



Press Release

World Wind Energy Association

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Worldwide wind energy boom in 2005: 58.982 MW capacity installed

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Wind sector has become globally booming high-tech sector with more than 235.000 employees

Asia shows highest growth rates with India overtaking Denmark

Bonn/New Delhi (WWEA) – The year 2005 was another record year for the worldwide wind energy utilisation. The wind energy boom includes more and more countries, with 58.982 MW installed worldwide on 31 December 2005. Worldwide, 11.310 MW were added in 2005 – after 8,3 GW of additional capacity in the year 2004, and 8,1 GW in 2003. The global rate of growth increased to 24 % in the past year 2005, after 21 % in the year 2004. With this dynamic increase continuing, WWEA expects 120.000 MW to be installed worldwide in the year 2010. Today, wind energy delivers worldwide around 1 % of the global electricity generation, with some countries and regions reaching 20 % and more.

The worldwide wind sector currently employs more than 235.000 persons – mostly high-qualified jobs in the different wind branches like manufacturing, technical and financial services, engineering, research, marketing etc. Wind energy utilisation thus can be seen today as a job motor replacing expenditure on importing fossil energy resources by investment in human skills. This effect creates new income perspectives for hundreds of thousands, well-educated people.

Dr Anil Kane, President of the World Wind Energy Association: "The year 2005 was another boom year for the wind energy utilisation worldwide and for the global wind sector. Wind energy today is not only a viable option to generate electricity in a sustainable and affordable way, but also has become yet in several countries one pillar of the energy generation system. However, we still need to intensify our efforts to make affordable and clean wind power available also in the poorest world regions. Whilst larger, grid-connected wind farms today belong to mainstream energy supply infrastructure in many parts of the world, small-scaled systems, hybrid and stand-alone systems need to benefit from that boom and will have to be given higher priority in energy policies."

Geographical diversification continues

In the year 2005, the diversification process of the international wind energy markets continued: Eleven countries showed an installed capacity of more than 1.000 MW, seven of them in Europe (Germany, Spain, Denmark, Italy, UK, the Netherlands, Portugal), three in Asia (India, China, Japan) and the USA – two years ago, only five markets had a size of more than 1 GW. At the same time, the share of the five biggest markets – Germany, Spain, USA, India, and Denmark – in the overall installed capacity dropped from 82 % in 2003 and 79 % in 2004 further down to 77 % in the year 2005. In terms of additional capacity, the share of the top five markets (5.337 MW) even fell down to 64 % of the world market, after 79 % in 2003.

Asia is in the position to become the new global locomotive with a rate of growth of 48 % and further substantial growth expected in the near future. Europe still maintained its leading position, but lost in terms of overall world market shares which dropped slightly from 72,8 % to 69,6 %: Almost every second new wind turbine was installed outside of Europe, whilst in 2004 almost three out of four turbines were installed in Europe: The European share of new installations fell from 71 % down to 55 %.

Perspectives: Further growth and technological diversification

With the continuing diversification and the additional momentum the wind sector gained in 2005, it can be expected that the increased growth will continue in the coming years. Based on assessments of the WWEA members, it can be expected that 70.000 MW of wind power will be installed by the end of the year 2006. In 2010, an overall capacity of 120.000 MW will be in operation.

In the coming years, offshore wind farms will play an increasing role. In addition to this and to the conventional grid-connected onshore wind farms, in the mid-future wind technologies will be applied on a larger scale for rural electrification in stand-alone and hybrid systems as well as for water desalination. Governments, international organisations and donor agencies need to focus especially on programmes which foster the application of these technological applications for the benefit of the many unserved areas worldwide.

Development on the continents

Europe

Europe remains in the position as the number one continent in terms of overall capacity (40.932 MW) as well as additional capacity (6.174 MW, representing 55 % of the globally added capacity, dropping down from 70 % in the previous year). The European market showed a growth rate of 18 %. Germany and Spain kept their positions as the leading markets with a robust growth – Germany with additional 1799 MW re-gained its number one position from Spain with 1764 MW. Both Germany (18.428 MW) and Spain (10.027 MW) defended their number one and two positions in terms of overall installed capacity. Portugal and France, both having an effective legislation in place, showed the highest growth rates in Europe in 2005 and doubled the installed capacity to 1.022 MW respectively 757 MW.

The former leader Denmark once again showed stagnation with only 4 MW added (overall: 3.128 MW), thus losing its international number four position – which it had kept for many years – to India. Also many of the Eastern European countries and Finland are still far behind the dynamic development in the leading countries – although having substantial wind potentials.

Future substantial growth can be expected in the coming years in most of the EU countries because of the increasing awareness of the contributions of wind power to energy security. The European Commission announced recently that it will take care of an effective implementation of the directive for renewable energy electricity.

America

America extended the wind energy capacity largely in 2005 and represents now 17 % of the global wind energy capacity (10.036 MW) – 98 % of which can be found in North America. The US, after the extension of the production tax credit, have become the international number one in terms of new installed capacity, adding 2.424 MW. In terms of overall capacity, the US with 9.149 MW still rank on the third place, right behind Spain. Substantial growth can also be seen in Canada which increased the installed capacity by 54 %, adding 239 MW up to 683 MW. Ambitious new legislation is expected in Canada later this year which may create a big boost for the wind industry in the country, leading to major investment also in manufacturing facilities – a lack of which is one of the current weaknesses of the North American markets.

In Latin America can be seen first indications of an emerging wind sector mainly in Brazil with the Proinfa programme to be implemented in the years 2006-2007 as well as in Argentina where several major companies have started major activities in technology development.

Asia

Asia became the most dynamic world region in the year 2005, with a growth rate of 48 %, adding 2.263 MW, up to an overall capacity of 7.022 MW. India and China are the major drivers in Asia, in terms of installed capacity as well as in terms of manufacturing facilities. The Asian leader continues to be India which overtook Denmark and ranks now at the fourth position both in terms of overall capacity (4.430 MW) as well as of added capacity (1.430 MW). The World Wind Energy Conference 2006 which will be held in New Delhi in November will give additional boost to the Indian wind sector and strengthen the industrial capacities as well as contribute to a further increase of the wind energy share in the Indian electricity generation portfolio.

China made a big step forward from position 10 in 2004 (764 MW) to number 8 in the global ranking in 2005 (1.260 MW); in terms of new installations, China has already reached the sixth position worldwide. Following the World Wind Energy Conference in Beijing in November 2004, the Chinese government adopted a renewable energy law in early 2005 and increased the official target for the year 2020 from 20 GW to 30 GW – thus creating excellent growth perspectives. Also the Chinese manufacturing industry becomes stronger and an increasing share of the wind turbines installed in the country has been produced domestically.

In Pakistan, the first major wind farm can be expected in this year with several hundreds of MW to be installed in the coming years, according to the programme of the Alternative Energy Development Board of the Prime Minister of Pakistan.

Australia/Pacific

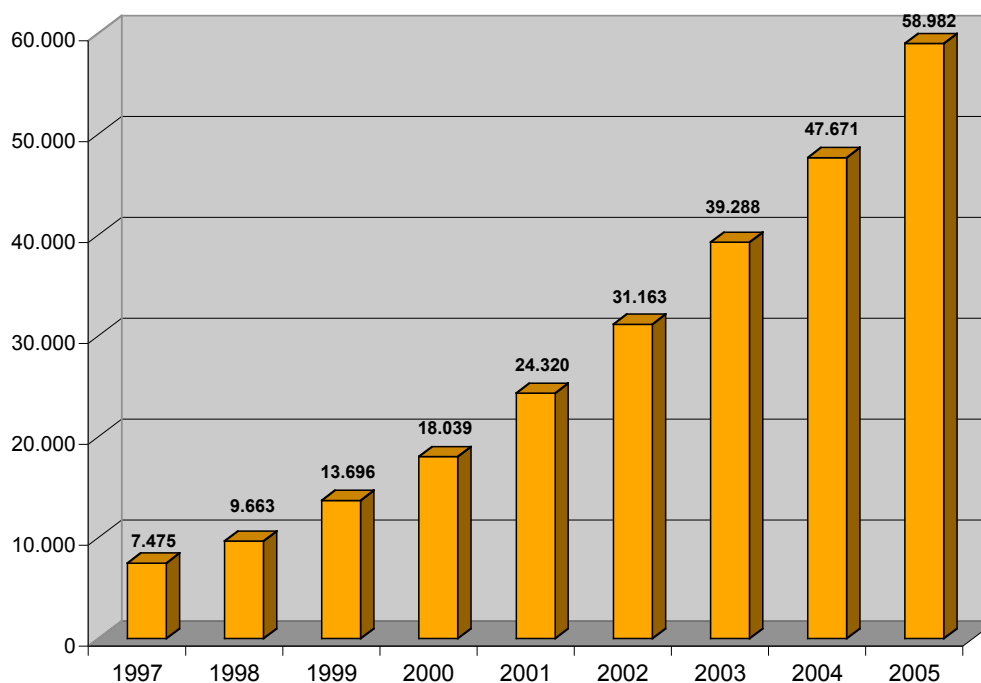
Good growth can also be seen in Australia which increased its capacity by 193 MW up to 572 MW. The World Wind Energy Conference 2005 in Melbourne opened the door for new growth of the wind industry in Australia: The Prime Minister and the Energy Minister of the Australian state of Victoria announced the introduction of a state-based promotion scheme for wind power. Therefore further, substantial growth can be expected in some of the major states in Australia in the coming years as other Australian states may follow the Victorian example.

Africa

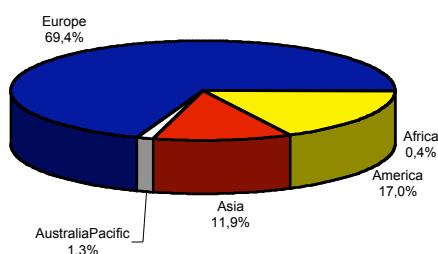
Only 11 MW were added in Africa in the past year. The continent with the lowest per-capita energy consumption, but many first-class wind sites, currently represents only 0,4 % (252 MW) of the worldwide wind energy capacity. Major new wind farms can be expected in the near future in Egypt as well as in Morocco. Most of these projects will be based on international development funds, however, this funding has so far not lead to the creation of substantial industrial capacities or activities in the African countries. Africa has huge wind and renewable energy potentials in general and at the same time suffers from a lack of energy supply. African governments and their international partners therefore should give highest priority to the creation of the necessary capacities to harvest these potentials for the benefit of their people.

South Africa will offer interesting mid-term perspectives, given that the energy market structures will be changed in favour of independent power producers. The recent black-out of the South African nuclear power station close to Cape Town made clear that the country needs to diversify its energy portfolio and extend rapidly the utilisation of domestic and reliable renewable energy sources like wind power in order to avoid major economic problems caused by a lack of energy.

Worldwide wind energy installation figures as at 31 December 2005:



Worldwide wind energy installation figures per continent as at 31 December 2005:



	Installed Capacity 2005 (MW)	2005 in %	Installed Capacity 2004 (MW)	2004 in %
Europe	40.932	69,4	34.758	72,9
Africa	252	0,4	240	0,5
America	10.036	17,0	7.367	15,5
Asia	7.022	11,9	4.759	10,0
AustraliaPacific	740	1,3	547	1,1
World	58.982	100,0	47.671	100,0

Worldwide wind energy installation figures per country/region as at 31 December 2005

Country/region	Additional capacity in 2005 (MW)	Rate of growth 2005 (%)	Total capacity installed end 2005 (MW)
Germany	1798,8	10,8	18.427,5
Spain	1764,0	21,3	10.027,0
USA	2424,0	36,0	9.149,0
India	1430,0	47,7	4.430,0
Denmark	4,0	0,1	3.128,0
Italy	452,4	35,8	1.717,4
United Kingdom	465,0	52,4	1.353,0
China	496,0	64,9	1.260,0
The Netherlands	141,0	13,1	1.219,0
Japan	143,8	16,0	1.040,0
Portugal	500,0	95,8	1.022,0
Austria	213,0	35,1	819,0
France	371,2	96,2	757,2
Canada	239,0	53,8	683,0
Greece	100,3	21,2	573,3
Australia	193,0	50,9	572,0
Sweden	57,9	12,8	509,9
Ireland	157,1	46,4	496,0
Norway	0,0	0,0	270,0
New Zealand	0,1	0,1	168,2
Belgium	72,4	76,2	167,4
Egypt	0,0	0,0	145,0
Korea (South)	96,6	428,6	119,1
Chinese Taipeh	90,0	692,3	103,0
Finland	0,0	0,0	82,0
Poland	10,0	15,9	73,0
Ukraine	4,2	6,0	73,0
Costa Rica	0,0	0,0	69,9
Morocco	10,1	18,7	64,0
Luxembourg	0,0	0,0	35,3
Iran	6,6	26,5	31,6
Estonia	27,4	913,3	30,4
Philippines	0,0	0,0	29,0
Brazil	4,8	20,0	28,6
Czech Republic	11,5	69,7	28,0
Argentina	1,2	4,7	26,8
Latvia	0,0	0,0	26,7
Jamaica	0,0	0,0	20,7
Turkey	0,0	0,0	20,6
Tunisia	0,0	0,0	20,0
Colombia	0,0	0,0	19,5
Gouadeloupe	0,0	0,0	19,3
Hungary	13,8	423,1	17,0
South Africa	0,0	0,0	16,6
Russia	3,2	29,7	14,0
Curaçao	0,0	0,0	12,0
Switzerland	2,9	33,0	11,6

Bulgaria	0,0	0,0	10,0
Israel	0,0	0,0	7,0
Lithuania	0,0	0,0	7,0
Croatia	0,0	0,0	6,0
Slovakia	0,0	0,0	5,0
Faroe Islands	3,9	2600,0	4,1
Cape Verde	0,0	0,0	2,8
Nigeria	0,0	0,0	2,2
Mexico	0,0	0,0	2,2
Chile	0,0	0,0	2,0
Cuba	0,0	0,6	1,8
Jordan	0,0	0,0	1,5
Belarus	0,0	0,0	1,1
Romania	0,3	41,7	0,9
Syria	0,0	0,0	0,8
Eritrea	0,8		0,8
Peru	0,0	0,0	0,7
Namibia	0,2	1150,0	0,3
Uruguay	0,0	0,0	0,2
Total	11.310,3	23,7	58.981,6

Source: WWEA member survey and own research.

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The World Wind Energy Association: Basic information

WWEA is the global voice for wind energy representing wind energy organisations from all continents. Currently, WWEA has more than 220 members from 75 countries, most of them national associations, scientific institutes and companies. WWEA works for the complete substitution of fossil and nuclear sources by renewable energies with wind energy as one cornerstone by

- providing a platform for the communication of all wind energy actors world-wide,
- influencing national and international policies,
- providing international technology transfer.

The WWEA Head Office is situated in Bonn/Germany close to the UN Campus.

Further information: www.wwindea.org

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WWEA Events:

5th World Wind Energy Conference & Renewable Energy Exhibition

New Delhi, India, 6-8 November 2006:

Organised by WWEA jointly with the Indian Wind Energy Association.

Further information: www.wwec2006.com

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6th World Wind Energy Conference & Renewable Energy Exhibition

Pinamar, Argentina, 2007:

Organised by WWEA jointly with the Argentine Wind Energy Association AAEE.

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7th World Wind Energy Conference & Renewable Energy Exhibition

Toronto, Canada, 2008:

Organised by WWEA jointly with the Ontario Sustainable Energy Association.

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WWEA Publication:

International standard yearbook for wind energy:

Wind Energy International 2005/2006

including 65 country reports, 45 special reports

Download order form from www.wwindea.org

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