Making money with sustainable energy

Since it was founded in 2000, Econcern has grown to become one of the world's largest producers of sustainable energy. But according to chief executive Ad van Wijk there is still a lot more money to be made with alternative energy sources.

by Monique Smits

Off the Dutch coast near IJmuiden, hidden behind the horizon, wind park Q7 will go on stream in June. No other park in Europe is built in sea as deep as this: 23 metres deep, at 23 kilometres off the coast, world record. With 60 windmills generating 2 MW each, the park will supply electricity to some 125,000 households. The builders of this enormous project are the Dutch companies Ecocern and Eneco.

A few thousand kilometres further south, the world's largest photovoltaic solar park is located in the Spanish province of Murcia since 2007. It has a capacity of 13 MW, adequate for supplying 10,000 Spanish households. The builder: Econcern.

The Dutch developer of large-scale wind energy, solar energy, tidal energy and biomass projects is one of the leading and fastest growing enterprises in sustainable energy in Europe. And the end is not nearly in sight. During the next five years, Econcern expects to invest some €10 to 14 billion in renewables.

Just like Henry Ford wanted an automobile for every American, the founder and chief executive officer of Econcern, Ad van Wijk (51), strives for a sustainable energy supply for everybody. This is his company's mission. 'I was 27 when I started the company and wanted to tackle the environment problem', says Van Wijk in his headquarters in Utrecht. But idealism does not go so far that Econcern is willing to invest in activities that do not yield a profit. 'Supplying energy to everyone is only possible if it is done in a sustainable way. By that I mean, provided you tackle it in a professional industrial manner. It must be efficient and has to yield profits in the end. Otherwise success will not be achieved'.

As far as that is concerned Van Wijk can be satisfied. His business model – commercialization of innovations and development of projects – is starting to bear fruit. While the company's turnover was still €240 million in 2006 with a profit of €43.5 million, in 2007 the expected turnover will be €440 million with a net profit projected at more than €85 million. Van Wijk's ambition of €1 billion turnover in 2008 is steadily getting closer to realisation.

Back in 1984, Ad Van Wijk, then a physicist at the University of Utrecht, started a consultancy, called Ecofys, with a colleague. The two scientists investigated the possibilities of alternatives for fossil fuels. However, the time was not ripe. It was not until the nineties, when the climate problem became more prominent and wind and solar energy started to take off, that Ecofys finally got off the ground. Econcern was branched off from Ecofys in 2000 as an energy production company.

By now Econcern has one thousand employees and is active in twenty countries. The company has offices in Belgium, Brazil, Bulgaria, Czech Republic, Chile, France, Gambia, Germany, Italy, Netherlands, Poland, Spain, Switzerland, Turkey, United Kingdom and the Netherlands Antilles. More recently, offices have been added in Canada, the USA and China. Besides Ecofys, three other companies have been brought into Econcern: solar energy specialist Ecostream sells and delivers solar systems, mostly in Spain, Italy and Germany. Project development is done by Evelop, the company behind wind park Q7. Ecoventures is the incubator of Econcern.

IPCC experts

The original two-man consultancy, Ecofys, now employs more than 300 scientists who do research and development in sustainable energy technologies. Ecofys is the innovation engine within Econcern. Innovations such as windmills for use in urban areas are developed by Ecofys. At the end of the development process they are brought to the market by Ecoventures.

Ecofys also supplies expert reviewers to the Intergovernmental Panel on Climate Change (IPCC), best known for its highly

A 23 kilometre cable is transported on a special winch. This picture shows a spare section of the cable, to be used in the case of a breach, which is taken off the winch to be transported to a storage facility. Photo: Econcern

influential reports on climate change in which the findings of thousands of scientists worldwide are integrated. Thus, Ecofys scientists advise governments about climate change, while its sister company Econcern invests in sustainable energy projects. Doesn't this constitute a conflict of interest? When asked about this, Bert Metz of the Netherlands Environmental Assessment Agency of the Dutch government, who is co-chairman of the IPCC working group which advises on climate change adaptation measures, says he is convinced that no such problem has ever arisen with Ecofys associates. 'Ecofys associates have contributed to the IPCC reports as authors. They did this strictly on a personal basis, just like other authors who work for companies. No one has ever doubted the impartiality of the Ecofys associates.'

The structure of the writing teams – in general 10 to 15 authors with differing backgrounds – is such, says Metz, that there are always plenty of counter forces, in case one of the authors should be prejudiced for one reason or another. 'In addition, IPCC makes use of expert reviewers who provide comment on the draft texts. IPCC seeks a broad spectrum of expert reviewers and receives, as a result, comments from all segments of society, including industry. In case such comments are tainted by special interests, this will show very quickly, because the IPCC reports refer exclusively to published material of scientific quality'.

Brenninkmeijer family

Econcern, partly owned by its management and employees, can count for its growth on powerful, wealthy partners. The SHV conglomerate of the Fentener van Vlissingen family, one of the foremost business families in the Netherlands, acquired a 23 percent stake in Econcern in 2005 and 5 percent in Ecostream. In early 2006 Cofra Holding came on board. This Swiss investment vehicle of the Brenninkmeijer family, owners of the C&A clothing department stores, took a stake of almost 23 percent in Ecostream. Cofra-division Good Energies owns interests in various solar cell manufacturers. SHV and Cofra together invested €80 million in Econcern, but the company does not want to break down this figure.

In October 2007, Econcern set up an investment fund of €500 million, in which four large financial parties are participating. With this fund, called Ampère, an additional investment capacity of €1.5 billion is being created, adding up to a total investment capacity of €2 billion. This money is put into twenty projects in the field of wind energy and biomass.

Econcern is not only active in a broad range of sustainable energy technologies, but also strives for vertical integration of its activities. Besides solar cells the company produces silicon, the raw material for solar cells. Econcern is building a solar cell plant in Austria and a silicon production plant in the French Provence. The company also looks for partnerships that can make a contribution towards reducing costs. For example, Econcern bought wind turbine maker Darwind to become less exposed to shortages in the wind turbine market and to develop a new generation of offshore wind turbines.

Poseidon

Beyond building his company into a profit-centre, Van Wijk has developed another vision, which he has dubbed Poseidon. It amounts to utilising the North Sea as a source of energy in a grand way. The sea, after all, has the most space for energy production, and it harbours the most sustainable energy sources, such as wind power, solar power, biomass in the form of algae, and tidal and wave power.

According to Van Wijk, it is possible to produce the entire energy needs of all countries around the North Sea, right at sea. This sounds nice in theory, but is it practical? Van Wijk gives an example. 'Take the North Sea with its half empty oil and gas fields. When a field is half-empty, the pressure required to extract the oil and the gas is inadequate. There are techniques by which CO_2 can be forced into those fields, thus increasing the pressure. By converting the oil or gas into electricity on site and storing the CO_2 underground, electricity is produced in a CO_2-neutral way.' According to the entrepreneur, the sea-based power stations can be connected, together with offshore wind parks and wave energy systems, to a ring network, which can be connected to the shore with just a few cables. 'The thinking behind this is: the power plants support the transition to a completely sustainable supply of electricity.' What matters is not the technology, says Van Wijk, but the interconnectivity of the different projects.

The installation of a transformer station weighing 650 tonnes. Photo: Econcern

Van Wijk views the construction of Q7 and the wind parks he is developing off the coasts of Belgium, Germany and England, as the first steps in his Poseidon plan (see www.poseidonenergy.com). Econcern claims it is the largest offshore wind developer in the world with a portfolio of 3,000 MW. Since offshore wind parks are a new phenomenon, carrying high risks, nobody was prepared to assume the full risk of Q7. Rabobank, Dexia and BNP Paribas formed a consortium that provided a €383 million loan for Q7, which is 50% owned by the small Dutch energy company Eneco. The Q7 project is the first ever offshore wind park financed by a non-recourse loan, which means there is no other collateral for the banks than the wind park itself.

Building at sea is at least twice as expensive as on land. A big expense, for instance, is the cable which connects the wind park with the grid on shore. In Germany this expense is paid for by the network operator, in the Netherlands it must be paid for by the companies themselves. The cable constitutes roughly one quarter to a third of the total investment. 'The Netherlands is the only country where this is so', says Van Wijk. 'If you consider that coal-fired power plants receive the right to emit CO_2 without charge, it is clear there is no level playing field.'

Unfair competition

Van Wijk observes that there are large differences in how various EU governments support sustainable energy. In offshore wind, the UK is the most active, followed by Germany and Belgium. Spain offers the most support in solar energy. 'In all new construction work in Spain, heating and cooling must run on solar energy. Just as in Germany, the Spanish government guarantees a fixed, long-term price for delivering solar energy or wind energy to the grid. Every year the price is lowered, but at least you know you can recoup your investment. That is the way to stimulate innovation.'

Critics sometimes ask whether wind parks at sea can ever become competitive with fossil fuels and exist without government subsidy. Van Wijk is convinced that the costs of offshore wind can be brought down. How much, he has not calculated, but according to him wind power becomes less expensive the more the government treats the wind energy sector in the same way as the fossil fuel producers. 'If we take into account the present cost of oil, and the unfair competition existing at present, then we are already almost as profitable at this point in time.'

Wind power is also often criticised for its intermittency. The wind does not always blow. Van Wijk rejects this argument completely. He says that once his Poseidon plan is fully operational, a comprehensive system will have been created that can deliver electricity any time as needed. The problem, he says, is not so much in the wind turbine, but in the network, which was not designed to facilitate sustainable energy sources. 'A nuclear station cannot be regulated either, it has to stay on all the time. For this reason gas turbines are used to meet peak demand, but this also costs money. That is how our system has been designed.' And because he believes one day the North Sea will have wind parks with a total capacity of 60,000 MW, Van Wijk advocates building offshore ports for wind turbines. According to him, an entirely new industry could be created around such ports. 'Such a port has much more potential and will be more profitable than what we are doing right now, importing oil and gas.'

In spite of the current 'boom' in investments in sustainable energy, Econcern is not afraid of competition. It welcomes competition if this means the company can achieve its mission together with partners. 'It will be a good thing for Econcern if the sustainable energy sector becomes mature. We cannot do this by ourselves', says Van Wijk.

For the time being, the conventional energy companies have not moved into renewables in the way start-ups like Econcern have. 'Companies such as Shell and RWE are like supertankers that follow their own course, but when they want to change course, they must turn around, and for supertankers that's not easy. We are already on that track.' ■

Ad van Wijk is founder and chairman of the board of Econcern.