

# Jeremy Rifkin

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President of the Foundation on Economic Trends, Jeremy Rifkin is the author of seventeen books on the impact of scientific and technological changes on the economy, the workforce, society and the environment. In his 2002 international bestseller, *The Hydrogen Economy*, Rifkin took an eye-opening journey into the next great commercial era. Here he talks to *Wind Directions* about his view of the energy future.

**WD: The world is currently facing a major energy crisis. Oil prices are extremely high and we know that demand for power is constantly increasing. At the same time, resources are diminishing. How do you see our energy future?**

We are at a critical crossroads. We live in a time of transition. Our central mission over the next 30 years will be to make the third industrial revolution happen: we already have a new communications world order; now we need an energy revolution.

The negatives are very clear. Global warming is clearly happening. The price of oil is clearly going up. Today, we have reached 75 dollars a barrel, but it could reach 100 – 120 dollars. And all this is helping to create increasing instability in the producing countries.

In this time of energy crisis, negatives are obvious and known. But there is also a positive: there is an opportunity here and now to make a better economic future happen. My point is that we have the opportunity to change our energy regime, and this will change our economy. And it has to happen now, whilst we are still at the crossroads.

**WD: So you see a very broad mission for the energy issue, much broader than just supplying power?**

Yes of course. There are two essential systems that can impact and influence our economy, and reverse the harmful effect of the negatives (climate change, oil prices, energy dependency) – the energy system and the communications system.

Over the last 20 years we have experienced a communications revolution that has led to an increase in productivity. But this communications system has a deeper mission: new communications vehicles will serve the energy revolution. Communications and integrated infrastructure are the key to the energy revolution we need. An integrated infrastructure will make the sharing of energy possible; if we produce too much energy we need to transport it.

**WD: What kind of sources should be part of the future energy mix?**

I don't think we have a choice. We need to get rid of CO<sub>2</sub> so our objective must be to use all kinds of renewable energy, together with hydrogen.

I see our energy future built on a shift from fossil fuels to renewables converted into hydrogen so they can be stored. Storage is essential if we want to depend on renewable energy. And hydrogen can only come from renewables: hydrogen can't come from gas (costs are already increasing), can't come from coal (the CO<sub>2</sub> issue would not be solved) and shouldn't come from nuclear (see answer below). The other options are the use of wind and the use of solar. Hydrogen needs renewables and vice-versa.

Europe has everything: wind, solar etc but in different places (lots of wind in the Pyrenees, more solar potential in the south of Europe) and without the possibility to store and share the energy produced. Thanks to hydrogen and integrated communications, Europe could become the first post-fossil fuel continent! But we need to seize the time now – or go to the wall.

To reach this objective we will go through a transition period during which we need a much more focused global energy programme capable of reducing our energy waste by 30 to 40%.

**WD: If you had to advise our decision-makers – and we know you do this on a regular basis in both the United-States and Europe – on how to concretely deal with the ongoing energy and climate changes, what would be your three priority measures?**

Firstly, Kyoto is too little. We have to get away from CO<sub>2</sub> production and we can't do that with Kyoto. Secondly we need a committed worldwide programme to develop renewable energy. Thirdly, we have to focus on hydrogen maturity, to store renewables, and the infrastructure to share energy sources.

When I meet decision-makers here or in Europe, when I meet the Commission, I say: "What are we waiting for? You need a story that has a vision. If you can't explain this to your citizens, you're doing the wrong job." At the moment we have too many separate pieces. We need a global programme and a global effort.

**WD: Decision-makers often say that 'renewables are not ready yet' in order to justify their weak support for alternative energy sources. Wind power is a very mature energy source (providing 20% of electricity in Denmark). How would you explain the fierce resistance to the development of renewable energy, and wind power in particular?**

There are three primary elements to explain the resistance of decision-makers. One is vested interests in the old energy sources, another is the inability to think in new ways and the third is a deep belief in control from the top down. Conventional energy systems go together with control by elites; by contrast, wind is egalitarian and participatory. Public opinion should also be made aware that the old sources are heavily subsidised.

These four elements again show that a massive change in terms of sources is not only an energy issue, it is an opportunity to improve our social, economic and environmental systems.

**WD: Many countries around the world are re-launching their nuclear programmes, even those which made a clear decision to abandon them. Two months ago George Bush and Vladimir Putin made a new nuclear deal and announced at the G8 summit an agreement for the fast development of nuclear energy. How do you react to this?**

It is unfortunate and outdated! I will give you five reasons.

- Nuclear is way too costly; economically speaking it is not acceptable. Nuclear exists just because it is heavily subsidised, which clearly means that the costs fall on the consumers. They are paying for nuclear to be developed.
- After decades of research, we still don't know how to deal with nuclear waste. We don't even know if we will ever find the solution.
- The deficit of uranium supply is already real today. We may find more uranium but the truth is that we don't know!
- The threat of terrorism is also real. We have experienced it now, so are we out of our minds when we allow uranium transport all over the world? This is not just academic; on 8 November last year, Australia arrested 18 terrorists who were planning to blow up the only nuclear power station in the country.
- And finally, nuclear power is highly centralised in a world of increasingly decentralised and distributive technologies. Nuclear does not fit with the current 'open source economic models'.

It is just insane to develop an energy source for which we don't have the money or the answers to the waste and uranium supply issues, which is the perfect target for terrorists and is totally outdated. It's a silly option that Bush, Putin and Blair are pushing forward.

Photo: Ecotricity



Wind power and oil-based transport: endless energy against a diminishing resource