept are the increased consideration of women when recruiting for managerial posts, even better reconciliation of professional and family life and sustained promotion of younger female specialist and managerial staff by extending offers for specific target groups.

#### FLEXIBILITY THROUGH TEMPORARY WORK

The photovoltaics market evolves in an extremely dynamic fashion. In order to remain as flexible as possible, SMA makes use of temporary employees. We only employ temporary employees in tasks characterized by a high degree of fluctuation and this mainly concerns activities in production and production-related areas. Our temporary employees are paid the same hourly rate as our permanent

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staff. In 2010, we also paid them performance-based bonuses. At SMA, temporary employees are entitled to take advantage of the personnel development offers in our training plan, apply for internal job postings and have the opportunity of taking up permanent employment at SMA. In 2010, we employed a total of 522 temporary employees on a fixed-term basis.

#### SMA HAS A UNIQUE CORPORATE CULTURE

Our management of human resources is designed to create a framework in which employees regard the Company "as their very own", feel that they are fully participating and go about their duties with a strong degree of identification, commitment as well as a considerable amount of self-initiative and self-organization.

In 2009, we defined the cornerstones of our corporate culture as follows: participation, responsibility, development, flexibility, confidence and openness. Accordingly, we extract clear commitment from our employees and instruments and measures capable of realizing each commitment.

#### **OUR ATTRACTIVENESS AS AN EMPLOYER**

In 2010, SMA Solar Technology AG received several awards as an attractive employer:

- Workplace Investor Prize: category "Jobs" (main category)
   This is awarded to companies that have set a positive sign by taking on new employees.
   SMA created 572 new jobs between June 30, 2008 and June 30, 2009 and was awarded this prize as a result.
- Great Place to Work®
  - 2nd place Germany's Best Employer in the category "Companies with 2,000 to 5,000 employees"
  - Special prize "Lifelong Learning"

In 2010, SMA allowed itself to be evaluated by its own employees for the fifth time in the employer competition "Great Place to Work" and came second in the category "Companies with 2,000 to 5,000 employees". The special prize "Lifelong Learning" was once again awarded to SMA.

- · Great Place to Work® Europe
  - 3rd place Europe's Best Employer in the category "Companies with over 500 employees" SMA was once again distinguished at the Europe's Best Employer award and came third in the category "Companies with over 500 employees".

#### **EMPLOYEES**

12/31/2010	12/31/2009	12/31/2008	12/31/2007	12/31/2006
4,466	2,954	2,220	1,906	1,249
4,057	2,736	2,080	1,822	1,204
409	218	140	84	45
1,140	1,277	489	385	172
5,606	4,231	2,709	2,291	1,421
	4,466 4,057 409 1,140	4,466 2,954 4,057 2,736 409 218 1,140 1,277	4,466     2,954     2,220       4,057     2,736     2,080       409     218     140       1,140     1,277     489	4,466     2,954     2,220     1,906       4,057     2,736     2,080     1,822       409     218     140     84       1,140     1,277     489     385

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#### RESEARCH AND DEVELOPMENT

#### TECHNOLOGICAL INNOVATIONS DESIGNED TO CONSIDERABLY REDUCE THE LIFE CYCLE COSTS

MEDIUM POWER SOLUTIONS – SUNNY TRIPOWER HAS RECEIVED SEVERAL AWARDS

SMA, as a technology leader in solar inverter technology, unveiled several new products at the leading trade fair in the solar power sector in 2010. We received the innovation prize for our new, three-phase multistring inverter Sunny Tripower at the 25th Symposium of Photovoltaic Solar Energy held in Bad Staffelstein. The specialist magazine Photon Profi praised the Sunny Tripower 17000TL in its September edition as a "top device" and gave it an overall rating of "very good plus". On the one hand, the new Sunny Tripower features a highly flexible installation configuration (Optiflex) and on the other hand, a multi-security concept (Optiprotect), unique in the world. Thanks to its string failure detection, its electronic string fuse and a lightning protection function capable of being integrated, Optiprotect guarantees the maximum operating safety of a photovoltaic system. In addition, the new DC plug system SUNCLIX makes installation of the Sunny Tripower even simpler. These integrated system functions result in a corresponding reduction in the life cicle costs of solar power plants – from planning to the average useful life (total cost of ownership). This greatly reduces the complexity of photovoltaic installations; planning, assembly and commissioning of an installation can take place much more quickly and simply.

The development of the Sunny Tripower with outputs of 10 kW and 12 kW has ended: This means that the product family has been completed and the output range extended downwards. The Sunny Tripower is available in four different output classes: The installer may now choose from amongst these three-phase photovoltaic inverters with outputs of 10 kW, 12 kW, 15 kW and 17 kW, for deployment in solar power plants with outputs ranging from 10 kW right up to the megawatt range. In particular, the Sunny Tripower has also been designed for use in large-scale projects that feed into the medium-voltage network and which are already certified in compliance with the Guideline adopted by the German Association of Energy and Water Industries (BDEW) for complete, dynamic network support.

Development of the Sunny Boy 3000HF in the Medium Power Solutions segment was completed in 2010. This inverter is equipped with a high-frequency transformer; based on the very latest SMA technology, it offers especially high yields for galvanically isolating devices with output classes of 2 kW, 2.5 kW and 3 kW. Thanks to the innovative high-frequency switching concept, the device is particularly light. Its universal grounding and wide input voltage range make the Sunny Boy 3000HF an all-round talent suitable for all module technologies and thus universally deployable.

When developing the design, we paid especial attention to the special mounting requirements in the USA: The slim housing makes it possible to snugly fit the Sunny Boy 3000HF into walls with a post-and-beam construction. Certification for the US market is currently under way.

SMA anticipated the EEG requirements on self-consumption early on and incorporated them into the development process of the Medium Power Solutions segment. This led SMA to unveil the Sunny Backup System to its customers in 2010. The innovative battery inverter allows solar power produced during the day to be stored in a stationary battery. During the evening, the demand for electricity is covered by the battery. The system technology employed by SMA makes it possible for a four-person household to increase self-consumption from the current figure of approx. 25 % to over 50 %. All solar power plants equipped with SMA Sunny Boy inverters can be retrofitted with the Sunny Backup System.

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In 2010, SMA's multicluster technology represented the development of a new modular system concept for stand-alone installations with outputs of up to 300 kW. This has made it possible to even implement larger off-grid power supply systems for villages. The modular concept means that installations can be easily adapted to the size of the corresponding output and can also be easily expanded. The fact that these modular systems can be built up from various easily installable devices means that operation, maintenance and repair in case of malfunction can all be carried out by local electricians at the site without the need to call out specially trained technicians. This is precisely the incalculable advantage of these systems, which are often installed in threshold and developing countries. With this new technology, SMA takes another large step towards the comprehensive supply of off-grid regions on the basis of renewable energies.

#### HIGH POWER SOLUTIONS - FOCUSING ON SYSTEM COSTS

In the case of inverters in the High Power Solutions segment, the focus was on the further development of device functionality in order to fulfill the increased requirements of large-scale solar power plants. The inverters in the new Sunny Central HE series set new standards because they are the first inverters on the market to comply with the new guideline for generation facilities connected to the medium-voltage grid.

The Sunny Central 400, 500 und 630HE are the first inverters to receive certification complying with the Medium Voltage Guideline issued by the German Association of Energy and Water Industries (BDEW). This certificate certifies that the inverter is capable of feeding in the desired amount of reactive power in order to contribute to voltage stability and does not immediately disconnect from the grid in case of failure as was the case previously. SMA became involved early on in the area of grid management in order to make it possible to integrate more photovoltaic plants into the German power supply grid. This means that these new systems produced by SMA already make a contribution today to the stabilization of the public grid – an investment that from our point of view will also pay off in the future.

In order to significantly reduce installation and operating costs in large-scale solar projects and after analyzing the installation process and market trends, product management in the High Power Solutions segment redefined the technical requirements of the Sunny Central. The result is the product family Sunny Central Compact Power, which was introduced onto the market with great success in 2010. The high innovative power of the Sunny Central Compact Power was for example acknowledged with the Intersolar Award for the Sunny Central 800CP at the leading trade fair Intersolar held in Munich. SMA's completely redesigned central inverter convinced the jury above all because of its enormous potential for cost savings and its extremely high efficiency. The installation and operating costs of a photovoltaic system can be reduced by up to 35 % with the Sunny Central Compact Power. This amongst other reasons will be possible thanks to the outdoor design available for the first time in this output class. The inverter can be installed without the need for the compact concrete on-site substation that was previously required. In addition, installation monitoring has been integrated for the first time into the device thus doing away with the need for the laborious planning and installation work required for external on-site monitoring. The Sunny Central Compact Power also delivers up to 10 % more power with an outdoor temperature of 25 °C thanks to its new temperature management system.

By offering a high output and at the same time a high degree of efficiency of 98.6 %, SMA has also set new standards in the photovoltaics sector. The current high demand for the Sunny Central 800CP confirms the many advantages of this new central inverter.

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#### THROUGH RESEARCH AND DEVELOPMENT, WE CAN SHAPE THE FUTURE

SMA EMPLOYS OVER 600 ENGINEERS

Total research and development expenses including capitalized development projects in the year under review amounted to  $\in$  82.9 million (previous year:  $\in$  56.3 million).  $\in$  10.9 million of these total development expenses were capitalized as development projects (previous year:  $\in$  7.2 million). Depreciation of capitalized development expenses amounted to  $\in$  1.1 million (previous year:  $\in$  0.0 million). Research and development expenses in relation to sales fell in comparison to the previous year to 4.3 % (previous year:  $\in$  0.0 %) and as a result were approximately at the level of the electronics industry in Germany.

The increase in research and development expenses amounting to 47.2 % is mainly attributable to the increase in the number of staff employed in the area of development and in testing capacities. On the reporting date, 828 (previous year: 628) persons were employed in the field of research and development of which over 600 were developers (previous year: 400).

#### RESEARCH AND DEVELOPMENT OUTLOOK

#### ONE PARTICULAR DEVELOPMENT FOCUS IS IMPROVEMENT IN GRID INTEGRATION

In the business year 2011, SMA will once again unveil a range of new products with innovative functions at leading photovoltaics trade fairs – e.g., in June at Intersolar in Munich and in October at Solar Power in Dallas/USA. Apart from reducing system costs, the focus will be on implementing all the necessary functions for the provision of grid system services (e.g. reactive power provision capability and voltage regulation). These functions will encourage the grid integration of solar power plants while at the same time largely avoiding the costly expansion of electricity grids. With our technology, we will also fulfill the requirements of national and international energy supply companies in the future. In addition, we are focused on the development of intelligent self-consumption solutions. These solutions will enable a further major contribution to be made to the integration of the ever-increasing share represented by solar power. Energy will be consumed precisely where it is generated.



For more information on research and development, please refer to p. 52 ff.

#### RESEARCH AND DEVELOPMENT EXPENSES

2010	2009	2008	2007	2006
82.9	56.3	35.0	20.0	16.0
10.9	7.2	2.0	0.0	0.0
1.1	_	_	_	_
4.3	6.0	5.1	6.0	8.1
	82.9 10.9	82.9 56.3 10.9 7.2 1.1 –	82.9     56.3     35.0       10.9     7.2     2.0       1.1     -     -	82.9     56.3     35.0     20.0       10.9     7.2     2.0     0.0       1.1     -     -     -

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#### ACCELERATION OF OUR DEVELOPMENT ACTIVITIES THROUGH STRATEGIC COOPERATION

The network of strategic research and development cooperation was further extended last year. Our cooperation partners come from all fields in the photovoltaics and renewable energy sectors as well as from the semiconductor industry and the energy industry. The subject matter of our joint research projects ranges from new components for power electronics and the technical system optimization of solar power plants to questions regarding grid integration and the smart grids of the future.

SMA also seeks close cooperation with research institutes and companies in the area surrounding its corporate headquarters in Niestetal/Kassel. These include the competency network Dezentrale Energietechnologien, deENet, which is an association of more than 100 North Hesse enterprises, research institutes and service providers, the new Fraunhofer Institute for Wind Energy and Energy System Technology (IWES), established last year as the successor to the former ISET e.V. in Kassel, and the Center of Competence for Distributed Electric Power Technology (KDEE) run by the University of Kassel. A special objective of SMA in this context is to promote an attractive, internationally renowned, local science community in SMA's business fields and related topics of energy technology, not least of all to support the Company's own R&D activities and for the purpose of recruiting young talents. The close networking and versatile joint research, development and pilot projects make an important contribution to the further development of sustainable energy system technology, the publicly visible demonstration of its possibilities as well as setting out the technical and economic framework conditions for the extensive use of renewable energies.

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#### MARKET CONDITIONS 2010

#### THE OVERALL ECONOMIC FRAMEWORK CONDITIONS WERE ONCE AGAIN DIFFICULT IN 2010

In 2010, the economy gradually recovered from the severe recession. However, this recovery lost steam in the second half of the year. According to current estimates by the International Monetary Fund, 2010 saw an increase of 5.0 % in global gross domestic product in comparison with the previous year (IWF, World Economic Outlook, January 2011). Its development differed greatly in individual economic areas and countries. Whereas the expansion in threshold countries had already flattened off at the beginning of the year, the industrialized countries only began to lose momentum from the middle of the year onwards. The mood on the international financial markets remained tense. Worries about sharp increases in budget deficits, the indebtedness of industrial countries and the accompanying doubts surrounding the solvency of certain countries, especially on Europe's periphery, characterized events. The national economies with the largest growth were once again China and India with a growth rate of approx. 10 % in 2010. The IWF predicted a growth in GDP of 3.6 % in Germany and 2.8 % in the USA for 2010.

#### THE PHOTOVOLTAICS SECTOR DECOUPLED ITSELF FROM MACROECONOMIC DEVELOPMENTS

The global market for solar power grew in 2010, above all in Germany, significantly more rapidly than expected. According to SMA's own projections in 2010, the global market for solar power plants increased from a market volume of 17 GW to 20 GW of installed photovoltaic output (previous year: approx. 8 GW). Germany was once again the world's largest photovoltaics market with approx. 7 GW (previous year: approx. 3 GW) of installed output. According to estimates by the Managing Board of SMA, the changes in the feed-in tariff led to a clear drop in the amount of newly installed photovoltaic output in Germany in the second half of the year. Strong growth impulses came from Southern European countries and the United States. The most important foreign markets included Italy (approx. 3.0 GW), the USA (approx. 1.7 GW), France (approx. 1.5 GW) and the Czech Republic (approx. 1.4 GW).

Results of Operations, Financial Position and Net Assets

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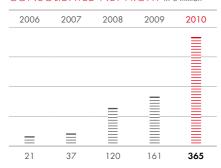
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# RESULTS OF OPERATIONS, FINANCIAL POSITION AND NET ASSETS

#### RESULTS OF OPERATIONS

#### CONSOLIDATED NET PROFIT in € million

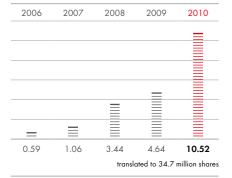


#### **GROUP SALES AND EARNINGS**

SALES AND EARNINGS RECORD IN 2010

In 2010, the SMA Group achieved a new sales record of € 1,920.1 million (previous year: € 934.3 million). This means that we slightly surpassed our own sales forecast drafted in September 2010 of between € 1.7 billion and € 1.9 billion. In the first half of 2010, there were three factors that favored the development of demand: Pull-forward effects caused by the reduction in the feed-in tariff on July 1st in Germany, historically low interest rates and low photovoltaic module prices. The demand for photovoltaic systems fell significantly after the change in feed-in tariffs in Germany in the middle of 2010. This decline in the German solar market was partially set off by strong demand on foreign markets. SMA was able to profit from this favorable market position abroad and increase gross foreign sales to € 891.6 million (previous year: € 358.4 million). Our foreign sales quota of 44.9 % was significantly higher than the previous year's figure (previous year: 38.4 %). The countries of Southern Europe and the United States were important foreign markets. Once again, Medium Power Solutions was the segment with strongest sales; the most successful products in this segment were SMA inverters with high outputs (Sunny Boy 5000TL, Sunny Mini Central 10000TL and 11000TL). The increase in sales in the High Power Solutions segment was especially significant in the fourth quarter.

#### EARNINGS PER SHARE in €

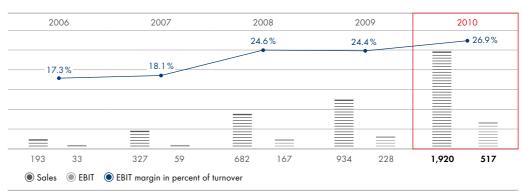


Earnings before interest and taxes (EBIT) more than doubled on a year-on-year basis to € 516.8 million (previous year: € 228.4 million). In fiscal year 2010, the SMA Group generated the highest EBIT margin in the Group's history with a figure of 26.9 % (previous year: 24.4 %). This meant that it was at the lower end of the earnings forecast of between 26.5 % and 28.5 % issued in September 2010. Earnings before taxes (EBT) improved on a year-on-year basis from € 232.2 million to € 518.1 million. Consolidated net profit more than doubled to € 365.0 million in line with EBIT and EBT (previous year: € 161.1 million). Earnings per share in the SMA Group grew to € 10.52 (previous year: € 4.64).

#### HIGH DIVIDENDS OF € 3.00 PLANNED

In the year under review, SMA Solar Technology AG as the parent company of the SMA Group registered a net profit of  $\leqslant$  361.0 million (previous year:  $\leqslant$  149.0 million) in its separate commercial statements. The Managing Board recommended that the Supervisory Board propose a dividend payout of  $\leqslant$  3.00 per qualifying bearer share at the Annual General Meeting on May 26, 2011. The amount paid out in dividends will thus amount to a total of  $\leqslant$  104.1 million (previous year:  $\leqslant$  45.1 million). This dividend payout means that SMA is the leading solar stock on the TecDAX by a wide margin.

#### SALES & EBIT in € million



#### **SALES AND EARNINGS PER SEGMENT**

THE MEDIUM POWER SOLUTIONS SEGMENT GENERATED MORE THAN 80 % OF SALES IN THE PHOTOVOLTAICS TECHNOLOGY DIVISION

In the Photovoltaics Technology division, external sales doubled in 2010 to  $\in$  1,890.2 million (previous year:  $\in$  912.4 million). The amount of inverter output sold underpinning this figure rose to approx. 7.8 GW (previous year: approx. 3.4 GW). Based on the size of the global market estimated by the Managing Board for 2010 of between 17 GW and 20 GW, the market share of the SMA Group in 2010 in the year under review stands at between 39 % and 45 % (as opposed to last year's estimated figure of 40 %). This is an outstanding result, since 2010 was marked by fierce competition.

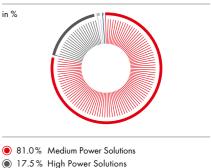
82.2 % (previous year: 84.9 %) of the sales in the Photovoltaics Technology division corresponded to the Medium Power Solutions segment (Residential and Commercial Ranges) with the product lines Sunny Boy, Sunny Mini Central and Sunny Tripower; 17.8 % (previous year: 15.1 %) of sales were generated in the High Power Solutions segment (Industrial Range) with the product line Sunny Central.

In the Medium Power Solutions segment, external sales also doubled in 2010 to € 1,553.6 million (previous year: € 774.6 million). 58.8% of gross sales revenues were generated by this segment in Germany. The most successful foreign markets were France, Italy, North America and Australia. The inverter types Sunny Mini Central 10000TL, Sunny Mini Central 11000TL and Sunny Boy 5000TL were the products that generated the greatest sales during the year. Earnings before interest and taxes (EBIT) doubled to € 392.4 million (previous year: € 172.0 million) thanks to the increase in sales. This corresponds to an EBIT margin of 24.2 % (previous year: 21.3 %).

In the High Power Solutions segment, external sales during the year under review clearly more than doubled to  $\in$  336.6 million (previous year:  $\in$  137.8 million). These earnings surpassed the expectations of management thanks above all to strong demand in the fourth quarter. The strongest market in terms of sales was Germany with 38.7 % of the gross sales attained. The most successful foreign markets were Italy, North America and France. As in the previous year, the most successful product in the fiscal year was the Sunny Central 630 followed by the Sunny Central 500. Earnings before interest and taxes (EBIT) rose to  $\in$  92.1 million (previous year:  $\in$  39.6 million) in the year under review. This corresponds to an EBIT margin of 26.0 % (previous year: 26.3 %).

In the Railway Technology segment, external sales rose during 2010 by 34.0 % to € 25.6 million (previous year: € 19.1 million). This means that this division grew considerably faster than the relevant market. In terms of business marked by larger-scale individual projects, we also increased sales in EU and non-EU countries through an expansion in sales activities abroad. Sales generated outside Germany in the Railway Technology segment grew slightly to 65.2 % (previous year: 62.9 %). The internal sales figure of € 15.4 million (previous year: € 11.8 million) was mainly attributable to supplies of cable and mechanical components to the High Power Solutions segment. Earnings before interest and taxes (EBIT) rose to € 4.5 million (previous year: € 3.6 million) in the year under review. The EBIT margin was 11.0 % (previous year: 11.7 %). This division, marked by long-term large-scale projects, had achieved good capacity utilization by the end of the year.

#### SALES PER SEGMENT 2010



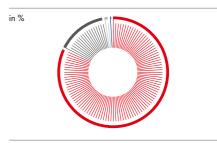
17.5 % High Power Solutions

1.3 % Railway Technology

0.2 % Electronics Manufacturing

\*Gross sales proceeds before sales deductions

#### SALES PER SEGMENT 2009\*



82.9% Medium Power Solutions

14.7% High Power Solutions

2.0 % Railway Technology

0.4% Electronics Manufacturing

\*Gross sales proceeds before sales deductions

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#### SALES REVENUE\* BY REGION: PHOTOVOLTAICS TECHNOLOGY 2010



55.3% Germany

● 31.5% EU

13.2% Third countries

\*Gross sales proceeds before deductions

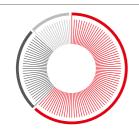
#### The Electronics Manufacturing division continued to display low external sales figures as planned in 2010. This segment is the main supplier for the other segments, above all the Medium Power Solutions segment. Capacities in the production area were fully utilized. The share of externally produced electronic components was properly adjusted to demand. The total figure for external and internal sales rose to € 417.9 million (previous year: € 205.1 million). Earnings before interest and taxes (EBIT) doubled to $\in$ 32.3 million (previous year: $\in$ 15.6 million) thanks to the strong growth in sales. In relation to the internal and external sales figures, this corresponds to an EBIT margin of 7.7 % (previous year: 7.6 %).

#### **ADDED VALUE**

#### LOW CAPITAL INTENSITY CLEARLY EMERGES FROM THE VALUE-ADDED STATEMENT

The value-added statement shows the overall performance of the SMS Group minus advance payments. Gross added value defines the cost of materials, changes in inventories, and other expenses as advance payments. When determining net added value, depreciations are also regarded as advance payments. The distribution statement shows the share of those participating in the valueadded process.

#### SALES REVENUE\* BY REGION: PHOTOVOLTAICS TECHNOLOGY 2009



63.1% Germany

● 24.5% EU

12.4% Third countries

\*Gross sales proceeds before deductions

#### VALUE-ADDED STATEMENT

	2010	2010	2009	2009	Change
	in € million	in %	in € million	in %	in %
Output method					
Sales revenues	1,920.1	97.1	934.3	97.2	
Financial income	3.2	0.1	5.3	0.6	
Other income	29.1	1.5	10.9	1.1	
Own work capitalized	24.8	1.3	10.2	1.1	
Company performance	1,977.2	100.0	960.7	100.0	105.8
Material expenses	897.9	45.4	423.8	44.1	
Changes in inventories	- 39.4	- 2.0	- 17.9	- 1.9	
Other expenses	239.8	12.1	114.8	11.9	
Prepayments	1,098.3	55.5	520.7	54.1	110.9
Gross added value	878.9	44.5	440.0	45.9	99.8
Depreciations	31.3	1.6	16.3	1.7	
Net added value	847.6	42.9	423.7	44.2	100.0
Distribution statement					
Employees	327.6	38.6	190.0	44.8	72.4
Lenders	1.9	0.2	1.5	0.4	26.7
Government	153.1	18.1	71.1	16.8	115.3
Shareholders	104.1	12.3	45.1	10.6	130.8
Companies	260.9	30.8	116.0	27.4	124.9
Net added value	847.6	100.0	423.7	100.0	100.0

Net added value amounted to € 847.6 million in fiscal year 2010. This represents a doubling with respect to the previous year (previous year: € 423.7 million) similar to the development of sales. Approximately 38.6 % of net added value is attributable to SMA employees (previous year: 44.8 %). The reason for the fall in the percentage share of net added value attributable to employees lies in increased outsourcing to production service providers and in the disproportionate growth of the central areas of development, sales and administration. The continual repayment of existing loans means that the share corresponding to creditors is slightly below the previous year's figure. In the current fiscal year, SMA has set aside 18.1 % (previous year: 16.8 %) for repayment of government grants. The reason for the increase is the significantly higher figure of earnings before taxes. The share in the net value-added statement of 12.3 % attributable to shareholders is above the previous year's level.

#### **DEVELOPMENT OF SIGNIFICANT INCOME STATEMENT ITEMS**

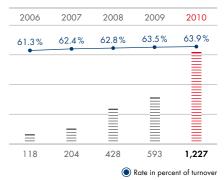
#### THE GROSS PROFIT OF 36.1 % WAS SLIGHTLY BELOW THE PREVIOUS YEAR'S FIGURE

The cost of sales amounted to  $\in$  1.2 billion (previous year:  $\in$  593.0 million). This means that in relation to sales, costs rose slightly to 63.9 % (previous year: 63.5 %). This led to a slight decrease in the gross profit of 0.4 % to 36.1 % in comparison to 36.5 % the previous year. The rise in export freight charges in the wake of the higher share in exports and higher expenditure on logistics services as a result of increased stocks were decisive factors in this respect. In addition, material bottlenecks means that production capacities were not fully utilized at all times.

#### SELLING EXPENSES INCREASED DUE TO THE EXPANSION OF SALES ACTIVITIES

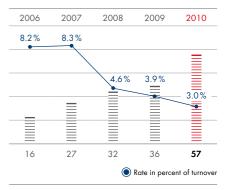
Selling expenses grew in absolute terms by € 20.7 million to € 57.1 million (previous year: € 36.4 million). In relation to sales, costs sank to 3.0 % (previous year: 3.9 %). During 2010, we continued to expand our distribution network abroad. The number of sales staff at many of our foreign sites was significantly increased. SMA's global presence will be of incalculable value above all in 2011 given the fact that there will be an above-average increase in demand abroad. We also focused on expanding marketing activities, in particular those of the Sunny PRO Club and the Solar Academy.

#### COST OF GOODS SOLD in € million





#### SELLING EXPENSES in € million



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#### RISE IN PERSONNEL EXPENSES IN THE AREA OF RESEARCH AND DEVELOPMENT

SMA is a technology-driven enterprise. The R&D area was deliberately expanded in 2010 in order to enable the Company to present new products in key markets within a short space of time, now and in the future. Research and development expenses amounted to  $\in$  72.0 million (previous year:  $\in$  49.1 million). Total expenses in the area of research and development including capitalized development projects stood at € 82.9 million (previous year: € 56.3 million) in the year under review. They are primarily attributable to the increase in personnel in this area. Personnel costs in this area rose by  $50\,\%$ to  $\in$  63.5 million (previous year:  $\in$  42.1 million). The cost of materials rose slightly by  $\in$  0.1 million to € 2.9 million (previous year: € 2.8 million). The increase in depreciation of € 2.0 million to € 4.9 million reflects investments in the testing center within the development area. In total, research and development expenses, including capitalized development projects, amounted to 4.3 % of sales (previous year: 6.0%) and were therefore in line with the figure for the electronics industry in Germany.

#### GENERAL AND ADMINISTRATIVE EXPENSES in € million



#### THE SHARE IN ADMINISTRATIVE EXPENSES FELL

Despite a further significant expansion to the administrative area, costs only rose to € 49.0 million at a slower rate with respect to sales (previous year: € 28.8 million). This corresponds to a share of administrative expenses of 2.6 % (previous year: 3.1%).

#### OTHER OPERATING INCOME AND EXPENSES

The balance of other operating income and expenses rose in the period under review by  $\leq 0.4$  million to € 1.7 million (previous year: € 1.3 million). The effects of foreign currency translations, revenues and expenses from the disposal of fixed assets as well as revenues and expenses deriving from impairment losses on receivables are included in this report.

#### EARNINGS BEFORE INTEREST AND TAXES MORE THAN DOUBLED

Despite the slight deterioration in the gross profit, earnings before interest and taxes (EBIT) more than doubled to € 516.8 million (previous year: € 228.4 million) as a result of increased economies of scale. Results from operations were once again at record levels in line with last year's high figures. The EBIT margin was 26.9 % as compared to 24.4 % in 2009.

#### RESEARCH AND DEVELOPMENT EXPENSES in € million



- Rate in percent of turnover

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#### FINANCIAL RESULT

The financial result deteriorated in 2010 due to lower interest income and a slight increase in interest expenses to  $\in$  1.3 million (previous year:  $\in$  3.8 million). Given the significantly lower interest rates in comparison to the previous year, interest income fell back by  $\in$  2.2 million to  $\in$  3.1 million (previous year:  $\in$  5.3 million). Interest expenses – which are mainly made up of interest expenses for loans but also include an interest portion corresponding to the valuation of provisions – rose slightly by  $\in$  0.3 million on a year-on-year basis to  $\in$  1.8 million. The interest portion from the previous year corresponding to finance leases disappeared following the takeover of SMA Immo GmbH & Co. KG (formerly Immo GmbH) and was replaced by direct interest expenses and derivative expenses.

Earnings before interest, taxes, depreciation and amortization of  $\le 548.1$  million resulted in an EBITDA margin with a record value of 28.5 % (previous year: 26.2 %). SMA achieved the best return on sales in the Company's history. The figure of 27.0 % was above the previous year's figure of 24.9 %.

Our return on equity after taxes rose in the year under review to 64.3% (previous year: 46.8%) due to the significant increase in the EBIT margin, and total return on assets after taxes rose to 37.1% (previous year: 27.1%).



You will find definitions of the key figures used on p. 216 in the Financial Glossary.

#### MULTI-PERIOD OVERVIEW OF RESULTS OF OPERATION POSITIONS

Figures in %	2010	2009	2008	2007	2006
EBIT margin	26.9	24.4	24.6	18.1	17.3
EBITDA margin <sup>1</sup>	28.5	26.2	25.9	24.6	22.6
EBT margin (return on sales)	27.0	24.9	25.1	18.1	17.2
Return on Equity after taxes	64.3	46.8	69.2	57.0	50.3
Return on Assets after taxes	37.1	27.1	37.8	22.5	18.2

<sup>1</sup> before extraordinary items

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#### FINANCIAL POSITION

#### PRINCIPLES AND OBJECTIVES OF FINANCE MANAGEMENT

SMA IS FINANCIALLY INDEPENDENT

The SMA Group maintains both a strong financial basis and a high operative earnings potential. This allows SMA to constantly take advantages of opportunities that arise in the photovoltaics market flexibly and independently from banks and credit institutions. Our finance management is adjusted to both the short- and medium-term requirements of our operative business and to long-term corporate strategy. The objective of our finance management is to retain sufficient liquidity reserves enabling us to cover fixed costs up to 18 months in advance – this is rendered necessary by the volatility in the photovoltaics market deriving from its uncertain subsidy conditions.

Responsibility for financing and liquidity control in the Group basically lies with the Corporate Treasury department restructured in 2010 and which began operating in the first quarter. The structure and process-oriented organization of the Corporate Treasury is designed to deliver professional financing management, ensure that the objectives that have been set are attained and guarantee adherence to prevailing Group-wide guidelines. In addition, we have subordinated customer credit management and the Group's insurance department to the Corporate Treasury.

Inflows of funds from our current business activities constitute our most important source of financing. In principle, the Corporate Treasure controls cash holdings centrally unless restrictions in the movement of capital in any individual country prevent this from occurring. The Corporate Treasury also invests the cash holdings and in so doing, the bank partners selected must comply with strict creditworthiness criteria. We treat contractant risks related to supplier's credits granted to our customers according to supply volumes and specific risks (see the chapter "Hedging policy" in the Risk Report); the most important indicator in this respect is provided by the customer's payment practices vis-à-vis SMA.

We recognize market risks that might jeopardize the results of operations in a systematic fashion – above all exchange rate risks – and preclude such risks through hedging operations, provided this is economically expedient.



#### FINANCING ANALYSIS

SMA HAS RESTRUCTURED REAL ESTATE FINANCING

In 2010 as opposed to the previous year, SMA recorded liabilities towards credit institutions; this was due to a change in the scope of consolidation. SMA Immo GmbH & Co. KG (formerly SMA Immo GmbH), which was consolidated for the first time, brought in liabilities amounting to € 22.3 million. These liabilities mainly replaced those recorded the previous year deriving from a finance lease concerning the leasing of buildings belonging to SMA Immo GmbH. Bank credits were only used to finance real estate. Major sections of the financing packet were renegotiated during the year under review in order to enable SMA to take advantage of the favorable conditions in the capital markets. The Kasseler Sparkasse emerged as a reliable partner during this process. Most of the provisions set aside by the SMA Group are for warranty obligations from our various product families and for legal disputes. The other financial obligations basically comprise bonus obligations to employees and obligations related to vacation and flexitime commitments.

Credit lines (incl. payment guarantees) amounting to € 40.0 million were made available by the five core banks for current business. Thanks to our continuing good liquidity position, no significant cash credits were drawn upon using these credit lines in 2010.



See also chapter "Hedging policy" in the Risik Report p. 129

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In comparison to December 31, 2009, equity rose by  $\in$  320.8 million to  $\in$  728.4 million. This high equity ratio of 58.2 % (previous year: 56.7 %) despite the clear increase in total assets underlines the solidity of our balance sheet structure.

#### LIQUIDITY ANALYSIS

#### SMA GENERATES HIGH CASH FLOW

In the year under review, gross cash flow amounted to  $\leqslant$  497.1 million and thus stood at  $\leqslant$  285.2 million above the previous year's figure (previous year:  $\leqslant$  211.9 million). This increase is attributable to earnings which more than doubled on a year-on-year basis in 2010. Gross cash flow is calculated by considering earnings before income taxes and the financial result plus interest payments received, depreciations, changes in other provisions, profit/loss from the disposal of fixed assets and other non-cash expenses/revenues received minus interests paid and income taxes paid.

Net cash flow from business activities attained  $\in$  386.3 million (previous year:  $\in$  221.5 million). This increase of  $\in$  164.8 million was considerably lower than in the case of gross cash flow. The reason lies in the increase in inventories when compared to the increase in net working capital.

Net cash flow from investing activities in the period under review – driven by continuing high investments in new production capacities and office buildings – stood at  $\in$  –210.7 million similar to the previous year's figure (previous year:  $\in$  –201.5 million).

Net cash flow from financing activities, which amounted to  $\in$  -46.8 million (previous year:  $\in$  -36.1 million), is marked by the dividend payout of  $\in$  1.30 per share (previous year:  $\in$  1.00).

#### MULTI-PERIOD OVERVIEW OF FINANCIAL POSITIONS

Figures in € million	2010	2009	2008	2007	2006
Equity	728.4	407.6	280.8	64.4	40.7
Equity ratio in %	58.2	56.7	59.8	39.5	36.2
Non-current liabilities	167.2	95.1	58.6	30.7	28.6
Current liabilities	355.8	215.9	130.2	68.1	43.1
Share of non-current other provisions in total assets in %	6.4	5.7	4.5	5.8	7.2
Financial liabilities <sup>1</sup>	21.2	20.2	21.6	11.6	12.6
Net cash	523.4	344.8	239.4	41.2	20.9
Net working capital	284.6	98.6	78.0	59.4	34.3
Net cash flow from operating activities	386.3	221.5	188.8	53.2	19.3
Net cash flow from investing activities	- 210.7	- 201.5	- 94.5	- 20.8	- 7.8
Net cash flow from financing activities	- 46.8	- 36.1	93.3	- 13.0	- 13.0



You will find definitions of the key figures used on p. 216 in the Financial Glossary.

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Cash and cash equivalents amounting to  $\in$  354.1 million (previous year:  $\in$  225.0 million) comprise cash in hand, cash held at banks, short-term deposits with a term to maturity of less than three months and any credits on current accounts. At the end of the year, total liquidity including time deposits with a term to maturity of over three months amounted to  $\in$  523.4 million (previous year:  $\in$  344.8 million). This means that SMA has excellent liquidity reserves.

#### **INVESTMENT ANALYSIS**

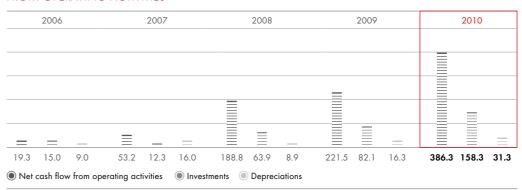
#### SMA'S BUSINESS MODEL IS NOT CAPITAL-INTENSIVE

In 2010, SMA more than doubled investment volume – including the capitalized costs of development projects – to  $\in$  187.4 million (previous year:  $\in$  82.1 million). Therefore, investment volume stood at 8.2 %, slightly below the previous year's figure (previous year: 8.8 %). In comparison to the last forecast figure of approx.  $\in$  210 million in the Quarterly Financial Report January to September 2010, at the end of the fiscal year there were investment deferrals of around  $\in$  50 million due mainly to the postponement of construction projects. The investments were subject to scheduled depreciation amounting to  $\in$  31.3 million (previous year:  $\in$  16.3 million).

A large part of investments, € 167.9 million, corresponded to investments in fixed assets (previous year: € 70.2 million). Of this sum, 54.8 % was invested in real estate and buildings and 45.2 % in machinery and equipment. The main capacity expansion investments included expansion of the site in the industrial zone "Sandershäuser Berg" (2010: € 25.8 million), expansion of the production site in Kassel/Waldau (2010: € 20.9 million) and completion and/or expansion of the production site in Denver/Colorado (2010: € 12.5 million). Further important projects were the alterations to the office and training building at the Niestetal headquarters with an investment sum of € 15.3 million. The scheduled depreciation of fixed assets amounted to € 26.6 million as opposed to € 14.2 million in the previous year.

Of the investments in intangible assets amounting  $\in$  18.6 million, 55.9 % corresponded to capitalized development expenses and 44.1 % to other intangible assets. The figure of  $\in$  4.7 million for scheduled depreciations of intangible assets was clearly above the previous year's figure of  $\in$  2.1 million. This was due to the scheduled depreciation of capitalized development projects that became due for the first time in 2010.

## INVESTMENTS COMPARED TO DEPRECIATIONS AND NET CASH FLOW FROM OPERATING ACTIVITIES



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#### NFT ASSETS

#### **ANALYSIS OF THE ASSET STRUCTURE**

SMA HAS EXCELLENT LIQUIDITY RESERVES

The total assets of the SMA Group rose on December 31, 2010 by € 532.9 million to € 1,251.5 million (previous year: € 718.6 million).

Long-term assets increased by  $\in$  150.1 million to  $\in$  325.4 million mainly due to the investments made in property, plant and equipment and other intangible assets during the year under review.

As at December 31, 2010, net working capital had risen to € 284.6 million (previous year: € 98.6 million). In relation to sales over the last twelve months, net working capital stood at 14.8 % as opposed to 10.6 % the previous year. The increase in net working capital is mainly attributable to the planned increase in inventories. Due to the high numbers of orders placed before the reporting date, SMA increased its safety stocks, in particular, raw materials, consumables and supplies. They rose by almost 150 % to € 148.5 million (previous year: € 60.3 million). This step has reduced SMA's exposure to procurement risks in the case of components with long delivery periods. Inventories of finished goods grew more slowly in relation to the growth in sales by 91 % to € 68.5 million (previous year: € 35.9 million). The main driving force behind this increase was the expansion in project business in the High Power Solutions segment. Unfinished goods rose by 32 %. On the reporting date, inventories stood at € 17.9 million (previous year: € 13.6 million). The share represented by other inventories stood at € 2.8 million at the previous year's level. Overall, inventories more than doubled and amounted to € 237.8 million (previous year: € 112.5 million). Trade receivables doubled to € 117.3 million in a similar way to the development of sales compared to the previous year's figure of € 58.1 million.

#### IMPORTANCE OF OFF-BALANCE-SHEET FINANCING INSTRUMENTS

The SMA Group uses lease agreements in the case of plant and office equipment. Future obligations under tenancy and lease agreements are shown in the Notes in section 29 "Obligations under leases and other financial obligations".

SMA is not involved in any other off-balance-sheet transactions that might have a significant impact on the financial position, the results of operations, investment expenditure, net assets or capital expenditure – neither now nor in the future.

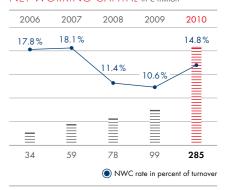
#### MULTI-PERIOD OVERVIEW OF NET ASSETS

Figures in € million	2010	2009	2008	2007	2006
Property, plant and equipment, intangible assets	297.7	164.5	99.6	33.2	31.8
Financial assets and long-term securities <sup>1</sup>	190.0	140.0	20.6	0.0	0.0
Cash and cash equivalents <sup>2</sup>	354.1	225.0	240.7	52.8	33.5

<sup>1</sup> incl. deposits with a total term to maturity of more than three months <sup>2</sup> incl. deposits with a total term to maturity of less than three months



#### NET WORKING CAPITAL in € million





In this respect, please refer to the Notes to the Consolidated Financial Statements, No. 29, p. 196 ff.

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Results of Operations, Financial Position and Net Assets



#### OVERALL STATEMENT BY THE MANAGING BOARD ON THE TREND OF BUSINESS

**EXCELLENT EARNINGS IN 2010** 

The SMA Group attained a new record in sales and earnings. The doubling of sales to € 1,920 million and the figure for earnings before interest and taxes (EBIT) of € 516.8 million (EBIT margin: 26.9 %) surpassed the expectations of the Managing Board. At the beginning of the year, the Board had forecast sales of between 1.1 billion and € 1.3 billion and an EBIT margin of between 20 % and 23 %.

The development of business in 2010 was once again marked by high dynamism in the various solar markets. The Managing Board reacted quickly and flexibly to the sudden increase in demand. During the year under review, it doubled production capacities in Germany and North America to an annual figure of approx. 11 GW. Despite the bottleneck affecting electronic components, SMA managed to increase its output volume from month to month and chalk up a new production record for the amount of inverter output sold of approx. 7.8 GW. Coping with a monthly sales volume of between approx. € 100 million and approx. € 225 million was only possible thanks to the high degree of flexibility of our manufacturing and purchasing organization and the high motivation shown by our employees.

Continuing internationalization in 2010 allowed SMA to benefit directly from the worldwide growth in the photovoltaics market. The tripling of our foreign sales figure, which rose to  $\in$  891.6 million, underlines our excellent positioning in the international solar markets. We set up new companies in India, England and Canada in order to enable SMA to establish a foothold early on in emerging markets. This means that now, SMA is represented with its own companies in 16 countries on four continents. This global clout will be of incalculable value in 2011.

#### NO YEAR-END RALLY - AND A WEAK START TO THE NEW YEAR

The change in the feed-in tariff halfway through the year led to a significant reduction in the amount of newly installed photovoltaic output in Germany in the second half of the year. In addition, the weather and restocking by our customers also meant that there was no customary pickup in demand at the end of the year. The fall in demand in Germany was only partially compensated by foreign markets. SMA only produces after an order has been placed and therefore adjusted its production in the fourth quarter of 2010 to take account of the new demand situation.

Development of business at SMA in the first two months of the fiscal year 2011 was negatively influenced by three factors: our customers' high inventory levels, the virtually unchanged prices of photovoltaic modules in comparison with the previous year, and the prolonged period of frost and snow in Europe and North America. Nevertheless, the Managing Board expects that demand will significantly pick up in all segments from April onwards and therefore stands by its sales and earnings forecast for 2011.

## SUPPLEMENTARY REPORT

#### EXTRAORDINARY AMENDMENT TO THE RENEWABLE ENERGY SOURCES ACT (EEG)

THE OBJECTIVE IS AN ANNUAL INCREASE IN OUTPUT IN GERMANY OF BETWEEN 3 GW AND 5 GW In the coming years, the EEG levy must be maintained within a reasonable framework in order to continue securing society's high acceptability of solar energy. In particular, the size of the photovoltaics market over the next two years will be decisive when it comes to setting this levy. Therefore, the German Solar Industry Association (BSW) and the Federal Ministry of the Environment (BMU) have been conducting intense discussions on the continued expansion of solar energy in Germany and have agreed to bring forward the date of the reduction in the subsidy for solar energy, which is tied to the increase in solar output, to July 1, 2011. The results of these discussions were announced by the Federal Minister of the Environment Norbert Röttgen, and the spokesperson of the SMA Managing Board Günther Cramer, in his capacity as Chairman of the BSW, in a joint press conference held in Berlin on January 20, 2011.

After being eventually confirmed by the Federal Cabinet, the joint recommendation for bringing forward the date of the reduction in the solar reimbursement was submitted for final deliberation and resolution by the German Parliament.

Bringing forward the date of the adjustment in this subsidy - which is tied to the expansion in solar power output - to 2011 will in the medium term contribute to a leveling off of the annual increase in solar output to between 3 GW and 5 GW in the German photovoltaics market. In this way, the sector's declared objective set down in the PV roadmap of increasing the share of solar energy in electricity supply in Germany by 2020 to at least 10 % will be achieved and at the same time, the EEG levy for solar power will be limited to around 2 eurocents per kilowatt-hour.

#### FRANCE: ANNUAL INCREASE IN PHOTOVOLTAIC OUTPUT LIMITED TO 500 MW, FEED-IN TARIFFS CUT BY 20%

France has decided to restrict the expansion in solar power to an annual figure of 500 MW and to cut the feed-in tariff by 20 %. This was what was announced by the French Prime Minister François Fillon in a press communiqué released on February 22, 2011. The new rule is set to come into force on March 10, 2011. The solar projects that were put on ice by a decree issued on December 9, 2010 correspond to an output of 3,400 MW. The government confirmed the intentions set down in the "Grenelle de l'environnement": These envisage that renewable energies should cover a total of 20 % of energy needs by 2020.

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Risk Report

### RISK RFPORT

#### risk and opportunities management

#### **RISK MANAGEMENT SYSTEM**

RISKS ARE MONITORED WITH THE AID OF EARLY WARNING TOOLS AND KEY DATA

The SMA Group is exposed to an array of risks in the course of its worldwide business activities. A risk is defined by SMA as an event that ensues from a decision taken by Management (strategic), an action (operative) or external circumstances and – if the risk transpires – results in a negative deviation from the planned earnings (EBIT). SMA must to a certain extent accept risks in order to utilize opportunities. In order to achieve this, it must control such risks, e.g. through damage prevention or damage limitation actions, the formation of sufficient security reserves or the transfer of individual risks to third parties (e.g. insurance companies). The development of residual risks is monitored regularly using suitable early-warning tools and indicators: If a risk increases, the Managing Board must be notified in good time so that it can take countermeasures. Our Risk Management System is designed to ensure that risks for the future development of SMA are identified by the relevant employee early on and communicated in a systematic and comprehensible manner to the competent decision-makers in the enterprise. Timely communication of risks to those responsible is meant to ensure that adequate countermeasures to deal with any risks detected are taken in order to minimize or eliminate such risks and to prevent damage to the enterprise, employees and customers.

The Managing Board laid down the objectives of risk management and the principles of organization, risk analysis and risk communication in a risk handbook that applies to the entire SMA Group and was revised at the end of 2010. The risk officer, by compiling a risk analysis, assesses the probability of a risk occurring and the amount of damage that might by caused by any risks that are detected. The risk officer does this by carrying out gross and net risk evaluations and considering possible countermeasures. Under the terms of the risk analysis, subsidiaries, departments and divisional managers report both to the risk manager and to the Managing Board according to defined risk categories. Apart from quarterly risk notifications, immediate reporting duties have been laid down for managers of subsidiaries, departmental and divisional managers and for the risk manager, who must all report to the Managing Board if the risk situation changes significantly.

SMA can also recognize short-term deviations from business goals through detailed, uniform and timely reports submitted by the Accounting department containing all the necessary information for assessing the Group's situation. All information is submitted to the Group Management in good time: Depending on the degree of urgency, reporting takes place on a daily, monthly or quarterly basis. Further methods for detecting risks are systematic market and competitive analyses and monitoring of economic, legal and subsidy-related framework conditions in target markets.

The significant individual risks on the reporting date are shown on page 135 ff./under point 3.3. The evaluation refers to a horizon of two years. The likelihood of the risk transpiring is classified according to the evaluation categories "unlikely, possible, likely, very likely". The effect of risks on the Group's earnings is measured according to the categories "slight, medium, high, very high". Changes in framework conditions between reporting dates may result in a reevaluation of individual risks.

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#### **HEDGING POLICY**

#### IMPORTANT SALES TRANSACTIONS ARE INVOICED IN EUROS

The Corporate Treasury department, restructured in 2010, controls Group financing and the limitation of financial risks. The principle underlying our hedging policy is to protect the SMA Group against sharp changes in prices, exchange rates and interest rates by means of contracts and hedging transactions to an economically feasible extent. The permissible hedging instruments have been laid down by the Managing Board in Group-wide guidelines that also regulate the entire process-oriented organization including hedging strategies, responsibilities and control mechanisms.

The SMA Group calculates important sales transactions in euros. However, the portion of sales in foreign currencies - above all US dollars - gradually increased in fiscal year 2010. This means that our business is partially exposed to exchange rate fluctuations in the euro/US dollar exchange rate. This can mean on the one hand that for certain transactions, the value of the services provided does not coincide with the consideration received because expenses and income are incurred in different currencies (transaction risk).

On the other hand, currency effects are felt above all in US business where a large part of earnings and the cash flow are generated in US dollars and are recalculated in the Group's currency, the euro (translation risk). Such translation risks also affect the net assets of subsidiaries whose functional currency is not the euro: This can lead to fluctuations in the value of equity that depend on the relevant date.

In order to counteract transaction risks, we employ what are referred to as derivative financial instruments: By means of internal hedging operations, we transfer risk items from the subsidiaries affected to the Group's parent company thus bundling the risks. We do this by employing the opposing foreign currency cash flows of a currency in what is referred to as "natural hedging". The remaining risk items are hedged to an economically feasible extent by means of hedging transactions - above all forward transactions - with banks. We only engage in such financial transactions with banks which have first-class credit ratings.

We conclude hedging transactions on invoiced receivables and on the expected net positions of planned sales. As regards current events, we consider the risk of possible currency fluctuations to be small.

We request collateral for deliveries to customers – according to the volume and the credit rating of the customer and the country - and also evaluate historical data from our previous business relationship (above all the payment practices and financial key data of the customer in question) in order to preclude non-payment. If it can be shown that payment practices in our past business relationship have been impeccable, then each customer is allocated a standard credit limit that varies according to sales in the last twelve months, the market growth factor and the agreed payment terms. If it is envisaged that the credit limit calculated in this manner will not be sufficient for our future business relationship, then we examine whether we should ask the customer to furnish collateral or whether we can cover the gap by means of defined risk reserves.

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We use financial planning tools in order to recognize our future liquidity requirements in good time. According to our current plans, we assume that our financing needs for the fiscal year 2011 have been covered. As at December 31, 2010, we invest our extensive liquid funds (incl. time deposits), amounting to € 523.4 million – and in view of the situation on the financial markets which now as before continues to be uncertain – in an extremely diversified manner with different domestic credit institutions. In doing so, we pay particular attention to the credit rating of the bank and the type of investment in order to minimize potential risks.

Provided this is possible and sensible, we take out insurance to cover liability and damage claims. We continually adjust this cover to current demands in order to ensure the Group has adequate insurance cover. We examine the measures we take to prevent damage claims on a regular basis and set aside sufficient provisions in the Annual Financial Statements for identifiable risks.

#### MANAGEMENT OF OPPORTUNITIES

#### **OUR CORPORATE CULTURE ALLOWS US TO BETTER IDENTIFY OPPORTUNITIES**

Making use of existing opportunities is one of the core tasks of each and every enterprise. Identifying these opportunities early on and regularly is above all the task of management throughout the Group but also involves all the employees. In this respect, the Group-wide planning process and the annual strategy meeting, held by the Managing Board and attended by all departmental managers, managers of subsidiaries and divisional managers, and which leads to strategy reports for all departments and subsidiaries, are significant cornerstones. We employ continuous market and competitive analysis, systematic knowledge management, an open information policy within the Group and the promotion of creative employees in order to detect our potential for utilizing opportunities.

More explanations on the opportunities during the next two fiscal years may be found by referring to the section Forecast Report.



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You will find further explanations on the opportunities during the next two fiscal years in the section "Forecast Report" on p. 145 ff.

## KEY FEATURES OF THE INTERNAL CONTROL AND RISK MANAGEMENT SYSTEM IN RELATION TO THE GROUP ACCOUNTING PROCESS (SECTION 315 (2) NO.5 HGB)

#### **DEFINITIONS AND ELEMENTS**

The SMA's Group Internal Control System includes all the principles, procedures and measures designed to ensure the proper course of business activities. It is made up of systematically created organizational and technical measures and controls within the Company aimed at ensuring adherence to laws and regulations and to the Company's own guidelines and preventing damage that might be caused by its own employees or third parties.

The Internal Control System as it pertains to the accounting process is part of the overall Internal Control System, which is embedded in the Risk Management System. It includes the organization, control and monitoring structures designed to ensure that subject matter related to the Company or transactions are recorded, processed and recognized and subsequently incorporated into the Consolidated Financial Statements. The Internal Control System as it pertains to the accounting process contains the principles, processes and measures required to guarantee internal and external Group accounting and timely and reliable financial reporting. The Internal Control and Risk Management System was set up and is monitored by the Managing Board of the SMA Group.

Process-integrated and process-independent monitoring measures constitute the basis of the internal monitoring system. Automated IT process controls make up an important constituent part of these process-integrated measures. Further controls are the organizational monitoring measures such as the four-eyes principle, the organizational separation of administration, execution, settlement and approval functions and work instructions. Furthermore, the IT systems deployed are protected wherever possible against unauthorized access by appropriate authorization systems and access restrictions. The Supervisory Board of the SMA Group, in particular its Audit Committee and the Internal Auditing department, are incorporated into the internal monitoring system with process-independent audit activities. The Internal Auditing department took up its tasks at the end of 2009; as a unit of the Managing Board of the SMA Group, the Internal Auditing department reports directly to the Managing Board and to the Supervisory Board or the Audit Committee. As part of its auditing tasks, the internal auditing department regularly examines the effectiveness of the Internal Control System on the basis of a risk-orientated audit plan by means of sampling and thus, also checks the internal control and Risk Management System as it pertains to the accounting process. Alongside the internal auditing department, the auditor of the Annual Financial Statements also carries out an evaluation as part of his/her audit duties. Under the terms of his audit of the Financial Statements, the auditor is obliged to report any accounting-relevant risks and any fundamental weaknesses in the Internal Control and Risk Management System to the Supervisory Board's Audit Committee. The audit of the Consolidated Financial Statements by the Group auditor and the audit of the local financial statements submitted by the Group's companies included in the scope of consolidation constitute the basic process-independent monitoring mechanism in the accounting system.

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#### RISKS WITH REGARD TO THE GROUP'S ACCOUNTING PROCESS

Important risks in the Group's accounting process include the possibility that the local financial statements of the Group companies included in the scope of consolidation fail to properly reflect the true net assets, financial position and results of operations due to unintentional or deliberate wrongdoing or that publication of the Quarterly Statements and of the Annual Financial Statements is late. These risks may permanently impair the confidence of shareholders or the reputation of the SMA Group. An integral part of the Risk Management System of the SMA Group as it pertains to Group accounting is concerned with monitoring the risk of misstatements in the Group's bookkeeping as well as in external reporting. The entire Risk Management System embraces the systematic early identification, management and monitoring of risks throughout the Group. In order to ensure the Group-wide systematic early identification of risks, the SMA Group has installed a "monitoring system for the early identification of risks threatening the existence of the Company" in accordance with Section 91 (2) AktG, permitting the prompt identification, control and monitoring of all existence-threatening and other risks that more than complies with the requirements of this legislation. The Group auditor assesses the proper functioning of the early risk identification system in accordance with Section 317, (4) of the German Commercial Code. In addition, the internal auditing department performs regular system checks as part of its monitoring activities to ensure that the system remains functional and effective. More detailed explanations of the Risk Management System are provided in the section on Risk Management in the Risk Report.

## REGULATIONS AND CONTROLS DESIGNED TO ENSURE THE PROPRIETY AND RELIABILITY OF GROUP ACCOUNTING

The internal control measures are aimed at securing proper and reliable Group accounting and ensuring that business transactions are fully and promptly recorded in accordance with legal provisions and the Articles of Association. They also ensure that inventory stocktaking is properly implemented and that assets and liabilities are properly recognized, measured and carried in the Consolidated Financial Statements. Furthermore, the regulations ensure that accounting records provide reliable and comprehensible information.

The functions of the departments that play a major role in the accounting process, Accounting, Controlling and Corporate Treasury, are clearly separated and their areas of responsibility clearly delimited. The controls include, for instance, analysis of facts and developments on the basis of specific key indicators. The relevant departments are staffed with a sufficient number of well-trained personnel; the four-eyes principle has been defined consistently for accounting-relevant processes.

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SMA has an accounting manual that governs the provisions on accounting in accordance with the International Financial Reporting Standards (IFRS). The accounting manual was revised at the end of 2010 and applies to all employees involved in the accounting process; the accounting provisions also apply to all external service providers involved in the accounting process. Besides general accounting principles and methods, these provisions above all include rules concerning the balance sheet, income statement, statement of comprehensive income, notes, Management Report, cash flow statement and segment reporting in compliance with EU legislation. By laying down clear requirements, the accounting manual limits the degree of discretion that may be exercised by employees when recognizing, measuring and carrying assets and liabilities and thus reduces the risk of non-uniform practices. The SMA accounting manual also contains detailed definitions of the components of the reporting packages to be prepared by the subsidiaries. The preparation and aggregation of additional data for the preparation of the notes and the Management Report (incl. reporting on subsequent events) takes place at Group level. At Group level, the controls to ensure the propriety and reliability of the Group accounts include the analysis and, where necessary, correction of the reporting packages submitted by the subsidiaries. In addition, a check is carried out centrally on the financial statements submitted by the companies included in the scope of consolidation while referring to the audit reports drafted by the local auditors.

Each month upon submission of the reporting packages, the relevant employees at the subsidiaries at home and abroad also confirm the propriety of each financial statement in the form of an internal declaration of completeness. The process of preparing the Group accounts is coordinated and monitored centrally according to a defined deadline and action plan. During this process, those responsible for preparing the financial statements at the subsidiaries at home and abroad receive support from centralized contact persons in the accounting and controlling departments (help desks).

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## THE USE OF IT SYSTEMS

Bookkeeping of transactions at SMA and at all the larger subsidiaries takes place using bookkeeping systems produced by SAP AG, Walldorf. External service providers with their own IT systems are engaged in the case of smaller companies. When preparing the Consolidated Financial Statements for the SMA Group, the subsidiaries at home and abroad complement their respective separate financial statements with additional information that is required for the Consolidated Financial Statements in the form of standardized reporting packages. These reporting packages are then transferred via a Group-wide, Web-based interface to an IT consolidation system based on SAP SEM (BCS). The data pertaining to the financial statements is checked on the basis of system controls. The proper and complete elimination of business transactions within the Group through the use of the IT consolidation system is thereby ensured. All the consolidation processes required to prepare the Consolidated Financial Statements are carried out and documented within the IT consolidation system. This is where the various components of the Consolidated Financial Statements including important data for the Notes to the Consolidated Financial Statements are prepared. From 2010 onwards, companies deploying SAP R/3 can transfer the report data directly to the IT consolidation system without using the Web-based interface thus dispensing with the need for any manual adjustments.

#### DISCLAIMER

The internal control and Risk Management System enables risks that might otherwise prevent the Consolidated Financial Statements from being properly drawn up to be controlled, thus enabling financial statements in compliance with rules to be drawn up notwithstanding any risks that may have been detected. However, the Group-wide application of the regulatory and control measures cannot guarantee absolute reliability as regards the accurate, complete and timely recording of facts in Group accounting and the detection of irregularities. The internal control and Risk Management System as it pertains to accounting undergoes continual refinement.

#### INDIVIDUAL RISKS

#### **BUSINESS ENVIRONMENT AND SECTOR-RELATED RISKS**

#### UNCERTAINTY REGARDING GOVERNMENT SOLAR SUBSIDY FOR SOLAR POWER

The photovoltaics sector worldwide depends to a large extent on state subsidies. Germany, the world's largest photovoltaics market, benefits from the Renewable Energy Sources Act (EEG). There are also incentive programs aimed at extending the use of solar power in many foreign markets. Governments regularly examine these incentive programs and adjust them to market conditions. Such adjustments to incentive conditions are being currently discussed in Germany and other important core markets. These measures range from bringing forward the date for reducing the feed-in tariff to doing away with individual components of incentive programs. The possible consequences: a fall in demand for solar power plants and therefore for products manufactured by the SMA Group. This would have significant effects on our assets, financial position and results of operations.

SMA Management is engaged in different solar energy associations to enable it to influence political decision-makers at a national and European level. In addition, we are pursuing our internationalization in order to lessen our dependence on individual markets. Furthermore, SMA is accelerating a reduction in system costs while at the same time increasing efficiency with the aim of attaining grid parity more quickly. This occurs when from the point of view of the end consumer, the price of a kilowatt-hour of PV electricity is at least as cheap as electricity acquired from the grid and generated by a large electricity company.

#### THE RISK OF RISING INTEREST RATES AND RESTRICTIONS IN AVAILABLE CREDITS

Solar power plants - above all large-scale projects - are partially financed with credits. The share represented by loans in large-scale solar projects currently stands at between 70 % and 80 %. If interest rates change together with demands on equity, this has considerable effects on the profitability of a photovoltaics project. If for instance banks apply credit restrictions, projects may be delayed or even not realized. If for example interest rates rise in the wake of increasing inflation, the higher loan costs reduce the profitability of solar power plants and consequently the demand for both solar power plants and for products manufactured by the SMA Group. Therefore, credit restrictions and rising interest rates can have a negative effect on business and on the assets, financial position and results of operations at the SMA Group. Our internationalization strategy allows us to spread this risk over several markets. Our comprehensive after-sales services ensure that our customers are able to enjoy a higher degree of technical availability of their photovoltaic installations and thus increase earnings. This has a positive effect on their financing of photovoltaic installations.

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#### THE RISK OF AGGRESSIVE COMPETITION

Many markets offer attractive incentives for solar power plants. The concomitant high demand for solar power plants leads to intense competition. The risk: Existing and new competitors will attempt to secure market shares through an aggressive pricing policy and advantageous payment conditions. Moreover, structured tendering processes for large-scale solar projects lead to more transparency and more intensive price competition. This can attract newer and financially stronger competitors. Other possible scenarios: Competitors improve the quality, functionality or performance of their products; local competitors react more flexibly and adapt better to the prevailing market requirements in certain markets than SMA. Such competition may in the future lead to falls in prices for products and services produced by the SMA Group and likewise to a loss in market shares.

SMA counters this price competition by offering technology and innovation leadership. The products Sunny Tripower and Sunny Central 800 CP unveiled in 2010 – which have already received awards – are proof of this. In addition, SMA will significantly reduce its system costs over the coming years. By opening subsidiaries abroad, SMA increases its proximity to customers where they are located and is able to react quickly to changes in specifications.

#### THE RISK OF FALLING PRICES FOR CONVENTIONAL ENERGY

The high demand for solar power plants – and consequently for products and services produced by the SMA Group – is partially the result of the sharp increase in the prices of conventional fuels in the past. The higher the price of energy obtained from conventional sources, the more attractive is electricity generated by sunlight. If the market prices of conventional sources of energy fall, this may be followed by a drop in demand for solar power plants and therefore for products manufactured by the SMA Group.

#### THE RISK OF A MARKET POWER OR INSOLVENCY OF CUSTOMERS

The formation of buying syndicates can increase the dependency of the SMA Group on a few whole-salers or specialist wholesalers and other customers generating large sales. This dependency harbors the risk of the increasing negotiating power of such large customers together with more pricing pressure for SMA. In addition, a sharp fall in the prices of photovoltaic modules, changes in the demand structure and restricted financing options may lead to our customers being faced with the risk of insolvency. In addition, cutbacks in subsidies for photovoltaic systems increase our customers' insolvency risk. A possible consequence: non-payment, delays in payment or the departure of important customers, all of which would have a negative effect on business and on the assets, financial position and results of operations at the SMA Group.

SMA avoids dependency on individual customers by deploying a uniform, global discount strategy. Our successful internationalization strategy and the high degree of maturity of many international markets including their customers allow SMA to minimize the risk of individual customers wielding market power. We also minimize risks by regularly examining the payment practices of our customers within the framework of customer credit management.

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#### MARKET RISK

If market saturation occurs in SMA's target markets - first and foremost in the German market - this entails a fall in demand for SMA products. If SMA is unable to close this gap in demand with new buyer groups or by opening up new markets, such market saturation will negatively affect the assets, financial position and results of operations of the SMA Group. Furthermore, entry barriers to individual markets pose a risk to the planned internationalization of SMA. Certain countries for instance set high certification hurdles. Obstacles in the way of our international expansion would have significant effects on the development of the SMA Group in the future.

Therefore, SMA always seeks to contact the certification authorities and energy supply companies abroad early on. Thanks to the information gleaned from such contacts, SMA is able to recognize and carry out any adjustments required in its products in good time. In addition, SMA pursues the strategy of being the first company to be represented in new photovoltaics markets, in order to reduce its dependence on individual markets.

#### **RISKS RELATED TO CORPORATE STRATEGY**

#### **INVESTMENT RISK**

If we improperly assess the development of markets in the future, this could lead to a failure to fully utilize our production capacities and to the unscheduled depreciation of production equipment. The ensuing higher relative share of fixed costs would have a negative impact on the results of our operations.

Over the years, SMA has established processes that allow it to react quickly to swings in demand. Through the use of interim solutions, we try to delay investments for as long as is economically rational. The projections in our regular forecast process allow us to recognize swings in demand early on and take corrective measures. Thanks to the high degree of production flexibility at SMA, we can by and large absorb negative swings in demand.

#### RESEARCH AND DEVELOPMENT RISKS

The SMA Group invests large sums of money in research and development in order to develop new processes, technologies, products and services. We cannot exclude that individual development projects will fail to deliver commercially exploitable results and that the expenditure associated with such projects has thus been to no avail.

With our patents and through constant monitoring of technologies and competitors relevant for SMA, we try to maintain and expand our technological edge. However, this is not possible in every case. Therefore, SMA actively collaborates in the elaboration of new technical guidelines through, amongst other organizations, standards associations. This modus operandi allows us to recognize changes in what is required of our products early on.

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#### PATENT RISKS

The SMA Group is the owner of numerous patents and other industrial property rights that are important for its business success. Since competitors and research institutes also file a large number of patent applications, we cannot rule out that, in spite of regular, extensive research, we will not infringe third-party patent rights or other industrial property rights or that, vice versa, patents or other industrial property rights belonging to us will be violated by third parties. If the former occurs, the SMA Group may incur considerable costs related to claims for compensation, in its defense against such claims or in relation to royalty payments to third parties. The Intellectual Property Management department actively protects proprietary technologies and monitors patent applications. By employing experienced patent attorneys, SMA also strives to avoid the risk of lawsuits and any litigation costs. In the case of disputes related to intellectual property, we make provisions if we consider it likely that such claims might be asserted against us.

#### **BUSINESS PERFORMANCE RISKS**

#### PROCUREMENT RISK

On occasions, unexpected supply bottlenecks and price increases may occur when procuring raw materials, parts, components and services. The loss of suppliers is critical, in particular if they are single source suppliers.

In the event of delays in delivery or changes in terms and conditions, the SMA Group would have to pay higher prices for the input products required or – if at all possible – make use of other suppliers. The latter might lead to delays, less favorable purchasing conditions or quality impairments. The conceivable consequences would include damage to the Company's reputation or penalties due to a failure to adhere to delivery commitments. Even negative price developments affecting raw materials such as copper, steel or aluminum could have a negative impact on the results of operations.

Both SMA Solar Technology AG and SMA Railway Technology GmbH are to a large extent dependent on certain suppliers. SMA seeks to minimize these risks through market analyses, the careful evaluation and critical selection of suppliers, long-term supplier agreements, clearly defined quality standards and a reduction in the dependence on individual suppliers.

#### PRODUCTION RISK

Production holdups – with either internal or external causes – and a delay in building up production capacities may significantly tie up working capital and lead to claims for compensation by customers for late delivery. Another possible consequence is a loss of customers. We mitigate these risks through long-term production planning, monitoring of production processes, collaboration with temporary employees and external service providers and flexible working-time models. In addition, we stockpile large amounts of critical components.

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#### **PRODUCT RISK**

The products and services of the SMA Group may be non-conforming or defective. Large delivery lots bear the risk of errors or defects affecting a product series or several product batches. Such production shortcomings may on the one hand derive from errors on the part of the SMA Group or from defects in primary products provided by suppliers of the SMA Group. This may have a negative impact on results, both directly (e.g. because of necessary recall campaigns) and indirectly (e.g. through damage to reputation). If responsibility for the error lies with the supplier, then it must bear the direct costs. If SMA is responsible for the error, then product liability insurance will cover the losses incurred. However, this does not cover the cost of materials. In this respect, new developments are often subject to more faults than established products that have been tried and tested for longer periods. We are able to minimize this risk through comprehensive field testing prior to serial production, accompanying quality inspections during production and product liability insurance but we cannot completely exclude this risk.

#### PERSONNEL-RELATED RISKS

Qualified and motivated employees are the key factor for the continued development of our enterprise – above all as regards the area of technology, geographical expansion and the business success of the SMA Group. The loss of important employees could impair continued growth or the development of innovative products. By promoting a cooperative structure, performance-based remuneration and comprehensive further training and qualification options, SMA is able to strengthen its position as an attractive employer both in the eyes of existing employees and potential new employees. However, the prevailing strong competition for qualified academic, specialist and management staff could limit SMA's opportunities for growth. We minimize the risk of losing high-performers and subjectmatter experts by adopting a broad management structure and structured knowledge management.

#### IT-RELATED RISKS

Both production and sales and service depend on the efficient, uninterrupted operation of data processing and telecommunications systems. Increasing connectivity and the need for permanent availability place ever higher demands on the IT system. We reduce the risks of IT breakdowns by continually improving IT security and employing advanced hardware and software. Distributed data centers and mirrored databases reduce the risk of data losses.

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In this respect, please refer to the Notes to the Consolidated Financial Statements No. 37, p. 201 ff.

# **FINANCIAL RISKS**

Since the SMA Group operates on an international scale, it is inevitably exposed to financial risks: risks due to unfavorable changes in exchange rates, customer credit default risks (bad debts) and liquidity risk. SMA invoices a substantial part of its sales transactions in euros. For detailed information regarding the financial market risks and risk management, please refer to the Notes on the Consolidated Financial Statements "(37) Objectives and methods concerning financial risk management" and the section entitled "Hedging policy" on page 129 of this Risk Report.

# **ENVIRONMENTAL RISKS**

SMA employs a small amount of hazardous substances during production that in principle pose a risk to the environment. The comprehensive measures we take in production and in quality management ensure that SMA products are manufactured in a way that is environmentally-friendly and guarantees compliance with all environmental regulations. In addition, SMA has safeguarded itself against certain environmental risks.

# LEGAL PROCEEDINGS AND THEIR RISKS

As at December 31, 2010, SMA Solar Technology AG was a defendant in a civil suit. Should it lose, the negative impact on earnings would be minimal.

# OVERALL STATEMENT ON THE GROUP'S RISK SITUATION

On the basis of current assessments, no individual risks are discernible that might seriously jeopardize the continued existence of the Company. Nevertheless, increasing competition pressure and the uncertain subsidy conditions in some core markets mean that the overall risk is higher than last year. Future opportunities were not taken into account when assessing individual risks and the overall risk.

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# REMUNERATION REPORT

The Remuneration Report is a constituent part of the Management Report in the audited Consolidated Financial Statements and is included in the Annual Report as part of the Corporate Governance Report. We therefore waive an additional presentation of the information disclosed in the Remuneration Report in the Notes or the Management Report.



You will find the Remuneration Report on p. 81 ff.

# INFORMATION CONCERNING TAKEOVERS REQUIRED BY SECTION 315 (4) HGB

Number 1: The capital stock of SMA Solar Technology AG amounts to € 34.7 million. The capital is divided up into 34,700,000 no-par-value bearer shares.

Number 2: Each share has the right to one vote. On October 1, 2010, the four founders and main shareholders of SMA Solar Technology AG Günther Cramer, Peter Drews, Prof. Dr. (em.) Werner Kleinkauf and Reiner Wettlaufer transferred equity stakes to the next generation within their families by way of a gift. The new shareholders concluded a pool agreement for a period of seven years. During the term of this agreement, the voting rights emanating from the shares transferred may only be exercised as a block vote. In addition, the shares may only be sold to third parties with the consent of the other members of the pool or if certain narrowly defined prerequisites are satisfied. At the end of the fiscal year, the shareholders who coordinate their voting rights in "Poolvertrag SMA Solar Technology AG" hold a total of 8,744,470 shares or 25.200 % of the Company's voting rights. Beyond this, the Managing Board is not aware of any restrictions affecting voting rights or the transferability of shares.

Number 3: At the end of the fiscal year, three of the four founders of the Company exceeded the 10 % threshold. The Managing Board member Günther Cramer has a stake of 12.793 % and the Managing Board member Peter Drews has a stake of 12.809 %. The Supervisory Board member Reiner Wettlaufer has a stake of 12.809 % in the Company's stock. The shareholders who coordinate their voting rights in "Poolvertrag SMA Solar Technology AG" (see Number 2) hold 25.200 % of the Company's voting rights.

Numbers 4 and 5: The shareholders do not have any special rights conferring them any particular powers of control.

Number 6: Appointment and dismissal of the Managing Board takes place pursuant to Sections 84 and 85 of the German Stock Corporation Act (AktG) together with Section 31 of the Co-Determination Act (MitBestG). Under Article 5 of the Articles of Incorporation, the Managing Board consists of at least two members and the exact number is laid down by the Supervisory Board. Under Article 179 of the AktG, the Articles of Incorporation may be amended by a resolution adopted by the Annual General Meeting with a majority of three quarters of the capital stock represented at the vote.

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Number 7: The Articles of Incorporation include the provisions on the powers of the Managing Board regarding Authorized Capital II. The Managing Board, after obtaining the consent of the Supervisory Board, is entitled to increase the capital stock on one or several occasions by up to a total of € 10 million by issuing new bearer shares in return for cash contributions and/or contributions in kind in the period up to December 31, 2012. The Managing Board, after obtaining the consent of the Supervisory Board, is entitled to cancel the statutory subscription rights of shareholders in the case of capital increases in return for contributions in kind for the purpose of issuing shares to employees of the Company and companies affiliated with the Company, in the case of fractions and in the case of capital increases in return for cash contributions if the issue amount of the new shares does not fall significantly below the market price of shares of the same class and terms that are already listed at the time the Managing Board sets the final issue amount and in such cases, the total pro-rata amount of the issued capital attributable to the new shares in respect of which the subscription right is excluded may not exceed 10 % of the issued capital available at the time the new shares are issued. Furthermore and following a resolution adopted by the Annual General Meeting on May 27, 2010, the Managing Board, in the period up to May 26, 2015, is entitled to acquire its own shares up to a value of 10 % of the existing capital stock at the time the resolution is adopted by the Annual General Meeting and to dispose of shares acquired in this way after obtaining the consent of the Supervisory Board by other means other than through the stock exchange or an offer made to all the shareholders provided the shares are sold in return for cash at a price that does not fall significantly below the market price of shares in the Company issued under the same terms or the shares are sold in return for in-kind contributions or they are offered in return for shares held by persons that either had or have an employment relationship with the Company or with one of its affiliated companies or members of bodies in companies that depend on the Company. Furthermore, if the Management sells its own shares by offering them to all the shareholders and after obtaining the consent of the Supervisory Board, it is entitled to exclude the shareholders' right of subscription for fractions. In addition, the Managing Board is entitled to cancel any shares it has acquired after obtaining the consent of the Supervisory Board.

**Number 8**: Credit lines agreed with banks contain a change-of-control clause that includes the extraordinary right of termination of the relevant bank.

Number 9: If the employment contract with a member of the Managing Board ends after being amicably cancelled within a period of nine months from a change of control, this member is entitled to severance pay amounting to his/her remuneration rights for the remaining term of the employment contract, however no longer than a period of one year.

# CORPORATE GOVERNANCE REPORT

The Corporate Governance Report issued by the SMA Group (Section 289a of the German Commercial Code) has been posted on the Web site of SMA Solar Technology AG: www.IR.SMA.de.and in the Annual Report on page 78 ff.



www.IR.SMA.de



You will find the Corporate Governance Report on p. 78 ff.

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# **FORECAST REPORT**

# THE GENERAL ECONOMIC SITUATION

# **MODERATE GROWTH FORECAST FOR 2011**

The global economy lost momentum in the second half of 2010. However, its development followed very different paths in different economic areas and countries. Whereas the economic expansion in the threshold countries had already flattened off at the beginning of the year, the industrialized countries only began to lose steam from the middle of the year onwards. The reason for this: The threshold countries had already reached their long-term trend path in the summer whereas the gross internal product (GDP) of the industrialized countries was still below the pre-crisis level and remained so. The mood in the international financial markets – above all the European bond markets – remained tense at the turn of the year. The worries about the sharp rises in budget deficits and the indebtedness of the industrialized countries and the accompanying fears about their solvency – above all certain countries on the edge of the euro zone– will in all likelihood continue to characterize events in 2011.

In its economic forecast dated December 2010, the Institute for Economic Research (ifo) predicts that the dynamism of the global economy will probably tail off in 2011 – both in the industrialized countries and in the threshold countries – held back mainly by tighter fiscal policies in many places. The Institute for Economic Research (ifo) projects an increase in global production in 2011 of 3.6 % (previous year: 4.7 %). The same moderate rate of growth is predicted by the Kiel Institute for the World Economy (IfW). Although this figure roughly corresponds to the long-term average of global growth, it clearly lies below the values observed in the years before the financial crisis.

The IfW predicts an increase in GDP of 1.9 % (previous year: 2.4 %) in the industrialized countries. This restrained development in the industrialized countries will in turn hold back the export momentum of the threshold countries. The economic recovery will probably only gain modest momentum in the USA since the country continues to struggle with structural problems – e.g. the high debt levels of private households. The IfW forecast for the USA: 2.8 % growth in GDP in 2011 (previous year: 2.5 %). The euro zone will also be marked by the debt crisis in 2011 and will only manage an estimated growth rate of 1.7 % (previous year: 1.3 %). The peripheral countries Portugal, Spain, Ireland and Greece are retarding economic expansion because of the necessary consolidation of their public finances. In contrast, Germany is the new growth motor. According to the ifo Institute, its economic turn-up will steadily continue in 2011 and GDP will grow by 2.4 % (previous year: 3.7 %). Thanks to historically low interest rates and the associated incentive to invest, the economy will not continue to be solely driven by exports but also by strong domestic demand.

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# FUTURE GENERAL ECONOMIC CONDITIONS IN THE PHOTOVOITAICS SECTOR

# THE SOLAR INDUSTRY HAS DECOUPLED ITSELF FROM THE MACROECONOMIC SITUATION

The sustained expansion of solar power is supported by incentive programs and tax allowances in many countries throughout the world. Moreover, the development of markets depends on the financing conditions for solar power plants.

In 2010 and according to our estimates, new solar power plants with a total output of between 17 GW and 20 GW were installed worldwide. This corresponds to a growth of between 125 % and 150 % on a year-on-year basis. Germany – as in previous years – was once again the world's largest photovoltaics market in 2010 thanks to its attractive subsidy conditions. The amount of newly installed solar output doubled in 2010 on a year-on-year basis and stood at around 7 GW. However, international markets grew faster than the German solar market in 2010 thanks to broad political support. The most important foreign markets included Italy (approx. 3.0 GW), the USA (approx. 1.7 GW), France (approx. 1.5 GW) and the Czech Republic (approx. 1.4 GW).

The development of the photovoltaics markets is only at an initial phase. According to our estimates, North America and Asia in particular display considerable potential for growth. Accordingly, in the period leading up to 2013, the Managing Board of SMA predicts average growth in the amount of newly installed output worldwide of almost 15 % p.a. up to about 30 GW. As was the case in previous years, the differing growth rates in different solar markets including their corresponding market segments will in the future also lead to sharp fluctuations in demand. Therefore in 2011, the Managing Board of SMA predicts stagnating global markets and does not even rule out the possibility of a downturn in growth. The breadth of this forecast may be attributed to the fact that a reduction in subsidies is envisaged in important solar markets in 2011, which will slow down the rate of construction of new solar power plants. These markets include for instance Germany, Italy, France, Belgium and the Czech Republic. The growth markets in North America and Japan and the emerging solar markets in China, India, Thailand and Australia may offset the envisaged downturn in the traditional solar markets in 2011 but will not be able to help these markets pick up. The regional shift in solar markets will also lead to a change in the size of installations. The Managing Board of SMA predicts a sharp increase in the market sectors "industrial" and "commercial". These market sectors are more developed in those regions of North America and Asia characterized by strong growth than for example in Europe.

# FORECAST DEVELOPMENT OF THE GLOBAL PHOTOVOLTAICS MARKET

in GW	2010	2011	2012	2013
Germany	6.5 - 7.0	4.0 - 5.0	4.0 - 5.0	4.0 - 5.0
Europe <sup>1</sup>	6.0 - 7.0	5.0 - 6.0	6.5 - 7.5	7.0 - 8.0
North Amerca	1.5 - 2.0	3.0 - 4.0	5.0 - 6.0	7.0 - 8.0
Asia / Pacific	3.0 - 4.0	4.0 - 5.0	5.5 - 6.5	8.0 - 9.0
Total	17 - 20	17-20	21 – 25	27 - 30

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# OPPORTUNITIES FOR THE SMA GROUP

# **OPENING UP INTERNATIONAL MARKETS EARLY ON**

Changes in political framework conditions will in the future provide SMA with great opportunities to expand its business activities, above all in developing markets. With this in mind, SMA built up the area of Corporate Development in 2010 to enable it to recognize and exploit this business potential early on. In this way, we for instance regularly and systematically analyze all potential sales markets and production sites. A steering committee – made up of representatives from the sales, service, production, purchasing, personnel and financing departments – decides, on the basis of analyses, the countries in which SMA should create a sales and service unit or set up a production site. This collaboration will allow the different company representatives to identify all the crucial success factors in each planned expansion and take these into account early on when making decisions. Their structured analysis will also serve to continually adjust domestic processes to the changing requirements of the increasing volume of foreign business.

# CONSIDERABLE POTENTIAL FOR SAVINGS DURING PROCUREMENT

Opportunities will also arise for acquiring new suppliers abroad. With this in mind, SMA set up its first foreign purchasing organization in 2010 in Denver in the US state of Colorado. The aim is to bring down purchasing costs through the systematic analysis of potential local suppliers in North America and to optimize the procurement process. In addition to material costs, transport costs and customs duties also play a decisive role. In 2011, SMA also plans to expand its purchasing organization in Asia. When selecting its suppliers, SMA attaches great importance to ethical aspects. Details on selection criteria are listed in the section "Corporate Social Responsibility".

# ADAPTING PRODUCTS EARLY ON TO MARKET REQUIREMENTS

The regional shift in demand will affect product development. In order to recognize these changes early on and take them into account in the development process, SMA has in the past few years systematically expanded its product management area. Regional product managers for instance participate in important symposia and trade fairs, are members of standards associations and maintain close contact with customers and energy suppliers. SMA incorporates the systematic evaluation of customer requirements and trends early on into its development process.

The best example of this: the development of the Sunny Boy HF product family (Medium Power Solutions segment), whose product design takes into account building prerequisites in North America. Thanks to its slim housing, the Sunny Boy 3000 HF is able to fit snugly into walls with a post-and-beam construction. The high-frequency transformer (HF) fitted to this product family also allows SMA to meet the demands of American customers in terms of a galvanically isolating solar inverter with a high degree of efficiency.



See "Corporate Social Responsibility" p. 104ff

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The requirements pertaining to solar power for self-consumption set down in the EEG (Renewable Energy Sources Act) were picked up by SMA early on and incorporated into the development process in the Medium Power Solutions segment. Thus, SMA presented the Sunny Backup System to its customers in 2010. Its innovative battery inverter stores the solar electricity generated during the day in a stationary battery that covers electricity demands in the evening. This system technology developed by SMA makes it possible for a four-person household to increase self-consumption from the current figure of approx. 25 % to over 50 %. All solar power plants equipped with SMA Sunny Boy inverters can be retrofitted with the Sunny Backup System. However, a further reduction in the cost of batteries is necessary to render the Sunny Backup System economically viable.

In order to significantly reduce overall system costs in large-scale solar projects and after analyzing the installation process and market trends, the product management area in the High Power Solutions segment laid down new technical requirements for the Sunny Central. The result is the product family Sunny Central Compact Power, which we brought onto the market in 2010 to great success. The Sunny Central Compact Power lowers the costs of acquiring, installing and operating a photovoltaic system by up to 35 % - not least thanks to the outdoor design available for the first time on the market: The inverter can be installed in the field without the need for the compact concrete substation that was previously required. Thanks to its new temperature management system, the Sunny Central Compact Power also delivers up to 10 % more power at a prevailing outdoor temperature of up to 25°C.

# RAISING EFFECTIVENESS THROUGH A DIVISIONAL ORGANIZATIONAL STRUCTURE

The functional organization at SMA is reaching its limits. The upcoming changeover to a divisional structure represents a great opportunity. In the future, we will place different customers and varying market requirements more effectively than before at the center of our activities. By clearly defining responsibilities and decentralizing decision-making wherever possible, SMA will significantly increase its effectiveness.

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# OVERALL STATEMENT ON THE EXPECTED DEVELOPMENT OF THE SMA GROUP

# THE SALES TARGET FOR 2011 IS BETWEEN € 1.5 BILLION AND € 1.9 BILLION WITH AN EBIT MARGIN OF BETWEEN 21 % AND 25 %

The following statements on the future development of the SMA Group are based on the estimates drawn up by the Managing Board of SMA and the expectations concerning the development of global photovoltaics markets set out above.

With its wide range of products, high product quality, high flexibility, presence in 16 countries and rapid service structure, SMA is uniquely positioned in the solar market: In terms of the amount of inverter output sold, which amounted to 7.8 GW in 2010 (previous year: 3.4 GW), SMA is a world market leader. According to its own estimates, the market share of the SMA Group stood at between 39 % and 45 % (compared to the previous year's estimated figure of 40 %). The Managing Board plans to maintain this high market share in the years 2011 to 2013 or to even increase this share. According to our estimates, our closest competitor has a market share of less than 15 %. The Managing Board of SMA predicts a global demand for solar systems of between 17 GW and 20 GW in fiscal year 2011. The sales forecast is based on various assumptions regarding market development in the different solar markets and market sectors. All the scenarios predict a fall in prices in 2011. The upper end of the sales forecast, € 1.9 billion, assumes that SMA will acquire market shares in important solar markets in 2011 and will be able to tap into emerging solar markets more quickly than its competitors. The lower end of the sales forecast, € 1.5 billion, assumes that there will be a worldwide fall in demand while at the same time global market shares remain unchanged.

According to estimates by the Managing Board, the Medium Power Solutions segment will generate up to 80 % of sales in 2011. The trend to larger solar systems with an output of between 10 kW and 500 kW will also be reflected in our product mix. Thus, the Managing Board expects that the threephase solar inverter Sunny Tripower in the Medium Power Solutions segment will acquire greater importance in 2011 and will gradually replace the single-phase Sunny Mini Central. The predictions are that in 2011, less than 50 % of the segment's sales will be generated by the product family Sunny Boy, which is principally deployed in solar plants with an output of up to 10 kW.

Large-scale solar projects with an output of over 500 kW will make up between 20 % and 25 % of our sales in 2011. Above all, a decisive contribution to sales in the High Power Solutions segment will be made by business in North America, Italy and France. Therefore, the Sunny Central Compact Power will in all likelihood be one of the product families that generate the greatest sales in this segment in 2011. This product family is characterized by its especially low system costs and its advantageous input voltage range.

As far as the Railway Technology division is concerned and in view of the solid order books, the Managing Board forecasts a likely increase in sales of around 10 % in 2011. Around 80 % of sales will probably be generated abroad. The Railway Technology division, which is part of SMA's core business, is predicted to make up less than 5 % of the Group's sales in 2011.

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The Managing Board predicts an increase in sales in the Photovoltaics and Railway Technology divisions during the coming years. However, due to foreseeable changes in different incentive programs and the generally high dynamism of global solar markets, exact forecasts for the Photovoltaics division are currently not possible. The Managing Board predicts annual growth of around 10 % for the Railway Technology division in the years 2012 to 2013.

According to estimates by the Managing Board of SMA, the regional shift in demand will result in significantly stiffer competition for the Company. This development will also be reflected in the average selling price per watt and accordingly in gross earnings. Therefore, the Management of SMA predicts that the gross earnings margin will fall away slightly in 2011. In order to counter this trend, SMA will carry out a systematic analysis of production costs aimed at identifying potential for savings and thus lowering manufacturing costs.

SMA plans to continue expanding its technology leadership with the aid of at least five product innovations. We will present these products at the leading trade fairs Intersolar in Germany and Solar Power in the USA. In order to attain this goal, we will increase our development expenditure (incl. capitalized development projects) in 2011 to  $\in$  100 million; this corresponds to between 5% and 7% of forecast sales. In addition, SMA will expand its network of strategic research and development cooperation in a targeted fashion,

Important growth impulses will in the future come from foreign markets. In the coming years, we will pursue our tried and tested strategy of being one of the first solar inverters to set up its own branch subsidiary in developing markets. Thus, we plan to set up a sales and service company for the Photovoltaics division in the strong growth markets Japan and Thailand in 2011. We will set up companies for the Railway Technology division in South America and Asia and 2011.

SMA will pursue its successful strategy of only producing once an order has been placed. In 2011, SMA will principally expand its production capacities abroad in order to fulfill the corresponding requirements of creating added value locally and at the same time, to reduce currency risks. In the course of the fiscal year, we plan to increase production capacities in North America from the current figure of around 1.5 GW. In order to fully utilize these production capacities in the short term, we will stockpile large quantities of raw materials, consumables and supplies in 2011 and continue to make use of temporary employees in the area of production. In particular, this stockpiling strategy will be reflected in a net working capital ratio of between 18 % and 20 % in 2011. The expansion in production, the construction of a new, modern repair center, office and service buildings and the acquisition of machinery and equipment will result in investments of between approx. € 150 million and approx. € 200 million in 2011. Depending on the estimated development of markets, the Managing Board of SMA predicts that investments will be at a comparatively high level in 2012 and 2013.

The pursuit of our internationalization strategy and our focus on the development of innovative products for solar applications will lead to higher fixed costs. Since we will be unable to completely offset the likely price pressure with new products and lower cost prices, the Managing Board predicts a slightly lower EBIT margin of between 21 % and 25 % in the fiscal year 2011. In the medium term, SMA has set an EBIT margin target of over 20 %. In our opinion, the key to high profitability lies in the continuing technological development and cost optimization of solar inverters.

Niestetal, February 25, 2011

SMA Solar Technology AG

The Managing Board

SMA INVERTER OUTPUT SOLD IN MW

7,750	2010
3,381	2009
2,180	2008
950	2007
430	2006

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Statement of Comprehensive Income SMA Group



# STATEMENT OF COMPREHENSIVE INCOME SMA GROUP

	Note	<b>2010</b> € '000	2009 € '000
Sales	5	1,920,117	934,323
Cost of sales	6	1,226,914	593,013
Gross profit		693,203	341,310
Selling expenses	7	<i>57</i> ,118	36,367
Research and development expenses	8	71,953	49,073
General administrative expenses	9	49,067	28,764
Other operating income	10	16,445	9,428
Other operating expenses	11	14,704	8,151
Operating profit (EBIT)		516,806	228,383
Financial income		3,151	5,296
Financial expenses		1,850	1,489
Financial result	13	1,301	3,807
Profit before income taxes		518,107	232,190
Income tax expense	14	153,066	71,070
Consolidated net profit		365,041	161,120
of which attributable to non-controlling interest		0	0
of which attributable to shareholders of SMA AG		365,041	161,120
Earnings per share, basic (in €)	15	10.52	4.64
Earnings per share, diluted (in €)	15	10.52	4.64
Number of ordinary shares (in thousands)		34,700	34,700
Consolidated net profit		365,041	161,120
Unrealized gains (losses) from foreign currency translation		890	410
Overall result		365,931	161,530
of which attributable to non-controlling interest		0	0
of which attributable to shareholders of SMA AG		365,931	161,530

# CONSOLIDATED BALANCE SHEET SMA GROUP



	Note	12/31/2010 € '000	12/31/2009 €'000
	. 10.0	2 333	
Non-current assets			
Intangible assets	16	29,242	15,372
Fixed assets	17	268,507	149,119
Other financial investments		73	73
Other financial assets	20	3,890	3,602
Deferred taxes	14	23,687	7,066
		325,399	175,232
Current assets			
Inventories	18	237,838	112,569
Trade receivables	19	117,268	58,077
Other financial assets	20	196,798	143,787
Claims for income tax refunds		4,161	349
Other receivables	19	15,901	3,626
Cash and cash equivalents	21	354,083	225,010
		926,049	543,418
Total assets		1,251,448	718,650
Shareholders' equity			
Share capital		34,700	34,700
Capital reserves		119,200	119,200
Retained earnings		574,508	253,687
Non-controlling interest		2	0
	22	728,410	407,587
	22		407,007
Non-current liabilities			407,507
	23	80,651	
Other provisions		80,651	41,243
Other provisions Financial liabilities	23	80,651 19,452	41,243 18,772
Non-current liabilities Other provisions Financial liabilities Other liabilities Deferred taxes	23 24	80,651	41,243 18,772 29,944
Other provisions Financial liabilities Other liabilities	23 24 27	80,651 19,452 53,840	41,243 18,772 29,944 5,145
Other provisions Financial liabilities Other liabilities	23 24 27	80,651 19,452 53,840 13,292	41,243 18,772 29,944 5,145
Other provisions Financial liabilities Other liabilities Deferred taxes  Current liabilities	23 24 27	80,651 19,452 53,840 13,292	41,243 18,772 29,944 5,145 <b>95,10</b> 4
Other provisions Financial liabilities Other liabilities Deferred taxes	23 24 27 14	80,651 19,452 53,840 13,292 167,235	41,243 18,772 29,944 5,145 <b>95,104</b>
Other provisions Financial liabilities Other liabilities Deferred taxes  Current liabilities Other provisions Financial liabilities	23 24 27 14	80,651 19,452 53,840 13,292 167,235	41,243 18,772 29,944 5,145 <b>95,104</b> 30,453
Other provisions Financial liabilities Other liabilities Deferred taxes  Current liabilities Other provisions Financial liabilities  Trade payables	23 24 27 14 ———————————————————————————————————	80,651 19,452 53,840 13,292 167,235 86,686	41,243 18,772 29,944 5,145 <b>95,104</b> 30,453 1,411 72,067
Other provisions Financial liabilities Other liabilities Deferred taxes  Current liabilities Other provisions Financial liabilities  Trade payables Other financial liabilities	23 24 27 14 23 24 25	80,651 19,452 53,840 13,292 167,235 86,686 1,748 70,554	41,243 18,772 29,944 5,145 <b>95,104</b> 30,453 1,411 72,067 71,819
Other provisions Financial liabilities Other liabilities Deferred taxes  Current liabilities Other provisions Financial liabilities Trade payables Other financial liabilities Income tax liabilities	23 24 27 14 23 24 25	80,651 19,452 53,840 13,292 167,235 86,686 1,748 70,554 133,279	41,243 18,772 29,944 5,145 <b>95,104</b> 30,453 1,411 72,067 71,819 24,943
Other provisions Financial liabilities Other liabilities Deferred taxes  Current liabilities Other provisions	23 24 27 14 23 24 25 26	80,651 19,452 53,840 13,292 167,235 86,686 1,748 70,554 133,279 39,468	41,243 18,772 29,944 5,145 <b>95,104</b>

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Consolidated Statements of Cash Flows SMA Group



# © CONSOLIDATED STATEMENTS OF CASH FLOWS SMA GROUP

	Note	<b>2010</b> € '000	2009 € '000
Consolidated net profit		365,041	161,120
Income tax expenses		153,066	71,070
Financial result		- 1,301	- 3,807
Depreciation and amortization		31,318	16,334
Change in other provisions		95,641	33,874
Losses from the disposal of assets		1,158	992
Other non-cash expenses / revenue		344	673
Interest received		2,682	4,873
Interest paid		- 33	- 28
Income tax paid		- 150,827	- 73,162
Gross cash flow		497,089	211,939
Increase of inventories		- 126,455	- 38,401
Increase in trade receivables		- 59,680	- 34,664
Increase / decrease in trade payables		- 2,200	50,777
Change in other net assets / other non-cash transactions		77,559	31,855
Net cash flow from operating activities	31	386,313	221,506
Payments for investments in fixed assets		- 139,725	- 70,180
Proceeds from the disposal of fixed assets		135	52
Payments for investments in intangible assets		- 18,615	- 11,948
Payments for the acquisition of business units		- 2,500	0
Payments for the acquisition of securities and other financial assets		- 50,000	- 119,404
Net cash flow from investing activities	32	- 210,705	-201,480
Changes in minority interests		2	0
Repayment of debt		- 1,649	- 1,352
Dividends paid by SMA Solar Technology AG		- 45,110	- 34,700
Net cash flow from financing activities	33	- 46,757	- 36,052
Net increase / decrease in cash and cash equivalents		128,851	- 16,026
Change in cash and cash equivalents due to exchange rate effects		222	354
Cash and cash equivalents as of 01/01		225,010	240,682
Cash and cash equivalents as of 12/31	34	354,083	225,010

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# STATEMENT OF CHANGES IN EQUITY SMA GROUP



		Equity attributa	ble to the sharehold	ders of the parent co	ompany		
	Note	Share capital €'000	Capital reserves €'000	Retained earnings €'000	Total € '000	Equity attributable to non-controlling interest € '000	Consolidated shareholders' equity € '000
Shareholders' equity as of January 1, 2009		34,700	119,200	126,857	280,757	0	280,757
Consolidated net profit 2009		0	0	161,120	161,120	0	161,120
Dividend payments of SMA Solar Technology AG	22	0	0	- 34,700	- 34,700	0	- 34,700
Differences from currency translation	23	0	0	410	410	0	410
Shareholders' equity as of December 31, 2009	22	34,700	119,200	253,687	407,587	0	407,587
Changes in minority interests		0	0	0	0	2	2
Consolidated net profit 2010		0	0	365,041	365,041	0	365,041
Dividend payments of SMA Solar Technology AG	22	0	0	- 45,110	- 45,110	0	- 45,110
Differences from currency translation	23	0	0	890	890	0	890
Shareholders' equity as of December 31, 2010	22	34,700	119,200	574,508	728,408	2	728,410

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# NOTES SMA GROUP



# 1. BASIC INFORMATION

The Consolidated Financial Statements of SMA Solar Technology AG for the year ended December 31, 2010 were prepared in compliance with the regulations of Section 315a of the German Commercial Code (HGB) in compliance with the International Financial Reporting Standards (IFRS) including the interpretations of the IFRS (IFRIC) adopted and published by the International Accounting Standards Board (IASB), as endorsed and defined as mandatory by the European Union, as well as the supplementary provisions of commercial laws. The requirements of the standards applied were fulfilled completely and give a fair view of the net assets, financial position and results of operations of SMA Solar Technology AG and the subsidiaries included in the scope of consolidation (hereafter: the "SMA Group" or the "Group").

The registered office of the Company is Sonnenallee 1, 34266 Niestetal. The shares of SMA Technology AG are traded publicly; they are listed in the Prime Standard of the Frankfurt Stock Exchange. Since September 22, 2008, they have been listed in the technology index TecDAX.

The income statement is classified according to the cost of sales method. The Consolidated Financial Statements were prepared in euros. Unless indicated otherwise, all amounts stated are rounded to full thousands of euros ( $\in$  '000) or millions of euros ( $\in$  million).

The Managing Board of SMA Solar Technology AG approved the Consolidated Financial Statements on February 25, 2011 for submission to the Supervisory Board. The Supervisory Board has the duty of reviewing the Consolidated Financial Statements and declaring whether it approves the Consolidated Financial Statements.

The SMA Group produces in Germany, the USA and Canada and distributes inverters throughout the world. More detailed information on segments is provided in chapter 5.

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# 2. CONSOLIDATION

# 2.1 PRINCIPLES OF CONSOLIDATION

All domestic and foreign subsidiaries in which SMA Solar Technology AG, directly or indirectly, has the option of controlling the financial and operating policies of these subsidiaries are included in the Consolidated Financial Statements of the SMA Group.

Subsidiaries are fully consolidated from the date of acquisition, i.e. from the date on which the Group obtains control. Consolidation takes place according to the purchase method of accounting. In line with the purchase method of accounting, the cost of acquisition of the business combination is offset against the fair value of the assets acquired and liabilities assumed from the subsidiary at the date of acquisition. The cost of acquisition of the business combination consists of the fair value of the purchase price paid and the carrying amount of any non-controlling interests. The non-controlling interests may either be recognized at the proportionate value of the assets acquired and liabilities assumed or at their fair value. Transaction costs that are directly attributable to the acquisition are recognized in the consolidated profit provided they do not refer to the issue of shares in the SMA Group.

In case of a business combination as a result of the successive acquisition of shares, the existing shares are revalued at their fair value and any effects are recognized in the consolidated profit.

Conditional components of the acquisition price are valued at their fair value at the date of acquisition.

A positive difference resulting from the offsetting is capitalized as goodwill. It may, if applicable, also include the goodwill corresponding to non-controlling interests. Negative differences resulting from the consolidation at the date of acquisition are recognized directly in the income statement.

Intercompany transactions, balances, sales, expenses and income, profits and losses as well as receivables and payables amongst the consolidated companies are eliminated. In the event of consolidation measures affecting income, the income-tax-related effects are measured and deferred taxes are recorded.

The Financial Statements of SMA Solar Technology AG and of the subsidiaries are prepared as at identical reporting dates using uniform accounting and valuation methods.

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The rules for business combinations before January 1, 2010 differ from the aforementioned rules in the following areas:

- The earlier version of the purchase method of accounting applied. Transaction costs directly attributable to the business combination were part of the acquisition costs of the business combination. The non-controlling interest (formerly referred to as minority shares) was recognized at the value of the proportionate net assets.
- The different phases of successive acquisitions of shares were treated separately. Goodwill was not affected by further acquisitions of shares.
- Conditional components of acquisition prices were only recorded if there was a current obligation, payment was probable and it was possible to carry out a reliable evaluation. Subsequent changes resulted in changes in goodwill.

# 2.2 SCOPE OF CONSOLIDATION

The scope of consolidation as at December 31, 2010 has changed with respect to December 31, 2009 and now includes the newly incorporated companies SMA Immo GmbH & Co. KG (Niestetal) ("SMA Immo"), formerly SMA Immo GmbH (Niestetal), SMA Solar Technology Beteiligungsgesellschaft mbH (Niestetal) and the newly incorporated companies SMA Solar Technology Canada Inc. (Vancouver), SMA Solar India Private Limited (Mumbai) and SMA Solar UK Ltd. (London). All companies were fully consolidated. The company so far operating under the name of SMA Service GmbH in Niestetal was renamed SMA Immo Beteiligungs GmbH (Niestetal). Non-controlling interest's share in equity of the consolidated companies is shown separately within equity.

The IFRS 3 rule was not applied to the acquisition of shares in SMA Immo. It was not applicable in this case because this acquisition does not involve a business as defined in IFRS 3. Rather, this transaction concerns the acquisition of a group of assets. The costs of acquisition were allocated to the individually identifiable assets on the basis of their relevant fair values. There have been no significant effects on the net assets, financial position and results of operations of SMA Solar Technology AG.

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The scope of consolidation of the SMA Group may be seen in the complete list of shareholdings shown below pursuant to Section 313 of the German Commercial Code:

Name	Registered office	Holding	Consolidation
Parent company			
SMA Solar Technology AG	Niestetal, Germany		
Shares in affiliated companies			
SMA America Holdings LLC	Denver, USA	100%	F
SMA America Production LLC	Denver, USA	100%	F
SMA Beijing Commercial Company Ltd.	Beijing, China	100%	ı
SMA Benelux BVBA	Brussels, Belgium	100%	F
SMA Czech Republic s. r. o.	Prague, Czech Republic	100%	F
SMA France S. A. S.	Lyon, France	100%	F
SMA Ibérica Technología Solar, S.L.	Barcelona, Spain	100%	F
SMA Immo Beteiligungs GmbH	Niestetal, Germany	94%	F
SMA Immo GmbH & Co. KG (formerly SMA Immo GmbH)	Niestetal, Germany	100%	F
SMA Italia S. r. l.	Milan, Italy	100%	ı
SMA Middle East Limited	Abu Dhabi, United Arab Emirates	100%	Í
SMA Railway Technology GmbH	Kassel, Germany	100%	ı
SMA Solar India Private Limited	Mumbai, India	100%	I
SMA Solar UK Ltd.	London, Great Britain	100%	I
SMA Solar Technology America LLC	Rocklin, USA	100%	I
SMA Australia Pty. Ltd.	Sydney, Australia	100%	I
SMA Solar Technology Beteiligungs GmbH	Niestetal, Germany	100%	I
SMA Solar Technology Canada Inc.	Vancouver, Canada	100%	I
SMA Technology Hellas AE	Athens, Greece	100%	I
SMA Technology Korea Co., Ltd.	Seoul, Korea	100%	I
Niestetal Services, Unipessoal Lda.	Lisbon, Portugal	100%	I
Investments			
Changzhou SMA Electronics Co., Ltd.	Changzhou, China	10%	١
Uni Kassel International Management School KIMS GmbH, Kassel	Kassel, Germany	10%	N

F = fully consolidated N = not consolidated

All companies of the SMA Group prepare their separate Financial Statements as at December 31. SMA Immo GmbH & Co. KG has made use of the exemption clause pursuant to Section 264b of the German Commercial Code.

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# 2.3 TRANSLATION OF FINANCIAL STATEMENTS IN FOREIGN CURRENCIES

The Consolidated Financial Statements are prepared in euros, which is the reporting currency of the Group. Each company within the Group defines its own functional currency, which is normally the local currency. The items contained in the Financial Statements of the relevant company are valued using this functional currency.

Transactions denominated in foreign currencies are translated initially to the functional currency by applying the spot rate valid at the time of the transaction. On each subsequent due date, monetary assets and liabilities denominated in foreign currencies are translated to the functional currency by applying the spot rate valid on that day. All translation differences are recognized through profit or loss.

Assets and liabilities of subsidiaries preparing their balance sheets in a currency other than the euro are translated using the current exchange rate at the balance sheet date. Items of the income statement are translated using the weighted average rate of the relevant year. The equity components of subsidiaries are translated at the corresponding historical exchange rate applicable upon accrual. Any resulting translation differences are recorded under other income within equity as adjustment items for foreign currency translation or in shares of other shareholders. The accumulated amount recorded in equity is recognized through profit or loss upon the disposal of the relevant foreign subsidiary.

The relevant exchange rates for translating the Financial Statements prepared in foreign currencies have evolved as follows in relation to the euro:

	Average rate		Closing rate	
	2010	2009	12/31/2010	12/31/2009
	€	€	€	€
1 US dollar (USD)	0.75470	0.71916	0.74968	0.69662

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# 3. ACCOUNTING AND VALUATION POLICIES

# 3.1 BASIS OF PREPARATION

In general, the Consolidated Financial Statements were prepared on the basis of amortized historical cost. There are exceptions in the case of provisions, deferred taxes, leases and derivative financial instruments.

The preparation of Annual Financial Statements in compliance with IFRS requires management to make estimates and assumptions that affect the reported amounts in the Consolidated Financial Statements and the related Notes (see also chapter 3.4). Actual results may deviate from these estimates.



See also p.173

# 3.2 NEW IASB ACCOUNTING STANDARDS

Standards, interpretations and amendments to be applied for the first time in the fiscal year

Standard/In	terpretation		Date of compulsory application <sup>1</sup>	Endorsement (until 12/31/2010) <sup>2</sup>
Amendment	IAS 27	Consolidated and Separate Financial Statements pursuant to IFRS	07/01/2009	yes
Amendment	IAS 39	Financial Instruments: Recognition and Valuation - Qualifying Hedged Items	07/01/2009	yes
Amendment	IAS 39/IFRIC 9	Embedded Derivates	06/30/2009	yes
Amendment	Improvements 2009	Collective Standard for Improving Several IFRS	07/01/2009	yes
Amendment	IFRS 1	First-Time Adoption of IFRS, Additional Assumptions	01/01/2010	yes
Amendment	IFRS 2	Share-Based Payment	01/01/2010	yes
New	IFRS 3	Business Combinations	07/01/2009	yes
New	IFRIC 17	Distributions of Non-Cash Assets to Owners	07/01/2009	yes
New	IFRIC 18	Transfers of Assets from Customers	07/01/2009	yes

<sup>&</sup>lt;sup>1</sup> Application to the first reporting period of a fiscal year beginning on or after that date. First-time application in EU may deviate.

<sup>&</sup>lt;sup>2</sup> Adoption of IFRS standards or interpretations by the EU Commission

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# IAS 27 Consolidated and Separate Financial Statements Pursuant to IFRS

The IASB issued the revised IAS 27 in January 2008. This standard deals with consolidated and separate Financial Statements. The new IAS 27 stipulates that a change in interests that does not involve a loss of control must be recorded as an equity transaction. Therefore, such a transaction has no impact on goodwill or profit or loss. In addition, the regulations governing the distribution of losses to the owners of the parent company and to non-controlling interest and the accounting policies for transactions involving a loss of control have been amended. The SMA Group has applied IAS 27 (revised) to non-controlling interest transactions from January 1, 2010. Depending on the type and scope of future transactions, the amendments will have effects on the net assets, financial position and results of operations of the SMA Group which cannot be estimated at present.

# **IFRS 3 Business Combinations**

The revised standard on Business Combinations was issued by the IASB in January 2008 and is to be applied to fiscal years beginning on or after July 1, 2009. The standard introduces amendments in the accounting for business combinations, which will affect the goodwill recognized, the results of the reporting period in which an acquisition has been made, and the results in future periods. The SMA Group has applied IFRS 3 since January 1, 2010. Since no business combinations occurred during the fiscal year, there have not as yet been any effects as a result of the new rules.

# "Improvements to IFRS 2009"

In April 2009, the IASB published amendments to the existing IFRSs as part of its Annual Improvement Project. They comprise amendments to various IFRSs resulting in accounting changes to the recognition, measurement and presentation of transactions as well as terminological and editorial amendments. Most of these amendments came into effect on July 1, 2009.

The other new accounting standards and interpretations have no effect on the Consolidated Financial Statements 2010 prepared by the SMA Group.

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# STANDARDS, INTERPRETATIONS AND AMENDMENTS THAT HAVE BEEN PUBLISHED BUT ARE NOT YET MANDATORY

The following standards and interpretations were issued by the IASB in the run-up to the balance sheet date. However, they will only be applied by the SMA Group at a later date.

Standard/In	terpretation		Date of compulsory application <sup>1</sup>	Endorsement (until 12/31/2010) <sup>2</sup>
Amendment	IAS 12	Recovery of Underlying Assets	01/01/2012	no
Amendment		Related Party Disclosures	01/01/2011	yes
Amendment	IAS 32	Financial Instruments: Presentation – Classification of Rights Issues	02/01/2010	yes
Amendment	IFRS 1	Exemption from Comparative IFRS 7 Disclosures for First-Time Adopters	07/01/2010	yes
Amendment	IFRS 1	Date of Transition for First-Time Adoption of IFRS	07/01/2011	no
Amendment	IFRS 1	Severe Hyperinflation	07/01/2011	no
Amendment	IFRS 7	Disclosures – Transfers of Financial Assets	07/01/2011	no
New	IFRS 9	Financial Instruments – Classification and Measurement	01/01/2013	no
Amendment	Improvements 2010	Collective Standard for Improving Several IFRS	07/01/2010	no
Amendment	IFRIC 14	Prepayments of a Minimum Funding Requirement	01/01/2011	yes
New	IFRIC 19	Extinguishing Financial Liabilities with Equity Instruments	07/01/2010	yes

<sup>&</sup>lt;sup>1</sup> Application to the first reporting period of a fiscal year beginning on or after that date First-time application in EU may deviate.

Of the applicable standards, interpretations and amendments that have been published but are not yet mandatory, only the following IFRSs and IFRICs are expected to have an impact on the Financial Statements of the SMA Group. They will be implemented at the very latest in the year of compulsory first-time application.

# IFRS 9 Financial Instruments – Classification and Measurement

In November 2009, the IASB adopted the Standard for the Classification and Measurement of Financial Assets. The standard is part of the comprehensive IASB project to replace IAS 39 Financial Instruments – Recognition and Measurement. The adopted version stipulates that in the future, financial assets should in principle be recorded at amortized cost or at fair value through profit or loss. In addition, it provides for a non-reversible choice on a case-by-case basis for the measurement of equity instruments at fair value. The category of financial instruments is determined upon acquisition and may not be changed subsequently. In addition, the standard contains related regulations concerning for instance embedded derivatives, the fair value option and impairment losses/reversal of impairment losses. It is envisaged that the standard will apply mandatorily from 2013 onwards following its endorsement by the EU.

<sup>&</sup>lt;sup>2</sup> Adoption of IFRS standards or interpretations by the EU Commission

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SMA Solar Technology AG will observe the further development of the entire project to revise IAS 29 Financial Instruments—Recognition and Measurement.

# "Improvements to IFRS 2010"

The standard entitled "Improvements to IFRS" comprises a number of small changes to existing standards. The effects of the improvements on the Consolidated Financial Statements of the SMA Group are currently under evaluation.

# 3.3 DISCLOSURES TO THE ACCOUNTING POLICIES

Intangible assets acquired with a finite useful life are valued at cost less straight-line amortization over their useful lives and accumulated impairments.

The costs for internally generated intangible assets are recognized in the period in which they accrue, with the exception of development costs that can be capitalized.

Research and development expenses include all expenses that can be attributed directly to research or development activities. Expenditure on research is recognized as expenditure in the period in which it is incurred. The development costs of a project are capitalized as an intangible asset only after the SMA Group can demonstrate both the technical feasibility of completing the intangible asset so that it will be available for internal use or sale and the intention to complete the intangible asset and either use or sell it. In addition, the SMA Group must demonstrate how the intangible asset will generate future economic benefits, the availability of resources to complete the intangible asset and the ability to reliably measure the expenditure attributable to the intangible asset during its development. Development costs are recognized at cost pursuant to IAS 38.66, less accumulated amortization and accumulated impairment losses. Amortization commences at the end of the development phase and from the moment the asset can be used. Amortization is effected over the period during which future benefit is to be expected. Incomplete development projects are tested annually for impairment. When the reasons that have resulted in impairment cease to exist, a corresponding addition is made.

There is currently no goodwill.

Intangible assets with a finite useful life are written down over three to five years using straight-line amortization. In the case of intangible assets with a finite useful life, the period of amortization and the amortization method are reviewed at least at the end of each fiscal year. Any changes in the amortization period that become necessary because of changes in the expected useful life are accounted for as changes to estimates. Amortization is recorded under the expense category that corresponds to the function of the intangible asset in the enterprise. There were no intangible assets with an indefinite useful life in the periods under review.

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Any gains or losses from derecognition of intangible assets are determined as the difference between the net disposal proceeds and the carrying amount of the asset. They are recognized in profit or loss

in the period in which the asset is derecognized.

Fixed assets are valued at cost less straight-line depreciation and accumulated impairment losses. Borrowing costs are added to cost in the event of qualifying assets. The cost of replacement of a part of a fixed asset is included in the carrying amount of this asset when incurred if the criteria for recognition are fulfilled. When major inspections are carried out, the costs are capitalized according to the carrying amount of the relevant assets if the criteria for recognition are fulfilled. All other maintenance and repair costs are expensed immediately.

The depreciation period is based on the expected useful life. Depreciation is recognized under the expense category that corresponds to the function of assets in the enterprise. Scheduled straight-line depreciation is based on the following useful life of assets.

	Useful Life
Leasehold improvements	10 years
Buildings	25 to 30 years
Finance lease for buildings	up to 15 years
Technical equipment and machinery	6 to 8 years
Business and office equipment	5 to 10 years

A tangible asset is derecognized either upon its disposal or when no further economic benefit is expected from the further use or sale of the asset. Gains or losses from derecognition of the asset are determined as the difference between the net disposal proceeds and the carrying amount of the asset and recognized through profit or loss in the income statement as other operating income or other operating expenses in the period in which the asset is derecognized.

The residual values, useful lives and depreciation methods are reviewed at the end of each fiscal year and adjusted if necessary.

In certain cases during the previous year, the rewards and risks associated with the leased properties were not retained by the lessor but by the SMA Group which means that in the case of certain properties, there was a finance lease with the Group as lessee. In such cases, the leased properties were recorded as fixed assets.

Impairment of intangible assets and fixed assets: On each balance sheet date, the Group reviews whether there are any indicators that the value of an asset might be impaired. If such indicators exist or if an annual impairment test of an asset is required, the Group makes an estimate of the recoverable amount of the relevant asset. The recoverable amount of an asset is its fair value less selling costs or its value in use, whichever is higher. As a rule, the recoverable amount is to be determined

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for each individual asset. If it proves impossible to determine the recoverable amount for individual assets because the cash flows depend upon those of other assets, the cash flows are determined for the next higher group of assets (cash-generating unit) for which such a cash flow can be determined. If the carrying amount of an asset or a cash-generating unit exceeds the recoverable amount, the asset or the cash-generating unit is impaired and written down to the recoverable amount. In assessing the value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments regarding the interest effect and the risks specific to the asset. In order to determine the fair value less selling costs, an adequate valuation model is used. This is based on valuation multipliers, stock prices of quoted shares of subsidiaries or other available indicators for the fair value. Impairment costs are recognized under the expense category that corresponds to the function of the impaired asset in the enterprise. There were no indicators for a possible impairment in the fiscal years of 2010 and 2009.

In the case of assets, a test is carried out on each balance sheet date to determine whether there are any indicators that a previously recognized impairment loss has ceased to exist or has diminished. Additions are made if the recoverable amount has increased in subsequent periods. An impairment loss recognized in prior periods is only reversed if there is a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. If this is the case, the carrying amount of the asset is increased to its recoverable amount. An addition is limited to the amount that would have resulted based on scheduled depreciation without recognizing an impairment. The addition is immediately recognized in the income statement. This was not the case in the year under review and in the previous year.

Inventories are stated at the lower of cost of acquisition or production and net realizable value. The costs of acquisition or production include all costs incurred during acquisition and production as well as other costs incurred in bringing the inventories to their present location and condition. Borrowing costs are not taken into account here. In general, when determining the acquisition costs of raw materials, consumables and supplies, moving average prices are used. The cost of production of work in progress and finished goods is determined using detailed cost accounting. The net realizable value consists of the estimated sales proceeds that can be achieved in the ordinary course of business, less the estimated costs incurred up to completion and the estimated necessary selling expenses. If the reasons that have resulted in an impairment of inventories no longer exist, a corresponding addition is made.

A financial instrument is a contract that gives rise to both a financial asset held by one entity and a financial liability or equity instrument held by another entity. If the trading date and the settlement date of financial assets are different, then the settlement date is decisive for initial recognition. The date of contract conclusion is only decisive in the case of financial derivatives.

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As a rule, financial instruments are reported as soon as an entity of the SMA Group becomes a contracting party to the provisions of the financial instrument. In the event of purchases or sales usual in the market (purchases or sales in the context of a contract, the conditions of which provide for the delivery of the asset within a certain period which is usually defined by the regulations or conventions of the relevant market), the settlement date, i.e. the date on which the asset is delivered to or by a company of the SMA Group, is decisive for its initial recognition in the balance sheet and for its removal from the balance sheet. Financial assets and financial liabilities are measured at fair value upon their initial recognition. In respect of financial assets and financial liabilities for which there is no measurement at fair value through profit or loss, the transaction costs that are directly attributable to the purchase of the financial asset or the issue of the financial liability are also included. Financial assets and financial liabilities are generally stated separately and only netted if there is a right of offsetting these amounts at the relevant date and if there is an intention to perform the settlement on a net basis.

For subsequent measurements, financial assets as defined in IAS 39 are classified as "financial assets at fair value through profit or loss", as "loans and receivables", as "held-to-maturity investments" or as "available-for-sale financial assets". Financial liabilities as defined in IAS 39 are classified as financial liabilities at fair value through profit or loss or as other financial liabilities. Financial assets are designated to measurement categories upon their initial recognition. If permitted and necessary, re-designations are made at the end of the fiscal year.

For the SMA Group, the measurement categories "loans and receivables", "financial assets and liabilities to be measured at their fair value" and "other financial liabilities" are especially relevant.

Any loans and receivables granted by the enterprise and other financial liabilities are measured at amortized cost using the effective interest method. These are primarily trade receivables and payables, other financial receivables and assets, long-term loans, and other financial liabilities.

Held-for-trading assets are measured at their fair value. These include primarily derivative financial instruments that are not part of an effective hedging relationship as defined in IAS 39 and which must therefore be designated mandatorily as "held for trading". Derivative financial instruments are reported as assets if their fair value is positive and as liabilities if their fair value is negative. Gains and losses resulting from changes in the fair value of derivative financial instruments are recognized directly through profit or loss, since no hedging relationship was created for them. Gains or losses resulting from subsequent measurement are recognized through profit or loss in the income statement. The derivative financial instruments held by the SMA Group are not part of effective hedging relationships in accordance with IAS 39.

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On each balance sheet date, the carrying amounts of financial assets which are not measured at fair value through profit and loss are tested to determine whether objective substantial indicators for an impairment exist (such as considerable financial difficulties of the debtor, high probability of bankruptcy proceedings being initiated against the debtor, elimination of an active market for the financial asset, significant changes in the technological, economic, legal or market environment of the issuer or a permanent fall in the fair value of the financial assets below the amortized cost of acquisition). A possible impairment loss which is due to the fair value being lower than the carrying amount is recognized through profit and loss. If impairments of the fair values of financial assets available for sale have been recognized previously directly in equity, these are eliminated from equity up to the amount of the identified impairment and transferred to the income statement. If subsequent measurements show that the fair value has increased objectively due to events occurring after the impairment loss was originally recognized, the impairment loss is reversed by applying the relevant amount through profit and loss. Impairments relating to unquoted available-for-sale equity instruments that are reported at cost may not be reversed.

A financial asset is removed from the books if the enterprise has relinquished control of the contractual rights that are related to the financial asset. A financial liability is removed from the books if the obligation underlying the liability is discharged, cancelled, or has expired.

Cash and cash equivalents reported in the balance sheet include cash in hand as well as bank balances, checks, payment instruments in transit and short-term deposits with a total term to maturity of less than three months. The cash and cash equivalents in the consolidated cash flow statement are accrued in line with the aforementioned definition and include any bank overdrafts that have been granted.

Government grants for assets are accrued under "other liabilities" and written back at identical annual installments through other operating income over the estimated useful life of the related asset. Government grants are only recorded if there is reasonable assurance that the entity will comply with the conditions attaching to them and that the grants will be received.

Other provisions account for all recognizable present (legal and constructive) obligations of the Group to third parties as a result of past events which are expected to lead to an outflow of resources with an economic benefit to settle the obligation, and the amount of which can be determined reliably. The provisions are recognized in line with IAS 37 at the estimated amount required to settle them. Insofar as the Group expects to receive a repayment, at least in part, for a reported provision (such as for an insurance contract), the repayment is recorded as a separate asset if the inflow of the payment is highly probable. The expense for the formation of the provision is recognized in the income statement, less the repayment. Non-current provisions are carried in the balance sheet at their settlement amount discounted to the balance sheet date using corresponding term-dependent market interest rates. If the amount is discounted, the increase of provisions caused by expiration is recorded under finance costs.

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The determination as to whether an agreement contains a lease is made based on the economic content of the agreement on the date of its conclusion and requires an assessment of whether fulfillment of the agreement depends upon the use of a specific asset or specific assets and whether the agreement grants a right to use the asset:

Assets leased under finance leases, which transfer to the Group substantially all the rewards and
risks incidental to ownership of the leased asset, are capitalized at the inception of the lease.
 The leased asset is stated at its fair value or at the present value of the minimum lease payments,
whichever is lower. Lease payments are apportioned between the finance costs and the redemption
portion of the lease liability so as to achieve a constant rate of interest over the lease period on the
remaining balance of the lease liability. Finance costs are taken to profit or loss immediately.

If the transfer of ownership to the Group at the end of the lease period is not reasonably certain, then the capitalized leased assets are written down fully over the estimated useful life or the lease term, whichever is shorter.

• An operating lease exists if the substantial rewards and risks regarding the leased object are retained by the lessor. Lease payments on operating leases are recorded over the term of the lease as an expense in the income statement.

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets are added to the cost of those assets until such time as the assets are substantially ready for their intended use or sale. Qualifying assets refer to those assets that necessarily require a longer period of time before they are available for their intended use or sale. All other borrowing costs are recognized as profit or loss in the period in which they are incurred.

Employee benefits are, as a rule, reported as a liability if an employee has provided work in exchange for benefits payable in the future and are recognized as an expense if the entity has received the economic benefit resulting from the work provided by an employee in exchange for future benefits.

Long-service and death benefits are granted on the basis of a company agreement. Measurement of obligations to pay benefits is carried out by applying the projected unit credit method. This method takes into account both the claims for payment of long-service rewards and death benefits and the acquired pension rights known as of the balance sheet date and payments of long-service rewards and death benefits expected in the future.

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In 2009, SMA Solar Technology AG introduced value-based lifelong working-time accounts. Under certain conditions, employees may have time credits or special benefits reposted to these value accounts and may later take paid leave of absence using the credit balances extrapolated based on income. The employees' value claims are protected against insolvency and reinsured.

Revenue is recognized if it is probable that the economic benefit will flow to the Group and the amount of the revenue can be measured reliably. Revenue is measured at the fair value of the consideration received. Discounts, rebates and other deductions are not taken into account. Revenue from the sale of goods and products is recognized if the material rewards and risks associated with the ownership of the goods and products sold have passed to the buyer. This is normally the case upon delivery of the goods and products. Revenue from services is recognized as soon as the service is rendered. Interest income is recognized when interest has accrued (using the effective interest rate, i. e. the internal rate used to discount estimated future cash inflows over the expected term of the financial instrument to the net carrying amount of the financial asset). Dividends are recognized when the right to receive payment is established.

Current tax receivables and tax liabilities for the ongoing and for previous periods are measured at the amount which is expected to be reimbursed from the tax authority or to be paid to the tax authority. In order to calculate this amount, the tax rates and tax laws applicable at the balance sheet date are used. Current taxes that relate to items stated directly in equity are not recognized in the income statement but rather, they are recognized in equity.

Deferred taxes are formed using the balance sheet oriented liability method for temporary differences existing at the balance sheet date between the carrying amount of an asset or a liability in the balance sheet and the tax-carrying amount. The following temporary differences are not taken into account here: goodwill non-deductable in the tax balance sheet, differences from the initial recognition of assets or liabilities in a transaction which impacts neither the taxable nor the accounting profit as well as posting differences due to investments in subsidiaries, interests in joint ventures and associates insofar as a reversal of these differences is not envisaged in the foreseeable future. Deferred tax assets are formed for all deductible temporary differences, unused tax loss carryforwards and unused tax credits to the extent that it is probable that there will be sufficient taxable profit in the future against which the deductible temporary differences, unused tax loss carryforwards and tax credits can be offset. The carrying amount of deferred tax assets is reviewed on each balance sheet date and reduced to the extent that it is improbable that there will be sufficient taxable profit in the future against which the deferred tax asset may be offset, at least in part. Unrecognized deferred tax assets are reviewed on each balance sheet date and recognized to the extent that it has become probable that there will be sufficient taxable profit in order to realize the deferred tax asset. Deferred tax assets and liabilities are measured using the tax rates that are expected to apply for the period in which an asset is realized or a liability is fulfilled. The tax rates and tax regulations that are applicable or adopted as of the balance sheet date are used. Deferred taxes that relate to items recorded directly in equity are not recorded in the income statement. Rather, they are also listed in the equity. Deferred tax assets and deferred tax liabilities are netted if the Group has a legally enforceable right to offset current tax assets against current tax liabilities and if these relate to income taxes levied on the same taxable entity by the same taxation authority.

# 3.4 SIGNIFICANT JUDGMENTS, ESTIMATES AND ASSUMPTIONS

The preparation of the Consolidated Financial Statements requires management to make judgments, estimates and assumptions that affect the amounts of revenues and expenses, assets and liabilities reported on the reporting date as well as the disclosure of contingent liabilities. Uncertainty related to these assumptions and estimates may lead to results that require material adjustments to the carrying amounts of the relevant assets or liabilities in the future.

When applying the accounting and valuation policies, the management made the following judgments, which had a significant effect on the amounts recognized in the Consolidated Financial Statements. Judgments containing estimates are not taken into account here.

The key assumptions concerning the future and other key sources of estimation uncertainty on the reporting date associated with a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities during the next fiscal year are explained below:

Development costs are capitalized in line with the accounting policies presented when all required conditions are given. Initial capitalization of costs is based on an estimate by management that a project's technical and economic feasibility has been proven. This is normally the case when a development project has reached a specific milestone or a specific quality gate in the development process. When determining the amounts to be capitalized, management makes further valuation assumptions regarding the amount of expected future cash flows from the assets, the discounting rates to be applied and the period of inflow of expected future cash flows generated by the assets. With this in mind,  $\in$  10.9 million (previous year:  $\in$  7.2 million) were capitalized during the fiscal year. The increase in capitalization reflects the increasing development activities carried out by SMA in order to retain its technology leadership. The research and developments costs recognized as expenses are presented in chapter 8.

In addition to individual circumstances, provisions for overall warranty risks are also taken into account when setting aside provisions for warranty obligations. In the case of warranty risks, an obligation of between five and ten years is generally adopted as a base. The expected warranty expenditure is based on historical values from the past. The expected warranty expenditure is calculated by referring to a weighted percentage determined by comparing actual warranty expenditure in the last five to ten years leading up to the previous year's sales and applying these percentages to the sales covered by warranty obligations. The warranty provisions are used up equally over the five- to ten-year warranty period. The value of these provisions amounted to  $\in$  118.1 million (previous year:  $\in$  64.7 million) as at December 31, 2010. Accrued payments received for nongratuitous warranties are collected over the warranty period as sales revenues on a straight-line basis since, in this case, a linear progression of warranty costs is also adopted as the best possible estimation method.

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On each balance sheet date, the Group examines whether there are indicators for an impairment of non-financial assets. Estimating the value in use requires management to make an estimate of the expected future cash flows from the asset or the cash-generating unit and to choose a suitable discount rate in order to calculate the present value of these cash flows. There were no indications of impairment in the fiscal years under review.

Deferred tax assets are formed for all unused tax loss carryforwards to the extent that it is probable that there will be sufficient taxable profit to enable the loss carryforwards to be actually used. Determining the amount of deferred tax assets requires management to use significant discretion regarding the expected time of accrual and the amount of taxable income in the future as well as regarding the future tax planning strategies. Deferred tax assets for loss carryforwards amounting to  $\in$  6.9 million (previous year:  $\in$  0.2 million) were fully recorded; cf. also chapter 14.



See also p.182

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# 4. BUSINESS COMBINATIONS

No business combinations took place in the fiscal years 2010 and 2009 to which IFRS 3 is applicable.

# 5. SEGMENT REPORTING



Segment	Activities
Photovoltaics Technology	
Medium Power Solutions	Development, production and distribution of system technology for photovoltaic applications in the grid-tied and off-grid building and commercial field. This includes mainly the product groups Sunny Boy, Sunny Mini Central, Sunny Tripower, Sunny Backup and Sunny Island as well as communication products.
High Power Solutions	Development, production and distribution of system technology for photovoltaic applications in the power plant sector. This includes the product group Sunny Central.
Railway Technology	
Railway Technology	Development, production and distribution of power-electronic components for rail-bound short- and long-distance traffic.
Electronics Manufacturing	
Electronics Manufacturing	Production of electronic assemblies for the other segments, in particular the Medium Power Solutions segment, and for third parties.

The operating result of the segments is monitored separately by the Managing Board in order to make decisions on the allocation of resources and to determine the profitabilty of the segments. Group financing, currency and interest rate hedging and the income tax burden are controlled at Group level and are therefore not allocated to the individual operating segments.

As regards information about geographical segments, sales are assigned to countries using the destination principle. The Company waives to present non-current assets based on this classification since SMA Solar Technology AG mostly develops and manufactures its products in Germany, and in the year under review, apart from the new production sites in Denver, USA and Canada, it has only maintained marketing and service companies abroad. Accordingly, a division of assets by regions is likewise not a part of internal management reporting.

The Group measures the performance of its segments through a measurement of segment profit or loss, which is referred to as "EBIT" in the internal management and reporting system. This measurement comprises gross profit, selling and general administrative expenses, research and non-capitalized development costs as well as other operating income (expense). Since sales from services are of minor significance, they were not presented separately, but jointly with product sales.



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Segment assets include the intangible assets attributed to the relevant segments and fixed assets, inventories, and trade receivables. Segment liabilities include trade payables that are directly attributable to the relevant segments. There are no asymmetric allocations to the individual segments.

Internal management reporting is in line with the accounting policies of external reporting.

The transfer prices between the business segments are determined assuming usual arm's length market conditions. Income from external third parties is reported using the same valuation parameters as shown in the income statement.

Sales in the Photovoltaics Technology division are subject to fluctuations, i. a., because of discontinuous incentive programs.

## FINANCIAL RATIOS BY SEGMENTS AND REGIONS

Segment	Photovoltaics Technology			
	Medium Power Solutions		High Power Solutions	
€ million	2010	2009	2010	2009
External sales	1,553.6	774.6	336.6	137.8
Internal sales	70.1	32.0	17.8	13.0
Total sales	1,623.7	806.6	354.4	150.8
Depreciation and amortization	22.5	10.8	3.5	1.9
Operating profit (EBIT)	392.4	172.0	92.1	39.6
Segment assets	217.9	124.1	156.6	53.3
Segment liabilities	18.2	27.8	19.6	11.6
Investments	41.2	16.7	7.9	1.0
Sales by regions				
Germany	951.3	506.1	131.3	87.2
European Union	455.2	185.9	161.1	43.7
Third-party countries	211.1	108.6	47.1	8.2
Sales deductions	- 64.0	- 26.0	- 2.9	- 1.3
External sales	1,553.6	774.6	336.6	137.8

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Railway Techno	ology	Electronics Manuf	acturing				
Railway Technology		Electronics Manufacturing	acturing	Reconciliation		Continuing operations	
2010	2009	2010	2009	2010	2009	2010	2009
25.6	19.1	4.3	2.8	0.0	0.0	1,920.1	934.3
15.4	11.8	413.6	202.3	- 516.9	- 259.1	0.0	0.0
41.0	30.9	417.9	205.1	- 516.9	- 259.1	1,920.1	934.3
0.4	0.3	4.9	3.3	0.0	0.0	31.3	16.3
4.5	3.6	32.3	15.6	- 4.5	- 2.4	516.8	228.4
14.0	12.1	99.3	49.2	763.7	479.9	1,251.5	718.6
1.9	1.2	11.4	16.8	472.0	253.7	523.1	311.1
0.7	0.7	6.9	6.9	130.7	56.8	187.4	82.1
8.9	7.1	4.0	2.8	0.0	0.0	1,095.5	603.2
10.0	7.5	0.1	0.0	0.0	0.0	626.4	237.1
6.7	4.5	0.3	0.0	0.0	0.0	265.2	121.3
0.0	0.0	- 0.1	0.0	0.0	0.0	- 67.0	- 27.3
25.6	19.1	4.3	2.8	0.0	0.0	1,920.1	934.3

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**Reconciliation** of segment figures to the relevant figures stated in the Financial Statements is as follows:

	<b>2010</b> € million	2009 € million
Total segment earnings (EBIT)	521.3	230.8
Eliminations	- 4.5	- 2.4
Consolidated operating profit (EBIT)	516.8	228.4
Financial result	1.3	3.8
Profit before income taxes	518.1	232.2
Total assets	487.7	238.7
Other central items and eliminations	165.1	96.4
Cash and long-term time deposits	544.1	365.0
Financial instruments not designated and other assets	30.8	11.4
Deferred tax receivables	23.7	7.0
Other financial assets	0.1	0.1
Group assets	1,251.5	718.6
Total liabilities	51.1	57.4
Other central items and eliminations	19.5	14.7
Financial instruments not designated, liabilities and provisions	399.8	208.9
Income tax liabilities and deferred tax liabilities	52.7	30.1
Group liabilities	523.1	311.1

Circumstances are shown in the reconciliation which by definition are not part of the segments. In addition, unallocated parts of the Group head office, including cash and cash equivalents, finance lease buildings and owned buildings are included, and their expenses are assigned to the segments. Business relations between the segments are eliminated in the reconciliation.

In 2010, as in the previous year, no customer accounted for a share of more than 10 % of Group sales.

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# NOTES TO THE STATEMENT OF COMPREHENSIVE INCOME SMA GROUP



## 6. COST OF SALES

	<b>2010</b> € '000	2009 € '000
Material expenses	854,570	402,879
Personnel expenses	192,464	105,397
Depreciation	21,778	11,529
Other	158,102	73,208
	1,226,914	593,013

Cost of sales include, as direct costs, product-related material expenses as well as all other expenses for production, acquisition and service. Production expenses include the costs for device production, production-related testing areas and warehouse management. Service expenses are made up of the costs of global customer service, commissioning of central inverters, device repair and the service hotline. The material expenses of the functional area include changes in inventories amounting to  $\in$  39.4 million (previous year:  $\in$  17.9 million); the personnel expenses include the costs for production-related temporary employees amounting to  $\in$  67.2 million (previous year:  $\in$  33.4 million); and the other expenses include the creation of warranty provisions amounting to  $\in$  73.4 million (previous year:  $\in$  32.3 million).

## 7. SELLING EXPENSES

	<b>2010</b> € '000	2009 € '000
Material expenses	890	368
Personnel expenses	33,914	20,003
Depreciation	1,538	1,021
Other	20,776	14,975
	57,118	36,367

Selling expenses include the expenses incurred for global sales activities, internal sales departments and marketing.

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## 8. RESEARCH AND DEVELOPMENT EXPENSES

	<b>2010</b> € '000	2009 € '000
Material expenses	2,900	2,765
Personnel expenses	63,468	42,075
Depreciation	4,872	2,851
Other	11,626	8,626
	82,866	56,317
Capitalized development projects	- 10,913	- 7,244
	71,953	49,073

Research and development expenses include all costs that may be attributed to the areas of product development, development-related testing and product management. In addition, costs for technical documentation and patent management are assigned to research and development expenses.

## 9. GENERAL ADMINISTRATIVE EXPENSES

	<b>2010</b> € '000	2009 € '000
Material expenses	123	67
Personnel expenses	37,753	22,303
Depreciation	3,128	934
Other	8,063	5,460
	49,067	28,764

Administrative expenses include costs for the Managing Board, quality management and for the areas of finance and human resources. The expenses for building management and IT were distributed to all functional areas based on cost types and in line with planned consumption.

## 10. OTHER OPERATING INCOME

	<b>2010</b> € '000	2009 € '000
Income from foreign currency translation	12,900	8,035
Government grants	790	329
Other income	2,755	1,064
	16,445	9,428

Other operating income mainly comprises income from the reversal of impairment losses on receivables and income from the disposal of fixed assets.

## 11. OTHER OPERATING EXPENSES

	<b>2010</b> € '000	2009 € '000
Expenses from foreign currency translation  Other expenses	12,022	6,698
	14,704	8,151

Other operating expenses include primarily expenses for the disposal of fixed assets and expenses for additions to impairment losses on receivables.

## 12. BENEFITS TO EMPLOYEES AND TEMPORARY EMPLOYEES

	<b>2010</b> € '000	2009 € '000
Wages and salaries	221,831	133,394
Expenses for temporary employees	70,096	35,396
Social security contribution and welfare payments	35,672	20,993
	327,599	189,783

The average workforce in the Group amounted to:

	2010	2009
Research and Development	665	488
Production and Service	1,860	1,187
Sales and Administrative	874	606
	3,399	2,281
Trainees and interns	384	285
Temporary employees	1,736	846
	5,519	3,412

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## 13. FINANCIAL RESULT

2010	2009
€ '000	€ '000
2,829	5,283
21	13
301	0
3,151	5,296
720	7
27	28
0	1,050
414	404
689	0
1,850	1,489
	€ '000  2,829  21  301  3,151  720  27  0  414  689

Total interest income from financial assets not classified as "at fair value through profit or loss" amounted to  $\in$  2.9 million (previous year:  $\in$  5.3 million) in the fiscal year. Interest expenses from financial liabilities not classified as "at fair value through profit or loss" amounted to  $\in$  0.7 million (previous year:  $\in$  0.03 million). The effects of changes in interest rates have had no significant influence on consolidated profits.

## **14. INCOME TAXES**

Income taxes include the income taxes paid or payable in the individual countries as well as deferred taxes. Income taxes include trade tax, corporation tax, the solidarity surcharge and corresponding foreign income taxes.

The income tax expense is made up as follows:

2010	2009
€ '000	€ '000
162,772	72,776
- 1,152	207
- 1,844	- 1,769
- 6,710	- 144
153,066	71,070
	€ '000 162,772 - 1,152 - 1,844 - 6,710

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Expected income tax expense that would result from applying the tax rate of the parent company SMA Solar Technology AG to the IFRS consolidated result before taxes can be reconciled as follows to income taxes shown in the income statement:

	<b>2010</b> € '000	2009 € '000
Consolidated IFRS result before income taxes	518,107	232,190
Tax rate of parent company	30.2%	30.4%
Expected income tax	156,468	70,586
Differences related to differing tax rates domestic and abroad	- 1,319	52
Effects due to changes in tax rates	44	- 8
Tax-free income	-7	- 1
Non-deductible expenses	700	339
Taxes relating to previous years	- 1,162	207
Other tax effects	- 1,658	- 105
Actual income taxes	153,066	71,070
Effective Group tax rate	29.5 %	30.6%

Enterprises located in Germany having the legal form of a corporation have to pay corporation tax of 15% and a solidarity surcharge of 5.5% of corporation tax owed. In addition, domestic companies and partnerships are subject to trade tax, which is determined depending on percentages specific to the particular municipality. The average trade tax basic rate to be applied at the level of the Group's parent company fell to 14.4% (previous year: 14.6%).

The effects of deviations between the relevant tax rates at the level of the domestic and foreign Group subsidiaries and the tax rate at the level of the Group's parent company are shown in the reconciliation statement under tax-rate-related deviations in Germany and abroad.

No deferred taxes were formed aside for the accrued income of foreign subsidiaries, including accrued currency translation differences, since these profits and translation differences are either not subject to corresponding taxation or must be retained for an unspecified period.

As at December 31, 2010, there were current income tax receivables amounting to  $\leqslant$  4.2 million (previous year:  $\leqslant$  0.3 million) and current income tax liabilities of  $\leqslant$  39.5 million (previous year:  $\leqslant$  24.9 million).

The deferred tax assets and deferred tax liabilities were carried through profit or loss, both in the reporting year and in the previous year, and result as follows from the temporary differences and tax loss carryforwards:

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	12/31/2	010	12/31/2009		
	Deferred tax	Deferred tax	Deferred tax	Deferred tax	
	receivables	liabilities	receivables	liabilities	
	€ '000	€ '000	€ '000	€ '000	
Intangible assets	202	- 5,673	212	- 2,593	
Fixed assets	147	- 5,617	130	- 1,334	
Financial assets	197	0	52	0	
Inventories	6,212	- 1,268	1,418	- 487	
Other assets	142	- 493	409	- 329	
Other provisions	8,661	- 236	4,377	- 396	
Other liabilities	1,229	- 5	281	- 6	
Loss carryforwards	6,897	0	187	0	
	23,687	- 13,292	7,066	- 5,145	
thereof non-current	10,190	- 11,290	4,541	- 3,927	

Deferred tax assets are recorded fully and regarded as fully realizable, since a sufficient amount of taxable income is expected in the future. This also applies to tax assets deriving from the subsidiaries located in the USA in spite of the fact that start-up losses were incurred in the USA in the fiscal year 2010.

## 15. EARNINGS PER SHARE

Earnings per share are calculated by dividing the consolidated earnings attributable to the shareholders by the weighted average of ordinary shares in circulation during the period. The number of shares in the fiscal year 2010 amounted to 34.7 million, as in the previous year.

The consolidated earnings attributable to the shareholders are the consolidated net profit after tax. Since there are no shares held by the Company on the reporting date nor are there any other special cases, the number of ordinary shares issued equates to the number of shares in circulation.

The calculation of earnings in relation to the weighted average number of shares in accordance with IAS 33 yields earnings of  $\in$  10.52 per share for the period from January 1, 2010 to December 31, 2010 with an average weighted number of shares of 34.7 million, and earnings of  $\in$  4.64 per share for the period from January 1, 2009 to December 31, 2009 with an average weighted number of shares of 34.7 million.

There are no options or conversion options as at the reporting date. Therefore, there are no diluting effects so that the diluted and undiluted basic earnings per share are the same.

Pursuant to the German Stock Corporation Act, the distributable dividend is based on the net profit, which is recorded in the Annual Financial Statements of SMA Solar Technology AG prepared according to the provisions of the German Commercial Code and the Stock Corporation Act.

## NOTES TO THE BALANCE SHEET SMA GROUP

## **16. INTANGIBLE ASSETS**

Intangible assets evolved as follows in the fiscal years under review:

	Research and development projects € '000	Licenses €'000	Software €'000	Prepayments / intangible assets in progress € '000	<b>Total</b> € '000
Acquisition costs					
01/01/2010	8,955	3	11,849	500	21,307
Additions	10,913	0	2,377	6,242	19,532
Transfers	1,055	0	3,770	- 5,742	- 917
12/31/2010	20,923	3	1 <i>7</i> ,996	1,000	39,922
Amortization					
01/01/2010	0	3	5,932	0	5,935
Additions	1,074	0	3,671	0	4,745
12/31/2010	1,074	3	9,603	0	10,680
Net value 12/31/2009	8,955	0	5,917	500	15,372
Net value 12/31/2010	19,849	<u> </u>	8,393	1,000	29,242
Acquisition costs					
01/01/2009	1,711	0	7,391	257	9,359
Additions	7,244	3	4,200	501	11,948
Transfers	0	0	258	- 258	С
12/31/2009	8,955	3	11,849	500	21,307
Amortization					
01/01/2009	0	0	3,821	0	3,821
Additions	0	3	2,111	0	2,114
12/31/2009	0	3	5,932	0	5,935
Net value 12/31/2008	1,711	0	3,570	257	5,538
Net value 12/31/2009	8,955	0	5,917	500	15,372

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## 17. FIXED ASSETS

Fixed assets evolved as follows in the fiscal year 2010:

Net value 12/31/2010	114,180	34,706	77,252	42,369	268,507
Net value 12/31/2009	54,040	32,433	38,225	24,421	149,119
12/31/2010	11,752	11,593	39,462	0	62,807
Transfers	0	- 27	27	0	0
Disposals	5,727	404	1,068	0	7,199
Additions <sup>1</sup>	8,605	4,040	16,047	0	28,692
Currency changes	-7	8	25	0	26
01/01/2010	8,881	7,976	24,431	0	41,288
Depreciation					
12/31/2010	125,932	46,299	116,714	42,369	331,314
Transfers	34,242	3,136	34,723	- 71,184	917
Disposals	26,661	499	1,389	74	28,623
Additions <sup>1</sup>	55,064	3,230	20,699	88,930	167,923
Currency changes	366	23	25	276	690
Acquisition costs 01/01/2010	62,921	40,409	62,656	24,421	190,407
A 1:101				2 000	
	property € '000	machinery €'000	and furniture €'000	Prepayments € '000	Total € '000
	incl. buildings on third-party	equipment and	Other equip- ment, fixtures		
	buildings	Technical	Oul		
	Land and				

<sup>&</sup>lt;sup>1</sup> Incl. changes to "additions to the scope of consolidation"

The carrying amount of the buildings held under finance leases amounted to  $\in$  20.3 million on December 31, 2009. This finance lease was eliminated since the inclusion of SMA Immo in the scope of consolidation at the beginning of the current fiscal year. At the time it was included in the scope of consolidation, the fair value of the buildings held by SMA Immo amounted to  $\in$  27.0 million. The expansion of the site at Sandershäuser Berg and the extension to the production site in Kassel-Waldau resulted in investments amounting to  $\in$  46.7 million. Further investments of  $\in$  14.1 million were made for the expansion of the production site in the United States and the construction of a production site in Canada. The prepayments as at December 31, 2010 include prepayments for the construction of office buildings amounting to  $\in$  21.1 million.

Of the financial liabilities, approx. € 25.4 million are secured by mortgage liens.

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Fixed assets evolved as follows in the fiscal year 2009:

	Land and buildings incl. buildings on third-party property € '000	Technical equipment and machinery € '000	Other equip- ment, fixtures and furniture € '000	Prepayments € '000	<b>Total</b> € '000
Acquisition costs					
01/01/2009	39,732	9,776	37,055	35,198	121,761
Currency changes	33	- 10	1	30	54
Additions	8,259	13,389	25,031	23,501	70,180
Disposals	1,115	138	236	99	1,588
Transfers	16,012	17,392	805	- 34,209	0
12/31/2009	62,921	40,409	62,656	24,421	190,407
Depreciation					
01/01/2009	6,005	5,187	16,420	0	27,612
Currency changes	0	1	0	0	1
Additions	3,244	2,833	8,143	0	14,220
Disposals	368	45	132	0	545
12/31/2009	8,881	7,976	24,431	0	41,288
Net value 12/31/2008	33,727	4,589	20,635	35,198	94,149
Net value 12/31/2009	54,040	32,433	38,225	24,421	149,119

## **18. INVENTORIES**

Inventories of the SMA Group were made up as follows:

	12/31/2010 € '000	12/31/2009 €'000
Raw materials, consumables and supplies	148,548	60,259
Unfinished goods, work in progress	17,895	13,586
Finished goods and goods for resale	71,091	36,036
Prepayments	304	2,688
	237,838	112,569

Inventories are measured at the lower value of acquisition or production costs and net realizable value. In 2010, SMA built up stocks of raw materials, consumables and supplies in a targeted fashion in order to guarantee a higher degree of delivery capacity. SMA only produces once an order has been placed. The increase in inventories of finished products is attributable to the positive evolution of business. The impairment on inventories, included under expenses as production costs, amounts to  $\in$  1.2 million (previous year:  $\in$  1.1 million).

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## 19. TRADE RECEIVABLES AND OTHER RECEIVABLES

Trade receivables are non-interest-bearing and are usually due between 30 and 90 days. No significant extensions to payment terms were granted in the reporting period.

The other receivables mainly comprise prepaid expenses and other receivables due from tax authorities which were not overdue at the reporting date.

The ageing structure of trade receivables was as follows on the reporting dates:

		Neither overdue nor		Overdue but	not impaired	
	Book value € '000	impaired €'000	<30 days € '000	30 - 60 days € '000	60 - 90 days € '000	>90 days € '000
2010	11 <i>7</i> ,268	76,538	22,441	15,052	312	2,834
2009	58,077	46,132	9,067	1,114	925	569

As at December 31, 2010, value adjustments with a nominal value of  $\in$  1.2 million (previous year: € 1.3 million) were carried out on trade receivables. There are no securities.

The value adjustment account evolved as follows:

	Specific value adjustment €'000	Value adjustment on portfolio basis € '000	<b>Total</b> € '000
As of 01/01/2009	848	120	968
Additions with effect on the expenses (net)	898	19	917
Usage	- 216	0	- 216
Disposal	- 282	- 51	- 333
Currency difference	- 5	0	- 5
As of 12/31/2009	1,243	88	1,331
Additions with effect on the expenses (net)	605	166	771
Usage	- 593	0	- 593
Disposal	- 229	- 121	- 350
Currency difference	8	0	8
As of 12/31/2010	1,034	133	1,167

Apart from this, there was no need to carry out value adjustments on the other receivables and financial assets. The maximum non-payment risk corresponds to the carrying amount disclosed in the balance sheet. There are no securities.

### **20. OTHER FINANCIAL ASSETS**

As at December 31, 2010, other current financial assets include in particular time deposits amounting to  $\in$  190.0 million with a term to maturity of over three months and accrued interest (previous year: € 140.0 million). The other long-term financial assets include a rent deposit for a building in the USA amounting to 5.0 million USD, which is subject to a restraint disposal for a period of six years.

### 21. CASH AND CASH EQUIVALENTS

Cash and cash equivalents include cash in hand, bank balances, checks, payments in transit, deposits with term to maturity of less than three months and overdrafts on current accounts, if any. Bank balances bear interest at variable interest rates applicable to deposits subject to call.

As at December 31, 2010, the Group had unused credit lines amounting to € 27.0 million (previous year: € 28.0 million) in respect of which all the conditions for using them had been fulfilled. The credit lines have been provided on an "until further notice" basis.

## 22. EQUITY

The change in equity, including currency translation effects not shown in the income statement, is presented in the statement of changes in equity.

The Managing Board, after obtaining the consent of the Supervisory Board, is authorized to increase the issued capital by up to € 10.0 million in total on one or several occasions in the period leading up to December 31, 2012 by issuing new bearer shares in return for cash and/or in-kind contributions (Authorized Capital II).

The Managing Board is entitled, with the consent of the Supervisory Board, to exclude shareholders' statutory subscription rights in the following cases: in the case of capital increases in return for contributions in kind to grant shares for the purpose of acquiring companies, parts of companies or investments in companies; for the purpose of issuing shares to employees of the Company and companies affiliated with the Company as set out in Sections 15 ff. of the German Stock Corporation Act (AktG); to exclude possible fractions from the subscription right; in the case of capital increases in return for cash contributions if the issue amount of the new shares does not fall significantly below (as set out in Section 203 (1) and (2), and section 186 (3), sentence 4 AktG) the market price of shares of the same class and terms that are already listed at the time the Managing Board sets the final issue amount and the pro-rata amount of the issued capital attributable to the new shares, in respect of which the subscription right is excluded, does not exceed 10 % of the issued capital available at the time the new shares are issued.

The Managing Board is entitled, with the consent of the Supervisory Board, to determine the further details of the relevant capital increases and their implementation including the content of the share rights and the conditions of the share issue.

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As a result of the IPO on June 27, 2008, gross issue proceeds of  $\in$  126.9 million were obtained. Following deduction of the issue costs of  $\in$  7.1 million and after taking into account the associated income tax benefit of  $\in$  2.1 million, this resulted in net issue proceeds of  $\in$  121.9 million in accordance with IAS 32.35. The sum of  $\in$  2.7 million corresponding to the proportion represented by the newly issued shares in the capital stock was posted in subscribed capital while the amount in excess of the sum corresponding to the proportion represented by the newly issued shares in the capital stock amounting to  $\in$  119.2 million was transferred to the capital reserves held by the parent company pursuant to Section 272 (2) of the German Commercial Code.

On May 27, 2010, the General Meeting of SMA Solar Technology AG passed a resolution to distribute a dividend for the fiscal year 2009 amounting to  $\in$  1.30 per qualifying bearer share (previous year:  $\in$  1.00).

At the next General Meeting, the Managing Board will propose that a dividend of € 3.00 per qualifying bearer share be distributed. This corresponds to a dividend payout ratio of 28.8 %.

## 23. OTHER PROVISIONS

Other provisions account for all discernible risks and all contingent liabilities at the balance sheet date and break down as follows:

Warranties €'000	Other obligations deriving from sales transactions € '000	Other € '000	<b>Total</b> € '000
64,679	3,700	3,317	71,696
73,389	41,661	2,156	117,206
16,710	1,019	605	18,334
3,626	0	19	3,645
359	0	55	414
118,091	44,342	4,904	167,337
42,332	44,342	12	86,686
75,759	0	4,892	80,651
118,091	44,342	4,904	167,337
26,450	3,700	303	30,453
38,229	0	3,014	41,243
64,679	3,700	3,317	71,696
	€ '000  64,679  73,389  16,710  3,626  359  118,091  42,332  75,759  118,091  26,450  38,229	deriving from sales transactions  € '000  64,679 3,700  73,389 41,661  16,710 1,019  3,626 0  359 0  118,091 44,342  42,332 44,342  75,759 0  118,091 44,342  26,450 3,700  38,229 0	deriving from Warranties sales transactions       Other € '000         € '000       € '000       € '000         64,679       3,700       3,317         73,389       41,661       2,156         16,710       1,019       605         3,626       0       19         359       0       55         118,091       44,342       4,904         42,332       44,342       12         75,759       0       4,892         118,091       44,342       4,904         26,450       3,700       303         38,229       0       3,014

Warranty provisions consist of general warranty obligations (periods of between five and ten years) for the various product areas within the Group. In addition, provisions are set aside for individual cases, and they are used the following year.

The remaining other obligations deriving from sales transactions include several claims that have been asserted and are currently being examined and negotiated, in particular related to the use of rights and emanating from supply contracts. Clarification regarding these matters is expected in 2011

Other provisions mainly include provisions for long-service anniversaries, death benefits and service-related benefits.

## **24. FINANCIAL LIABILITIES**

	12/31/2010 € '000	12/31/2009 €'000
Current finance lease liabilities	4	1,405
Non-current finance lease liabilities	6	18,772
Liabilities towards credit institutions	20,655	0
Derivative financial liabilities	535	6
	21,200	20,183

Since the inclusion of SMA Immo in the scope of consolidation at the beginning of the fiscal year 2010, the finance lease with SMA Solar Technology AG was eliminated. The loans contracted by SMA Immo were transferred to the Consolidated Financial Statements. The value of liabilities towards credit institutions amounted to  $\leqslant$  23.7 million at the time of acquisition. Derivative financial liabilities consist of interest derivatives related to the initial financing of SMA Immo.

## **25. TRADE PAYABLES**

Trade payables are non-interest-bearing and are normally due within 30 and 90 days.

## **26. OTHER FINANCIAL LIABILITIES**

	12/31/2010 € '000	12/31/2009 €'000
Liabilities Human Resources department	99,468	57,200
Liabilities Sales department	32,699	14,352
Other	1,112	267
	133,279	71,819
Current	133,279	71,819
Non-current	0	0
	133,279	71,819

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Liabilities in the Human Resources area contain obligations towards employees regarding performance-based bonuses, positive vacation and flexitime balances as well as variable salary components and contributions to the worker's compensation association. The liabilities in the Sales area primarily contain liabilities towards customers from advance payments received and bonus agreements.

## 27. OTHER LIABILITIES

	12/31/2010 € '000	12/31/2009 €'000
Deferred income for extended guarantees	53,397	29,849
Liabilities from prepayments received	19,661	12,857
Liabilities due to tax authorities	3,116	1,559
Liabilities from subsidies received	1,524	826
Other	210	119
	77,908	45,210
Current	24,068	15,266
Non-current	53,840	29,944
	77,908	45,210

The accrual item for extended warranties includes liabilities from chargeable guarantee extensions granted for the products in the Photovoltaics Technology division. The main items included in the liabilities towards tax authorities are tax liabilities from payroll accounting. The liabilities from subsidies received relate to taxable government grants from funds under the common-task program "Improvement of the Regional Economic Structure" (EU GA), granted as investment subsidies. The total amount of retransfer of government grants is stated under other operating income.

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## 28. ADDITIONAL DISCLOSURES RELATING TO FINANCIAL INSTRUMENTS

		12/31/	2010	12/31/	2009
	Categories of financial state- ments acc. to IAS 39	Fair value € '000	Carrying amount € '000	Fair value € '000	Carrying amount € '000
Assets					
Cash and cash equivalents	LaR	354,083	354,083	225,010	225,010
Trade receivables	LaR	117,268	117,268	58,077	58,077
Other financial investments	AfS	73	73	73	73
Other financial assets		200,688	200,688	147,389	147,389
of which Loans and Receivables	LaR	200,688	200,688	147,184	147,184
of which derivatives that do not qualify for hedge accounting	FAHfT	0	0	205	205
Liabilities					
Trade liabilities	FLAC	70,554	70,554	72,067	72,067
Financial liabilities		21,201	21,201	20,183	20,183
of which liabilities towards credit institutions	FLAC	20,656	20,656	0	0
of which under finance leases	n.a.	10	10	20,177	20,177
of which derivatives that do not qualify for hedge accounting	FLHfT	535	535	6	6
Other financial liabilities	FLAC	133,279	133,279	71,819	71,819
Of which summarized by categories according to	IAS 39:				
Loans and Receivables	LaR	672,039	672,039	430,271	430,271
Financial Liabilities Measured at Amortized Cost	FLAC	224,489	224,489	143,886	143,886
Financial Assets Held for Trading	FAHfT	0	0	205	205
Financial Liabilities Held for Trading	FLHfT	535	535	6	6
Available-for-Sale Financial Assets	AfS	73	73	73	73

Cash and cash equivalents, trade receivables and other financial assets have mainly short terms to maturity. Accordingly, their carrying amounts on the reporting date are almost identical to their fair value.

The fair values of other non-current receivables correspond to the present values of the payments related to the assets while taking into account current interest parameters, which reflect market- and partner-related changes to conditions and expectations.

The item "Other financial investments" relates to investments not included in the scope of consolidation. However, since no active market exists for these investments and a reliable measurement of their fair value was not possible, measurement on the relevant reporting dates was effected at amortized cost.

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Trade payables and other current financial liabilities normally have short terms to maturity; the recognized values are almost identical to the fair values.

Fair values of liabilities under leases and other non-current financial liabilities are determined by referring to the present values of the payments associated with the debts.

Derivate financial instruments are used to hedge against currency risks arising from operative business. These include currency futures and options. In principle, these instruments are only used for hedging purposes. As is the case with all financial instruments, they are recognized at fair value upon initial recognition. The fair values are also relevant for subsequent measurements. The fair value of traded derivative financial instruments is identical to the market value. This value may be positive or negative. The measurement of forward transactions is based on the market value. Options are measured in line with the Black-Scholes and Heath-Jarrow-Morton option pricing models. The parameters that were used in the valuation models are in line with market requirements.

The following table shows the allocation of our financial assets and liabilities measured at fair values to the three levels of the fair value hierarchy:

	Level 1	Level 2	Level 3	Total
Financial assets, measured at fair value				
Derivative financial instruments		_	-	_
Financial liabilities, measured at fair value				
Derivative financial instruments		535		535

The levels of the fair value hierarchy and their application to our assets and liabilities are described below:

- Level 1: Quoted prices for identical assets or liabilities in active markets;
- Level 2: Inputs other than quoted prices that are observable directly (e.g., prices) or indirectly (e.g., derived from prices); and
- Level 3: Inputs that are not based on observable market data for assets and liabilities.

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The net results 2010 for financial instruments are as follows:

	from interests	from interests from subsequent valuation		from disposal	Net result
		Currency translation	Value adjustment		
	€ '000	€ '000	€ '000	€ '000	€ '000
Loans and Receivables (LaR)	2,109	813	- 771	- 55	2,096
Financial Liabilities Measured at Amortized Cost (FLAC)	- 689	0	0	0	- 689
Financial Assets Held for Trading (FAHfT)	301	65	0	0	366
Held to Maturity (HtM)	0	0	0	0	0
Available for Sale (AfS)	0	0	0	0	0
Total	1,721	878	-771	- 55	1,773

Interests from financial instruments are shown in the financial result. The SMA Group recognizes other components of the net result in other operating expenses and other operating income.

The net results 2009 for financial instruments are as follows:

	from interests	from subsequent	t valuation	from disposal	Net result	
	€'000	Currency translation €'000	Value adjustment € '000	€ '000	€ '000	
Loans and Receivables (LaR)	4,802	717	- 917	8	4,610	
Financial Liabilities Measured at Amortized Cost (FLAC)	0	0	0	0	0	
Financial Assets Held for Trading (FAHfT)	0	620	0	0	620	
Held to Maturity (HtM)	461	0	0	0	461	
Available for Sale (AfS)	0	0	0	0	0	
Total	5,263	1,337	-917	8	5,691	

Payment obligations resulting on the reporting date from finance leases are stated in the balance sheet as a liability at the fair value of the future minimum lease payments. In subsequent years, the lease installments payable to the lessor will reduce the liability by the redemption portion. The interest portion of payments is recognized in the income statement under the financial result.

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In detail, the nominal payment obligations of financial liabilities are as follows:

Carrying amount € '000	Total € '000	<1 Year €'000	1 - 3 Years € '000	4 - 5 Years € '000	>5 Years € '000
70,554	70,554	70,554	0	0	0
21,201	26,224	3,098	5,032	4,928	13,166
20,656	25,679	2,553	5,032	4,928	13,166
10	10	10	0	0	0
535	535	535	0	0	0
133,279	133,279	133,279	0	0	0
72,067	72,067	72,067	0	0	0
20,183	30,684	2,366	4,720	4,720	18,878
20,177	30,678	2,360	4,720	4,720	18,878
6	6	6	0	0	0
71,819	71,819	71,819	0	0	0
	amount € '000  70,554 21,201  20,656 10  535 133,279  72,067 20,183 20,177	amount €'000  70,554 21,201 26,224  20,656 25,679 10 10 535 535 133,279 133,279  72,067 72,067 20,183 30,684 20,177 30,678 6	amount €'000       Total €'000       <1 Year €'000         70,554       70,554       70,554         21,201       26,224       3,098         20,656       25,679       2,553         10       10       10         535       535       535         133,279       133,279       133,279         72,067       72,067       72,067         20,183       30,684       2,366         20,177       30,678       2,360         6       6       6	amount €'000         Total €'000         < 1 Year €'000         1 - 3 Years €'000           70,554         70,554         70,554         0           21,201         26,224         3,098         5,032           20,656         25,679         2,553         5,032           10         10         10         0           535         535         535         0           133,279         133,279         133,279         0           72,067         72,067         0           20,183         30,684         2,366         4,720           20,177         30,678         2,360         4,720           6         6         6         0	amount €'000         Total €'000         < 1 Year €'000         1 - 3 Years €'000         4 - 5 Years €'000           70,554         70,554         70,554         0         0           21,201         26,224         3,098         5,032         4,928           20,656         25,679         2,553         5,032         4,928           10         10         10         0         0           535         535         535         0         0           133,279         133,279         133,279         0         0           72,067         72,067         0         0           20,183         30,684         2,366         4,720         4,720           4,720         4,720         4,720         4,720           6         6         6         0         0

## 29. OBLIGATIONS UNDER LEASES AND OTHER FINANCIAL OBLIGATIONS

The economic ownership in the leased objects is retained by the lessor if the lessor bears the main rewards and risks associated with the leased object. The obligations of the SMA Group under operating leases relate mainly to buildings and, to a minor extent, to plant and office equipment. Expenses recognized through profit and loss amounted to  $\[mathbb{e}\]$  16.4 million (previous year:  $\[mathbb{e}\]$  9.4 million) at the end of the year.

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Other financial obligations arose primarily from tenancy agreements and operating leases for buildings, office containers, plant and office equipment concluded by the Group as the lessee. The terms to maturity of future payments to the end of the minimum term of the agreements are as follows:

	12/31/2010 € '000	12/31/2009 €'000
Maturity of less than 1 year	13,615	5,935
Maturity of 1 to 5 years	32,286	13,928
Maturity of more than 5 years	42,732	10,349
	88,633	30,212

In October 2009, SMA America Production LLC (Denver) concluded leasing agreements for the lease of buildings and outdoor areas. The base lease term is eleven years and commences on April 1, 2010. The agreement provides for graduated lease payments. The agreement includes an option to extend the lease three times for a period of five years in each case. As a rule, except in the case of revisions to leasing payments, the extensions will be based on previous terms and conditions. Purchase options are not envisaged. This agreement was classified as an operating lease.

Payment obligations under finance leases on the reporting date are recognized in the balance sheet as a liability at the fair value of the future minimum lease payments. The Group maintained finance lease contracts with SMA Immo up to December 31, 2009. Further details may be found in chapter 2.2.

	Minimum lease payments 2010 € '000	Present value of the minimum lease payments 2010 € '000	Minimum lease payments 2009 € '000	Present value of the minimum lease payments 2009 € '000
Maturity of less than 1 year	10	10	2,360	1,423
Maturity of 1 to 5 years	0	0	9,439	4,593
Maturity of more than 5 years	0	0	18,878	14,161
	10	10	30,677	20,177

In addition, there were financial obligations towards third parties under the order commitment for investment orders placed amounting to € 67.3 million (previous year: € 16.8 million). The other financial obligations were within the framework customary for the business.

## **30. CONTINGENCIES**

As at December 31, 2010, contingencies amounted to € 0.05 million (previous year: € 0.03 million).

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# NOTES TO THE STATEMENTS OF CASH FLOWS SMA GROUP

The liquid funds shown in the statements of cash flows correspond to the balance sheet item "Cash and cash equivalents".

### 31. NET CASH FLOW FROM OPERATING ACTIVITIES

The gross cash flow of  $\in$  497.1 million (previous year:  $\in$  211.9 million) reflects the operating income prior to commitment of funds.

Net cash flow from operating activities increased in the fiscal year 2010 to  $\leqslant$  386.3 million (previous year:  $\leqslant$  221.5 million). The increase is mainly attributable to the year-on-year higher gross cash flow ( $\leqslant$  +285.2 million) following the strong growth of earnings.

The increase in net working capital results primarily from a targeted increase in the raw material stocks of critical components. Inventories increased on a year-on-year basis by a gross amount of  $\in$  126.5 million to a total of  $\in$  237.8 million. The increase in trade receivables of  $\in$  59.7 million to  $\in$  117.3 million is mainly the result of the strong increase in sales during the fiscal year. The changes in other net assets are due primarily to growth-related increases in liabilities for guarantee extensions, prepayments received, employee bonus payments and the liabilities under vacation and flexitime commitments.

## 32. NET CASH FLOW FROM INVESTING ACTIVITIES

The net cash flow from investing activities rose in the year under review to  $\[Clim -210.7\]$  million as compared to the previous year's figure of  $\[Clim -201.5\]$  million due to investments in new production capacities and office buildings. The outflow of funds for investments in fixed assets and intangible assets amounted to  $\[Clim 158.3\]$  million (previous year:  $\[Clim 82.1\]$  million). Pursuant to IAS 7.17, monetary investments with a term to maturity of more than three months are allocated to the net cash flow from investment activities. The outflow of funds for the acquisition of the shares in SMA Immo amounted to  $\[Clim 1.4\]$  million. In addition, all of the short-term financial liabilities on current accounts amounting to  $\[Clim 1.4\]$  million were assumed following the acquisition.

## 33. NET CASH FLOW FROM FINANCING ACTIVITIES

The net cash flow from financing activities amounting to  $\in$  -46.8 million (previous year:  $\in$  -36.1 million) is mainly attributable to the distribution of dividends of  $\in$  1.30 per share.

## 34. CASH AND CASH EQUIVALENTS

The cash and cash equivalents amounting to  $\in$  354.1 million (previous year:  $\in$  225.0 million) include cash in hand, bank balances and short-term deposits with an original term to maturity of less than three months. Together with the time deposits with a term to maturity of more than three months, this results in financial resources amounting to  $\in$  544.1 million (previous year:  $\in$  365.0 million). On the reporting date, the Group had unused credit lines amounting to  $\in$  27.0 million (previous year:  $\in$  28.0 million). As in the previous year, no cash amounts were drawn using the current account credit limit in the year under review.

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## 35. EVENTS AFTER THE BALANCE SHEET DATE

There were no significant events on or after the reporting date other than those presented in or recognizable from the statements in the Consolidated Management Report and the Notes to the Consolidated Financial Statements.

## **36. RELATED PARTY DISCLOSURES**

According to the definition contained in IAS 24, related parties are persons responsible for planning, controlling and monitoring the company's activities. Accordingly, related parties include the members of the Managing Board and the Supervisory Board of SMA Solar Technology AG as well as their close relatives. Based on this definition and the Company's structure, the group of persons defined as related parties has been adjusted in order to no longer include the divisional managers of the individual divisions within the parent company and the managing directors of the subsidiaries. The previous year's value (€ 7.1 million) was adjusted correspondingly.

Total compensation of related parties:	<b>2010</b> € '000	2009 € '000
Short-term compensation	2,742	2,309
Additional benefits	2,854	2,392

In the year under review, the following persons were members of the Managing Board of SMA Solar Technology AG:

Günther Cramer,

CEO

Jürgen Dolle, CHRO (from April 1, 2010)

Peter Drews, CPO

Roland Grebe, CTO

Uwe Hertel, COO (from April 1, 2010)

Pierre-Pascal Urbon, CFO

Marko Werner, CSMO

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In the year under review, the following persons were members of the Supervisory Board of SMA Solar Technology AG:

Dr. Erik Ehrentraut, Enterprise Consultant (Chairman)

Reiner Wettlaufer, Enterprise Consultant (Deputy Chairman)

Prof. (em.) Dr. Werner Kleinkauf, University Professor

Siegfried L. Drueker, Managing Director (from May 27, 2010)

Dr. Winfried Hoffmann, Managing Director

Dr. Martin Hoppe-Kilpper, Managing Director (from May 27, 2010)

Dr. Günther Häckl, Employee Representative (from May 27, 2010)

Johannes Häde, Employee Representative

Mirko Zeidler, Employee Representative

Joachim Schlosser, Employee Representative (from May 27, 2010)

Ullrich Meßmer, Trade Union Representative (from May 27, 2010)

Alexander Naujoks, Trade Union Representative (from May 27, 2010)

Remuneration of key management members of the Group, which must be disclosed under IAS 24, includes remuneration of the active Managing Board and Supervisory Board.

Total compensation of the members of the active Managing Board in the year under review, including compensation for their tasks in subsidiaries, amounted to  $\in$  2.5 million, of which  $\in$  1.0 million is attributable to variable salary components (previous year:  $\in$  2.1 million, of which  $\in$  0.9 million in variable salary components). The total compensation of the members of the Supervisory Board in the year under review amounted to  $\in$  0.3 million (previous year:  $\in$  0.2 million). This figure includes variable salary components amounting to  $\in$  0.2 million (previous year:  $\in$  0.1 million). The remuneration

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paid to the members of the Managing and Supervisory Boards is shown in detail in a separate remuneration report in line with the criteria of the German Corporate Governance Code. The complete Remuneration Report is included in the Consolidated Management Report.

The members of corporate bodies mentioned below have other supervisory board mandates as defined in Section 125 (1), sentence 3 of the German Stock Corporation Act (AktG):

Dr. Erik Ehrentraut, member of the Supervisory Board of Interpane Glas Industrie AG

On the reporting date, the members of the Managing Board held a total stake of 26.2% and the members of the Supervisory Board held a total stake of 22.2%. Relatives of the members of the Managing and Supervisory Boards held a total stake of 25.2%.

Furthermore, a related party of particular importance as defined in IAS 24 is team-time GmbH. SMA Solar Technology AG concluded an employee allocation agreement with team-time GmbH regulating the allocation of temporary employees. Its only shareholder and managing director is the wife of a member of the Managing Board. A fairness opinion was solicited to review the amounts set down in the conditions of the current agreement. Business worth  $\in$  82.8 million (previous year:  $\in$  31.8 million) was conducted within the framework of this agreement in fiscal year 2010. As at December 31, 2010, liabilities towards team-time GmbH amounted to  $\in$  14.2 million (previous year:  $\in$  4.6 million).

Following the inclusion of SMA Immo in the scope of consolidation at the beginning of the fiscal year 2010, SMA Immo is no longer regarded as a related party as defined in IAS 24. The finance lease is eliminated when the Consolidated Financial Statements are prepared. The total leasing installments under the finance lease contract with SMA Immo amounted to  $\[ \in \]$  3.2 million in fiscal year 2009. The liabilities due to SMA Immo were balanced on December 31, 2009.

## 37. OBJECTIVES AND METHODS CONCERNING FINANCIAL RISK MANAGEMENT

Financial risk management is integrated into the Group-wide hedging policy. Deliberate treatment of potential risks and sound control as well as successful management of such risks when they occur are supported by an accompanying information and communication policy as well as by the further education and training of employees. The principle underlying the Group's hedging policy in the financial field is to protect against significant price, currency and interest risks by means of contracts and hedging transactions to an economically reasonable extent.

The financial instruments of the Group relate primarily to trade receivables as well as cash resulting directly from operating activities. In addition, there is a particular amount of trade payables that also arise from operating activities. There are also liabilities under finance lease agreements. The Group also uses derivative financial instruments as part of exchange rate hedging. The Group's main risks in relation to financial instruments are interest-based cash flow risks as well as liquidity, currency and credit risks. The strategies and procedures for controlling individual types of risks, which have been defined in the context of the Group's overall hedging policy, are presented below:

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## INTEREST RISK

Interest rate risks within the SMA Group mainly arise in the case of financial liabilities and non-current portions of certain provisions. Interest on the aforementioned liabilities is not paid by the contracting party and is therefore discounted at the interest rate usual in the market or the interest rate underlying the lease agreement, which means that there is no separate control of the interest risk. The variable interest-bearing portion of existing financial liabilities is secured through an interest rate swap. This ensures interest rates are hedged in the long term and allows financing costs to be reliably calculated over the contract's term

### **FOREIGN CURRENCY RISK**

At present, there are currency risks under transactions with the subsidiaries in the United States in US dollar. The development of foreign currency rates is monitored continuously and the risks are hedged, provided this is economically reasonable. The risks from hedging transactions in themselves are limited to the possibility that opportunities of better price performance cannot be realized.

In order to present market risks, IFRS 7 requires sensitivity analyses, which show the effects of hypothetical changes in relevant risk variables on earnings and equity. Currency risks are caused by financial instruments that are denominated in a currency other than the functional currency and which are of a monetary nature; exchange-rate-related differences from the translation of Financial Statements into the Group currency are not taken into account. The US dollar is deemed to be a relevant risk variable. The currency sensitivity analysis is based on original financial instruments in the form of receivables. Through the use of hedging transactions (derivatives), which are designed to hedge the underlying transaction, the opposing effects that accompany changes in the exchange rate of the dollar are evened out. Accordingly, exchange rate changes have no impact on equity and minor effects on earnings.

An increase of 5 % in the euro with respect to the US dollar on December 31, 2010 would have led to a positive change in the currency derivative of  $\in$  0.0 million (previous year:  $\in$  0.7 million). A decrease of 5 % in the euro with respect to the US dollar on December 31, 2010 would have led to a reduction in the value of the currency derivative of  $\in$  0.0 million (previous year:  $\in$  0.4 million). The accumulated income deriving from differences in exchange rates and exchange hedging in the fiscal year amounted to  $\in$  5.0 million (previous year:  $\in$  0.4 million).

Pursuant to the IFRS, currency risks affect monetary financial instruments that are denominated in a foreign currency, i.e. in a currency other than the functional currency, and this means that the foreign currency is the relevant risk variable. Translation-related risks are not taken into account. Since the individual Group companies mainly conduct their operative business in their own functional currency, we regard the risk from exchange rate fluctuations resulting from our ongoing business activity as insignificant.

As a globally active company, the SMA Group is exposed to both transaction-related and translation-related foreign currency risks.

SMA assesses risks from an economical point of view. From an economical point of view, foreign currency risks arise in the form of direct transaction risks that derive from any (current or planned) receivable or payable denominated in a foreign currency and the resulting payment flow. The SMA Group's intense business activity in North America means that foreign currency risks mainly arise in US dollar or Canadian dollar. In view of the fact that a large portion of the added value attributable to the North

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American companies is generated locally and sales in the local currency are balanced by expenditure in the local currency, the operative foreign currency risk in the SMA Group is limited. An intra-Group guideline ensures that SMA companies report their foreign currency risks to the central in-house bank. The remaining Group-wide risk is hedged by this in-house bank through the use of currency derivatives concluded externally with banks. Forward exchange transactions are the most commonly used method in this case. The use of options as part of the hedging strategy is also envisaged. As at December 31, 2010, there were no open currency derivatives.

Translation risks mainly occur when the assets and liabilities of subsidiaries denominated in a foreign currency are converted to the parent company's domestic currency when preparing the Consolidated Financial Statements. Translation risks are not included within the scope of the active control of foreign currency risks.

#### **CREDIT RISK**

The general principle regarding all deliveries to customers, depending on the volume of the transactions and the specific customer and country risk, is to request collateral, to obtain credit rating information and to use historical data from the previous business relationship, in particular payment practices, in order to preclude non-payment. In addition, the Group performs a customer credit check, which is based on certain financial key ratios. By the timely setting of a credit limit or by suspension of orders, the Group avoids being exposed to a significant risk of non-payment. The maximum non-payment risk is limited to the carrying amount disclosed in chapter 19. There are no major concentrations of non-payment risks within the Group.

In respect of the Group's other financial assets such as cash and cash equivalents, available-for-sale financial investments and specific derivative financial instruments, the maximum credit risk, should the counterparty fail to pay, corresponds to the carrying amount of these instruments.

## LIQUIDITY RISK

The Company uses financial planning tools for the early detection of future liquidity requirements. Under current plans, it is expected that financial requirements will be covered within a time horizon that can be reliably planned. Insurance contracts are concluded to hedge against the financial consequences of possible liability risks and damage claims, insofar as this is reasonable and possible. The cover provided by such contracts is reviewed and adapted regularly.

## **CAPITAL MANAGEMENT**

The strategic objective of capital management within the SMA Group is to ensure financial flexibility and independence in order to make rapid use of the opportunities in a photovoltaics market characterized by strong growth. Profitable employment of the capital is measured through regular monitoring of net working capital. Within the SMA Group, net working capital is defined as the sum of inventories and trade receivables less trade payables. In order to be able to usefully measure relative capital consumption even in the event of strong corporate growth, net working capital is expressed in relation to sales. Through debtor management, which ensures that receivables are collected in good time, the linkage of the evolution of inventories to sales as well as a constant dividend policy, the Company creates the requirements for its objectives in terms of financial flexibility and independence. In accordance with our intra-Group guidelines, the net working capital ratio determined in this way has to be below 20 %. In the year under review, the equity ratio of the SMA Group was 58.2 % (previous year: 56.7 %) and the net working capital ratio was 14.8 % (previous year: 10.6 %).

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## 38. AUDITOR FEES

The fees paid to the auditor and recorded as an expense in the year under review break down as follows:

	<b>2010</b> € '000	2009 € '000
Financial statement auditing	148	142
Audit-related services and other audit work	13	34
Tax consultancy	0	0
Other services	0	12
	161	188

The cost of financial statement auditing comprises the fees for the audit of the Consolidated Financial Statements as well as for the audit of the Financial Statements of SMA Solar Technology AG and its domestic subsidiaries, provided they are obliged to perform an audit pursuant to Section 316 of the German Commercial Code. The fees for audit-related services and other audit work in the reporting year include expenses for the review of the Interim Consolidated Financial Statements. The fees for other services contain the expenses for agreed single audit measures, which were performed at selected subsidiaries during the reporting year.

# 39. DECLARATION ON THE GERMAN CORPORATE GOVERNANCE CODE IN ACCORDANCE WITH SECTION 161 AKTG

The declaration required under Section 161 AktG on the recommendations issued by the Government Commission "German Corporate Governance Code" was given by the Managing Board and the Supervisory Board on November 30, 2010 and made permanently available to shareholders on the Web site: http://www.SMA.de.

## **40. CONSOLIDATED FINANCIAL STATEMENTS**

As the ultimate parent company, SMA Solar Technology AG prepares Consolidated Financial Statements for the largest scope of consolidation as at December 31, 2010, which are filed with the operator of the Electronic Federal Gazette and subsequently published in the Electronic Federal Gazette.

Niestetal, February 25, 2011

SMA Solar Technology AG The Managing Board

Günther Cramer Jürgen Dolle Peter Drews Roland Grebe

Uwe Hertel Pierre-Pascal Urbon Marko Werner



## RESPONSIBILITY STATEMENT

We assure to the best of our knowledge that, in accordance with the applicable accounting standards, the Consolidated Financial Statements give a fair view of the net assets, financial position and results of operations of the Group and that the Consolidated Management Report gives a fair view of the course of business including the results of operations and the Group's position and describes the fundamental opportunities and risks of the probable development of the Group.

Niestetal, February 25, 2011

SMA Solar Technology AG The Managing Board

Günther Cramer Jürgen Dolle Peter Drews Roland Grebe

Uwe Hertel Pierre-Pascal Urbon Marko Werner

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Auditor's Report

## AUDITOR'S REPORT

## (TRANSLATION - THE GERMAN TEXT IS AUTHORITATIVE)

"We have audited the Consolidated Financial Statements prepared by SMA Solar Technology AG, Niestetal, – comprising the statement of comprehensive income, the balance sheet, the statements of cash flows, the statement of changes in equity and the Notes to the Consolidated Financial Statements – and the Consolidated Management Report for the business year from January 1, 2010 to December 31, 2010. The preparation of the Consolidated Financial Statements and the Consolidated Management Report in accordance with IFRS, as adopted by the European Union (EU), and the additional requirements of German commercial law pursuant to Section 315a (1) HGB ("German Commercial Code") are the responsibility of the parent company's management. Our responsibility is to express an opinion on the Consolidated Financial Statements and on the Consolidated Management Report based on our audit.

We conducted our audit of the Consolidated Financial Statements in accordance with Section 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer. Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the Consolidated Financial Statements in accordance with the applicable financial reporting framework and in the Consolidated Management Report are detected with reasonable assurance. Knowledge of the business activity and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related Internal Control System and the evidence supporting the disclosures in the Consolidated Financial Statements and the Consolidated Management Report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the Annual Financial Statements of those entities included in consolidation, the determination of entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the Consolidated Financial Statements and the Consolidated Management Report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the Consolidated Financial Statements of SMA Solar Technology AG, Niestetal, comply with IFRS, as adopted by the EU, the additional requirements of German commercial law pursuant to Section 315a (1) HGB, and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. The Consolidated Management Report is consistent with the Consolidated Financial Statements and as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development."

Hanover, February 25, 2011

Deloitte & Touche GmbH Wirtschaftsprüfungsgesellschaft

(Scharpenberg) (Schwibinger)
Wirtschaftsprüfer Wirtschaftsprüfer
(German Public Auditor) (German Public Auditor)

Report of the Supervisory Board

## REPORT OF THE SUPERVISORY BOARD

## DEAR SHAREHOLDERS,

The Supervisory Board continuously monitored and regularly advised the Managing Board with regard to the management of the Company during the fiscal year 2010 in accordance with the law, the Articles of Incorporation and the Rules of Procedure. The Supervisory Board was involved early on in all decisions of fundamental importance for SMA. The Managing Board kept the Supervisory Board regularly, promptly and comprehensively informed by means of written and oral reports about business developments, the Company and the Group's position, turnover and results of operations, the proposed business policies and other important questions concerning corporate planning, in particular financial, investment, production and personnel planning and strategic plans, and about significant transactions. Any deviations in the actual evolution of events with respect to previously reported objectives were illustrated by indicating the reasons. In addition, information was provided about the Company's and the Group's profitability, in particular the return on equity, risk management and the risk position as well as compliance. Furthermore, the Managing Board reported on the situation in markets of particular relevance to SMA, on product developments and on the quality level of products. Outside meetings, the Chairman of the Supervisory Board was also in contact with the Managing Board and discussed significant business transactions and upcoming decisions with it.

Due to the increased number of employees in the Group, the size of the Supervisory Board will henceforth be determined in accordance with the provisions of the Co-Determination Act. Since May 27, 2010, the Supervisory Board has comprised twelve members, of which six are employee representatives.

## CONSULTATIONS OF THE SUPERVISORY BOARD

All important business transactions were discussed during the fiscal year in six regular meetings of the Supervisory Board together with the Managing Board. At these meetings, the Supervisory Board, after examination and deliberation, adopted the necessary resolutions in accordance with the law, the Articles of Incorporation and the Rules of Procedure. At four of the six meetings, all of the members of the Supervisory Board were present. No single member of the Supervisory Board missed more than one meeting in 2010.

In order to prepare for the meetings, the Supervisory Board received written reports from the Managing Board on a regular basis and in time. At each meeting, the subject matter of the deliberations, following a detailed briefing by the Managing Board, revolved around current business developments, the evolution of markets of particular importance for the SMA Group, discussion of the relevant incentive programs, the Group's unique positioning features and corporate planning. Members of the Managing Board participated in all meetings of the Supervisory Board and its committees.

On February 23, 2010, the Supervisory Board appointed Messrs. Uwe Hertel and Jürgen Dolle as new members of the Managing Board and partially reorganized the Board's departments. Another important point concerned the planned announcement by the Managing Board of the need to extend the Supervisory Board in accordance with the Co-Determination Act. The Supervisory Board also dealt with the Corporate Governance Report reproduced in the Annual Report 2009, the Corporate Governance Statement and the Report of the Supervisory Board. Finally, the Supervisory Board adopted the Declaration of Conformity pursuant to Section 161 of the German Stock Corporation Act (AktG) in order to comply with the recommendations of the German Corporate Governance Code, and a change in the Rules of Procedure.

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Report of the Supervisory Board

During the meeting held on March 16, 2010, we dealt with the Company's and the Group's Financial Statements and Management Reports as at December 31, 2009, and the agenda and proposed resolutions for the Annual General Meeting on May 27, 2010. In view of the fact that it had become necessary to extend the Supervisory Board, these proposed resolutions also included some amendments to the Articles of Incorporation and the nomination of candidates for the election of the shareholder representatives. The Rules of Procedure of the Supervisory Board also had to be changed once again. In addition, a new structure for the remuneration of the Managing Board members was adopted. Another important item on the agenda concerned deliberations on the Risk Report.

In particular, the evolution of the competitive situation and the resilience of the market entry barriers adopted to deal with potential competitors were discussed by the Supervisory Board on May 26, 2010. It also dealt with the effectiveness of the Internal Control System (IKS), the Risk Management System (RMS) and the Internal Auditing department (IA). Another topic concerned the examination of business conducted with related parties.

The constituent meeting of the new Supervisory Board, henceforth composed pursuant to the provisions of the Co-Determination Act, took place immediately following the Annual General Meeting held on May 27, 2010 together with the election of the Chairman and the Deputy Chairman as well as the members of the Supervisory Board's committees.



The current Risk Report and the Half-Yearly Report prepared by the Internal Auditing department for 2010 were discussed on August 31, 2010. Furthermore, the Supervisory Board dealt with ethical principles, questions regarding sustainability and Corporate Social Responsibility (CSR) at SMA. The Managing Board also provided information on the evolution of the global photovoltaics markets and SMA's unique positioning features. In addition, the Supervisory Board reviewed the list of resolutions requiring consent, which are defined in the Rules of Procedure of the Managing Board, and the distribution of tasks and responsibilities between the full Supervisory Board and the committees.

At the last meeting in the fiscal year on November 30, 2010 and after a detailed strategy discussion, the Supervisory Board adopted the budget for the fiscal year 2011. In addition, the Managing Board reported on the evolution of quality levels of the various product families and on expected technological developments. Furthermore, the Managing Board and the Supervisory Board adopted an updated Declaration of Conformity pursuant to Section 161 (1) sentence 1 of the German Stock Corporation Act (AktG) in order to comply with the recommendations of the German Corporate Governance Code. In this respect, new requirements concerning good corporate governance, in particular, the Code's stipulations regarding diversity when electing members of the Company's corporate bodies, were discussed. The main points of the audit plans prepared by the Internal Auditing department and the auditors were discussed. Finally, the Managing Board informed about the planned restructuring measures in the Group.

At the meeting held on February 21, 2011, we discussed the drafts of the Corporate Governance Report and of the Report of the Supervisory Board, and dealt with the preliminary financial statements for 2010.

## COMMITTEE MEETINGS

In order to improve the efficiency of the work carried out by the Supervisory Board and/or comply with legal provisions, the enlarged Supervisory Board set up four permanent committees after the Annual General Meeting on May 27, 2010: a Presidial Committee, an Audit Committee, a Nomination Committee and a Mediation Committee. You will find the names of the persons appointed to these committees in the Corporate Governance Statement on pages 78 ff. of this report and on our Web site at www.IR.SMA.de.



ww.IR.SMA.de

The committees prepare the topics and resolutions to be dealt with by the full Supervisory Board and, within the framework of the competences transferred to them, they resolve on those matters they have been assigned to deal with instead of the Supervisory Board. The content of the committee meetings is reported by the committees' chairmen at the following meeting of the full Supervisory Board.

The Presidial Committee met once in 2010, on November 29. At this meeting, the committee, together with the Managing Board, prepared the Declaration of Conformity in order to comply with the recommendations in the German Corporate Governance Code. In this respect, the committee discussed the Code's stipulations regarding diversity when appointing members of the Company's corporate bodies, and the drafting of a guideline in this respect.

The Audit Committee met three times in 2010, twice via telephone conference. On August 11 and November 10, it held discussions by telephone with the Chief Financial Officer regarding the upcoming quarterly reports due for publication. Discussion of the first quarterly report took place on May 11, 2010, and thus before the enlargement of the Supervisory Board during a telephone conference with the entire Supervisory Board. At a meeting held on November 29, 2010 in the presence of the head

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Report of the Supervisory Board

of the Internal Auditing department, the committee discussed the modus operandi of the audit and the audit plans for the following year. Furthermore, it discussed the main points of the audit of the Annual Financial Statements and the results of the preliminary audit with the relevant auditor at the auditing firm Deloitte & Touche GmbH, Hanover. In addition, the committee discussed the results of a compliance audit and the organization of an independent Compliance Management System.

The Nomination and Mediation Committees were not convened in the fiscal year 2010.

### **CORPORATE GOVERNANCE**

During 2010, the Supervisory Board on many occasions dealt with the content of the German Corporate Governance Code. In February and November 2010, the Supervisory Board and the Managing Board delivered Declarations of Conformity pursuant to Section 161 of the German Stock Corporation Act (AktG) in order to comply with the recommendations of the German Corporate Governance Code at SMA Solar Technology AG. The joint report issued by the Supervisory Board and the Managing Board on compliance with the rules of the German Corporate Governance Code pursuant to clause 3.10 of the Code has been made permanently available on the Web site of SMA Solar Technology AG and additionally on pages 78 ff. of this Report, in the Corporate Governance Statement. This is also where you will find statements on conflicts of interest and how they are handled.

## ANNUAL FINANCIAL STATEMENTS AND CONSOLIDATED FINANCIAL STATEMENTS

The Annual Financial Statements prepared by the Managing Board as at December 31, 2010 for SMA Solar Technology AG and the Management Report for the fiscal year 2010 together with the Consolidated Financial Statements as at December 31, 2010 and the Consolidated Management Report for the fiscal year 2010, including the bookkeeping system, were audited by the auditing firm Deloitte & Touche GmbH, Hanover. The Supervisory Board awarded the audit assignment in accordance with the resolution adopted by the General Meeting on May 27, 2010. Prior to submitting the corresponding proposal to the General Meeting regarding the appointment of the auditors, the Supervisory Board had obtained the auditor's certificate of independence pursuant to clause 7.2.1 of the German Corporate Governance Code. The Supervisory Board also monitored the independence of the auditor. In addition, it dealt with the assignment of orders to the auditor for non-audit-related services.

The Consolidated Financial Statements of the Company were prepared in line with Section 315a of the German Commercial Code on the basis of the International Financial Reporting Standards (IFRS) as applicable in the EU. The auditor granted an unqualified audit opinion for the Annual Financial Statements and the Management Report as well as for the Consolidated Financial Statements and the Consolidated Management Report.

The reporting documents and the Managing Board's proposal on the appropriation of profits as well as the two audit reports were made available to the Supervisory Board in good time. These were first discussed by the Audit Committee at its meeting on March 9, 2011 and then by the Supervisory Board at its meeting on March 10, 2011, on each occasion in the presence of the auditor's representatives. The auditor's representatives reported on the findings of the audit and provided detailed explanations of the assets, financial position and results of operations of the Company and the Group. The questions posed by the Supervisory Board were answered and the reporting documents were reviewed in detail together with the auditor's representatives and discussed and examined by the Supervisory Board. Thereafter, the findings of the auditor were approved. The Supervisory Board raised no objections after concluding its examination. Accordingly, the Supervisory Board approved the Financial Statements prepared by the Managing Board and the related Management Reports for the fiscal year



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see also p. 78 ff.

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2010 at its meeting convened to adopt the accounts on March 10, 2011. This means that the Company's Annual Financial Statements have been approved as set out in Section 172 of the German Stock Corporation Act (AktG).

Finally, at its meeting held on March 10, 2011, the Supervisory Board approved the Managing Board's proposal on the appropriation of the balance sheet profit. In this respect, the Supervisory Board discussed the Company's liquidity situation and financing of planned investments. In doing so, the Supervisory Board came to the conclusion that the proposal was in the interests of the Company and the shareholders.

### CHANGES IN THE SUPERVISORY BOARD

At the Annual General Meeting on May 27, 2010, all the shareholder representatives in the Supervisory Board were due for reelection. Together with Dr. Erik Ehrentraut, Prof. (em.) Dr. Werner Kleinkauf, Dr. Winfried Hoffmann and Reiner Wettlaufer, the incumbent shareholder representatives were confirmed in their posts. Siegfried L. Drueker and Dr. Martin Hoppe-Kilpper were newly elected as members of the Supervisory Board by the General Meeting. The employee representatives had already been elected on May 19, 2010 under the provisions of the Co-Determination Act. Johannes Häde and Mirko Zeidler were confirmed in their posts. Dr. Günther Häckl, Ullrich Meßmer, Alexander Naujoks and Joachim Schlosser were newly elected as members of the Supervisory Board.

Siegfried L. Drueker and Dr. Martin Hoppe-Kilpper notified the Chairman of the Supervisory Board that they would lay down their mandates as members of the Supervisory Board with effect from the end of the Annual General Meeting on May 26, 2011. Therefore, a special election of the Supervisory Board must be held at the next Annual General Meeting. At its meeting on March 10, 2011, the Supervisory Board decided to put forward the names of Günther Cramer and Peter Drews for election by the General Meeting to the Supervisory Board. In so doing, it seconds a proposal made in accordance with Section 100 (2) sentence 1, no. 4 of the German Stock Corporation Act (AktG) by the shareholders who coordinate their voting rights in the "Poolvertrag SMA Solar Technology AG" agreement and who jointly hold more than 25 % of the Company's voting rights and the candidate proposal submitted by the Nomination Committee. Günther Cramer and Peter Drews had already announced in 2010 that they wished to lay down their Managing Board mandates at the end of the Annual General Meeting 2011 and stand for a post in the Supervisory Board.

The Supervisory Board thanks the Managing Board and all those employed at SMA Solar Technology AG and all the Group companies for their excellent performance and their high commitment. They have yet again magnificently achieved a sharp expansion in business and thus once again made it possible to attain an outstanding result.

Niestetal, March 10, 2011

The Supervisory Board

Dr. Erik Ehrentraut Chairman

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SMA Solar Technology AG - Income Statement



# SMA SOLAR TECHNOLOGY AG -INCOME STATEMENT

		2010	2009
		€ '000	€ '000'
Sales	16	1,894,729	924,485
Increase or decrease in finished goods and work in progress		23,387	17,301
1 5		1,918,116	941,786
Other own work capitalized	17	13,851	2,857
Other operating income	18	35,157	18,743
Material expenses	19	963,149	460,136
Personnel expenses	20	219,391	137,141
Amortization and depreciation of intangible and tangible assets		26,409	13,848
Other operating expenses	21	238,510	136,858
Financial result	22	2,066	5,338
Net operating income (loss)		521,731	220,741
Extraordinary net income (loss)	23	621	0
Taxes on income	24	161,377	71,738
Net income / net loss for the year		360,975	149,003
Accumulated income / losses brought forward		179,182	75,289
Profit available for distribution	25	540,157	224,292

SMA Solar Technology AG - Balance Sheet

# SMA SOLAR TECHNOLOGY AG -BALANCE SHEET



Assets		12/31/2010 € '000	12/31/2009 €'000
A. Fixed assets			
I. Intangible assets	1	10,278	6,345
II. Tangible assets	2	209,130	118,349
III. Financial assets	3	25,980	15,065
		245,388	139,759
B. Current assets			
I. Inventories	4	181,925	93,280
II. Receivables and other assets	5	224,158	87,954
III. Cash and cash equivalents	6	513,298	339,284
		919,381	520,518
C. Prepaid expenses and deferred charges	7	139	231
		1,164,908	660,508
Shareholders' equity and liabilites		12/31/2010 € '000	12/31/2009 €'000
A. Shareholders' equity	8		
I. Subscribed capital		34,700	34,700
II. Capital reserves		124,200	124,200
III. Statutory reserve			
Statutory reserve		400	400
Other retained earnings		3,136	0
IV. Profit available for distribution	25	540,157	224,292
		702,593	383,592
B. Special account with reserve characteristics	9	585	819
C. Provisions	10	296,620	193,260
D. Accounts payable	11	111,713	82,837
E. Accrued liabilities	12	53,397	0

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Technical Glossary

## TECHNICAL GLOSSARY

#### **AC (Alternating Current)**

Alternating current mains compliant current

### Average Selling Price (ASP)

Average selling price: sales achieved via inverters (excl. Sunny Island and Sunny Backup) divided by the sold inverter output in watts

#### **Backup system**

In case of a power failure, Sunny Backup switches to island power supply within milliseconds.

#### **Battery charger**

Product in the Railway Technology division which supports the charging of batteries of the power supply system of rail vehicles.

#### RDFW

German Association of Energy and Water Industries (Bundesverband der Energie- und Wasserwirtschaft e.V.)

## **BDEW Medium Voltage Guideline**

This Guideline (Mittelspannungsrichtlinie) issued by the German Association of Energy and Water Industries (BDEW) stipulates that from 2009 onwards, solar inverters must participate in grid management in order to guarantee the stability of supply networks.

## BMU

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit)

## RSW

The German Solar Industry Association (Bundesverband Solarwirtschaft e. V. – BSW-Solar) with over 800 solar energy companies represents the interests of the German solar energy sector.

## Central inverter

Inverter for PV large-scale plants - these inverters are utilized with centralized design concepts.

## Change-of-control clause

Provision in the employment contracts of board members or management providing a special termination right in case of a change of ownership or a change in majority shareholders, usually against payment of a firmly agreed compensation, continued payment of remuneration, often also a corresponding pension provision.

#### CO<sub>2</sub>-neutral factory

The CO<sub>2</sub>-neutral factory is a concept which aims at a climate-neutral balance mainly through avoidance and additionally through compensation of emissions.

#### **Commercial Range**

Photovoltaic inverters suitable for gridconnected photovoltaic systems with a performance range between 15 and 500 kW (SMA definition of the target group: tradespersons with supplementary revenue from PV systems)

#### **Corporate Governance**

refers to the management and control of companies that is responsible and aimed at long-term value creation.

## DC (Direct Current)

Direct current must be converted to mains compliant alternating current (AC) for the network supply.

## Electric power rating

Sum of rated power of all electric consumption devices available at the customer's premises

## EPIA

European Photovoltaic Industry Association

## EVU

Power Supply Companies (Utilities)

## Fairness opinion

A fairness opinion is an opinion drafted by an independent expert on a decision-making process, in particular on the financial fairness of a corporate transaction.

## German Renewable Energy Sources Act (EEG)

The Erneuerbare-Energien-Gesetz (EEG) is a law on the process of renewable energies with the aim of supporting the further development of technologies for the production of power from renewable sources, see p. 135.

## Grid-connected system

Electrical system connected to an electrical arid

## **Grid parity**

Grid parity refers to the situation in which the production costs for power from a photovoltaic system are identical to the selling price for domestic power from the public supply network.

## **Industrial Range**

Photovoltaic inverters suitable for gridconnected photovoltaic systems with a power range > 500 kW (SMA definition of the target group: investors with the primary aim of selling energy)

## Inverter

An inverter is an electrical device converting direct current voltage into alternating voltage or direct into alternating current.

#### **IPPC**

The Intergovernmental Panel on Climate Change, also referred to as the World Climate Council, is the leading international body that evaluates climate change and its consequences. The IPPC informs the international community about the extent, consequences and dangers of climate change in regular progress reports.

#### ISET

The Institute for Solar Energy Supply Technology at the Kassel Polytechnic University (registered association). Following its merger with the Fraunhofer Center for Wind Energy and Sea Technology (CWMT), the ISET is now part of the Fraunhofer Institute for Wind Energy and Energy System Technology IWES.

## Island system

PV island systems are stand-alone power networks which are fed by the energy of a solar system, for instance. That is, these systems are not connected to a mains.

## **Kyoto Protocol**

An additional protocol to the UN Framework Convention on Climate Change adopted on December 11, 1997. For the first time, it lays down binding target values for greenhouse gas emissions in the industrialized nations – annual emissions should not exceed 5.2% as opposed to the value established in 1990. Its period of validity: from 2005 to 2012.

## Life Cycle Costs (LCC)

The total costs of an inverter from acquisition via installation, commissioning and maintenance up to disposal.

## Medium voltage

Voltage range from 1,000 V to 60,000 V

#### **Multi-string inverter**

Inverter which basically combines the advantages of several string inverters (separate MPP control of individual strings) and a central inverter (low performance-specific costs)

## Network management

For decentralized generating plants, the participation in network management means that they have to orientate themselves towards the current situation of the distribution network with regard to the feed-in. It affects all solar plants feeding in at medium voltage level.

## Off-grid applications

see Island system

#### OptiTrac

Optimized MPP Tracking so that the solar modules can be operated even with partial shading at the point of maximum performance (Maximum Power Point - MPP)

## Percentage points

Linguistic aid used to denote the absolute difference between two relative figures expressed in percentages

## Photovoltaics (PV)

Conversion of radiation energy, in particular solar energy, into electricity by means of photovoltaic cells

## Reactive power

Reactive power is a term from electronics which describes a pulsating power with an alternating positive and negative sign. The positive and negative portions of the power output cancel each other out, thus yielding an average value of zero - it is also referred to as a power grid oscillation. The counterpart to reactive power is active power: in an AC grid, it likewise has a pulsating value, which however is generally positive. Only active power can be used to operate electrical consumers. The sum of active power and reactive power is denominated apparent power. All electrical operating resources and the entire grid infrastructure must be designed around it. Apparent power arises if the voltage and current values, likewise pulsating, are out of phase, i. e. attain their maximum or minimum time-shifted. This time shift can have two directions and is practically unavoidable during the

technical application of inverters: almost every electronic component causes a certain degree of phase difference in one or another direction. Modern inverters are capable of compensating for the phase differences existing within a grid and thus of eliminating the useless reactive power from the grid. In addition, through a certain degree of phase shift they are also capable of lowering the grid voltage, which usually rises undesirably when active power is fed into the arid.

### **Residential Range**

Photovoltaic inverters suitable for gridconnected photovoltaic systems with a power range between 1 and 15 kW (SMA definition of the target group: private PV system operators)

### Smart grid

Spatially distributed, networked electricity generators, electricity storage facilities and consumers in combination with a flexible grid infrastructure, which apart from energy also transports information. Inverters, which function as flexible control elements in power electronic systems, will play a decisive role in this respect.

## Social media

Digital technologies and media with the help of which users can interact with each another and jointly shape digital or media content. Facebook or Wikipedia are two examples.

## Solar Academy

SMA provides comprehensive training on the topic of solar technology in seminars specifically targeted to the needs of qualified installers.

## Specific sales price per watt

Sales price in euro divided by the rated power of each inverter type in watts

## String

Connection / interconnection of several solar modules

## String monitoring

Self-learning monitoring system which learns the characteristics of the solar modules and triggers a message in case of deficit yields

#### String inverter

With string technology, the PV generator is divided into individual module areas, and each of these individual "strings" is assigned its own string inverter.

## Sunny PRO Club

The partnership program for qualified installers offers its members active marketing support in the development of their regional solar market.

## System integrator

Project developer of photovoltaic largescale plants

## Total cost of ownership (TCO)

see Life Cycle Costs

#### **UL Certification**

The Underwriters Laboratories (UL) are an organization founded in the US in 1894 for the audit and certification of products and their safety (comparable to the German VDE, TÜV, and the like).

## W, kW, MW, GW

Units for power:

- 1 kilowatt (kW) = 1,000 watts (W)
- 1 megawatt (MW) = 1,000 kilowatts
- 1 gigawatt (GW) = 1,000 megawatts

## Wp

Abbreviation for Watt peak – unit for the standardized rated power of a photovoltaic cell or a photovoltaic module under standard conditions

## Xetra

Exchange Electronic Trading: fully electronic trading system at the Frankfurt Securities Exchange (FWB) for the spot market. Over 90% of the shares traded in Germany are traded using the Xetra platform.

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## FINANCIAL GLOSSARY

## **EBIT** margin

Operating profit x 100

(the higher the percentage, the higher the earning power)

#### **Equity ratio**

Shows the share of equity in the total capital employed

#### Gross cash flow

Shows the operating income prior to any commitment of funds. It is calculated by considering earnings before income tax and the financial result – plus interest received, depreciation and amortization, changes in other provisions, profit/loss from the disposal of fixed assets and other non-cash expenses/revenues less interest paid and income tax paid.

## Gross profit on sales

Sales minus cost of sales

## IAS

International Accounting Standards, newer standards refer to the initials IFRS

## IASE

International Accounting Standards Board

#### **IFRIC**

Interpretations of the International Financial Reporting Interpretations Committee on IAS/IFRS

## IFRS (International Financial Reporting Standards)

IFRS are international reporting standards defined by the IASB.

## Net cash flow from financing activities

Outflow/inflow of liquid funds from equity financing and debt financing

## Net cash flow from investing activities

Outflow/inflow of liquid funds from investments and disinvestments

## Net cash flow from operating activities

Outflow/inflow of liquid funds, unaffected by investments, disinvestments and financing activities

#### **Net Cash**

Liquid funds and securities contained within working capital less interest bearing financial liabilities

#### Net working capital

Net working capital, i. e. the total amount of short-term, interest-free working capital (inventories plus trade receivables less trade payables)

#### Net working capital ratio

Net working capital in relation to net sales

## Operating profit (EBIT)

Earnings before interest and taxes

## Return on Assets (after taxes)

The Return on Assets (after taxes) is the Consolidated Net profit divided by the averaged total assets of the reporting period (average of total assets at the beginning and end of the reporting period).

#### Return on Equity (after taxes)

The Return on Equity (after taxes) is the Consolidated Net profit divided by the averaged total equity of the reporting period (average of total equity at the beginning and end of the reporting period).

This Annual Report was published in German and English on March 30, 2010. Both versions are available as downloads on our Web site:

www.SMA.de/IR/Finanzberichte www.SMA.de/IR/FinancialReports

## Disclaime

This document contains forward-looking statements and information – that is, statements related to future, not past, events. These statements may be identified by words such as "expects", "looks forward to", "anticipates", "intends", "plans", "believes", "seeks", "estimates", "will", "project" or words of similar meaning. Such statements are based on our current expectations and certain assumptions, and are, therefore, subject to certain risks and uncertainties. A variety of factors, many of which are beyond SMA's control, affect our operations, performance, business strategy and results and could cause the actual results, performance or achievements of SMA to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements. For us, particular uncertainties arise, among others, from changes in general economic and business conditions (including margin developments, the legal and regulatory framework, changes in currency exchange rates and interest rates). Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in the relevant forward-looking statement as expected, anticipated, intended, planned, believed, sought, estimated or projected. SMA does not intend or assume any obligation to update or revise these forward-looking statements in light of developments which differ from those anticipated.

## FINANCIAL CAIFNDAR 2011

MARCH 30, 2011 Publication of the Annual Report SMA Group 2010 and the separate

Financial Statements SMA AG 2010, Analyst Conference Call: 9:00 a.m. CET

MARCH 30, 2011 Press Conference on the annual results, Frankfurt am Main

**APRIL 6, 2011** UBS Global Clean Energy Conference, London

MAY 13, 2011 Publication of the Quarterly Financial Report January to March 2011,

Analyst Conference Call: 9:00 a.m. CET

MAY 19, 2011 HSBC Luxembourg Event

MAY 20, 2011 Deutsche Bank German & Austrian Corporate Conference 2011,

Frankfurt am Main

MAY 26, 2011 Annual General Meeting 2011, Kassel, Kongress Palais

**AUGUST 12, 2011** Publication of the Half-Yearly Financial Report January to June 2011,

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