Renewable Energy Report

Dear *Renewable Energy Report* subscribers:

As part of Platts' commitment to bringing you the best quality coverage of the global renewables market, we are pleased to announce that we are increasing the frequency of *Renewable Energy Report* from monthly to twice monthly.

From now on you will automatically receive 24 issues of *RER* instead of 12. We will continue to deliver the highest quality analysis of latest developments as well as our broad coverage of global markets, but twice as frequently.

As a result of the change in frequency, coverage of the EU emissions market and the renewables tracker will now appear in alternate issues.

We hope that this improvement, which comes at the request of many of our subscribers, will provide you with a more timely insight into the renewables market.

We welcome your comments on how we can further improve our coverage.

Sincerely,

David R. Jones

Editor, *Renewable Energy Report*

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Renewable Energy Report

Aussie renewables giant scoffs at reports setting bid target price

Pacific Hydro, Australia's largest listed renewable energy generator, has rejected as "purely speculative" reports of a likely bid of around A$800 million for the company resulting from the formal offer process currently underway.

Responding to press reports that 10 companies are interested in bidding for the Melbourne-based company, Pacific Hydro confirmed a "large number" of companies have become involved in the expressions-of-interest stage of the process, but that reports of bids are speculative "as the strategic review is at an early stage and has not progressed to a point where any party has expressed a view, or been invited by Pacific Hydro to express a view, on value."

Pacific Hydro in October launched a strategic review after receiving approaches it said could result in a takeover offer (*RER, 69/8*). The company is understood to have sent a flyer to several dozen potentially interested bidders throughout Australia, Asia, Europe and North America as part of the strategic review.

Asian utilities in particular have been attracted to the company because of the access it offers to greenhouse gas emissions credits, Managing Director Jeff Harding said. Pacific Hydro's Australian operations do not generate credits that would be eligible for trading under Europe's Certified Emission Reduction system because Australia has not ratified the Kyoto Protocol, but its Chilean and Fijian projects do.

Pacific Hydro has two hydroelectric projects under development in Chile comprising about 300MW as well as another 600MW in study or planning. "The Chilean market holds enormous potential for us with electricity consumption growing at an annual rate of 9%, and a projected annual economic growth of 5.2% in 2005. Chile is one of the strongest growing markets in South America," Harding said.

The company also is examining opportunities for hydropower and wind energy development with local partners in Canada and Europe, where "there is strong support for the renewable energy industry," he added.

The company generated 670,000 tons of greenhouse gas abatement last year up to June 30, and its projects under development represent another 570,000 tons. At a price for CERs in Europe of Eur9 per ton, these projects represent potential additional income of A$9 million a year for the company, which would fall straight to the bottom line, Harding said.

While Pacific Hydro ponders its options, Harding said December 23, the strategic review "will have no impact on existing development projects and operations. It is business as usual."

In a recent research note, Goldman Sachs JB Were valued the company at A$2.08 a share, which increases to A$3.82 a share including growth projects, such as an additional 430MW of wind energy projects and overseas hydropower projects. "In our view, potential acquirers may include utility companies looking to add green energy exposure in an effort to satisfy their requirements under the [Australia] mandatory renewable energy target scheme," Goldman Sachs analysts said.

The hydropower and wind energy company, which is being advised in its strategic review by Carnegie, Wylie & Co and Freehills, expects to complete the process by the end of the first quarter, Harding said.

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A US carbon trading market?

A new report from a blue-ribbon commission seems likely to rekindle debate in the United States over carbon trading (*see story page 3*). The bipartisan panel, which comprised such policy heavyweights as Exelon Corp CEO John Rowe, former CIA Director James Woolsey and former Environmental Protection Agency Director William K Reilly, called on Congress and the White House to establish "a mandatory, economy-wide trading system to curb greenhouse gases."

The commission shares the Bush administration's view that carbon emissions must be viewed in terms of "carbon intensity" – tying greenhouse gas releases to economic production – and insists that any carbon-trading system incorporate carbon intensity into its operations. To skeptics overseas, the US fixation on carbon intensity might seem like the rationale of a 300-pound man who, having gained 30 pounds a year for several years, is now only gaining 10 pounds a year, and therefore claims to be losing weight.

But the commission's strategy does address the key argument against requiring restrictions on GHG emissions: That mandatory emissions and carbon trading would damage the US economy. The panel included a provision that would cap the cost of carbon trading to the American economy.

Some observers believe that the Bush administration must eventually come to terms with the realities of climate change. "Everybody has this on their radar screen. We're approaching a political nexus," said Bill Madia, vice president of the US think tank Battelle.

There are indications that the notion of carbon trading is gaining ground in the US. In comments submitted to California regulators December 7, utility giant Edison International called greenhouse gas emissions "a likely contributor to global warming" and called on federal policy-makers to take action. In the short run, Edison called for "aggressive development of renewable energy" as well as energy efficiency to cut greenhouse gas emissions. "Long term, a reasonable and balanced 'cap and trade' system for reducing carbon dioxide emissions could be adopted once new carbon-dioxide removal technology has been developed and becomes commercially available," Edison said.

Other countries are light years ahead of America in cutting greenhouse gases. The European Union officially kicked off its Emissions Trading Scheme this month (*see page 28*), and the signatories to the Kyoto Protocol to cut greenhouse gas emissions – including every industrialized nation except the US and Australia – are already moving to meet their obligations when the agreement takes effect February 16. Projects in Chile and Fiji (*page 1*) and Estonia (*page 20*) are just the beginning of a host of Clean Development Mechanism and Joint Implementation projects under Kyoto that should accelerate renewable energy production around the globe.

Some analysts worry that even these actions fall short of tackling the problem. A report issued late last year called the Arctic Climate Impact Assessment, prepared by 250 scientists and six Arctic indigenous peoples' groups, warned that Kyoto was not enough, and that the world risked rising sea levels and global warming from melting Arctic ice.

Compared with other efforts around the world and the scope of the problem, then, the US carbon-trading system proposed by the commission might seem feeble. But as the Bush administration enters its second term, it will have a hard time avoiding demands for some type of mandatory cap on greenhouse gas releases.

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Blue-ribbon panel calls for more funding for renewables, creating US carbon market

US policy-makers should increase investment in renewable energy resources by $360 million annually, extend the federal production tax credit for electricity generated from renewables and establish a carbon-emissions trading system to reduce greenhouse gas releases, a bipartisan commission of analysts, corporate executives and environmental activists recommended in a report issued December 8.

"Ending the Energy Stalemate: A Bipartisan Strategy to Meet America's Energy Challenges" called on the federal government to adopt a host of measures to address such energy concerns as enhancing oil security, addressing climate change, increasing natural gas supplies and strengthening renewable energy markets.

Some of the recommendations, including a proposal for creating a market for trading carbon-emissions, run directly counter to Bush administration energy policies and those of the Republican leadership that controls both house of Congress.

The National Commission on Energy Policy, established in 2002 by a consortium of US foundations, included such members as Exelon Corp. Chairman and CEO John Rowe, former ConocoPhillips Chairman Archie Dunham, former CIA Director James Woolsey, Ralph Cavanagh of the Natural Resources Defense Council and William K Reilly, director of the federal Environmental Protection Agency under President George HW Bush.

Making renewables more competitive

The commission's recommendations "aim to achieve a gradual but decisive shift in the nation's energy policies, toward one that directly addresses our long-term oil, climate, electricity supplies and technology challenges," Reilly said.

Rowe charged that political and regional polarization in the US has produced an "energy stalemate, preventing American from adopting sensible approaches to some of our biggest energy problems. Our commission reached consensus on effective policies because of a willingness to take on cherished myths from both right and left."

Along with calling for boosting federal support for research and development on renewable energy – with the increased spending aimed at making renewables technologies more cost competitive and getting them to market sooner – the panel also urged the federal government to:

- Extend the federal production tax credit for an additional four years, from 2006, when it is set to expire, to 2009, and expanding eligibility to include "all non-carbon energy sources," including so-called next generation nuclear power and advanced fossil fuel generation with carbon sequestration;
- Support the Federal Energy Regulatory Commission's efforts to promote market-based approaches for integrating intermittent resources, such as renewables, into the interstate grid system;
- Create a $1.5 billion program over the next decade to increase production of non-petroleum transportation fuels from biomass;
- Foster a variety of generation resources, including large power plants as well as small-scale distributed energy, renewable generation, or both, in addition to demand reduction; and
- Establish a carbon-emissions trading system.

Carbon trading and 'carbon intensity'

Of all the commission's proposals, its recommendations on creating a mandatory, economy-wide trading system to curb greenhouse gas releases might prove the most controversial.

Under the proposal, the US government would in 2010 begin issuing permits for greenhouse gas emissions. The permits would be based on an annual emissions target that would seek to achieve a 2.4% annual reduction n average GHG intensity of the economy – that is, GHG releases measured in tons of emissions per dollar of Gross Domestic Product.

Most GHG permits would be issued at no cost to emitters, but a small pool – 5% at the outset, gradually increasing to a maximum of 10% – would be auctioned to new entrants.

The commission's proposal also includes a so-called safety valve, or cost-capping mechanism, to limit the total cost of the program to the US economy. The cap would allow additional permits to be purchased from the government at an initial price of US$7 per metric ton of CO_2 equivalent. The safety valve would increase 5% per year in nominal terms "to generate a gradually stronger market signal for reducing emissions without prematurely displacing existing energy infrastructure," the panel said.

Further action to cut US carbon emissions would be linked to efforts by other developed countries and by developing nations to achieve comparable reductions, with a review of international progress in 2015.

"The commission's climate plan explicitly caps the total cost to the economy while reducing emissions. Even in

2020, the estimated cost of the plan per household will be only $30-$100," Reilly said. "This is no Kyoto."

Like the commission's proposal, President Bush's carbon-management policies incorporate the notion of GHG intensity, rather than, as many environmentalists advocate, absolute reductions in US carbon emissions.

But Bush has proposed only voluntary limits on carbon releases and opposes mandatory reductions as well as carbon-emissions trading. The White House and the Republican leadership in Congress worked hard last year to defeat a bill introduced in the US Senate by Republican Senator John McCain of Arizona and Democratic Senator Joseph Lieberman of Connecticut to create a carbon-emissions trading market.

Reilly vowed that the commission's report would not simply fade to dust and pledged that panel members would act this year to see its recommendations implemented. "For more than 30 years, energy has been the graveyard of many a brave policy titan," he said, but insisted that the commission would carry its message "to the highest levels throughout 2005."

Global Wind picks up Gamesa wind farms as Spanish company sets sights overseas

Global Wind Partners, a wind energy development company owned by Australian investment bank Babcock & Brown and Brisbane-based energy infrastructure owner Prime Infrastructure Group, has acquired six wind farms from Spain's Gamesa for more than Eur200 million.

GWP's high bid persuaded such rivals as Iberdrola and Corporacion Eolica (Cesa) to drop out of the contest.

Two of the farms are already operating, while the other four are scheduled to start up by the third quarter of this year. The wind farms have a total capacity of 158MW and add to the wind farms that GWP has in operation and under development in Australia.

The agreement also includes the possible purchase by GWP of a further 450MW of wind energy capacity in Spain from 2005 to 2007, based on already agreed-to principles for valuing the wind farms, which have yet to start up. As part of the agreement, Gamesa will operate and maintain the wind farms for five years, with a possible extension for an additional five years.

The move allowed Gamesa to achieve its goal of selling the bulk of its wind farms in Spain before the end of 2004 to concentrate on air turbine manufacturing and on international expansion. In a separate deal, Gamesa Eolica sold 56% of the 24MW Coriscada wind farm in Spain's Galicia region to Union Fenosa Renovables, renewables affiliate of Spanish utility Union Fenosa, for Eur9 million. The agreement increases Fenosa's stake to 86%.

Gamesa CEO Ignacio Lopez Gandasegui said that "the Spanish wind energy sector is starting to be small for us, and from now on we are looking abroad for most of our activity." Gandasegui said that in the coming year Gamesa will pursue this strategy by selling wind turbines in the US and Germany to compete with world leaders Vestas and General Electric. Gamesa will later look to markets in China and India.

Along with the Australian deal, Gamesa in December also was active in the UK and Japanese markets. The company entered the UK market with the Eur20 million sale of 25 turbines for HgCapital UK WindPower and destined for the Tir Mostyn & Foel Goch wind farm being developed in north Wales. Under the turnkey contract, the 850kw turbines will be installed in the second quarter of 2005. Gamesa also sold eight 2MW turbines for Eur9 million to Japan's JF Engineering Corp, to be installed in its Misato farm near Tokyo.

Gamesa has 15,000MW of wind farms in various stages of development, and has set the goal of achieving up to half its consolidated turnover from markets outside Spain by 2008. Its aim is to grow 10% a year, almost entirely abroad. Wind energy accounts for 75% of turnover and 93% of net profits, yet until 1995 Gamesa was simply an aeronautical company. But a slump in the aeronautical industry and fewer wind farms sales in 2005 means that Gamesa has predicted 2005 net profits of Eur214 million, down from the Eur220 million predicted for 2004, which itself was revised downward in November (*RER, 70/11*).

Italy creates renewables monitoring agency, but regional advocates want stronger moves

Italy's renewables sector recently received a shot in the arm when the Italian government established a permanent monitoring unit on renewable energy. The renewables industry, though, is demanding additional measures in a major industrialized country with a growing dependence on energy imports.

Environment Minister Altero Matteoli said the new body, the National Observatory on Renewable Energy, "will play a determining role in the sector." In addition to measuring the efficiency of renewables plants, it will keep abreast of new technologies, identify opportunities for renewable energy and ensure that national and regional policies do not conflict.

During a meeting between the central government and regional governments in December, local administrators asked to be systematically involved over the long term in adopting new policies for promoting renewables, and that industry and environmentalists also be given representation.

In addition, regional governments are demanding long-term renewables policies from the national government. Tuscany Energy Commissioner Tommaso Franci said that the growth of renewable energy does not hinge exclusively on natural resources but also on know-how and a climate of incentives and policies that encourage investment.

The renewables sector is pushing the government to give higher priority to renewable energy as studies show that Italy's dependence on imports for its energy grew from 84.1% to 84.6% between 2002 and 2003.

The cost of imported energy is expected to reach Eur28 billion in 2004. Demand for electricity is rising about 3% a year amid continuing fears of blackouts.

Electricity generation from renewables has increased from 7.7% in 1990 to 8.7% in 2003, but this figure includes power production from large hydroelectric dams and from trash combustion.

Creation of the national agency to promote renewable energy coincided with a setback for a major wind park on the island of Sardinia. The island's new government blocked construction of all wind units, including those already authorized but not yet completed, amid charges from environmentalists that large wind turbines would damage the environment, wildlife and scenery.

Sardinia's renewables strategy calls for constructing wind energy facilities to generate electricity for 4 million people with an investment of Eur1 billion, a policy that would prevent an estimated 2 million tons of C02 emissions.

Pennsylvania sets renewables standard, establishes quota for solar power

The US state of Pennsylvania will aim to generate 18% of its electricity from renewable energy sources by 2020, under a measure signed into law by Governor Ed Rendell on December 16. The law makes Pennsylvania the 18th US state to establish a renewable portfolio standard for power generators and, according to a manufacturer of energy-efficiency systems, the first state to include demand-side management in its RPS.

The new law creates a two-tiered RPS. Tier I requires that 8% of electricity sold at retail in the state come from so-called traditional renewable energy, a definition that includes a wide range of resources, including photovoltaic solar energy, wind power, low-impact hydropower, geothermal energy, biomass, coal bed methane, fuel cells and methane gas from landfills.

At least 0.5% of Tier I electricity must come from solar energy – "a requirement that is at least three times more ambitious than anything any neighboring states have put in place," the governor's office said.

Tier II requires that 10% of electricity be generated from non-traditional renewables, including waste coal, large-scale hydropower, municipal solid waste, distributed generation, wood manufacturing byproducts and integrated combined-cycle coal gasification technology.

Though the state's policy sets ambitious goals for generating electricity from renewables, its broad definition of renewable energy has sparked controversy (*RER, 67/27*). The Energy Justice Network, a statewide environmental advocacy group, has criticized Rendell for including waste coal in the mix, maintaining that burning waste coal produces more pollution than burning coal.

In addition, concerns have been raised by environmentalists and farmers in western US states that tapping coal-bed methane deposits pollutes groundwater.

At a news event marking the bill's signing, Rendell defended the provision that incorporates waste coal in the RPS.

"The responsible use of resources such as waste coal will help to clean up mine-scarred landscapes while improving the quality of our streams and rivers by eliminating a source of acid mine damage – one of the most pressing environmental problems in our Commonwealth," he said.

Rendell also predicted that the new law would make Pennsylvania attractive to advanced energy companies, cut the state's energy costs and create jobs.

Electricity City, a manufacturer of automation systems for managing energy use, praised state officials for making Pennsylvania the first state to include demand-side management, or energy efficiency, provisions in its RPS – "thereby leveling the playing field between renewables" and demand-response systems, Electricity City executives said. The Elk Grove, Illinois-based company markets a system called the Virtual Negawatt Power Plan that allows utilities to remotely control energy systems and reduce electricity requirements during periods of peak demand.

Company executives said that as a result of the energy-efficiency provisions in the new law, Electricity City would accelerate its product marketing to Pennsylvania utilities.

To bolster the RPS, Rendell signed another law last month providing $10 million in state government funds to the Pennsylvania Energy Development Authority, a state agency that had been moribund but which the governor revived to finance projects that develop and promote renewable energy generated in-state. All told, Pennsylvania has up to US$900 million in tax-free bond financing to offer renewable energy projects.

New Spanish building code could give major boost to solar technologies

Sunny Spain of the tourist brochures could be poised to take a leap forward in solar energy policy when a Building Technical Code, known by the Spanish acronym CTE, is drawn up in the next few months for expected implementation in 2006.

The CTE will cover a broad range of legislation that for the first time is aimed at giving new buildings minimum construction standards. One of the many outline reports being considered will recommend that all new or renovated buildings have solar power systems capable, at a minimum, of heating water.

Bureaucratic obstacles, high costs and a renewable energy preference for wind power means that Spain has 10 times less installed solar energy than Germany, which has far less year-round sunshine.

But the CTE could help foster solar energy by recommending public subsidies, tax benefits and interest-free loans for construction companies to install solar panels. These subsidies are likely to differ from region to region, depending on local factors. As elsewhere in Europe, the south of the country is much sunnier than the north.

Francisco Javier Garcia, director of the Industry Ministry's Institute of Energy Saving and Diversification (IDAE), said that "the construction boom has brought us half a million new homes a year, built almost always without criteria of efficiency, resulting in annual energy demand and consumption growths in excess of 5%. It is a waste. If we carry on like this, we'll have a 40% rise in the domestic sector by 2012 and 100% in office buildings."

The IDAE wants the building code to include public subsidies to encourage solar energy and is convinced solar energy is economically sound. An example it gives is that though it would cost Eur2,500 to install a water-heating installation in a single-family home on the eastern Mediterranean coast, in the unit's 25-year working life the energy saving would amount to more than Eur10,000 and would prevent emissions of 87 tons of CO_2.

Juan Fernandez, chairman of the Thermal Industry Solar Association, said that though the outline CTE is not perfect, it offers a way to meet the government's 2010 goal to install 5 million square meters of thermal solar panels with 143MW of capacity. Spain currently installs 60,000 m2/yr., eight or nine times less than is installed in Germany, and without the CTE the 2010 target appears unattainable.

Javier Anta, chairman of the Photovoltaic Industry Association, called on the government to raise the 143MW target for 2010 to 1,000MW "by installing every year twice as much as the previous year. With public help, this can be achieved."

Solar technology companies such as Australia-based Solco International, which makes solar water heaters, consider Spain a prime market because of government policies that encourage consumer to adopt renewable energy systems (*RER, 70/19*).

BIOMASS

Austria

Citing risk of dust pollution, officials reject biomass project

An application for a biomass component of a proposed Eur9 million biomass/biogas district heating and electricity generating plant in the city of Parndorf has been turned down by environment officials because of concerns over air emissions.

Dust emissions from the biomass facility would have exceeded the 11% limit at times of the plant's maximum output. The scale was tipped by dust arising from local transport of straw to fuel the biomass plant. Facility managers countered that the region's air pollution comes primarily from highway traffic and household heating, much of it carried by air currents from as far away as Romania and Slovakia.

Parndorf, located in the state of Burgenland, is noted for its concentration of wind generators.

The Eur3 million companion biogas plant has been approved. Whether the facility will now be built will be decided by the town council; the Parndorf community owns 90% of the facility's operating company.

Brazil

Biofuels could help transform impoverished Northeast: Lula

Biodiesel will soon become a great source of wealth for Brazil, President Luiz Inácio Lula da Silva predicted during his regular "Coffee with the President" address aired on Brazilian National Radio December 13.

"I'd like to transform the poor Brazilian northeast, in the same way as Roosevelt transformed Tennessee in the United States," said Lula. About 250,000 farm households would be able to earn an additional R$3,000/year by participating in the program, he said, in challenging allegations that the country's biodiesel program is a pipe dream.

Brazil intends to export biodiesel to developed countries that are keen on introducing new fuel mixtures based on vegetable oil as a standard component, the president said. He added that the recently launched biodiesel program would do even better than the country's massive ethanol program Proálcool "because biodiesel is in demand the world over, especially now that the Kyoto Protocol is coming into force."

During the same radio address, Brazil Energy and Mining Minister Dilma Rousseff noted that Brazil would need to import at least 4 billion liters of diesel in 2005, while Brazil's new biodiesel program would help the country replace 800 million liters of diesel with biodiesel. Brazil currently imports about 10% of its diesel consumption.

Lula formally authorized the commercial use of biodiesel in Brazil a week before his radio address by signing into law a provisional measure and two decrees on privileged taxation linked to the national biodiesel program.

Biodiesel has been authorized for use in the form of a 2% mixture, known as B2, with regular diesel fuel, as well as in higher percentages, including pure biodiesel, dubbed B100.

The formal launch of the biodiesel mixture is considered an important milestone in a year-long process during which the federal government, by means of the National Program for the Production and Use of Biodiesel, organized the production chain, defined financing mechanisms, set up the technology base and issued regulations for the new fuel. Palm oil-based biodiesel is first set to arrive at petrol stations in February 2005 in Pará state.

National utility plans to spend millions on ethanol support

Brazilian state oil & gas utility Petrobrás is set to invest US$220 million in transportation infrastructure for sugar cane based ethanol.

Through its Transpetro subsidiary, Petrobrás intends to build new tanks and transport ducts to carry alcohol produced in the state of São Paulo to Duque de Caxias in Rio de Janeiro state, where it would be exported. The project involves constructing three pipelines to connect Sertãozinho, Conchas and Taubaté to the Paulínia alcohol refinery, where it will be shipped through an existing 30-year-old duct to Rio. Brazil is expected to export 2.2 billion liters of alcohol in 2004, a major jump from the 750 million liters exported in 2003.

Dozens more projects selected for Proinfa biomass funding

Brazilian federal power utility Eletrobrás announced in mid-December that 33 supplementary projects had been selected for the Proinfa renewables program following the second public call of for biomass projects.

The company reported that it had received 54 project applications totaling 1,080MW in installed capacity. Eletrobrás drafted a short list of 37 projects totaling 917.97MW from which the 33 projects were selected for contracting with an overall capacity of 772.54MW.

With this latest selection, Eletrobrás raised the overall biomass component of the first stage of Proinfa to the target 1,100MW of capacity to be contracted.

Overall, the first stage of Proinfa now numbers 48 biomass-fueled electricity generation projects. São Paulo state leads with 508.78MW of biomass capacity, followed by Paraná (203 MW), Goiás (85.62 MW), Pernambuco (63.2 MW) and Espírito Santo (60.5 MW).

Brazil-Paraguay accord paves way for biofuels

Brazil and Paraguay signed a memorandum of understanding December 16 to pave the way for cooperation on biofuels production.

Under the agreement, Brazil will contribute to the development of alcohol and biodiesel production in Paraguay, including the production of raw materials.

Brazil's Development Minister Luiz Fernando Furlan and Paraguay's Industry Minister Ernst F. Bergen, who inked the accord, agreed to implement it through a series of projects to be financed by the Brazilian National Economic and Social Development Bank.

Estonia

State utility puts biomass plants on hold pending EU decisions

State power utility Eesti Energia (EE) is awaiting the outcome of applications to the EU for funding before deciding whether to proceed with the development of two new bio-fuelled combined heat and power plants, Raimo Pirksaar, the new head of EE's renewable energy projects business unit, told RER sister publication *Energy in Eastern Europe* last month. The utility is set to submit applications for EU cohesion funding to cover part of the cost of buying equipment.

The first project is a small biogas-fired CHP plant at a pig farm owned by Ekseko in Viljandi in central Estonia. The 1.8MWe, 2MWth plant would cost roughly EKr100 million (US$8.45 million) to develop, said Pirksaar, with power fed into the grid and heat consumed by the pig farm. A feasibility study on the proposal has been undertaken by Denmark's Energy Consulting Network.

In addition, EU funding could cover up to 45% of the estimated cost of a Eur65 million biomass project at Ahtme in the northeast involving the conversion of an oil shale-fired CHP plant to a combination of wood and peat fuel. The new bio-fuelled CHP unit would have capacity of 20MWe and 50MWth as well as four natural gas boilers providing an extra 80MW of thermal capacity to meet thermal peak load and serve as backup to the biomass unit.

The Ahtme plant would replace an existing 30MWe, 138MWth facility, which also has five 48MWth boilers, and which, without flue gas desulphurization systems, would have had to be closed down by 2008 under EU environmental directives.

One renewable energy project already underway is the renovation of the Keila-Joa mini-hydropower plant on the Keila River near Tallinn that is scheduled to be commissioned this month, Pirksaar said. Local engineering company Facio Ehitus is replacing the 250kW plant, which ceased operations in 1998, with a new 365kW Kaplan turbine and generator, supplied by Hydrolink of the Czech Republic.

Germany

Schwerin developer wins OK to build biomass plant in Spain

German renewables developer Inergetic of Schwerin has been granted a permit to construct a 15.5MW biomass plant in the parish of Archidona in Andalusia, Spain at a cost of Eur50 million. The project has already been sold to an unnamed "prominent European energy company," Inergetic executives said.

Construction will begin this spring, and the plant is expected to be commissioned about 18 months later. Electricity will be fed into the network of Endesa Sevillana. Under Spanish renewables law, the power will command a price of about Eur0.068/kWh, Inergetic said.

The company has already developed and installed three 5MW and one 10MW biomass plants in the eastern German state of Mecklenburg-Vorpommern, as well as a biodiesel plant for a consortium of farming and environment enterprises.

Municipal utility makes plans to build, run biomass plants

MVV Energie, a municipal utility, has announced plans to build, develop and operate two biomass facilities. One project is a biomass-fired, heat-only plant for Rubin Mühle, a grain-processing company based in Lahr-Hugsweier in Baden-Württemberg. The Eur1 million plant is expected to be commissioned in 2005.

In the second project, MVV subsidiary Enserva plans to construct and run a wood-chip-fired heat-only facility in Solingen for a plant nursery owned by an organization for disabled people called Lebenshilfe Werkstatt für Behinderte Solingen. The 5,500kW plant will heat a building with 820 square meters of floor space and 4,000 square meters of greenhouse space. Local municipal utility Stadtwerke Solingen (owned 49.9% by MVV Energie) and the municipally-owned holding company BSG (Beteiligungsgesellschaft der Stadt Solingen) also have stakes in Enserva.

India

UK-funded study looks at prospects for producing power from bagasse

UK company Agrinergy last month began studying the potential for electricity generation from sugarcane bagasse with the goal of tapping the renewable energy potential of Indian sugar co-operatives, under a project funded by the Global Opportunities Fund (GOF) of the UK Foreign and Commonwealth Office.

"Electricity generation from sugar-cane residues combats climate change, contributes to energy security

and helps sugar-mills diversify revenue. Many private companies in the sugar-cane producing world are benefiting from this technology, with the help of the Clean Development Mechanism of the Kyoto Protocol," said the British High Commission in New Delhi.

"However, this success has not been replicated in the vast sugar co-operative sector, largely due to barriers to investment. The GOF-funded program will evaluate novel funding structures, including carbon finance, which can overcome these barriers. It is expected that the Agrinergy study will result in an actual investment at a sugar mill," commission officials said.

The study of the sugar industry, which focuses on the western Indian state of Maharashtra and its performance in producing grid-based electricity generation from bagasse cogeneration, is looking at two sugar factories – one managed by a co-operative and the other a co-operative operating under a leasing arrangement with a private company. Studying these differing plants will allow a comparative analysis of the barriers that block bagasse cogeneration.

"We anticipate great scope for disseminating and replicating the results. This will benefit sugar farmers, energy consumers and the world's climate," said Agrinergy Director Ben Atkinson.

Delhi vows continued support for ethanol/petrol mix program

The government has acted to reassure jittery members of Parliament that it would not withdraw support for the country's ethanol-blended petrol program.

Some members of Parliament sought clarification from the government about the reported withdrawal of a mandatory order requiring petroleum companies to mix ethanol with petrol to create a 5% blended ethanol fuel. The program, which kicked off in February 2003, is being implemented in 10 states and three Union Territories – the country's main sugar producing areas. A poor sugar cane crop in 2004 cut the availability of ethanol, as the country's alcohol industry has first call on molasses (*RER, 70/10*).

Insisting that the ethanol-blended petrol, or EBP, program has only been modified, the government told Parliament December 21 that the change directs oil companies to supply EBP if the price of ethanol available to them is comparable to that offered by the indigenous ethanol industry for alternative uses, and if the delivery price of ethanol at a particular location is comparable to the import parity price of petrol. In addition, a sufficient supply of ethanol must be available.

"The government stands committed to the ethanol blended petrol program, as it is intended to support the indigenous sugar cane farmers," said Petroleum and Natural Gas Minister Mani Shankar Aiyar.

A steep hike in ethanol prices in tandem with soaring international oil prices has compounded the problem for oil companies. Fearful of losing popularity, the ruling United Progressive Alliance has rarely allowed petroleum enterprises to increase consumer prices of petrol.

In response, the petroleum companies asked the government to suspend the EBP program for eight months beginning in August and take a fresh look at the program with the new sugar season, which began in October. But the government refused to suspend the EBP program and instead issued a notice October 27 that it intended to modify it.

Petroleum companies have decided to issue fresh tenders for ethanol procurement in the light of the new rules. This will give "a fair chance to the molasses-based alcohol/ethanol industry to offer ethanol either for the EBP program or for alcohol-based chemical industries," said Aiyar.

United Kingdom

SSE plans major investment in biomass co-firing facilities

Scottish and Southern Energy intends to invest about £20 million (about Eur29 million) to develop additional facilities to co-fire fuels from renewable sources in order to replace fossil fuels at its Ferrybridge and Fiddler's Ferry power stations, the utility said December 16.

Direct injection burners are scheduled to be installed at both stations by the end of the next financial year. The new burners will allow coal and biomass to be co-fired more efficiently, increasing the amount of biomass used to generate electricity at power stations, SSE executives said. The burners also would enable SSE to generate electricity from a more diverse range of biofuels.

The stations' electricity output qualifying for the UK government's Renewable Obligation Certificates, totaling 300GWh in the first six months of the 2004-2005 fiscal year, is expected to jump to 1,500GWh per year after the installation of the new burners.

BUSINESS

Germany

Solar energy companies boast robust nine-month performances

German solar technology companies are cashing in on the boom unleashed by the government's improvement to payments for solar-generated electricity at the beginning of 2004.

Solar company Sunways of Konstanz, for example, stepped up turnover by 80% in the first nine months of 2004 to Eur47 million. Pre-tax earnings also improved substantially to Eur2.6 million, compared with minus Eur1.8 million during the comparable period of 2003.

"Strong demand for photovoltaic plant is sustained. Our current order book volume takes us into the fourth

quarter of 2005," said Sunways director Roland Burkhardt. The company produces solar cells, markets solar modules through subsidiary MHH Solartechnik in Tübingen and develops photovoltaic projects.

Solar module producer Solar-Fabrik of Freiburg also reported a substantial improvement in nine-month results. Turnover was up 95% to Eur36.6 million in the January-to-September period compared with the first nine months of 2003, while pre-tax earnings of Eur0.84 million showed an improvement of Eur3.5 million on results from the previous year's first three quarters.

In addition, Phönix Sonnenstrom said that during the first nine months of 2004 the company tripled its turnover and earned Eur1.53 million in profit (*see story, page 16*).

SolarWorld enters TecDax as Repower Systems bows out

Bonn-based solar company SolarWorld has been taken into the TecDax stock exchange index, replacing wind turbine manufacturer Repower Systems of Hamburg, the Deutsche Börse reported in December.

The TecDax index, launched in March 2003, comprises the 30 largest companies from technology sectors in the Prime Standard segment of the Frankfurt stock exchange that rank below DAX shares in terms of market capitalization and trading volume. The index is calculated as a price and performance index by Deutsche Börse.

Spain

Navarre government looks to cut shareholding ties with EHN

The Navarre regional government in Spain took a big step December 20 towards leaving EHN's shareholding by authorizing its public development agency Sodena to sell its 39.85% stake in the company to constructor Acciona for Eur307.1 million.

The government's remaining indirect stake is the 10.42% held by regional savings bank Caja Navarra, for which Acciona has a purchase option that yields in 2005.

GEOTHERMAL

United States

Coso bounces back as Fitch upgrades company's rating

Caithness Coso Funding Corp, which was established to issue secured notes for several geothermal energy partnerships in California, has had its notes upgraded and removed from the Fitch Ratings Watch, Fitch reported December 22.

Fitch Ratings said in November that it had placed Coso's BB+ rating on the $303 million senior secured notes, due 2009, and placed the notes on Ratings Watch Positive following the US Navy's decision to restructure its contract granting Coso exclusive rights to certain geothermal resources. Coso recently won an extension of its contract with the Navy but at a reduced royalty rate on revenues (*RER, 70/12*).

Fitch upgraded Coso's notes to BBB from BB+ and removed the notes from the Ratings Watch based on several factors. "The assigned rating incorporates Fitch's belief that Coso's owners will supply additional capital in the event a payment default on the notes appears imminent," Fitch analysts said. In addition, they noted, "with the extension of the Navy contract, Coso is expected to initiate previously planned capital improvement designed to stabilize the geothermal resource and enhance energy production."

All electricity from Coso's three linked 80MW geothermal plants at the Navy Weapons Center in Inyo County, California is sold to the utility Southern California Edison under three long-term power purchase agreements. Coso pays royalties to the Navy and the federal Bureau of Land Management for using the geothermal resources.

GREEN POWER

Australia

Renewables credits, expansion fuel Hydro Tasmania operations

Hydro Tasmania has agreed to Australia's biggest renewable energy certificate deal, a 10-year contract with New South Wales electricity retailer EnergyAustralia worth A$90 million. The agreement is for the sale of all the renewable energy certificates and green power rights generated from the first and second stages of Hydro Tasmania's Woolnorth wind farm on the island state.

Under Australia's renewable energy legislation, retailers must purchase an increasing proportion of their wholesale power needs from renewable sources each year through 2010, or they must purchase credits for the equivalent. Each REC is worth 1MWh of renewable power. EnergyAustralia has one of the biggest renewables obligations among electricity retailers, given it obtains its power almost exclusively from coal-fired facilities.

For Hydro Tasmania, one of the country's largest generators of RECs, the sale generates extra revenue, enabling it to build more renewable energy capacity, said Chief Executive Geoff Willis. Stages one and two of the Woolnorth project have a total capacity of 64.75MW. A third stage, involving an additional 75MW, is awaiting approval.

Hydro Tasmania recently continued its renewables expansion by securing local government approval for its proposed A$230 million Musselroe wind farm in northern Tasmania.

The 130MW project, to be located at Little Musselroe Bay about 100 kilometers northeast of Launceston, will supply power to about 50,000 households.

The company expects to receive federal government approval for the project in the next few months, said Mark Kelleher, general manager of renewables development at Hydro Tasmania.

The company is also awaiting approval for a 160MW wind farm at Heemskirk, western Tasmania, and has applied for development approval for a 117MW wind farm, called Waterloo, in South Australia. Another Hydro Tasmania project in South Australian, the 66MW Cathedral Rocks initiative, is under construction in a joint venture with Spain's EHN.

United Kingdom

Joint renewables partnership buys utility's green energy assets

United Utilities, the electricity and water distributor for northwest England, said December 20 that it had agreed to sell its green energy assets for £63 million in cash to Novera Macquarie Renewable Energy Ltd., which is jointly owned by Novera Energy and Macquarie Bank of Australia.

Forty green projects with a total generating capacity of 72.7MW, including 29 landfill gas sites, 10 small-scale hydropower sites and one mine gas site, will be sold. "We have been exploring the possibility of refinancing our green energy assets for some time. During the process we received a great deal of interest from parties who were seeking to buy our renewable portfolio," John Roberts, chief executive of United Utilities, said.

In a separate deal announced December 20, Novera Macquarie signed a long-term deal to supply UK company Centrica with about 300GWh of green electricity annually to customers of Centrica's British Gas operation.

The agreement will begin in April and will run for more than 10 years, meeting around 5% of Centrica's rising renewables obligation. No financial details of the deal were disclosed.

Electricity supplied to British Gas customers will be delivered from a range of renewable sources, including hydroelectric, landfill gas and an onshore wind farm. Centrica also expects to invest up to £750 million in renewable assets in the coming years and has interests or ownership of seven wind farm projects, the company said.

"This provides us with long term access to green electricity for our British Gas customers," Jake Ulrich, managing director of Centrica Energy, said.

POLICY

Austria

Renewables markets uncertain as move to rework law collapses

The government failed last month in its attempt to amend legislation governing renewables output, support preferences and premium payments, leaving a law in force that some observers maintain perpetuates a payment system that cannot be financed even over the short term.

The current law requires that the economic affairs minister, working with the country's nine provincial governors, annually review and issue tables of premium payment tariffs. Parliament must concur with these tariffs for funding to be available. The arrangement fell apart last year, and amid political squabbling renewables producers received no premium payments until March. Economic Affairs Minister Martin Bartenstein and Environment and Agriculture Minister Josef Pröll reached an agreement last fall to amend Austria's renewables law, but opposition was expected in Parliament (*RER, 69/12*).

The economic affairs ministry is reported to have readied a tariff scheme for 2005 that would cut premiums by as much as a third, a move certain to be challenged by renewables operators.

An amended version of the renewables amendments is set to be negotiated and presented again to the legislature later this year. The measure would raise the 2010 target for wind, biomass/biogas, photovoltaics and geothermal from the present 4% to 7% of electricity consumed, despite Greens' demands that the target be increased to 10%.

In exchange for their essential backing the opposition Social Democrats will insist that the bill include combined heat and power support, and that quotas for biomass and biogas be reduced while quotas for wind area are raised. Whether they also succeed in shifting more of the renewables cost from households to industry remains uncertain. The government's goal of introducing competition based on efficiency and market criteria into the allocation concept would be retained.

Meanwhile, projects approved before year-end 2004 set to be in operation before year-end 2005 will proceed; other projects have been put on ice pending resolution of legal conditions essential for gaining financial backing.

Australia

Access rules seen as magnet for renewables investment

Western Australia has introduced new network access rules that are expected to attract more investment in

renewable energy generation by providing generators fairer access to the electric grid.

The new Western Australian electricity network access code came into effect December 1 and governs commercial arrangements for industry players that use the poles and wires in Australia's largest state. Previously, the monopoly position held by the state-owned Western Power Corp and its market dominance through the electricity supply chain were seen as inhibiting competition in the industry, and the new code is designed to address issues arising from that dominance.

Western Australia has been working to introduce more competition into the electricity industry in the state despite widespread opposition to the privatization of the state-owned utility. Though most renewable power ventures in the state are owned by Western Power, some non-government-owned projects have emerged in recent years, such as Global Wind Partners' 89MW Alinta wind farm project near Geraldton.

"This puts downward pressure on prices and also means better service and choice for consumers," said Western Australian Energy Minister Eric Ripper. "Genuine competition opens up opportunities for private investment in power generation and retailing, including renewable energy producers."

Azerbaijan

International ties strengthened to promote renewable energy

Azerbaijan is working with companies, nongovernmental organizations and government agencies in Denmark, Norway, Iran and Turkey to bolster its renewable-energy sector, the government news agency AzerTac reports.

The news agency said December 8 that the Central Asian country's Ministry of Ecology and Natural Resources had signed a memorandum of understanding with Denmark's Ministry on Environmental Protection Issues designed to implement provisions of the Kyoto Protocol on climate change, which both nations have signed. While Azerbaijan need not reduce its greenhouse gas releases to meet its Kyoto targets, Denmark must cut its carbon emissions by 21 million tons, AzerTac said. As part of Denmark's overseas carbon-reduction projects, Danish companies will develop an array of energy projects, including expanding renewable energy use.

The agreement with Denmark follows a recent meeting between government officials from Azerbaijan and Iran, after which the Iranian Ambassador Afshare Suleymani was quoted as saying that Iran was prepared to help Azerbaijan generate electricity from wind, solar and hydroelectric power.

AzerTac also said that Solaris Ltd., which makes solar and wind energy equipment, would work under the sponsorship of the Norwegian Refugee Council to install renewable energy equipment in a laundry for refugees from the Azerbaijan-Armenia conflict who have settled in Beylagan province, as well as heating systems in the cities of Nabran and Lankaran.

In addition, solar and biogas energy systems produced by Gunesh, a research and development group, and by the Turkish company Kiska Muhandisli have been installed in the provinces of Ismayilly and Lerik. Similar systems will be tested soon in Guba province and the city of Nakhchivan, AzerTac reported.

Azerbaijan has launched a drive to develop solar and wind energy to supplement its bountiful petroleum reserves (*RER, 70/15*). Oil resources in the country have gone largely untapped, according to the US Central Intelligence Agency, because of corruption and inefficiency.

Brazil

Renewables sector looks to cash in on carbon trading

The Brazilian renewable energy sector, especially biomass-fueled electricity generation, is set to receive a lift from the recent launch of a national carbon credit trading program.

The program could benefit the majority of small hydropower and biomass projects that have recently been selected in the first stage of the country's Proinfa renewable energy program.

The Brazilian Emissions Reduction Market (MBRE) was opened December 6 by the Brazilian Ministry of Development and Industry and the Mercantile and Futures Exchange (BM&F) of the São Paulo stock exchange. The first carbon credit certificates for projects are set to be issued by the MBRE in early 2005, to be followed by the creation of a secondary market for carbon credit derivatives set to be launched in the Rio de Janeiro stock exchange in mid-2005 by BM&F.

The BM&F will set up a public database of projects in Brazil that could generate carbon credits in the future and which follow the basic guidelines of the Kyoto Protocol's Clean Development Mechanism. The CDM allows carbon emitters in developed nations to receive emission-reductions credits by supporting renewable energy and carbon-reduction projects overseas.

Energy agency foresees role for hydrogen from ethanol

The Brazilian government will make final plans for using hydrogen as an alternative energy source by June, Ministry of Mining and Energy representative Maria das Graças Foster said last month.

Speaking at a seminar in Brasilia on energy for the 21st century, Foster said the aim is to start commercial exploitation of the fuel produced from ethanol in 10 years. Brazil has a project for using hydrogen for energy production under development by a group of 20 national universities.

Chile

Energy agency, UN sign pact to assess sustainable energy

Chile's energy regulator Comisión Nacional de Energía (CNE) and the United Nations Development Program (UNDP) have signed an agreement to prepare a joint assessment of the Chilean energy sector and develop proposals for a sustainable energy policy, CNE officials said December 6.

The two institutions will follow up on recent initiatives by the Chilean government to ensure greater sustainability for the nation's energy sector by eliminating barriers to introducing small renewable energy schemes.

The project will be financed with US$80,000 from the UNDP's Thematic Trust Fund (TTF) for Sustainable Energy and US$111,000 from the Chilean government.

Croatia

Parliament OKs new laws expected to aid renewables

Croatia's renewable energy sector stands to gain from the recent adoption of three energy laws designed to speed up market liberalization in Croatia and the restructuring of power utility Hrvatska Elektroprivreda. The bills were adopted by the country's Sabor (Parliament) December 3.

The troika includes a law on regulation of energy activities, an electricity market law and a law on changes and amendments to Croatia's current energy law. The new electricity market law in Article 8 explicitly stipulates, "The utilization of renewable energy sources and cogeneration is in the interest of the Republic of Croatia."

It also provides that energy producers that use waste, including garbage, or renewable energy to generate electricity or heating energy be entitled to the status of privileged energy generator. All privileged generators, except hydropower schemes with a capacity larger than 10MW, are eligible for advantageous prices.

Another key provision allows the government to establish an agency for energy efficiency and renewable energy sources "by means of a government decree."

EU

EC, Russia put renewables on agenda for discussions

Promoting investment, power grid links, energy savings, efficiency and renewables, as well as improving and extending the energy transport infrastructure, are all priorities of future EU-Russia energy talks, Russian Energy Minister Victor Khristenko and the European Commission's Director General for Energy Francois Lamoureux concluded in an EC progress report on the talks last month.

Khristenko is pushing to develop Russia's legal framework to encourage foreign investment in general and two projects in particular—the Baltic gas pipeline, linking Russia to northern Europe, and synchronizing the EU and Russia power grids. Russian and EU industry are also cooperating more closely through a steering group looking at upstream investment, transmission, the trade regime and energy savings and efficiency.

Germany

Renewables subsidy rises in 2004 as generation increases 30%

Premium payments for renewables power will cost German electricity customers Eur2.2 billion in 2004, up 16% on the 2003 figure, electricity federation VDEW reported. The rise results from an increase in the volume of renewables power fed into the national network.

Networks association VDN, a subdivision of VDEW, forecasts that renewables generation that is eligible for premium payments under the renewable energy law will total 37TWh in 2004, 30% up on the 2003 figure of 28.5TWh.

Average payment per kWh for the renewables power will fall by 1% to Eur0.0905 this year, compared with Eur0.0914 in 2003, according to VDN figures.

Research center test systems for PV, biogas technology

Solar institute Iset in Kassel has launched three pilot renewable projects "aimed at making a contribution to securing Germany's lead in renewables technology through continuing research and development," Chairman Jürgen Schmidt said.

One project is designed to test a solar system for a hospital in Gambia. A photovoltaic-battery-diesel system will supply electricity for cooling medicines, operating medical machines and supplying the hospital's lighting.

The other two projects, based in Germany, will examine the performances of a 5kW wind turbine for stand-alone or network-connected use, especially when used in hybrid energy systems, and of a micro-gas-turbine that uses biogas to generate both electricity and heat.

The AeroSmart5 wind turbine is installed at Iset's test field in Immenhausen near Kassel, and the work involves cooperation with companies SMA and Aerodyne. The microturbine is installed at Gut Schloss Eichhof in Bad Hersfeld in the state of Hesse.

Israel

New rules on private power give leg up to renewables

Power plants that produce electricity from renewable resources would have an advantage over conventional plants, under regulations on building and operating private power plants that Israel's National Infrastructure Ministry issued in late December.

The regulations would allow private power producers to compete head-on with the state-owned Israel Electric Corp. A ministry official said the regulations would distinguish between clean energy and fossil fuel power plants, and would give a tax break for building so-called environmentally friendly plants.

The rules also would guarantee government backing for up to 80% of the projected cost of private power projects. This provision is expected to help investors in private power to obtain bank financing for projects, a hurdle that has held up several projects in recent years.

In addition, the regulations stipulate that if a private producer fails to find customers for its electricity production, the state-owned utility must purchase the electricity at a rate set in advance. Private electricity producers that sell all of their production to private customers would garner further tax benefits – a 10-year tax exemption from corporate taxes. The tax exemption will be in effect for those producers that receive licenses from the National Infrastructure Ministry by March 2006.

Switzerland

Some see blight, others hope in Swiss renewables projects

The Swiss government's plan to increase wind power generation from under 10GWh to as much as 100GWh in the next decade will be opposed by a new citizens association called Landscapes without Windpower (Landschaft ohne Windkraft).

The group has headquarters in French-speaking Switzerland at La Chaux-de-Fonds in canton Neuchâtel and in the German-speaking area at Pfungen in canton Zurich. It claims wind power is expensive, unreliable, noisy, and destroys the landscape and decimates bird populations. Suisse Eole, the official promoter of wind power, accused the new association of being alarmist and pointed out that the government's wind promotion concept, which identifies 28 suitable sites for wind energy development with minimum impact on the environment, was developed by the Federal Office of Energy (SFOE) in collaboration with the cantons and leading environmental groups, including the WWF.

Meanwhile, Swiss and German energy consultants Econcept of Zurich, Consentec and IAEW of Aachen said the growth of wind energy in Europe presents Switzerland with a unique opportunity for marketing power from Swiss dams as regulation energy to compensate for fluctuations in wind power. Participation in the international regulation energy market could earn the Swiss an estimated SFr400 million a year up to 2040.

Industry touts procurement idea as substitute for government plan

Switzerland's electricity supply industry is promoting an alternative to the government's scheme for the promotion of renewables in the draft electricity supply law, which would require payment for feed-in to the grid that covers the full cost of production. The aim is to increase renewables production by 5.4TWh annually up to 2030 – 10% of total current demand.

Describing this goal as "very ambitious," Axpo Group CEO Heinz Karrer pointed out that Germany's EEG renewables law succeeded in generating large amounts of renewable energy "but at horrendous cost in subsidies, approaching Eur5 billion a year."

Instead, Karrer and others propose creating the Swiss Renewables Agency, a nonprofit organization that plan annual orders for renewables, develop a so-called optimum procurement portfolio and wait for potential suppliers to make offers. The best offer would win, and the difference between its price and the general market price for conventional electricity would be integrated for a given period of time in a transmission grid payment, or "stamp," and shared among all subscribers. Additional costs would range between 0.15 cts and 0.20 cts/kWh.

United Kingdom

Ireland approves 235MW of new renewables capacity

Irish Energy Minister Noel Dempsey has given the green light for 235MW of new renewable energy generating plant. The projects announced replace other projects that could not proceed for a variety of reasons and include new projects approved following EU Commission state-aid clearance for an additional 140MW above the previous target.

Almost all the new capacity will come from wind energy. Ireland has now connected or contracted for renewable energy capacity of 896MW. The Commission for Energy Regulation is making final plans to offer contracts to 33 applicants with projects totaling 330MW that were suspended after ESB National Grid recommended imposing a moratorium on renewable energy projects in December 2003.

The CER expects to finalize all 33 contracts by April, which would bring Ireland's total connected and contracted capacity to 1226 MW. The CER projects that Ireland needs an extra 1200MW to reach its EU target of 13.2% of electricity consumption derived from renewable sources by 2010.

New funding for transmission seen as boon to renewables

UK energy regulator Ofgem is touting a new funding mechanism to strengthen electricity transmission networks in Scotland and the north of England as a boon to renewable energy projects.

The new mechanism means that the amount of money that can be spent on transmission reinforcement to accommodate more renewable generation increases by more than 50%, from £360 million, proposed initially, to £560 million. This money can be spent subject to planning approval for individual projects, Ofgem said.

The new arrangements allow the UK's three transmission companies, Scottish and Southern, ScottishPower and National Grid Company, to invest in "an efficient and timely way," Ofgem officials said, therefore protecting customers. "The next price control review for the transmission companies, which is not due until 2007, is the time when decisions about future investment would normally be made. We have decided to take action early to respond to the need for investment to accommodate new renewable generation," said Ofgem.

"This action, combined with the opening of the new GB-wide electricity market next April, will ensure that neither a lack of capacity nor a marketplace will act as a barrier to the efficient development of renewable sources in Scotland," Ofgem's CEO Alistair Buchanan said. He added that since initial proposals were announced in August 2004, an extra £200 million worth of investment, in addition to the £360 million approved at the time, has been approved, although transmission companies may need to gain planning approval before new lines can be built. Further funding could be made available for other projects at the next transmission price control review, or by generators that commit to longer-term charging arrangements with NGC.

Government publishes guidance on planning for renewables

The UK government Thursday published new planning guidance for local authorities December 16 to ease development of renewable energy sources. The guidance, issued by the Office of the Deputy Prime Minister, is aimed at helping the UK reach government targets of producing 10% of electricity from green energy by 2010 and 15% by 2015.

The government said that "positive planning policies are needed to expand the number of renewable schemes and ensure they are sited in appropriate locations." The new guidance explains what makes a sound renewable energy application, how to assess the impact of projects on the landscape and how to give community residents greater involvement. The guide provides advice on the broad range of renewable energy technologies, including biomass, hydropower, solar and wind power.

United States

Renewables firms forge alliance to represent political interests

Ten organizations representing US renewable energy businesses came together December 20 to form a coalition for advocating policies designed to bolster renewable energy production.

The Renewable Energy Business Alliance, comprising such groups as the American Wind Energy Association, the Geothermal Energy Association, the Solar Energy Industries Association and the USA Biomass Power Producers Alliance, has at the top of its agenda making permanent the federal production tax credit. The PTC, which Congress revived last fall after it expired in December 2003 (*RER, 69/3*), offers an inflation-adjusted 1.8¢/kWh tax break for renewable-energy facilities that come on line before the end of 2005.

Making the PTC permanent would provide the stability needed to give businesses an effective incentive to invest in renewable energy facilities, alliance leaders said, and avoid the boom-and-bust cycle that has plagued the US wind energy industry. The PTC has expired and been renewed by Congress three times since 1992, and the American Wind Energy Association blamed extended delays last year in renewing the tax credit for a severe drop-off in wind power investments.

SOLAR

Brazil

Initiative aims to bring solar tech to marketplace

A new project to develop commercially competitive Brazilian solar technologies is set to be funded with Real$4 million (US$1.47 million). The new program, called Eletrisol, has as its initial goal the production of 200 solar panels in a pilot plant by the end of 2006. The prototype would be offered to companies interested in developing the technology on a commercial scale.

Eletrisol is funded by the federal Ministry of Science and Technology, the Finep Agency, power utilities Eletrosul and CEEE, and oil and gas company Petrobras.

China

Solar/wind energy system powers up at wind park

China's first wind/photovoltaic hybrid system has begun commercial operations at Nan'ao Wind Power Park, the government-managed People's Daily Online said December

16. The 100kw PV equipment used in the system is also China's first solar photovoltaic system that has produced commercial-scale electricity for the grid.

"The wind power generating equipment in the system makes use of high-altitude wind energy, while the photovoltaic equipment utilizes the ground solar energy between the turbines," according to People's Daily Online. "Meanwhile, the sharing of power transmission and transformation equipment and management personnel reduces operations cost."

The online news service said the project indicated that "China has entered a new phase in exploiting and utilizing photovoltaic power generation" and could serve as a model for constructing large wind/PV commercial-level projects. Huaneng Renewable Energy & Environmental Corp, a subsidiary of the state-owned, government-administered China Huaneng Group, developed and built the system.

Germany

Ministry finances PV research to foster industry expansion

A photovoltaic technology evaluation center is being established at the Fraunhofer Institute for Solar Energy Eystems in Freiburg with the goal of speeding the transfer of innovations from photovoltaic research and development into commercial products. The research center, which will be known as PV-Tec, will be set up with Eur11 million from the federal environment ministry.

"We want to secure and expand Germany's lead in photovoltaic research," said Environment Minister Jürgen Trittin, adding that the center will be the largest environment ministry research project in the renewables sector so far. The ministry's aim is to achieve a steady reduction in costs of photovoltaic electricity generation "so that the sector can achieve its enormous potential for expansion," he said.

The center will enable solar cell and component manufacturers to test the suitability of products and plants for serial production on a modern industrial-scale production line. "It's all about closing the gap between research and development and small-scale production on a laboratory scale on the one hand, and industrial mass production on the other," Trittin explained.

The center will also be open for use by other research centers and companies, he said. An industry committee will be set up to provide advice on the center's operations.

Michelin, Voltwerk collaborate on 10MW PV installation

In a joint project, tire manufacturer Michelin and solar project financer Voltwerk, part of the Hamburg-based Conergy Group, plan to install 10MW of photovoltaic capacity on roofs of Michelin property at four locations in Germany. The companies said the PV systems would constitute the world's largest solar project.

With work at two sites already finished, the Eur50 million investment is scheduled to be completed and commissioned in mid-2005. The Michelin/Voltwerk partnership will run for the next 20 years, Voltwerk executives said.

Solon opens 60MW factory, invests in Dutch PV company

Solar module manufacturer Solon has opened a factory in Greifswald in northeast Germany. The Eur8 million plant has annual output of 60MW, or about 300,000 modules, and employs 100 people. It produces modules with capacities ranging from 180 to 500 Watts and adds to Solon's existing factory with annual output of 30MW, located in Berlin.

Production for 2005 is already completely sold out, company representatives said. For 2004, the company, based in Berlin, expects to have 12% of the 300MW market for photovoltaic capacity installed in Germany.

In addition, Solon in mid-December invested Eur0.7 million in a 12% stake in Dutch solar cell manufacturer Solland Solar Energy Holding, a company founded in 2003. Solland plans to commission its first solar cell factory in Aachen-Heerlen, close to the German-Dutch border, with annual output of 20MW in autumn 2005. Solland executives said the company would manufacture "a particularly efficient type of solar cell" under a license acquired from Dutch energy research institute ECN.

Phönix secures OTC listing, reports strong earnings in '04

Phönix Sonnenstrom, which produces solar energy systems, has launched over-the-counter listing of its 5 million shares at stock exchanges in Munich, Frankfurt, Berlin/Bremen and Stuttgart. The Baader Wertpapierhandelsbank arranged the listing.

The solar technology company first issued shares back in 2001 in a private placement that attracted 3,500 stakeholders and has now complied with shareholders' requests for a formal trading platform for their stakes, Phönix Sonnenstrom representatives said, "as well as giving interested investors a chance to participate in profitable growth of the company." During the first nine months of 2004, it tripled turnover to Eur47.4 million and achieved a profit of Eur1.53 million, compared with a loss of Eur1.1 million in the same period in 2003.

Phönix also reported that it has signed an 8MW framework contract with French module manufacturer Photowatt International for 2005, "securing large volumes of modules early in order to offer marketing partners secure supply in times of high demand," the company said.

The contract covers deliveries of the polycrystalline module PW6-230 with 230 Watts, exclusively marketed by Phönix in Germany, and the module PW 1650 with 165/175 Watts. It also includes the new moncrystalline series produced by Photowatt, known as PWM 1650 with 165/175 Watts, which Phönix will introduce to the German market. Photowatt has been supplying Phönix with modules since 2001, with steadily growing annual volumes.

The company, based in Sulzemoos, in November opened what it said is the largest greenfields photovoltaic plant in Germany (*RER, 70/18*).

Q-Cells expands production, unveils jazzed-up solar cell

Solar cell manufacturer Q-cells has begun work on a new production line that is expected to raise capacity from 170MW to 320MW annually. The capacity expansion, slated for completion in the second quarter of 2005, is expected to create 100 new jobs.

In addition, Q-Cells plans to begin production of its new 8-inch "high performance" multi-silicon crystalline solar cell in the first quarter of 2005. The company said performance of the new cell will be 97% higher than that of the 6-inch cell, the current standard product. "With a cell thickness of 330 microns, the 8-inch cell output is at least 6.4 Watts," said the Thalheim-based company.

Claiming to be the largest solar cell producer in Europe, Q-cells also stressed the importance of expanding its export share, which currently accounts for 30% of output. "We want a broader base to participate more in the worldwide solar energy boom. We will also thereby strengthen our position as an independent producer and international partner for module manufacturers," company executives said.

Solar funds for new projects make debut in Germany

Das Grüne Emissionshaus in Freiburg, which until recently focussed on financing wind projects, is offering its first solar fund to investors to finance a 2MW photovoltaic rooftop plant. The system will be located in the city of Pfersdorf in Thuringia and will be developed by solar technology company Meridian. The fund aims to raise Eur2.4 million in equity for the Eur9.4 million investment. Fund marketing is by ee-direkt, a 100% subsidiary of Grüne-Emmissionshaus, and the Umweltbank in Nürnberg.

IFE Projekt- und Beteiligungsmanagement of Oldenburg is also marketing a new solar fund named Auriga to finance a portfolio of 11 turnkey photovoltaic plants. Most of the facilities, with a capacity totalling 500kW, would be built in the states of Bavaria, Baden-Württemberg and Saarland. The fund, with a volume of Eur0.7 million, would provide equity for the total investment of Eur2.45 million.

Israel

Shekel Technologies joins with BP unit to build solar plants

Israel-based Shekel Technologies Ltd has signed an agreement with Tata BP Solar, a subsidiary of the giant Indian holding company, to participate in a joint venture to build solar power plants in India. The agreement was announced during a meeting with a high-level Israeli business delegation last month led by Industry and Trade Minister Ehud Olmert.

The venture will use technology developed by Weizmann Institute of Science Professor Jacob Karni that uses solar-based gas turbines with energy storage capability.

Shekel said the Indian company will invest millions of dollars in the new venture. "The potential of the Indian market is estimated at US$7 billion to US$8 billion a year," said Avi Shekel, president of Shekel Technologies. The Israeli company is also looking to set up similar partnerships in the US, Spain, China, and Australia. Shekel Technology is owned by Israeli and American investors.

In a related development, Israel's Tahal Group said it is bidding on a $300 million tender from the Indian state of Rajasthan to build and operate a solar power plant. Tahal, a leading Israeli engineering firm, said it is bidding together with Bet Shemesh-based Solel Solar Systems Ltd.

Spain

With 2012 Olympics in mind, Madrid builds PV aquatic center

Madrid has started to build a 17,000-capacity aquatic center for the 2012 Olympic Games that will feature solar energy. The roof will consist of 900 square meters of solar collectors to heat swimming pools and other water facilities, as well as a photovoltaic panel with 1,088 solar modules to generate electricity for the center.

The center, part of Madrid's bid to stage the 2012 Olympics, is scheduled to be completed in 27 months and will be used as a municipal swimming center whether or not Madrid is selected.

WATER

Brazil

Utility auctions capacity from small hydro plants

Brazilian power utility Celesc in the state of Santa Catarina organized an electricity auction for the sale of

45MW, on average, of its own small hydroelectric capacity, or approximately 400GWh/year from its 12 small hydropower plants that total 81.29MW of installed capacity.

Thirteen bidders submitted binding offers totaling 1,914GWh. Celesc reported that it sold an average of 27MW of electricity, amounting to about 60% of the capacity on offer. Electricity from the remaining 18MW of capacity is slated for sale at future auctions. Celesc prior to the auction stipulated that it would only consider bids higher than R$80.66/MWh.

Deliveries to the selected bidders are set to start between January 2005 and July 2006 and will last for up to eight years.

This was Celesc's first auction based on a new set of rules for the country's electricity sector. Under the new model, Celesc Generation is not allowed to supply power directly to Celesc Distribution without first organizing a sale.

Norway

WVK commissions hydro plant, looks to acquire water rights

Wasserkraft Volk commissioned Norway's first privately-owned hydropower station in mid-December on the Urlandaga River in the far north of the country near the town of Mo I Rana. The 1.6MW Pelton turbine facility will generate around 6.7GWh annually.

Construction and installation was completed within seven months of getting the order, the company said. Wasserkraft Volk declined to reveal the customer, merely stating that the plant owner is a joint venture between an energy utility subsidiary and a small company. The stock company, whose shares are traded only by Valora-Effekten Handel in Ettlingen, also said it plans a capital increase for next year, but did not give details.

To further the construction and use of hydropower, WKV revealed that it has recently begun to acquire water rights to build and operate its own hydroelectric plant.

WIND

Brazil

Tramandai wind farm clears last hurdle with grid hook-up

Brazilian Elebrás/Innovent consortium signed a contract December 14 to connect the planned Tramandaí wind farm to the grid of state utility CEEE. The total investment amounts to US$91 million.

Elebrás President Roberto Jardim said the company intends to install 47 wind generators with 70MW of generation capacity.

"The last hurdle before the effective launch of construction has been cleared," Rio Grande do Sul Energy Secretary Valdir Andres noted. Andres also said the state government is in talks with several foreign companies about setting up a wind energy equipment factory in Rio Grande do Sul.

Canada

Manitoba Hydro, AirSource ink 25-year power purchase deal

AirSource Power Fund has broken ground on Manitoba's first commercial wind energy project, the 99MW St. Leon wind farm, and provincial utility Manitoba Hydro has signed a 25-year agreement to purchase power from the C$187 million development, located about 140 kilometers southwest of Winnipeg.

Government officials and Airsource executives were eager to announce the project with a December ground breaking, but construction of the project will begin in earnest in the spring and is set for completion by the end of the year.

Manitoba is one of the last Canadian provinces to install commercial wind generation, but AirSource director David Kerr said it has "arguably the best wind resource in Canada." The provincial government said it plans to facilitate the development of up to 1000MW of wind energy over the next decade.

"Projects such as the wind farm will help rural communities harvest the positive winds of economic change by diversification that helps smooth the inevitable peaks and valleys of the traditional agricultural economy," said Premier Gary Doer.

AirSource, a limited partnership created by Algonquin Power Income Fund and Manitoba-based Greenwing Energy Inc., will pay farmers in the St. Leon area more than $9 million in land rentals over the next 25 years. AirSource has selected Vestas to supply 63 V82 wind turbines.

SkyPower sets plan to construct 200MW wind farm in Quebec

Toronto-based SkyPower Corp has signed an agreement with Hydro-Quebec Production to build a C$300 million, 200MW wind project in the Rivière-du-Loup region, located on the south shore of the St. Lawrence River.

The initial test phase of the project, set for completion in late 2005 or early 2006, will see construction of the first 9MW of installed capacity. The remaining turbines will be operating by the end of 2006, SkyPower CEO Kerry Adler said.

The utility's distribution arm recently selected two developers to build 990MW of wind power in Quebec and plans to release a call for another 1000MW (*RER, 70/22*), but the SkyPower deal is the result of business

discussions with Hydro-Quebec's production arm, which will buy all the project's output under a 21-year power contract.

The purchase, said Quebec Natural Resources Minster Sam Hamad, confirmed Quebec's position as "a North American leader in wind development."

The Rivière-du-Loup wind farm is SkyPower's first, but the company also has 19 projects at various stages of development in Canada and two in the United States with a total capacity of about 4700MW. It hopes to expand that capacity, said Adler, not only by developing its own projects but by establishing joint ventures with others. "We're in business to do deals," he said.

China

Three US companies team up to develop wind farms in China

Chicago-based US Wind Farming Inc. said December 6 that it had reached an agreement with two other companies to develop and own two 100MW wind energy/hydrogen cooperatives in China. Terms of the deal were not disclosed.

Joining US Wind Farming in the ventures will be the US Global Corp, Northbrook, Illinois, and Cambridge Energy Group of Northfield, Illinois. US Wind Farming said it also was considering establishing hydrogen operations with Cambridge Energy gas-fired power plants in China and is conducting discussion with US Global and Cambridge Energy Group about other domestic and global projects.

The deal comes on the heels of an agreement between US Wind Farming and several international corporate partners, which were not named, to build and operate a 100MW wind energy/hydrogen facility in the Baltic Coast area of Poland. The Polish government will provide a US$10,000 grant to help finance the project, and Poland's state-owned utility has agreed to buy the electricity produced. Contacts for purchasing the hydrogen generated are being negotiated, US Wind Farming executives said.

Vestas snares turbine contract, sets up local blade factory

Vestas Wind Systems has secured a Eur51 million order for 50 V80 2MW wind turbines for the Rudong Wind Power Concession in China's Jiangsu province, the Danish company said December 31.

The contract is contingent on some of the machinery for the wind power project being manufactured locally, the company noted. As a result of this requirement and what Vestas executives called "the large potential for wind power in the China," the company plans to build a blade factory in China. Vestas, which already has a sales and service office in Beijing, said construction of the factory "is part of our strategy related to the expansion of manufacturing capacity close to new markets."

CEO Svend Sigaard, noting China's enormous appetite for energy, said wind power plants could be set up quickly, giving them a big advantage over other energy sources. He expects wind energy to play a growing role in the country's energy mix.

The Rudong initiative is one of 20 concession projects, each 100MW, that the government's National Development and Reform Commission plans to establish before 2010, Vestas said.

Czech Republic

Construction of large wind farm faces environmental review delay

One of central Europe's largest renewable energy projects has been delayed, ironically because of environmental concerns.

Plans by Czech Venti, a 50/50 joint venture between Czech company Proventi and the UK's Virtual Utility, to build a Eur450 million wind park in north Bohemia, comprising 167 wind turbines with combined installed capacity of 334MW, are facing delays because it has still not received the required Environmental Impact Assessment (EIA) from the Czech Environment Ministry a year after it was first expected.

The main problem for Wind Park Chomutov, as the project is known, is its location. Sited in the Krusne Hory Mountains, the wind farm partially encroaches onto Krusnohorske Raseliniste, an area of peat bog that is protected by Natura 2000, the European Commission's nature conservation program, which protects birds and their habitats. It appears that Czech Venti might have no option but to move part of its original project to avoid the protected area.

Antonin Rais, board chairman of Czech Venti, confirmed that the EIA approval process was still underway but declined to reveal details. Construction work, he said optimistically, could still begin in July once the necessary construction permits and local authority approval have been received, which would be given after the EIA is completed. The wind turbines would start delivering their first electricity in the second half of 2006, with completion slated for 2007, said Rais.

That still represents a significant delay to Czech Venti's plans. Vice Chairman Michal Kraumann said last year that he expected the EIA in spring 2004 and completion in early 2006.

A spokeswoman for the Environment Ministry blamed the delays on incomplete documentation from Czech Venti. "The originally submitted documentation had many shortcomings that took the investor a long time to put right," she said. "Czech Venti has now submitted reworked documentation to the ministry, but some further documents are still missing." Once those are submitted, an appraiser will be appointed and public consultations can be held, she said.

Estonia

Pakri Tuulepark mulls expansion of wind power on Gulf of Finland

Estonian windpower producer Pakri Tuulepark is looking into the possibility of developing a further 50MW at its Pakri wind farm on the southern coast of the Gulf of Finland, company director Martin Kruus said December 2.

The company, wholly-owned by Norwegian hydropower producer Vardar, is currently completing construction of an 18.4MW park on the Pakri peninsula, after which will focus on expanding the project's capacity, Kruus said. Kruus, formerly head of renewable energy projects at state power utility Eesti Energia, said that the plans were still at an early stage.

"There are still many details to be resolved before we are ready to make a final decision," he said. "We are also hoping that the support scheme for renewable energy in Estonia improves and gives better security and feasibility for projects of such scale."

Pakri Tuulepark expects to complete the commissioning of the first phase of the project, which will comprise eight 2.3MW turbines supplied by Germany's Nordex, in March. Civil works are being carried out by Sweden's Skanska. Kruus said that to date the site's foundations had been completed as well as the mounting of the first tower, with cabling work underway. Once completed, the wind park is expected to generate 56GWh annually.

The total project cost of Eur24 million is being partly financed under a Kyoto Protocol Joint Implementation accord signed between Estonia and Finland in January 2004. Under the JI agreement, Finland will pay Eur2.5 million for 500,000 tonnes of CO_2 emissions reductions between 2004 and 2012. The project was conceived and initially developed by Denmark's Global Green Energy before being sold to the Vardar Group in May 2004. Finland's EMP Projects assisted with the JI financing.

New wind capacity set for Estonia's coastline

Roheline Ring, a local privately-owned wind power producer, plans to develop a further 22MW of new wind capacity at two sites on Estonia's western coastline, co-owner Tullio Liblik said last month.

The Saaremaa-based company, which already owns and operates a pair of 600kW turbines at a three-turbine 1.8MW wind park in Virtsu – the country's first commercial wind farm – intends to install eight 2MW turbines in two phases at a new site in Esivere, followed by the construction of three more turbines at Virtsu.

Roheline Ring expects to start construction work at Esivere early next year, with the first four turbines scheduled to be commissioned in September 2005 once it has receives Austrian government approval of its project under a Joint Implementation program, under which Austria will buy its CO_2 emission reductions. Norway's Econ Analysis is assisting Roheline Ring with its JI financing.

German wind turbine manufacturer Enercon will deliver four of its E-70 2MW turbine model for the first phase of Esivere next spring under an agreement signed with Roheline Ring on November 8. Enercon, which also supplied all three 600kW turbines for the Virtsu Park, is expected to deliver the remaining eight turbines upon financial closure. Liblik said that he still hoped that all eight turbines at Esivere could be installed at the same time. Construction of the first phase will cost Ekr140 million (US$11.83 million), said Liblik, with a similar level of investment required for the second stage.

Phase 2 of the Virtsu wind project is less advanced, with Roheline Ring still awaiting a building permit, though he said that state power utility Eesti Energia had already offered to arrange grid connection. Both parties cooperated on the development of the Virtsu wind farm with EE owning one of the three operational turbines. The farm, which entered service in October 2002, and generates some 4.8GWh per annum, cost EKr36 million (US$3.04 million) to develop. The German Ministry of Economics provided EKr6.5 million in financing with a further EKr100,000 funded by Estonia's Regional Development Foundation.

France

A dozen wind farms slated for construction in Picardy

Eole-Futur has unveiled plans to build 12 wind farms clustered in seven groups in the Pays de la Serre area of the Picardy region in northern France. Total generating capacity would be 119.7MW, and size of the farms would range from 2.3MW to 12MW, with the largest benefiting from guaranteed feed-in tariffs. Thirty-nine of the 54 turbines would have a capacity of 2.3MW and would be supplied by Nordex, with the other 2MW turbines provided by Enercon.

All but two of the projects, totaling 20.7MW, already have guaranteed connections to the grid, and one already has its permits. The remaining construction permits are expected to come through between next month and February 2006, and the corresponding wind farms will come on stream between December 2005 and December 2007.

Germany

Offshore wind farms move toward construction starts in 2006

Four initiatives to construct wind farms off the German coast are making progress, developers report, and construction on several could begin next year.

Weser-Ems local government in the German state of Lower Saxony, for instance, has begun the authorization procedure for part of the cable route to an offshore wind station under development by Windland Energieerzeugung, based in Berlin. If the project receives a construction permit – an application has been lodged with the federal maritime shipping office Bundesamt für Seeschifffahrt und Hydrographie, or BSH – the Meerland pilot offshore wind station with 72 turbines would be built at a site 22-50 kilometers northwest of the island of Helgoland.

The Weser-Ems government is responsible for permitting the sea-cable route within the 12 sea-mile sea zone. Once carried to shore, the electricity would be fed into the existing E.on-Netz network. BSH conducts permitting for the cable route within the exclusive economic zone, located outside the 12 sea-mile sea limit.

Officials with the Weser-Ems government expect permitting procedures to be completed by mid-year, and Windland is looking to begin construction in summer 2006. As part of a separate project, the Weser-Ems government recently gave wind developer Prokon Nord Energiesysteme a dike permit, one of two permits the company received as it wrapped up the long authorization process for its Borkum-West offshore wind project. In parallel, the National Park Administration has given the green light for an undersea high-voltage cable to run through the coastal Wattenmeer park to shore at Hilgenriedersiel. The permits were needed for the cable route within the 12 sea-mile zone.

The 12-turbine Borkum-West offshore station and cable outside the 12 sea-mile zone, from the site 45 kilometers north of the island of Borkum, had already been permitted by BSH. The company plans to later expand the project to more than 200 turbines.

In Cuxhaven, meanwhile, the district government has decided to go ahead with the regional planning process for a nine-turbine "reference" offshore wind station, dubbed Altenbruch 2, under development by Plambeck Neue Energien, which is based in the same town. Plambeck plans the project as an "offshore showcase" for turbines built by various manufacturers. Investment is pitched at about Eur40 million for 27MW of wind capacity.

Additionally, Plambeck Neue Energien and Danish utility project partner Energi E2 have completed sea bed investigations for the Borkum Riffgrund offshore wind project and concluded that the sea bed at the site is suitable for installing 77 turbines in a pilot phase. This could be expanded later to up to 180 machines, they estimated. BSH in February 2004 granted the companies a construction permit for the pilot phase, and installation is scheduled to begin in 2006.

Greece

Iberdrola purchases almost half of Greek wind power firm Rokas

Spanish power company Iberdrola last month bought a 49.9% stake in Greek wind farm company Rokas for Eur85 million. It has 183MW of wind capacity in operation – representing 45% of all wind power in Greece – and another 317MW under development, and plans to bring 600MW of additional wind capacity online by 2008 at a cost of Eur600 million.

Iberdrola said the investment in Rokas had made Greece one of the most important renewable markets in its international expansion plans. "The country offers great potential in this business, as it has only 409MW of wind power in operation out of the 2,000MW that has been set as the objective for 2010," Iberdrola said.

Kazakhstan

Central Asian nation gears up first major wind power project

Kazakhstan has begun work on its first large-scale initiative to develop wind energy, Radio Free Europe/Radio Liberty reported December 14.

RFE/RL, a private enterprise funded by the US government, said that the Kazakhstan government, working with the United Nations Development Program and the Canadian International Development Agency, had started a three-year program to take advantage of the country's "sunny skies and flat, wind-swept steppes," conditions that "make the country a promising land for solar and wind-based energy."

Kazakhstan boasts an estimated wind-energy potential of 1.82 trillion kWh. The country, which also has abundant oil and coal resources, generates about 90% of its electricity from oil and gas, RFE/RL said.

The development plan will include preparing wind-resource maps for various regions of the country and drafting regulatory measures for wind-power generation. RFE/RL quoted a UNDP official as saying the government planned to construct a 5MW pilot wind-energy facility at the Jungar Gates near the border with China, and that "suitable investors will be asked to bid on contributing to the project."

Netherlands

Two companies agree to assume control of offshore wind farm

Econcern and Energy Investments Holding (EIH) have reached an agreement with E-Connection to take over all permits and other rights of the Q7-WP Offshore Windpark. No financial details were disclosed. The 120MW facility is the country's only offshore wind farm to have all its permits, apart from a demonstration near-shore wind farm that is subsidized by the Dutch government.

Construction work on Q7-WP is expected to start in the next few months, and the first power is scheduled to be fed into the grid in 2006. The wind farm will be 23 kilometers off shore.

Econcern and EIH also said they are in discussions with several parties about establishing a European investment fund to develop large-scale wind and bio-energy projects in Belgium, France, Germany, the Netherlands, Spain and the UK. Econcern is a holding company for four Dutch companies providing renewable energy and energy efficiency services, and EIH is a specialized investment fund that invests exclusively in renewable energy production.

Pakistan

First commercial-scale project for wind energy in nation set

The government's Alternative Energy Development Board has approved a 45MW installation that will mark the initial development phase of the country's first commercial wind-power initiative.

Executives with GE Energy, which will provide 30 of its 1.5MW turbines for the initial installation, known as New Park Energy Phase I, said December 1 that the development board had committed to working with GE on the project. The project will be located near Port Qasim and will provide electricity to the Karachi Electric Supply Co. to support residential and industrial expansion in the Karachi area. New Park Energy, a group that includes Dorsch Consult of Germany and Albario Engineering of Lahore, Pakistan, will own the wind farm.

Under the project's development plans, construction will begin this fall, with wind turbine installation scheduled for completion by the end of the year.

Phase I of New Park is expected to grow by 2007 to a 400MW wind-energy site, part of the development board's goal of generating 10% of Pakistan's electricity from renewable sources by 2015. The government has forecast that 1,800-2,700MW of wind energy capacity would be available within 10 years, with an annual installation rate of 170-270MW.

Poland

Developer reaches agreement with Vestas for wind turbines

Polish wind energy developer EEZ has placed a Eur45 million order for 25 2MW wind turbines for a 50MW wind farm in the north of Poland, which will be the country's biggest so far.

The turbines are to be supplied by Danish wind turbines manufacturer Vestas. The order comprises wind turbines, remote monitoring system and installation as well as a service and maintenance contract, Vestas said December 31. The wind farm is slated to be up and running by the end of the year.

"Electricity consumption in Poland is increasing and additional generating capacity is needed," said Vestas President Svend Sigaard. "Poland has a high potential for wind energy, and with the Polish government's target of 7.5% of renewable energy by 2010, expectations of the Polish market are very positive."

Spain

Three companies cut ribbons on wind farms in Zaragoza

Renewables company Gamesa, wind energy sector leader Iberdrola, and grid company Red Electrica de Espana (REE) inaugurated three wind farms totaling 129.6MW and a 400kw substation on December 20 to connect their energy with the grid in the northern province of Zaragoza. Iberdrola said this and other wind power projects allowed it to surpass its 2004 year-end target of 3,100MW, as it entered 2005 with 3,200MW of wind capacity.

The farms were built by Gamesa Energia and sold to Iberdrola under a Eur256 million deal signed November 18, 2004 to sell five wind farms totaling 219MW. This agreement, in turn, was part of a larger September 2002 accord for Gamesa to sell 30 wind farms to Iberdrola totaling about 1,000MW for Eur1.1 billion.

The Fuendetodos I farm (46MW) is powered by 23 2MW Gamesa G80 turbines; Fuendetodos II (47.6MW) has 56 850kw G58 turbines; and Entredicho (36MW) has 18 G80 turbines. Their estimated annual generation is 340GWh. The Fuendetodos substation is owned by REE.

Sweden

Sydkraft Vind purchases wind developer Airicole

Sweden's Sydkraft Vind has bought Airicole, a Swedish offshore wind company with plans for a 90MW development in the Baltic Sea, Sydkraft executives said December 21.

"Through buying Airicole we cement our leading position," Sydkraft Vind's CEO Ulf Stjernfeldt said. "Airicole has great competency, not least in the application procedure, which will strengthen us further and speed up our continued expansion of offshore wind parks in the Nordic region." He was unable to give any financial details of the deal as it depends on due diligence and subsidies from energy authorities.

The Utgrunden II project has conditional government approval, Stjernfeldt said. It would cost around SKr1 billion (US$149.5 million) to build. Sydkraft Vind also owns 20% of the 160MW Nysted Offshore wind park off the coast of Denmark. Stjernfeldt said that the assurance given by the energy agency that the green certificates scheme would be extended had made the time right for investments in wind power. Sydkraft Vind also has an on-shore capacity of 30MW.

Stjernfeldt also said Sydkraft Vind was not at this stage interested in the 640MW offshore project Krugers Flak in the waters between Sweden, Denmark and Germany. Developer Sweden Offshore on December 10 submitted an application to the Swedish government to build the wind farm. The project, located off the country's south coast, is for 128 turbines, each with 5MW capacity. If built, the site would have an annual production of around 2.1TWh.

United Kingdom

Wind farm on Scottish isle links up to UK electric grid

An array of wind turbines on Scotland's Isle of Gigha has become the region's first community-owned wind farm to be connected to the grid, the organization Argyll & the Islands Enterprise reported December 23. The three Vestas V27 machines, each with 225kW of installed capacity, are expected to generate 2.1GW annually, enough to meet two-thirds of the island's electricity needs.

Community officials on the island worked with the Scottish development group Highlands and Islands Enterprise to finance the wind farm by combining grant funding with loan and equity finance secured at commercial rates. HIE has established a community energy company with the goal of replicating the Gigha project of community ownership of renewable energy in other Scottish communities.

RWE, Airtricity join forces on wind complex in Ireland

RWE Power International has joined with UK wind energy developer Airtricity on two wind power projects in Ireland, including Ireland's biggest largest wind farm, RWE executives said December 7.

One of the joint projects is the Eur80 million Meentycat wind farm near the Irish city of Ballybofey, which will be the country's largest upon completion within the next few months. The other is the Tappaghan wind farm in the northeast region of Northern Island. The wind complex, comprising 13 1.5MW GE wind turbines, is expected to produce 19.5MW of electricity.

RWE Power International described its consultancy role as "owner engineer" for the two projects in which it will act as liaison between Airtricity and the wind farms' original equipment manufacturer.

Eon UK commissions Scroby Sands wind farm

Eon UK's Scroby Sands offshore wind farm is now commissioned, representing nearly a quarter of the wind power capacity built in the UK in 2004, the company said December 13. All 30 of the turbines have now completed 10-day test runs. Though some additional testing to be completed, Eon UK said, this would not affect the overall operation of the plant.

Construction on the wind farm began in late 2003, with the turbines being lifted into place last summer. But final commissioning was delayed by poor weather, which made it impossible to land staff on the platforms. The £75 million wind farm is capable of generating 60MW, enough electricity to power 41,000 homes. Scroby Sands was the first major offshore project to receive permission from the government and is one of the first operational offshore sites in the UK.

United States

Kansas governor put projects in sensitive ecosystem on hold

Wind energy projects in the Kansas' Flint Hills area, which contains some of North America's last unspoiled tallgrass prairie, will be delayed indefinitely, under a moratorium recently established by Democratic Governor Kathleen Sebelius.

The governor designated a 60-mile-wide swath of land known as the Heart of the Flint Hills area as off-limits to wind power development to allow county governments in the area time to develop guidelines for siting projects and to assess the role of wind energy development in the 12-county Flint Hills area.

Kansas lawmakers have struggled for months to balance wind power production in Kansas, one the best states in the US for wind energy, and protection of tallgrass prairie, a rare and endangered ecosystem (*RER, 65/36*).

Among the projects suspended by the moratorium is the proposed 100MW-200MW Munkers Creek wind farm being developed by JW Prairie Windpower LLC, a subsidiary of the German company Juwi International.

Sebelius urged wind developers to forge ahead with projects outside the designated area, and the governor is expected to introduce a package of state policy incentives to encourage wind energy production.

One initiative outside the designated area, the 150MW Elk River Windfarm in Butler County, Kansas, moved forward December 13 when the Missouri-based utility Empire Elecric Co. said it had signed a 20-year agreement with developer PPM Energy to purchase 550,000MWh generated at the site. PPM Energy, a subsidiary of ScottishPower, expects the wind farm to begin delivering electricity by December.

New Mexico governor promotes wind power, transmission capacity

Democratic Governor Bill Richardson, head of the federal Department of Energy under President Clinton, last

month outlined his strategy for making New Mexico "a leader in wind energy transmission."

Richardson said he would ask the state legislature this year to support wind power production in the US Southwest by helping to finance the infrastructure he said was needed for electricity transmission to such "energy-hungry states" as Arizona, Nevada and California. A task force that Richardson appointed is expected to release recommendations soon on improving transmission in New Mexico and across the region.

The governor also pointed to wind energy as a tool for economic development, particularly in rural areas.

Developer, environmental group strike deal on New Jersey project

The first wind energy project in the state of New Jersey will proceed following successful negotiations between project developer Community Energy and the New Jersey Audubon Society.

The small wind farm, which will be constructed on property owned by the Atlantic County Utilities Authority at Atlantic City, had been delayed as the Audubon Society appealed a decision by state regulators to issue a permit for the project. The agreement settles the dispute and allows Community Energy, a leading US wind-energy marketer based in Pennsylvania, to build the five-turbine wind complex.

Under the accord, the company and the environmental group will join to conduct a detailed study, using recently developing radar technology, to better predict how bird migration could be affect by the site's wind turbine towers, which will stand 200-300 feet high.

The agreement "sets a new and higher standard for cooperation by wind power developers to assure protection of bird populations," said Ted Korth, director of policy for the state Audubon Society. "This advanced work with radar monitoring will give use the tools to better predict exactly how wind development affects bird populations, particularly the migratory species of the Atlantic Flyway," a thoroughfare for millions of birds making their annual north-south migration.

Nonprofit groups lay groundwork for return of companies to Africa's renewables industry

Following the retreat of foreign power companies from Africa over the past few years, opportunities for private sector renewable energy firms on the continent might seem limited. But the work of nongovernmental organizations in providing off-grid electricity is producing a wealth of information and expertise that could lead to commercial ventures in the future, and a number of long-delayed large-scale renewable projects are finally underway, **Neil Ford** writes.

With electric utilities formerly owned or currently owned by governments continuing to rely upon hydroelectric or thermal plants, it would appear that most activity in Africa's renewables sector is restricted to the work of non-governmental organizations. There are signs, however, that more private-sector contracts could be offered in the years to come.

The Danish International Development Agency (Danida), for example, is building a 100kW wind farm on the outskirts of Walvis Bay in Namibia. A wind measurement station has been included in the scheme that will provide precise day-to-day statistics on wind power potential in the region to potential private sector developers. Data from the station to date has demonstrated that winds in the area are most suitable for power generation during the evening when demand for electricity in Namibia is at its highest. A much larger, commercial wind farm, then, could help Namibia cope with peak demand.

Some off-grid projects are being developed by foreign investors that want to ensure power supplies to their own projects. French cement producer Lafarge is building a 10MW wind plant on site at its Tétouan plant in Morocco to provide electricity for its core needs, or around 40% of its total requirements. The scheme is part of a larger US$134 million upgrade for the Lafarge plant. A spokesperson for Lafarge indicated that the high cost of electricity in Morocco had prompted the decision to invest 100 million dirham (about US$12 million) in the wind project.

On a much larger scale, a 150MW combined solar and gas project is planned at Hassi R'Mel in neighbouring Algeria. Hassi R'Mel is Algeria's main gas transmission hub, where the government hopes to develop industries on the back of the plentiful gas supplies, but it is located far from the country's main centers of population and electricity supply. As a result, New Energy Algeria Limited (NEAL) has issued a tender for the hybrid generation project.

NEAL – which is owned by Sonelgaz, Sonatrach and Semouleries Industrielles de la Mitidja and Banque Extérieure d'Algérie (BEA) – will retain a joint 34% stake in the enterprise, while the European Investment Bank will take a further 15%, leaving 51% for the successful bidder. International companies that have expressed interest include Alstom, Black & Veatch, SNC Lavalin and General Electric. The selected foreign partner will be expected to provide at least 25MW solar capacity through the project.

As might be expected in a generally sun-rich continent, solar power is the most popular energy source for off-grid projects. However, wind power is beginning to make a breakthrough at opposite ends of Africa. The experimental 3.2MW Klipheuewel wind farm in South Africa has been followed by the first 5.2MW tranche of the Darling wind farm (*RER, 66/27*).

National power company Eskom has developed the Klipheuewel wind farm to test new technology with a view to developing commercial wind turbines in South Africa. The Darling project is being developed by the Danish Oelsner Group, but donor support and an agreement with the Cape Town municipal council to purchase output at well above market rate were required to make the initiative viable.

In the north of the continent, the first 63MW phase of the Zafarana wind farm on the Gulf of Suez in Egypt has already been completed, and the entire project should provide generating capacity of 445MW when it is completed in 2007. Ironically, Africa's biggest wind farm is being developed in a country with rapidly rising supplies of cheap gas feedstock, but the government appears committed to injecting more diversification into the sector.

In addition, European bilateral agencies are eager to fund renewable energy projects in Africa. The expertise of Denmark and Germany in wind power technology has prompted Kreditanstalt für Wiederaufbau (KfW) and Danida to partially fund the Zafarana scheme, while Egypt's state-owned power utility, Egypt Electricity Holding Company (EEHC), has been instructed by the government to back the project.

Moreover, EEHC and the government now seem prepared to provide part of the funding required to complete the development of the $147 million Kureimat integrated solar combined cycle (ISCC) scheme. Along with 40MW gas turbines and a single 70MW steam turbine, the project includes a 200GWh solar trough collector. Bids

have been invited for a five-year operations and maintenance contract, as well as an engineering, procurement and construction agreement.

In order to make such projects commercially competitive, the government plans to introduce the mandated market share (MMS), under which the seven EEHC distribution subsidiaries would have to source a certain proportion of their requirements from renewable sources. Other wind and solar schemes have been planned, but it was thought that only donor support could ensure they were constructed. The introduction of the MMS, however, could attract more private sector investment.

A number of African development-led projects aim to provide electricity and water supplies to people living off grid. Water pumps have been developed that can be either solar or wind powered, and mini-hydropower schemes have been funded in some areas.

Many of these schemes could be developed on a larger scale over coming the years to come. For instance, the Davis and Shirtliff Group in Kenya has developed the Grundfos SQFlex pump, which can be powered by solar panels, wind turbines or both. "It can, however, also use battery and AC generator power to run the pump motor for standby operations. With the ever-increasing requirements for economic and sustainable water supplies in remote areas, renewable energy pumping systems are becoming the only logical solution," Alec Davis of the Davis and Shirtliff Group said. The pump is currently being tested in a number of areas, partly with UNICEF assistance.

This and other similar wind and solar powered water pumps could eventually become a common sight across Africa. The Davis and Shirtliff Group system comprises 12 solar modules that provide 500W of generating capacity. There are no operating costs, and the system is designed to be maintenance free. Such projects generally attract widespread public support because they bring water, electricity or both to areas that had lacked these services.

Despite its plentiful oil and gas resources, the African continent is crying out for improved electricity provision. Most countries have too little total generating capacity, while the lack of transmission infrastructure means that off-grid projects are the only option in many areas. A variety of NGOs have become heavily involved in renewable energy projects over the past decade, and as their success has attracted state utilities, more and more contracts could be offered to private sector companies in the future.

CONTRACTS & TENDERS

Denmark looks for candidates to develop offshore wind farm

The Danish Energy Authority is soliciting candidates interested in developing the 200MW offshore wind farm at Roedsand south of Sealand in the Baltic Sea. The agency plans to offer a tender to develop the Roedsand area and will select up to five candidates as prequalified.

Roedsand is part of a concession authorized by the Danish Parliament in which two offshore wind farms, each 200MW, would be established; the first tender for the offshore wind farm at Horns Rev in the North Sea was conducted last summer.

Requests to participate in the prequalification must be received by the Danish Energy Authority by January 14. Further information is available from Michel Schilling, +45 33 92 6746, or on the Web at http://www.ens.dk/sw1212.asp.

Austrian group seeks interest in CDM emissions reductions

Kommunalredit Public Consulting in Vienna, Austria, is calling for expressions of interest in emissions reduction generated by Kyoto Protocol Clean Development Mechanism projects under the Austrian Joint Implementation/CDM program.

Austria plans to use these emissions reductions to meet its Kyoto target requirements, according to a notice in the EU's Official Journal. Tenders or requests to participate must be received by June 30. Additional information is available from Martina Graf, +43 1 31631-212, e-mail Kyoto@kommunalkredit.at, or on the Web at http://www.ji-cdm-austria.at.

Utility in Western US plans wind energy RFP

Idaho Power Co. in Boise, Idaho, intends to publish a request for proposals on January 13 seeking about 200MW of wind-powered generation for its Idaho and Oregon service areas by the end of 2007, half of which must be available no later than the end of 2006.

The utility said it might consider acquiring the energy from 50MW-100MW of qualified wind projects in 2005 if projects can be completed and online in time to tax advantage of federal production tax credits set to expire at the end of 2005.

Respondents planning to take advantage of the PTC should submit a notice of intent to bid no later than January 20.

Idaho Power expects to conduct a pre-bid conference in Boise, Idaho January 27, and bids will be due March 10. More information is available on the Web at http://www.idahopower.com/aboutus/business/frp.

Grants offered for promoting renewables in developing nations

The Renewable Energy and Energy Efficiency Partnership, a group based in Vienna, Austria, plans to make available Eur1 million to projects addressing finance, policy and regulatory issues affecting renewable energy and energy efficiency, primarily in developing nations with growing energy needs. REEEP expects to fund about 15 projects with an average contribution of Eur70,000, with co-financing desirable.

Criteria for evaluation will include the use of innovative approaches to energy challenges and demonstrating a high possibility of replication, market development or scale-up. One-page descriptions of projects are due January 22, and funds will be available after April 1.

Additional information, including downloads of bid documents and procedures, is available at http://www.reeep.org/groups/callforbids.

US agriculture agency provides $15 million for biomass R&D

Biopower and bioenergy are two of topics eligible for funding under the US Department of Agriculture's Biomass Research and Development Initiative.

The USDA expects to provide US$15 million in fiscal year 2005 "to promote greater innovation and development related to biomass, and to support federal policy calling for greater use of biomass-based products, feedstock production, and processing and conversion," agency officials said.

This year the program will focus on development and demonstration projects that lead to greater commercialization. The minimum grant will be $200,000 and the maximum grant will be $2 million, with a requirement for cost sharing or matching funding.

Pre-applications must be submitted by February 15, with full applications due April 15. Additional information is available from Frankie Comfort, (202) 690-0164, or on the Web at http://www.bioproducts-bioenergy.gov.

The USDA also is offering up to US$5.4 million in grants for research on bioenergy production under the Cooperative State Research, Education and Extension Service. The closing date for applications is January 14. More information is available at http://www.csrees.usda.gov.

CO_2 EMISSIONS TRADE MARKER

As EU launches emissions trading system, carbon market prices fall on 'sharp sell off'

Platts Monthly EU ETS CO_2 emissions trade marker – January 2005

Delivery Date	Price Eur/mt
Dec 2005	8.20-8.40
Dec 2006	8.30-8.40
Dec 2007	8.35-8.60

All prices are in euros per tonne of carbon dioxide equivalent as traded under the EU Emissions Trading Scheme. Prices reflect trades and/or prevailing bids and offers the previous month.

Source: Platts

The Christmas and New Year holidays meant December was a relatively quiet month in the European CO_2 emissions market, with many traders away from their desks and markets closed for several days. The committee of the parties summit on climate change (COP 10) in Buenos Aires in early December was another distraction for some.

One player estimated that a total volume of 1.5 million metric tonnes traded in December compared with October's record of 2.3 million mt. The price of allowances continued to fluctuate in a narrow band, starting the month at around Eur8.40 before trading up to Eur8.65 mid-month and then falling back to Eur8.40 when trading resumed in the New Year. Activity in December was "quite sporadic," one participant reported, with 100k being traded some days and only 20k-30K on others. Still, the market generally remained busy up to the Christmas holiday. Once again, most liquidity was in allowances for December 2005 delivery.

The official launch of the EU ETS on January 1 seemed to have no impact on the EU emissions market. Dozens of players had already been active prior to formal launch and these remain the key players. January 3 was the first trading day after the scheme went live, but saw no activity at all: "Nothing traded at all on Monday. There was a holiday in the UK, but much of continental Europe was open for business, still we saw nothing," said one player based in continental Europe.

January 4 was a different story, with the UK back at work and a more bearish sentiment satisfying some pent up demand for lower priced allowances. "It's suddenly got very busy," said one market player. "At least 100,000 tonnes have changed hands on January 4, probably more." The day's trading had opened with 5,000 tonnes for December 2005 delivery changing hands at 8.40/mt, but the value of allowances fell 10 cents over the day, with later trades at Eur8.30/mt for December 2005 delivery and one for 20,000 tonnes for December 2006 delivery at Eur8.35/mt.

January 4 and 5 both produced what one participant called a "sharper selling off." One player reported that the first trade on January 5 for December 2005 delivery was for 10,000 tonnes at Eur 8.25, but by midday the price had fallen to Eur8.05 for 25K. Why the sudden drop? "During the last couple of months, the major buyers haven't doing much," said one observer. Several analysts cited the relatively mild winter in Europe to date as a factor, as utilities have burned less coal for electricity and therefore needed fewer emissions credits. Two other players mentioned ongoing concern about National Allocation Plans. "We can expect to see a bit more activity on the sell side now we're under Eur8.30," said another player. "There's a reasonable volume out there on the bid at Eur8.30, with quite a few people waiting for the price to fall this low before buying".

Despite the early January downturn, several analysts expressed optimism. "You'll see a much fairer value" for carbon prices as generators include carbon benchmarks in their decision making, one said. February 28 is the official deadline for member states to complete their allocations to individual installations. Many would-be market participants are waiting until then to conduct their first trade. German power exchange EEX has postponed the start of trading in CO_2 certificates from January 3 to the end of February to coincide with this date, before which it believes real time transactions will not be possible because of uncertainties over ownership transfer. And there are still doubts over how soon a spot market can emerge. One country, the UK, has already conceded that it will probably not complete its allocations by the February 28 deadline, and others are similarly likely to miss the deadline. National registries must be in place and all allowances allocated before there can be spot trading. And even when national registries have been completed, any move to spot trading would open a whole new set of issues according to some market players.

"At the moment, there's plenty of time to sort everything out once you've done a trade. If you don't take delivery for another 12 months [and settlement comes even later] there's no pressure to sort out all the paperwork," said one player. "Spot trading will raise the big issue of VAT – who pays it: the buyer or the seller and how do they claim it back? We might not see that much trading until people figure out what to do with VAT," the player said.