

Another 2,000 megawatts of capacity are under construction — and the pace may well pick up. Billionaire oilman T. Boone Pickens, who has invested heavily in wind, has recently released a series of television adverts and appeared on news programmes touting ‘the Pickens Plan’, in which the country would shift towards wind for electricity and natural gas for transportation.

Unfortunately, the strongest and most reliable wind is often found far from customers. That is why the Texas wind farms cluster in the gusty Panhandle region, hundreds of kilometres from the centres of population farther east. So earlier this month, Texas approved a nearly \$5-billion plan to build new transmission lines linking wind farms to customers. Wind-energy proponents say this will greatly ease the bottleneck limiting the development of wind resources in the state, and might even allow Texas’s installed wind-power capacity to overtake Germany’s — currently the world leader at more than 22,300 megawatts. Yet this triumph for renewable energy will be a bitter pill for many environmentalists, as it will mean large transmission lines cutting through once-natural landscapes.

Wind, like the sun, is also fickle. In February, for example, a sudden lull idled the Panhandle’s wind farms and forced managers of the Texas grid to cut power to some large customers for an hour and a half. So another sour note for environmentalists is that renewable power sources may have to be backed up by generators that are more reliable, such as natural gas and cogeneration plants.

Yet these not-so-green side effects are not the end of the story. Giant wind farms are something of an exception in the renewable-energy picture, as they resemble the traditional model of big, centralized coal, gas or nuclear power plants feeding bulk-distribution networks.

Looked at more broadly, renewables point to a future in which the power grid could be far less centralized than it is today, with a much greater reliance on local power sources such as rooftop solar panels. This could make the electricity grid more efficient, as less power would be lost in long-distance transmission.

Such a grid would benefit from better electricity storage — in the form of large-scale batteries, say — to smooth out drops in wind or cloudy days. And it would certainly have to be smarter than it is today. To manage this decentralized proliferation of sources and users, the grid would have to be liberally studded with microprocessors that can take actions on their own, without humans pressing any buttons or picking up any phones (see page 570).

Public and private programmes to achieve these goals will probably generate many new, highly skilled ‘clean-tech’ and ‘green collar’ jobs. Both candidates for the US presidency have talked about investing in the grid, and Democrat Barack Obama has specifically promised to spend \$150 billion to create 5 million green jobs if elected. Meanwhile, countries such as Germany, Denmark, Britain and Australia are already showing that green jobs can buoy their economies.

Serious attention to the newer, greener grid should be a continuing priority for governments and private investors around the world. With effective investment, regulations and incentives, the enormous task of remodelling the grid for renewables will be a boon to both the environment and the global economy. ■

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Europe's science forum

Although the Euroscience Open Forum is a meeting to be proud of, its organizers should aim even higher.

When a small group of academics founded the organization ‘Euroscience’ in 1997, few would have imagined it could acquire the clout and funds to drive a regular biennial meeting, now attracting 5,000 attendees, in a major European city. The grass-roots society (see www.euroscience.org) risked being dismissed as a small band of Euro-wonks, although some organizations (including this journal) welcomed its arrival. But last week’s third Euroscience Open Forum (ESOF, www.esof2008.org) in Barcelona, Spain, showed that Euroscience’s sheer determination in the face of such perceptions has again paid off. Anyone attending the meeting will have been struck by the energy on display, the high attendance of young people, and the active engagement with the media.

Nature was involved in the meeting in several ways, and cannot claim detachment. Nevertheless, informal canvassing of opinions of other participants reinforced the notion that this ESOF meeting was both lively and — to judge by the European movers and shakers present — important. The attendance of participants from the United States and elsewhere outside Europe was also a good sign.

It is still an open question just how influential this forum might

become, rather than simply acting as a showcase. That question requires the attention of the organizers of the next ESOF, to be held in Turin, Italy, in 2010. The science sessions in Barcelona tended to communicate what is happening, but not to address challenging issues. There could have been more heavyweight political figures in attendance, but there was a large turnout by representatives from funding bodies, the European Commission, and national and European parliamentarians. There were also substantive policy discussions. These included the first opportunity for European scientists and others to respond critically and constructively to the achievements and plans of the European Research Council, and also to discuss forward-looking scientific thinking of the European Science Foundation.

Critics pointed to an under-representation of social sciences and of eastern countries, and also the usual disparity in impact between strong sessions where the moderators had clearly made an effort to work coherently with presenters beforehand, and lamentable sessions where they hadn’t. The lack of plenary women speakers was much criticized, although insiders said that they had had a high refusal rate to invitations.

The fact that ESOF is seen as an important opportunity by host cities is evidenced by the fierce competition already under way to host the meeting in 2012 — one couldn’t move without being confronted by a Dubliner, it seemed, although the Viennese were vociferous too. ESOF can and should build on such ambitions to become even more significant for Europe’s citizens — not least its scientists. ■