

Tuesday, 30 June 2009

At last, green energy finds its new home in the sun



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Choosing Abu Dhabi for the headquarters of the International Renewable Energy Agency (Irena) required a leap of faith. In terms of transformational decisions, it was on a par with the Government's decision last year to kick-start a renewable energy project from scratch with a \$15 billion investment in Masdar.

But then, new energy technologies have always involved such leaps of faith, and Abu Dhabi will now be at the centre of one of the world's most important energy policy and technology research projects as it enters a decisive phase.

The pace of growth in renewable energy, after decades of disappointment, now has many energy market observers raising an eyebrow. Governments from Europe to China have announced plans to derive a fifth of their power from renewable sources within a decade. Even Washington has a green guru at the helm of its energy policy.

The cost of renewables is dropping fast, and efficiency is increasing. Many solar and wind technologies have passed the "tipping point" and entered mainstream commercial development. The optimism surrounding green energy contrasts with forecasts for global demand for oil, which is now expected to stay flat for five years thanks in part to the success of renewables.

Taken at its most basic level, the Irena HQ will be a fascinating architectural enterprise. The building will have to conform to the stringent requirements of its landlords in Masdar City, who have set a goal of zero carbon and zero waste. In that sense, the building will embody the principles that Irena pursues and represent a milestone on the road to a sustainable urban future.

But for Abu Dhabi the choice means so much more than just another building.

Irena will mesh into an emerging new energy research and technology hub taking shape in Masdar City, which is under construction next to Abu Dhabi International Airport. Building is already under way at the

Masdar Institute of Science and Technology (Mist), where emissions from the construction and materials are offset by solar power generated from a field of photovoltaic panels next door.

GE, the American conglomerate, has already booked its place as anchor tenant of Masdar's technology park. Irena's arrival will bring with it funding, with a \$50 million research budget from the Government. But perhaps more important, Irena's 120 staff of researchers and policy makers will act as a major pull for other commercial tenants, whose activities will ultimately determine the destiny of the global push to sustainable energy sources.

"What," you might ask, "will this new agency actually do?"

Its name sounds like a derivative of the International Energy Agency, the Paris-based energy adviser to 28 industrialized nations, but Irena could not be more different. The IEA was created in the aftermath of the 1973 Arab oil embargo as a counterweight to Opec, creating one of the great institutional confrontations of the postwar global economy. The IEA represented energy importers, and oversaw the build-up of huge oil reserves in consuming countries to act as a counterweight to Opec's oil supply weapon.

Irena, by contrast, is a truly multilateral organization, designed to take the geopolitics out of energy innovation. Its main challenge will be to stimulate research, development and deployment of renewable energy, and particularly to help poor nations to start on the road towards sustainable energy consumption.

The Masdar initiative has already taken steps down this road. The institute has signed alliances with the Massachusetts Institute of Technology and the Fraunhofer Gessellschaft, and graduates have begun doctoral research even before it has a permanent home. On the commercial side, Masdar has signed contracts to advise state oil companies in Abu Dhabi, Nigeria and Bahrain on carbon mitigation, illustrating the hunger for such intelligence in the developing world.

The growth in renewables has surprised many people who were used to watching these technologies fail. But today there is a step change in the commercial application of renewables – from solar to wind – that is driving costs down to compete on equal terms with conventional power from natural gas or coal.

At the same time, many governments are beginning to reexamine the concept of grid parity, and incorporating the hidden costs of carbon fuels into the energy price. Irena will act as a thought-pool for policy makers to redesign the architecture of government energy policy and pricing. Many energy technologies may be nearing maturity, but there is a big role for government intervention and regulation, and this is where Irena comes in.

Lastly, for Abu Dhabi, the addition of this avant-garde agency is an endorsement for a new city that is taking shape before our eyes. Anyone who has driven from Abu Dhabi to Dubai recently would have witnessed the phenomenal pace of development taking place around the airport.

The new bridges across the highway leading to Yas and Sadiyaat Islands are almost complete. Raha Beach is fast turning into a waterfront city of apartment buildings, new villas are sprouting up near the golf course and the intriguing hotel at Yas Island is taking shape around the Formula One race track.

The next phase will be the development of a new capital district, incorporating a diplomatic zone, next to Masdar City. Irena may be blazing a trail for other international institutions looking for a new home in the sun.

* Published in the UAE's The National on June 30.

