

First of all, English is not my native language. Sorry for the likely mistakes. I would like to thank you for this opportunity to send my thoughts

### Previous ideas and thoughts.

1. Energy should be as cheap as possible. This will be good both for people and industries. On one hand, this feature will help the competitiveness of the European industries, creating employment and increasing the profit of the companies, which will raise the taxes to be paid and to be collected and social spendings might be lower. On the other hand, cheap energy will help the poorest people of the European Union. Helping these people is a moral obligation of all democratic governments in the world.
2. Energy should be as clean as possible. Different impacts should be taken into account:
  - greenhouse effect gases(not only CO<sub>2</sub>, but also NF<sub>3</sub>, SF<sub>6</sub>, ...)
  - acid rain gases: SO<sub>2</sub>, SO<sub>3</sub>, NO<sub>x</sub>, SiCl<sub>4</sub>, ...
  - dangerous materials used such as: cadmium (Cd), gallium arsenide (GaAs), lead (Pb), ...
  - scarce materials consumption: such as gallium (Ga) or Tellurium (Te).
  - mine side effects: carbon, uranium, gallium, neodymium, ...
  - materials imported from countries out of the European Union should have been obtained and manufactured in a suitable way. European energy cannot be sustainable if it is obtained through the destruction of other places in the world.
3. Energy should be as safe as possible. Zero risk does not exist, but any technology with an unacceptable toll of serious injuries and/or deaths should be banned.
4. Energy supply should be guaranteed. Additional generation should be provided in case there were not enough production from renewable sources.
5. Energy should create wealth for the population. Energy plants should be able to make a profit on their own. Companies that need public money to keep running should be kept to a minimum.
6. New energy sources should be investigated. A hundred years ago no scientist or engineer could anticipate nuclear or renewable energies. In fact, a hundred years ago there was not anybody able to predict internet, minimally invasive surgery or spaceflights (well, Jules Verne was able to foresee spaceflights).

### Answers to these ideas

Answer to idea number 1: an energetic mix should be obtained in such a way that energy price be affordable for both people and companies.

Answer to idea number 2: impact of the different energy sources should be measured and should be made public. Energy sources that need high amounts of scarce substances should not be considered as renewable (the energy source itself maybe renewable, but not the materials need to obtain the energy). Imported materials should be obtained in sustainable ways for the environment and people should not suffer because of the mining of the materials. Importation of material from places such as Baotou should be totally forbidden both on ethical and environmental grounds.

Answer to idea number 3: a public registry must be created, showing the injuries and/or deaths per unit of energy produced. Safer energies should be given priority. It is not ethical nor moral having sources of energy with high death rates, no matter how environmental friendly these energy sources may be.

Answer to idea number 4: To avoid unfair competence, there should be a kind of link between renewable energy and its back energy plant. For example, both plants should be built and owned by the same company or there should be a contract between the owner of the two facilities. Otherwise, there might be a risk of unfair competence, with companies competing in the same market, while they are subject to different legal frames.

Answer to ideas number 5 and 6: feed-in tariffs should be as low in amount and short in time as possible, as this is a load for people and industry. It is far better to invest that money in R+D than encourage immature technologies go into the market. R+D in new energy source should be given priority. Money from feed-in tariffs might taken to pay for these researches, to avoid more taxes to people and companies.

### My proposal

Nuclear power should be used as the base energy source. The total amount of nuclear power to be produced should somewhat below than the minimum energy needs. Nuclear power is cheap, safe, environmental friendly and reliable, but it cannot be adjusted (nuclear reactors almost always work at 100% of their nominal capacity).

Hydropower should be used to produce the bulk energy required and which has not been obtained through nuclear energy. Hydropower is cheap, safe and environmental friendly. It is not 100% reliable in drought times, but can easily be tuned to obtain the required amount of energy.

Combined cycle plants and renewable energies should be use for fine tuning of production and demand. Cheaper and safer renewable energies should be use (it is not necessary nor efficient to use every renewable energy, only the best ones).

Combined cycle plants should be the last resort to meet the energy demand. Both combined cycle and renewable energies are expensive, so big amounts of energy from both should be avoided as much as possible. Combined cycle plants also emit carbon dioxide (CO<sub>2</sub>), but are reliable, while renewable energies are not reliable. There should be a kind of link between combined cycles and renewable energies (see the answer to idea number 4). If we give priority to nuclear and hydropower, then the competence for the market will mainly be combined cycle versus renewable energies. Both technologies have very different legal frames. To avoid unfair competence between them, they should have some common interest, to make sure that they work together, no one against the other.

Thanks for your time and your patience.

Yours faithfully.