EURELECTRIC STUDENTS AWARD 2012

Can innovation in the electricity industry jumpstart a clean energy economy? What concrete actions are necessary to drive this change?

While innovation has already changed the energy industry towards a clean energy economy, additional investments in Research & Development can jumpstart it. Basically, I refer to Innovation in technologies for generation (to improve efficiency: reduce discrepancy between primary energy and secondary energy), for transportation and network (smart grid).

Definitely, innovation for more efficiency is less expensive than increasing production, especially renewable energy sources'. I would like to enlighten the importance of improving energy efficiency to pursue a clean energy economy. Efficiency reduces CO2 emissions being production equal, but we need large scale innovation to increase efficiency in all phases of the chain of production. Let's think about, for instance, to a car performance: 83% of the oil is wasted in the productive cycle from the oil well into the car.

The biggest limits to a clean energy economy are storage and network. If innovation could find a solution to store energy in a huge quantity, we could stock it: daily photovoltaic energy for night, but also long run storage for emergency periods. This would be a solution to electricity over-capacity as well as to electric transportation (electric cars for private and public transportation). Another crucial area to develop is the network. A smart network could easily absorb renewable energy production and distribute it where needed. Perhaps local distribution of locally produced renewable energy should be preferred to a well connected centralized hub, but still efficient network is the key. Moreover, we need innovation in new clean energy sources. For instance, sea and geothermal energies are far from being efficient so far; instead they give room for potential development. Similarly, improvement in photovoltaic industry would let a solar panel transform up to 50% of solar energy into electricity. As far as energy sources are concerned, a good pool of different sources will curb dependency and crises.

If Europe wants to keep its key role in energy development & innovation, it should give incentives to Research & Development. For example, Research & Development expenses to foster innovation should not be included in public expenses when computing the deficit/ Gross Domestic Product maximum ratio. Public governments could also use the fiscal system to improve investments in innovation in general and for electricity generation. Last but not the least, a good connection between research and industry is crucial in order to let innovation be effective on a large scale.