

Joint Memorandum on Realising the Opportunities and Potential of the Chinese wind market

开发中国风电市场与潜力联合备忘录

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INTRODUCTION: FULFILLING CHINA'S POTENTIAL FOR WIND ENERGY

简介: 充分开发中国风电发展潜力

China's electricity demand is expected to increase by 250% between 2004 and 2030, according to the International Energy Agency. The CO₂ output during this time will more than double, reaching 10,425Mt by 2030. China's current national energy portfolio is dependent on fluctuating coal, gas and oil prices and the increasing cost of the related environmental damage. A report published by the Chinese State Environmental Protection Agency (SEPA) and the National Bureau of Statistics (NBS) estimated that pollution cost the country 511.8 billion yuan (US\$64 billion) in economic losses in 2004, or 3.05% of the total economic output, putting the country's "green GDP" at 97 percent of the original GDP.

据国际能源机构(IEA)统计,中国的电力需求在2004至2030年间有望增长250%,届时二氧化碳的排放量将增加一倍多,2030年达到10,425Mt。目前中国的能源消费结构依赖于价格易波动的煤、天然气和石油等化石能源,受到日益严重的生态环境破坏的制约。国家环保总局及国家统计局有关报告估计,2004年中国环境污染的国民经济成本为5118亿人民币(640亿美元),占国民生产总值的3.05%,即当年中国"绿色GDP"占GDP总量的97%。

Wind power is a clean and inexhaustible power generation solution with zero fuel price risk, a fixed cost throughout the lifetime of the turbine, no external energy dependencies and no environmental cost. Wind energy can therefore play an important role in reducing the risk and long-term cost of electricity generation in China and the exposure to fuel price volatility. Moreover, wind energy will enhance the country's security of energy supply, save valuable natural

resources, foster domestic industry development and help rural electrification. By producing clean power, wind energy will also significantly decrease power generation-related environmental costs and CO₂ emissions. This could provide significant economic benefit, some of it in more remote locations such as North and North-west China where wind resources are best and manufacturing could be located.

风能是一种清洁的永续能源,不存在燃料价格风险,在风机寿命期内发电成本稳定,不存在外部能源依赖性,没有环境成本,因此,风力发电在降低中国电力供应风险和长期发电成本,以及减少对燃料价格依存度方面能够发挥重要作用。而且,风力发电可以加强中国的能源供应安全,节约宝贵的自然资源,培育国产工业的发展,促进农村电气化。清洁的风电可以明显降低与发电相关的环境成本,减少二氧化碳的排放。这些优势还将带来明显的经济效益,特别是诸如北部和西北风力资源丰富的边远地区,可以作为风机制造的理想选址。

China already has proved itself a leader in terms of the use of solar energy, and wind energy can become the new area of growth. Promoting wind power in China will foster the development of the local wind equipment industry, eventually leading to a China-based supply chain for the turbine industry, global turbine manufacturers of Chinese origin and China-based global service providers. Given China's traditionally strong manufacturing base, the country could easily become a global leader in terms of wind power generation and equipment manufacturing.

中国在太阳能热利用方面已经占据了领先地位,风能的开发利用可以作为一个新的增长领域。促进风能的开发

利用可以扶持中国民族设备制造业的发展,并形成中国本土的风机供应链以及全球风机制造及服务基地。中国已经具备了雄厚的制造业基础,因此,发展全球领先的风力发电和设备制造业对中国而言并非难事。

The global wind energy industry has been growing at a breathtaking rate, by an average of 28% per annum in the last 10 years. During the year 2006, over 15,000 MW of wind power capacity have been installed in more than 70 countries, bringing the global total installed capacity up to 74,000 MW. This can be translated into an annual investment volume of over €18 bn or US\$23 bn. In 2006, around 9% of this amount was invested in China, representing an economic value of 16.27 bn RMB or €1.62 bn.

全球的风力发电产业正以惊人的速度增长,在过去10年平均年增长率达到28%,有70多个国家的装机容量超过了15,000 MW,全球安装总量达到了74,000 MW,意味着每年在该领域的投资额达到了180亿欧元(或230亿美元)。2006年,全球风电资金中9%投向了中国,总额达162.7亿人民币,或16.2亿欧元。

We therefore believe that growing wind energy in China makes both economic and environmental sense. The Chinese government has already taken considerable steps in the right direction with the Renewables Energy Law, which entered into force on 1 January 2006. Since then, over 1,300 MW of wind power have been installed in China, and the market is growing rapidly.

因此我们相信,风电产业的发展对中国而言具备经济和环保双重价值。中国通过可再生能源法的实施,已经向着正确的发展方向做出了很多工作和努力。自2006年1月1日可再生能源法正式生效以来,中国新增风电装机容量超过了1,300 MW,风电市场增长迅速。

PRIORITY AREAS FOR IMPROVING CHINA'S ROLE IN WIND ENERGY

提升中国风力发展地位的重点领域

China has made an impressive start in the development of wind energy in terms of installed capacity, annual growth and the establishment of a manufacturing industry. However, the realisation of the country's full potential will largely depend on the complementing the existing law with favourable policies and regulatory processes for wind energy, a forward looking design of the grid infrastructure and the implementation of high technical standards.

在安装容量、年增长量及投资建厂等方面,中国风电的发展已经有了良好的开端。但是,要充分发掘中国在风电方面的发展潜力,需要不断完善可再生能源法及配套政策法规,加强电网的前瞻性设计,以及推行严格的技术标准。

We believe that China's role in wind energy generation and equipment manufacturing could be further improved through measures in six main areas.

我们相信,中国的风力发电和设备制造业的地位可以通过以下途径得以得升:

Setting an Ambitious National Target for Wind Energy

制订宏伟的风电发展目标

In 2005, the Chinese government set a target of 5 GW of wind energy capacity to be installed by 2010, and 30 GW by 2020. At first sight, these targets seem ambitious. However, when taking into account that the installed capacity at the end of 2006 in China stood at 2,600 MW and the current

growth rate, it becomes obvious that the 2010 target could certainly be met much earlier. Moreover, given current demand trends, a wind capacity of 30GW in 2020 would still merely represent about 1% of the around 6,000 TWh of electricity expected to be needed in China at that time.

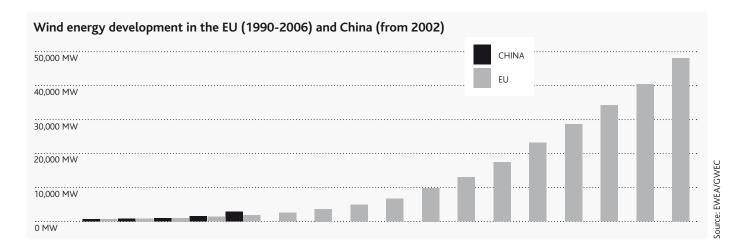
2005年,中国政府将风能发展目标设为至2010年装机实现5GW,2020年前实现30GW。最初看来,这一目标比较有挑战性,然而2006年底中国已有的风电装机已经达到了2,600 MW。照此增长速度,很明显,实现2010年的目标将是轻而易举的。而且按照当前电力需求的发展速度,2020年风电30GW装机所发出的电力,届时仅占全国电力需求总量6,000 TWh的1%。

In the European Union (EU), where average wind speeds are considerably lower than in China, wind power capacity increased from 2,500 MW in 1995 to 48,000 MW at the end of 2006, currently accounting for around 3% of the EU's electricity demand. The EU governments have just set a binding target of 20% of the continent's energy demand to be covered by renewable energy source by 2020. In China, the current capacity stands at 2,600 MW. Given the outstanding wind resources, the need for new generation capacity to fuel the growing Chinese economy, and the advances in turbine technology and size, there is every reason to assume that the Chinese wind market could grow at an even faster rate over the coming 10 to 15 years.

欧洲的平均风速虽然远低于中国,但风电装机容量从1995年的2,500 MW上升到2006年底的48,000 MW,目前可以满足欧盟国家电力需求总量的3%。欧盟政府制订了到2020年可再生能源占能源需求总量20%的目标。中

国目前的安装容量为2,600 MW,考虑到中国丰富的风力资源,以及中国经济增长带来的能源需求的增加,和风机技术和规模的不断进步,充分表明中国的风电市场在未来的10到15年内将以更快的速度增长。

of the European Union. This will drive the generation of large amounts of wind power to address demand issues, rather than merely the installation of wind farms that may or may not produce electricity efficiently and reliably.



Globally, wind energy is expected to have grown to 560 GW of installed capacity by 2020, accounting for more than 7% of electricity demand. In Europe alone, 132 GW of new capacity is expected to be installed in the next 14 years, reaching 180 GW in 2020, or 13.4% of the electricity required for the continent.

从全球看,2020年前全球风电装机容量可望达到560GW,占总电力需求的7%。仅在欧洲,未来14年新增装机预计为132GW,到2020年达到180GW,届时占欧洲电力总需求的13.4%。

An ambitious target for wind energy in China would be based on the country's tremendous potential for wind energy and on the benefits an indigenous, clean and fuel risk free power source can bring to the country. We that a much more ambitious target could be achieved. This will stimulate the industry, protect the economy and drive investment across the region.

中国风电目标确定的基础是巨大的风电潜力及其收益,即通过风电的开发,能够为中国引入本土的、清洁的、 无风险的能源资源。我们认为中国有能力达成更宏大的 目标,这一目标的制订对激励产业、保护经济发展和促进投资等都将起到推动作用。

For a wind energy target to be effective, it would make sense to base this on the electricity production rather that the installed capacity, similar to what has been introduced by other countries around the world, including the countries Such a national target for China could be in the region of 5% (around 300 TWh) of electricity generated in China as a whole coming from wind energy in 2020. Based on a realistic capacity rate of 28.5%, this would translate into 120 GW of installed capacity, rather than the 30 GW that the government is currently aiming for.

为制定更加有效的目标,根据世界上包括欧盟在内其它国家的经验,按照发电量而不是装机容量制定更加有意义。因为前种方式将会鼓励发出更多的电量来满足实际的电力需求,而后者情况下无法得知因效率低或不稳定而少发的电量。中国可以为2020年风力发电量占全国总发电量的5%(约300TWh)的目标。按负荷系数28.5%计算,这意味着需要安装120GW,而不是政府目前制订的30GW的目标。

2. Designing a Robust Policy Framework

构建有效的政策体系

A robust policy framework is required to ensure that the target is delivered economically, efficiently and effectively. Experience in European markets suggests that a policy framework based on a feed-in tariff policy achieves very good results, as demonstrated in countries such as Germany, Spain and Denmark. Introducing a nationwide and stable payment system would provide stability, ensuring that the market develops in tandem with wind projects and not as the boom and bust system that has slowed down manufacturing investment in the US.

有效的政策体系是保证政府设定的目标能够经济、高效 且有力实现的必要条件。欧洲市场的经验表明,基于固 定电价制度的政策体系可以取得较好的成效,采纳这一 制度并取得成功的国家有德国、西班牙和丹麦。引入一 个全国适用的、稳定的电价制度利于建立稳定的市场, 保证市场与风电项目同步发展。而像美国那样不稳定的 电价制度最终导致风电投资的减少。

A suitable policy framework would enable a more rapid development of wind energy, make use of all available sites and encourage sustained investment and technology development. A feed-in tariff set at the right level would encourage in projects of high quality and high reliability by granting appropriate returns for all stakeholders (manufacturers, developers, ...). Moreover, it would stimulate a large-scale localised manufacturing supply chain of international and domestic companies and secure a robust budget for research, development and innovation to help Chinese manufacturing achieve the highest international standards and become competitive in an international market place. In addition to this, it will stimulate rural development and provide the economy with a stable and predictable energy source.

合适的政策框架可以确保风电快速的发展,且可以充分利用现有的场址,鼓励持续的投资以及技术进步。合理的固定电价能够向所有相关方(包括制造商和开发商等)提供合理的回报,从而保证项目开发的质量和稳定性。而且,固定电价制度还将激励大规模本土制造业供应链的发展,为技术研发和创新积累大量资金,帮助中国制造业早日达到国际先进标准,提高在国际市场的竞争力。另外,这一制度还将激励农村经济的发展,并为经济发展提供稳定的、可预期的能源资源。

A feed-in tariff that is predictably, sufficiently high and lasts for 10-15 years, based on a fixed regional coal price plus a fixed premium for wind energy, would help create a sustainable wind industry in China. Additionally, investment in wind energy strongly depends on access to favourable bank lending by significantly reducing the risk of a project. This would ensure that investors, banks, grid companies and local stakeholders can count on projects to be reliable and to produce electricity for the entire time frame of the project.

如风电电价采取固定电价的方式,即在当地煤电标杆电价基础上增加固定的补贴,从而使得电价在10-15年内可预期且足够高,将有助于中国风电产业的可持续发展。另外,风电领域的投资在很大程度上依赖于银行贷款,固定电价将大大降低项目的风险,成为赢得贷款的

重要因素。固定电价制度将增强投资商、银行、电网公司及当地参与方对发展风电项目的信心。

Experience has shown that clarity on the tariff level prior to the investment decision as well as a 10-15 year fixed feed-in tariff are essential to allow project financing. Finally, a rule stipulating that developers need to relinquish land rights after a certain time if no project is actually built would increase competition between developers and speed up delivery of projects. If, however, a project is developed, built and operating, it would be important for lands rights to be exclusive.

经验表明,投资决策前明确电价水平,并且保证该电价 10-15年内有效,是赢得项目投资的关键因素。最后,如果规定项目开发商在一定时间内没有进行项目建设,则开发商须放弃土地使用权,将增强项目开发商间的竞争,提高项目建设速度;相反,如项目一旦建设并投入运营,则保障项目的土地使用权也是相当重要的。

3. Granting Clean Development Mechanism (CDM) Certification

引入清洁发展机制

With current regulations in China, only projects that are majority (i.e. 51%) owned by Chinese companies can receive CDM certifications. CDM certification increases the returns for project investors, thus making projects in China more attractive to all investors and thereby significantly accelerating the development of wind energy across China at no additional cost to the Chinese economy. In addition, increased tax revenues would be assured by provincial and national governments, which would in turn stimulate rural economies.

按照中国目前的规定,只有中方控股的企业(即中方股份超过51%)可以申请CDM减排信用额。CDM信用额可以提高项目的投资回报率,使得项目更具吸引力,因此可以在不增加经济成本的前提下明显加快中国风力发电的发展。另外,由此增加的税收收入可以加快地方经济的发展。

If CDM certification were provided in an efficient and effective manner to all projects, regardless of shareholder structures, this would result in even more projects being built in China, thereby enhancing the country's national and provincial tax revenue. There is a risk that the current practice of projects having to have 51% Chinese ownership

is preventing projects from being built, thereby preventing the investment by and expertise of international project developers. By having the market operate to the highest standards and with the newest technology, projects will generate even more carbon credits per MW installed, significantly reducing emissions and creating a reliable and predictable source of electricity.

如果CDM机制可以通过适当有效的方式引入所有的项目,不考虑项目的股本构成,可以鼓励更多的项目在中国进行开发,增加中央和地方税收。规定中方控股51%,又可能限制了国际项目开发商的投资和专家介入。通过高水准的市场运作及最新技术的引入,每单位安装容量产生的信用额可以更多,大大减少温室气体的排放,提供稳定、可预测的电力资源。

Many investors are still reluctant to cede the overall control to a still unknown or potentially inexperienced domestic partner. Over time, such partnerships will develop naturally. There is a risk that putting an obligation to international investors to give majority control of their projects to domestic companies could result in projects either being delayed or not built at all.

许多国外投资商不得不将控制权移交给并不太了解、且目前经验不够丰富的中方合作伙伴手中,时间一长,这样的伙伴关系将成为一种常规。要求国际投资商将项目的控股权交给中方公司将存在一种风险,如项目会被延误,或根本没有建设等。

Investment in the Chinese wind industry would be further increased if interested investors were able to transfer the resulting CERs directly into their own CDM registries, as planned by the CDM mechanism, rather than having to pass tem via an ERPA (Emission Reduction Purchase Agreement) with the project company, as currently required by Chinese CDM regulations.

如果投资商可以直接购买项目减排量,而不是如中国政府目前规定的那样通过与项目公司签订减排购买协议来实施,则在中国风电领域的投资还有可能进一步增加。

4. Transmission Network Grid Planning and Access

电网接入和输配电网络规划

China is embarking on one of the largest investments in grid capacity in the world with a new high voltage system the scale of which has not been seen before. The country is thus in a position to lead the world in the integration of wind energy into the net. To achieve this, it is important for upgrades in China's transmission networks to be coordinated with approvals for new wind projects to ensure that infrastructure, grid access and substations are available where the projects are being built. This will avoid delays and complications in connecting new wind farms to the grid because of insufficient connection capacity.

目前中国正着手一项超高压输配电网建设项目,其电压等级在世界上是空前的,总投资也是世界电网建设中规模最大的项目之一。因此,中国将有望在风力发电电网接入方面引领世界先进水平。为实现这一目标,中国应对其输配电网络进行升级,以适应新建风电项目的要求,保证风电开发所需的基础设施、电网接入端口及变电站等落实到位,从而避免项目的延迟,以及由于电网接入能力所限带来的风电并网的种种麻烦。

Furthermore, clear procedures for access to the grids for wind farms would be beneficial for all key stakeholders. Currently, the process of getting an approved grid connection and determining the time scale for the connection of a project to the transmission network is often unclear. This hampers the planning of projects, offsets the benefits of quick installation and ultimately discourages project developers. In order to improve this situation, it would be beneficial to introduce clear processes with defined timelines, procedures, standards and costs. The recent introduction of new grid connection guidelines put many market participants in a difficult situation, as they stipulated immediate compliance without a grace period. For wide ranging changes of this kind, it may be beneficial for all parties if a consultation period and a transition period could be agreed.

另外,明确的并网程序对所有参与方而言都是有益的。 目前,取得并网许可的程序以及一个新项目并入电网的 时间要求都不明确,这将妨碍项目的规划,削弱风电项 目安装迅速带来的时间优势,进而打击项目开发商的积 极性。为改善这一情况,有必要对程序加以明确规定, 包括明确时间要求、申请程序、并网标准以及费用。目 前出台的新的并网指南要求所有的项目立即遵照执行, 没有宽限期,使很多项目面临困难。对于此类比较大的 规则变动,如果可以为项目留出一定的咨询领会期或过 渡期,对各方而言都是有益的。

Currently, grid companies have no incentive to connect renewable energy generation to the electricity grid. The Chinese government could encourage a more favourable environment for wind energy by incentivising the grid companies and making it more attractive for them to connect wind farms and other forms of renewable energy. This could be done through a contribution from the "Renewable Energy Fund" managed by the central government.

目前,电网公司缺乏将可再生能源接纳入网的动力。中国政府可以对电网公司加以鼓励,使电网有兴趣接纳风电及其它可再生能源发电入网,为风电创造一个更好的环境。这种激励可以通过"可再生能源专项基金"来实现。

5. Growing the Domestic Industry by Attracting Foreign Investment and Experience in Manufacture and Development

吸引国外投资,吸收国外风电制造及开发的 经验,加快国内风电产业的成长

In the way that India has done, China could succeeded in building a sophisticated wind industry by encouraging investment and protecting intellectual property rights. Given China high level of ambition and its large wind resource, the country has the potential to become an Asian Giant as it is in solar power. Many foreign manufacturers have decided to set up in China to serve both the domestic and Asian markets. This investment is dependent on a stable market framework where investors and manufacturers alike can develop stable growth maps for their industries.

通过与印度类似的方式,中国可以通过鼓励投资和知识产权保护来发展风电产业。鉴于中国宏大的发展目标和丰富的风力资源,中国有望成为风电发展的亚洲巨人,取得如同在太阳能领域一样的成就。许多国外制造商已经决定在中国投资建厂,来满足中国和亚洲市场的需求。此类投资将取决于稳定的市场环境,使得投资商和制造商可以制订稳定的企业发展计划。

While the potential for wind energy in China is huge, the sustainable development of this industry will strongly depend on focus from all private and state-owned

developers, manufacturers and stakeholders on delivering projects that are highly reliable (technically, operationally and financially) throughout the lifetime of the project. As in other sectors, the introduction and encouragement of international expertise, financing and involvement will accelerate end reinforce such foreign investment. This would also be in line with the Chinese government's recent step to chose wind energy as an 'encouraged industry' to attract foreign investment. Professional international companies can play an important part in helping the Chinese government meet its targets and objectives in the area of wind energy through offering the experiences that they have encountered, and technical expertise as well as sophisticated wind energy financing expertise.

虽然中国的风力发展潜力巨大,在这一领域的可持续发展还取决于所有民营及国有开发商、制造商及所有参与方共同努力,使得风电项目得以稳定发展(在技术、运行、财务等各方面的都稳定发展)。和其它行业一样,国际专家团队、融资等的引入以及积极参与将最终对吸引上述项目的国际投资起到推动作用。这与中国现在将风电纳入"鼓励发展"的产业以吸引国外投资的方针是一致的。专业的国际公司利用其经验、技术、专家和融资等各方面的优势,在促进实现中国既定的目标方面,也将发挥积极的作用。

Currently, a number of foreign wind energy equipment manufacturers and developers are active in the Chinese market, either with stand-alone operations or through joint ventures with Chinese partners. This involvement has already brought substantial benefits in terms of knowledge transfer, job creation and education of the workforce. These benefits do not stop at the manufacturers themselves, but are spread throughout the entire turbine supply and operational chain, including the transfer of development and operational knowledge as well as management experience from foreign developers. These will help in the aim to improve turbine availabilities over long periods, thus improving the level of clean electricity production

目前,很多国外风电设备制造商和开发商进入中国市场,有些通过独资的形式,有些通过合资的形式。这些国外企业的介入已经从知识转移、创造工作机会、人才培养等方面为中国风电产业带来了诸多益处。这些裨益不仅停留在制造商内部,而是扩散到整个风机供应和运营链,包括传播风机开发和操作知识以及管理经验等。这将有助于提高风机供应能力目标的实现,进而提高清洁电力生产的水平。

Moreover, the international experience of foreign players and ensuing rapid transfer of knowledge and technology will ensure that the domestic wind energy industrial base will grow faster, more effectively and more sustainably into an industry with global potential.

另外,国外企业的国际运作经验,及快速的知识和技术的转移,将保证国内风电产业化更加迅速、高效、可持续的实现,并加强开发国际市场的潜力。

International experience has shown that localisation will happen naturally in any market in which suitably strong, reliable and long-term incentives and policies to promote and implement large amounts of wind power are introduced.

国际经验表明,只要有持续、有效、稳定和长期的激励 政策来鼓励风力发电的大规模发展,国产化的实现将是自然而然的事情。

With an appropriate, stable and competitive policy framework in China, both global and domestic equipment manufacturers will naturally enter the market, source their local suppliers and build their assembly operations. In this way, domestic supply chains of component manufacturers will grow accordingly and there will be a high degree of innovation in the domestic market to deliver high-quality and high-reliability technology. Localisation rules, which are commonplace in many market, need to be stable and predictable in order to provide investor confidence.

中国一旦引入适当的,稳定的,有竞争性的激励政策,国内国际设备制造商将自动进入中国市场,带动国内供应商,组建组装生产线,由此,国内零部件生产商供应链将相应成长,国内市场的自主创新能力将增强,高质量高稳定性的技术将涌现。国产化的要求需要具备稳定性和可预测性,以增强投资者的信心。



The Chinese Renewable Energy Industries Association (CREIA) was set up under the NDRC/UNDP/GEF project for Capacity Building for Rapid Commercialization of Renewable Energy in China. CRIEA obtained the formal registration from the Chinese Ministry of Civil Affairs in March 2002 as a branch of the China Comprehensive Resource Utilization Association (CCRUA). As an industry association, CREIA enjoys complete independence in its programmes and operations. It has succeeded in attracting over 100 corporate members and about 160 individual members covering all the sectors of renewable energy in China, such as solar thermal, solar PV, wind, biomass, hybrid, small hydro and ocean energy. CREIA provides all-round qualified services.

中国资源综合利用协会可再生能源专业委员会(CREIA)是在国家发改委/UNDP/GEF"加速中国可再生能源商业化能力建设项目"的支持下组建,并于2002年3月获得了国家民政部的正式批准,作为中国资源综合利用协会下的二级协会。作为一个行业协会,CREIA在项目和运作上完全独立,目前已经吸引了超过100个公司会员和大约160位个人会员,来自于中国可再生能源的各个领域,包括太阳能热利用、太阳能光伏、风能、生物质能、小水电和海洋能等。同时CREIA还提供各种具有专业资质的服务。

CREIA

Chinese Renewable Energy Industries Association A2106, Wuhua Plaza, A4 Chegongzhuang

Az 100, wunua Piaza, A4 Chegongzhuang Dajie,

Xicheng District, Beijing 1000044, P.R. China Tel: +86 10 6800 2617/18 Fax: +86 10 6800 2674

www.creia.net creia@creia.net

中国资源综合利用协会可再生能源专业 委员会

北京市西城区车公庄大街甲4号物华大厦 A2107室

电话: +86 10 68002617/18 传真: +86 10 6800 2674

www.creia.net creia@creia.net



The Chinese Wind Energy Association (CWEA), founded in 1981, is a non-profit social entity officially registered through the Ministry of Civil Affairs of China. CWEA is currently attracting over 300 corporate members and around 800 individual members from various corporations, institutions, companies and schools involved in wind energy industry.

中国风能协会成立于1981年,是一个非盈利性社会团体。协会的会员主要来自风能行业的企业、科研机构和教学单位,目前有团体会员300多个,个人会员800多人。

CWEA has been serving as a window of Chinese wind society to the world promoting international academic and technical cooperation, a bridge connecting the government with institutions and companies and a platform for ideas sharing and technical exchange in industry. CWEA is committed to establish close ties with domestic and overseas wind societies, enhance solidarity and cooperation with similar associations and work with scientists and professionals to jointly contribute to the promotion of wind power technology and enhancement of public awareness of renewable energy development.

作为中国风能领域对外学术交流和技术合作的窗口、政府和企业沟通的桥梁和纽带、行业信息和技术交流的平台,中国风能协会致力于与国内外同行建立良好的关系,与相关兄弟协会团结协作,与广大科技工作者密切联系,为促进我国风能技术的进步,推动风电产业的发展,提高全社会可再生能源意识做出贡献。

CWEA

Chinese Wind Energy Association Room 301, No.13 Building, No.18 Beisanhuan Donglu, Beijing 100013, P.R. China Tel.: +86 10 64228218/19 Fax: +86 10 64228215 www.cwea.org.cn cwea@cwea.org.cn

中国风能协会 北京市北三环东路18号中国计量科学院内 13号楼301室 电话: +86 10 64228218/19 传真: +86 10 64228215

www.cwea.org.cn cwea@cwea.org.cn



The Global Wind Energy Council (GWEC) is the global voice for the wind energy sector, uniting the wind industry and its representative associations. The Council was established in early 2005 to provide a credible and representative forum for the entire wind energy sector ant an international level. GWEC's members represent over 1,500 companies, organisations and institutions in over 50 countries, accounting for 99% of the world's over 74 GW of installed wind power.

世界风能理事会(GWEC)是全球风能领域的代言人,联合了风能产业及其代表性的行业组织。该理事会在2005年初建立,为整个风能领域提供可靠的和具代表性的论坛。GWEC的成员来自50多个国家的1500多个公司、组织和研究院所,占全球7400万千瓦装机的99%。

GWEC's mission is to ensure that wind power establishes itself as one of the world's leading energy sources, providing substantial environmental and economic benefits. The main objective of GWEC is to promote the development and growth of wind energy around the world through policy development, providing strategy and business leadership, global outreach, information and education.

GWEC的任务是确保风能成为世界上领先的能源资源,能提供大量具有环保和经济方面的效益。GWEC的主要目标是通过制定政策,提供战略和商业的指引,以及全球的宣传、信息和教育,促进全球范围内的风能发展和增长。

GWEC

Global Wind Energy Council Renewable Energy House 63-65 Rue d'Arlon, 1040 Brussels, Belgium

Tel: +32 2 400 1029 Fax: +32 2 546 1944 www.gwec.net info@gwec.net





