

## 'India too can integrate wind and hydro power'

Hans Jorgen Koch, Deputy State Secretary, Ministry of Climate and Energy, Denmark

SHARADA BALASUBRAMANIAN

*Denmark leads the world in harnessing wind energy.* **Hans Jorgen Koch** tells **Sharada Balasubramanian** how the country is reducing its dependence on fossil fuels and tapping alternatives.

**Demand for professionals in renewable energy is rising as the sector gains in importance. Denmark is hiring people for its wind-energy sector from India. Why is your country focussing so much on this sector?**



Today, about 30,000 people are employed in the wind energy sector in Denmark. Renewable energy, including wind energy, is the fastest growing energy source in the world. The International Energy Agency's (IEA) world energy outlook projects that in decades to come, renewable energy will play an important role in the global energy sector. With that, the demand for skilled manpower like engineers will also increase. Three-quarters of the wind-turbine industry is concentrated in the US and Europe today, but future development shows a path of global industry. This implies that countries like India and China will have more room for renewable energy.

But this alternative source of energy is not always reliable...

Recently, in an international conference, some US speakers said that Denmark is one of the most energy-secure countries in the world. The reason they said that is because the system is decentralised. In Denmark, when the wind does not work, energy is drawn from hydro-power. So, when the wind does not blow, or is weak, we have an alternative. We have co-operation agreements with Norway, and when there's no wind, we import energy from that country. Norway has substantial hydro-power, and our grid connectivity has given us a back-up for wind energy.

How big is wind energy in Denmark? What are the future plans of your government to tap this energy source?

In Denmark, 20% of the total electricity supplied comes from wind energy. I don't

think there is any country where the contribution of wind energy to overall power is so high. Though there are more wind turbines in Spain and Germany, Denmark is far ahead of these countries proportionately speaking. By 2012, we will increase the share of wind energy to 25%; and a few years down the line, to 50%. We are also looking at alternative fuels like biofuels. Electric cars are also part of our agenda. Denmark aims to have 10% of its fuel needs supplied by biofuels by 2020.

What can India learn from a country like Denmark?

We have done well in ensuring that wind energy is absorbed into the general system. Also, having a grid connection with Norway helps when wind energy is not available. It is useful to have a careful procedure, and analyse where you can best fit wind energy into the

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system. Continued research on wind turbines is important. It is important for the government to give reasonable support for further development. Also, there has to be long-term investment in wind energy, for which subsidies have to be offered to companies. This is what we did in Denmark. The level of subsidy is fixed at the difference between the market cost of electricity and the production cost of wind turbines. India can also look at integrating wind energy and hydro power.

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