



**Lennart Joos**  
Ghent University  
Age 23

## ***The cheapest and greenest energy is the energy we don't consume***

**T**hree million barrels of oil equivalent is the amount of energy consumed in Europe every day. Although that number only seems to go up, a swift decline in the consumption will be necessary to ensure a sustainable energy supply in the future. I believe this is possible if the public, governments and companies cooperate and focus their efforts on the right measures.

The future of our conventional energy sources is uncertain and therefore, omnipresent in the news and political debates. Germany is shutting down nuclear plants after the Fukushima catastrophe, coal plants are under fire because they exhaust too much CO<sub>2</sub> and oil drilling in offshore areas is questioned after the Deepwater Horizon drama. The media presents the conclusion that the switch to 'green' energy sources is the only solution to these problems.

In my opinion, the focus on replacement of the traditional with renewable energy sources is wrong. This would require vast investments, a difficult idea in the midst of the raging financial storm. Most people seem to have lost

track of the simplest solution to the energy dilemma: there is no greener or cheaper energy than energy that is not consumed.

Meet the Schmidt's, awarded 'Greenest Family 2011'. They live in a villa outside the city, with a big garden to grow their own vegetables and solar panels mounted on the roof. Father drives a Prius and mother a full electric car. They eat organic food and only buy clothes in natural cotton or wool. The public opinion agrees: they're such an ecological family.

What most people don't (want to) know, is that the air conditioning, American fridge and 50 inch television are consuming more energy than is delivered by the solar panels on the sunniest day of the year. The electric car is recharged during the night, using cheap, but 'dirty' electricity. While the grocery store is only 3 km away, mother always uses her car to go shopping for organic food (that uses more farm land than conventional food). But perhaps the most shocking discovery is that the family got government support for their so-called 'green investments'.



**Figure 1: Family Schmidt or Johnson: consuming renewable energy or consuming less energy?**

In the city, fifteen kilometers away, lives the Johnson family. They didn't find the money to pay for solar panels on their roof, but they did insulate their house from wall to floor to roof. Every year, they are replacing a few old windows with more energy efficient ones. They use blinds to keep their house cool and choose the most efficient electrical appliances. They go shopping by bike, as most shops are less than two kilometers away and if ever they need a car, they just ask friends.

Although few people would agree now, I nominate the Johnsons to be 'Greenest Family 2020', because they fully understand the energy problem. Consuming less is not only profitable, it also allows us to tackle the broader energy picture in an efficient manner: less CO2 would be exhausted without any extra investments, the most polluting power plants could be abandoned first and the rest could then gradually be replaced with renewable sources. Like the Johnsons, we can all help to save both resources and money with minor changes in the way we live.

In 2009, Transport, Households and Industry represented the major share of the European energy consumption (Figure 1). Industry, accounting for 25% of the energy consumption, is often made a scapegoat. The metallurgic industry, petrochemical plants, mining... are perceived 'dirty' or 'polluting' by the public opinion, but ironically, fulfilling the public's demand is the only reason for their existence. It's easy: no iron mines, no cars. Actually I think that in the future, the construction of cars should

be considered as part of the energy cost for transportation; the manufacturing of bricks or insulation material is part of our Residential consumption; the production of laptops is categorized under Consumer goods... Therefore, in the forecast for 2020, I made a new classification, showing the real cost of each category (more information in the notes). Of course, companies should make their processes as energy efficient as possible, but I believe competition ensures this more than emission rights or extra laws will.

By 2020, Europe can cut 20% of its energy bill by focusing on two categories: Transportation and Residential. Living in a city can make a huge contribution to both categories. First, houses are more compact and thus more efficient to build, insulate and heat. Second, as services are closer, cars can become superfluous, saving gasoline and the energy to produce the car. But cutting energy can also be as simple as eating regional products or buying an efficient fridge. Really everybody can (and morally has to) participate.

The role of the government is to provide correct information: what is happening with the climate, why is it necessary to consume less, why is it good for everyone, what can each of us do... Government impulses should be more encouraging than subsidizing. To me, the government should not subsidize unprofitable 'green' power. as the only message towards the public is: 'just keep consuming, we have the supply covered'. Instead, living in cities can be promoted by ensuring good public transport,

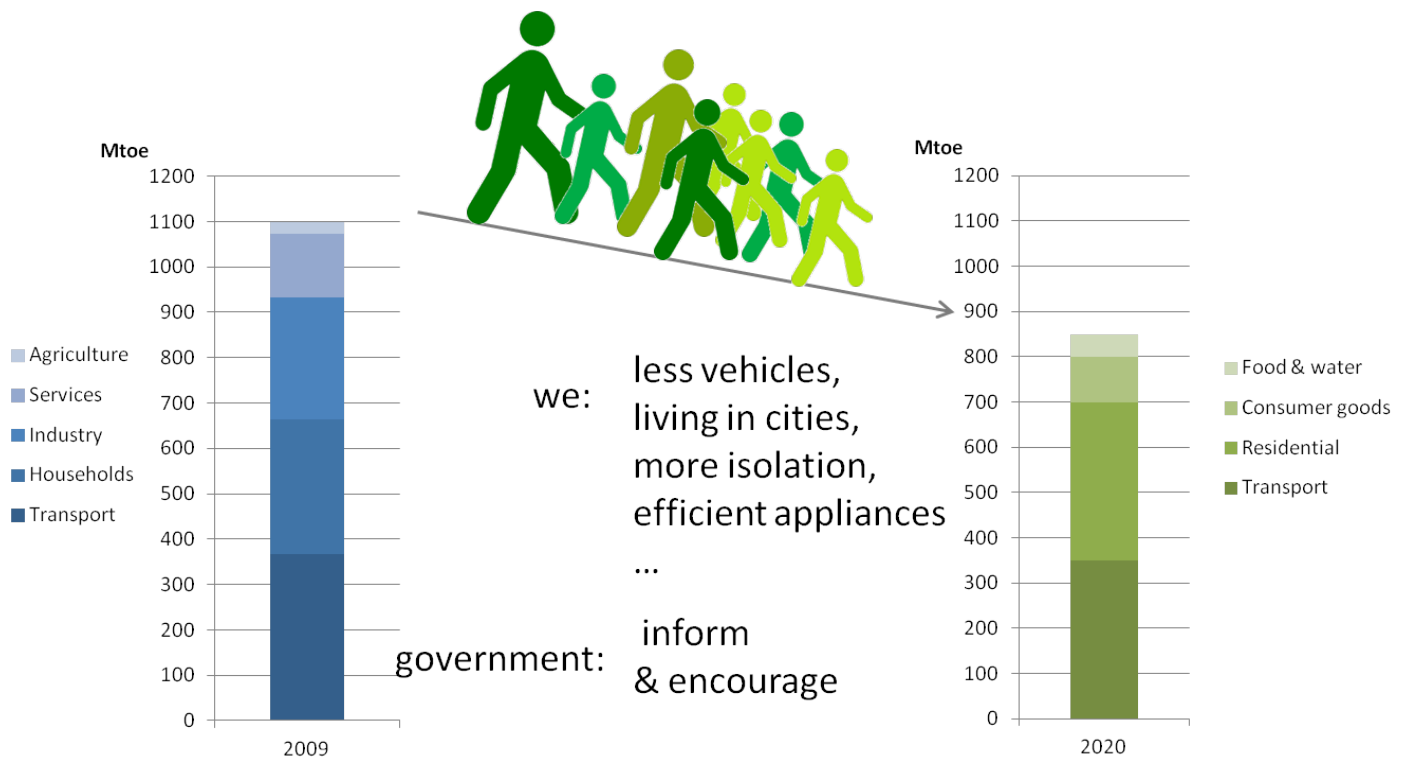


Figure 2: The route to a 20% energy cut. On the left the energy consumption per sector in Europe in 2009, on the right, a possible distribution in 2020 (elaborated in the notes). In the middle some measures that can be taken.

by facilitating access to services or by planting trees. And why not organize a 'Greenest Family' contest, to give the saving of energy a sexy image and turn it into hard competition.

**The future is ours! If we want to see something happening by 2020, we cannot wait for government decisions, we all have to act now. We must understand that saving energy is not only the greenest option, not only a money saving option, but also the most sustainable one.**

## NOTES

In Figure 2, a possible distribution for the energy consumption in Europe is given:

- 41% for Transportation, this also includes the energy cost to produce the car, extract and refine the oil, change tires...
- 41% for Residential consumption, including the industrial contributions to produce the bricks, insulation, air conditioning...
- 12% for Consumer goods. This share is very difficult to estimate. Of course, this contribution heavily depends on definitions: e.g. is furniture Residential or a Consumer good?
- 6% for Food production and Water treatment and supply

## SOURCES

- Country Factsheet, European Commission, 2011
- Outlook for Energy - A View to 2030, ExxonMobil, 2009
- How the world should invest in energy efficiency, Diana Farrell and Jaana K. Remes, McKinsey Quarterly, 2008
- Cities are key to global energy and climate challenges, Ban tells US mayors, UN News centre, 2011
- New Waves of Growth - Unlocking opportunity in the multi-polar world, Accenture, 2011