

“La Sortie du nucleaire en questionS”  
**Nuclear Power : No Thanks**  
**FAQ**

*This document was created by the organisation Reseau “Sortir du nucleaire”.*  
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*Second, ‘enriched and enhanced’ edition*

**Is it feasible for France to withdraw from using nuclear power, given that it accounts for 75% of power generated ?**

Although nuclear power generates around 75% of our electricity, it only represents about 15% of energy consumption in France and only 6% in the world. That makes it entirely feasible to give it up, specially in view of the numerous other power generating means at our disposal. In addition, the amount of electricity wasted in rich countries such as France means it would be possible to halve our energy consumption without compromising comfort (see below).

**In world wide terms, is nuclear power an expanding industry, in particular regarding China ?**

Although China is in the process of constructing 30 and 40 new reactors, as it has announced, that will only bring it up to 4% nuclear electricity (2% currently) generation by 2030, barely... 1% of its energy consumption. In the world generally, the construction of new reactors will still fall well short of compensating for the closure, by 2030, of half of the 440 reactors in service worldwide today. That means that globally, the quantity of nuclear electricity will fall below 5% sometime around 2030 (International Energy Agency, October 2004) : nuclear energy is in fact extremely marginal and in inexorable decline. Sadly, the dangers of nuclear power are extreme.

**Is nuclear power the answer to global warming ?**

Human activity roduces gases such as carbon dioxide (CO<sub>2</sub>) which gradually heat up the atmosphere and change the global climate. That’s the greenhouse effect. Nuclear power produces very little by way of greenhouse gases and is often presented as a solution to global warming, which is both absurd and misleading to the point of lying :

- it’s absurd because our objective must be to leave behind us a planet which is liveable. As we all know, nuclear power contaminates the planet for centuries to come...
- it’s misleading / a lie because nuclear power actually represents such a marginal proportion of the planet’s energy (6% and actually declining) that it simply cannot halt global warming. Proof of that in the increasing frequency of droughts and heatwaves.
- **Note** : 90% of greenhouse gases European Union come from transport. That and the agricultural sector should be the first targets for action. Building nuclear reactors won’t do anything about that.

## **Isn't it the case that climate change is actually making nuclear power less feasible ?**

Indeed so, nuclear power goes on hold during heatwaves and droughts : the reactors have to be heavily watered or even shut down because it becomes very difficult to cool them. That means importing (at premium price) non-nuclear energy from our neighbours when that happens. Not only that, nuclear facilities contaminate huge quantities of water with chemical and nuclear waste (a danger to public health) and returns hot water to rivers (killing large quantities of flora and fauna) with even more serious consequences in summer when water levels are lower. "Nuclear France" is also in trouble during winter : near disaster in Blayais (Gironde) during the big storm of December 1999, massive imports of electricity in February 2005... If we need to withdraw from the nuclear way it's also to avoid shortages. We need to develop renewable energies fast.

## **Does nuclear power mean always being sure of supply ?**

Nuclear power means we risk shortages every time there's some climatic event. But there are other reasons for potential blackouts : in Japan, 15 reactors have been standing idle for more than two years because of safety faults which had been hidden by Tepco, the Japanese electricity supplier. In France we should be considering closing that many or even more as EDF (French Electricity) refuses to pay to reinforce the reactors against earthquake risk. Also, the huge power of these reactors (compared to the production of renewable energy) creates huge breaks of supply, plunging millions of homes at a time into darkness.

## **Does nuclear power mean energy independence and jobs for French citizens ?**

France is actually more energy dependent with nuclear power than with carbon / fossil fuels. That's because 100% of Uranium – nuclear reactor fuel – is imported (mainly from Niger where French company Cogema is busy contaminating both environment and population). The other hand, renewable energy could give real energy independence without endangering people or contaminating the planet and, at the same level of energy production, create 5 times the number of jobs.

## **Do people really object to wind farms ?**

Market research conducted by the Institut Louis Harris in April 2005 shows that 91% of French people are in favour of wind farms. When building its nuclear facilities, the French government chose to ignore massive (but peaceful) public demonstrations. The same French government is now backing down in the face of the few CEA veterans who lead the small anti-wind farms lobby. The truth is simple : the French people are massively in favour of renewable energy.

## **Do wind farms really disfigure the landscape ?**

With its nuclear facilities, France has a few major centres of electricity production... plus 200,000 VHT (Very High Tension) pylons to transport it, with some serious loss of power along the way, I might add). These pylons and their cables disfigure the lands much more than the few hundred wind mills currently in operation, or the thousands more we need to build as quickly as possible.

## **Do we need to 'cover France' with wind farms and solar panels ?**

Germany currently has more than 100,000 solar roofs and over 20,000 wind mills. Has anyone heard of Germany 'disappearing' under that lot ? Every system of electricity generation has its negatives but only nuclear generation has so many totally unacceptable elements (nuclear waste, disaster risk). Renewable energies are not dangerous, don't

produce radioactive waste and are relatively easily dismantled if necessary, unlike nuclear reactors.

### **Could renewable energies produce as much electricity as nuclear energy ?**

We shouldn't even be trying to produce that much : in fact, in order to justify the nuclear programme and prevent us withdrawing from nuclear power, EDF and successive French governments have developed a scandalous over-consumption of electricity, for example with electric heating and air-conditioning of buildings, most of which are badly insulated. The amount of waste is such that organisations such as the highly official International Energy Agency have shown how we could reduce consumption by half without any loss of creature comforts.

### **Should we be using nuclear and renewable energies simultaneously ?**

If we merely reduce the amount of nuclear power generation, that would mean continuing to contaminate the environment around all our nuclear installations, continue producing radioactive waste and run the continuing risk of catastrophe. The nuclear industry is unacceptable in its very nature. The aim must be total withdrawal as fast as possible.

### **Do renewable energies cost more ?**

The initial investment is indeed quite expensive, but can be written off over many years. Saying that, it would be perfectly reasonable to start giving renewable energies the same kind of grant aid and investment as was given to the nuclear industry in its beginning : everyone should have the right to free equipment installation at home (solar water heater, photoelectric panels, small windmills for those with enough space), the price paid over thirty years in taxes and on your bills. In fact EDF likes to try and discredit renewable energies by pretending they are expensive. In fact, the sun, wind and wood come free from nature !

### **Is it true that a kilowatt of nuclear power is cheap ?**

No : enormous sums of money (estimated at 450 billion Euros) have been invested in nuclear power in the last 50 years, most of it public money. This scandal was acknowledged by Industry minister Patrick Devedjian : *"For many years, the French people have made a major contribution, through their taxes, to the development of our nuclear capability."* (Journal du Dimanche, 2<sup>nd</sup> January 2005). These sums don't feature on our EDF bills which help make us believe (wrongly) that nuclear power is cheap. Moreover, future generations of French people will pay for our nuclear waste and for dismantling our nuclear facilities(see *the informative Treasury report from January 2005*).

### **What's the truth about world uranium reserves and price ?**

Depending on who's estimate you use, uranium reserves will be exhausted within 50 to 200 years maximum. If you multiplied the number of reactors in the world by ten (as has sometimes been suggested), there would be 20 years supply left at best. Nuclear power's fate is to be always marginal then disappear altogether. Even more reason not to build more reactors, specially with the price of uranium starting to climb and looking set to take off completely...

### **Limousin, Niger : are uranium mines dangerous ?**

Uranium is the combustion fuel that drives the nuclear reactors. There are almost daily revelations about uranium mines. The company Cogema has badly contaminated the French town of Limousin and the country of Niger : there are legal actions taking place at present. Nevertheless, Cogema doesn't care, it wants to open a mine in Australia close to aboriginal populations.

## **What should be done with the most dangerous nuclear waste ?**

- a) **Should we bury it ?** An underground laboratory, potential future site for burying nuclear waste, is under construction in Bure (Meuse region). Sooner or later, the containers of waste will break open because of corrosion. The radioactivity will find its way through geological faults, will contaminate ground water and come back to the surface. It would be a horrendous crime against future generations.
- b) **Could they be rendered harmless ?** The nuclear lobby always seems able to access more money by pretending to be able to transform nuclear waste, reduce their half life and dangerousness. This process, the “transmutation”, is impossible on an industrial scale. During the 70s and 80s the sorcerer’s apprentices of the nuclear industry were already lying to the population, assuring them that there was a solution to the nuclear waste issue. Now they’re asking us to have confidence in them again and let them spend even more billions of Euros of public money... We demand that these monies be used for economising our consumption and the development of renewable energies.
- c) **Is re-processing a solution ?** Once re-processed, the waste is...still nuclear waste, as radioactive as before, so really no one knows what to do. Still ! A small proportion can, certainly, be re-used (it becomes the MOX combustible and is even more dangerous) in nuclear plants, but the problem remains... The Charpin-Dessus-Pellat report to the Prime minister in 2000 showed how reprocessing is unjustifiable economically. In addition, because of a serious accident at its Sellafield reprocessing plant, reprocessing has been abandoned in Great Britain. In France, we should close the La Hague facility which contaminates the environment more than tens of reactors.

### **Conclusion : what should we do with nuclear waste ?**

If we accept the idea of research into solutions, the authorities will tell that since the problem has a solution the nuclear programme can continue. That’s a real trap. The first thing to be done is to stop producing nuclear waste (which means closing down the reactors as fast as possible). We can start researching a least worst case solution afterwards, knowing that in any case we’re leaving a terrible ‘present’ for future generations to deal with.

### **Are there other kinds of nuclear waste ?**

Unfortunately yes. The nuclear industry is continuously creating millions of tons of waste with varying degrees of radioactivity, which are accumulating rapidly. In 2005 a project to discreetly mix radioactive metal waste (produced by Areva) into a ‘regular’ foundry was only stopped thanks to the vigilance and actions of neighbours and anti-nuclear associations. This kind of insidious diffusion of radioactivity into our everyday lives – including the food chain ! – is a grave threat to medium term public health.

### **Is it dangerous to live close to a nuclear installation ?**

Yes, it’s extremely dangerous because, even without incidents (leaks, etc.), a nuclear plant throws out radioactive emissions into the air and water. Actually, there are no levels below which radioactivity can be considered not dangerous : the CIPR (International Radioactivity Protection Commission which includes experts from the French nuclear safety authority) recognised back in 1990 that “*any dose of radioactivity implies some carcinogenic or genetic risk*”. The CIPR also states that “*the choice of dosage limits implies social judgements*”. What that means is that safety thresholds were invented to reassure plant workers and those people living nearby.

## **Is the nuclear risk comparable with other risks ?**

We have the right to decide collectively that any kind of risk is unacceptable, and that's the case with nuclear power : a nuclear catastrophe affects an entire continent and millions of people. Life becomes untenable in contaminated areas, children suffer enormous health problems because of the radioactivity. The population of Belarus (the country most affected by the Chernobyl incident) has been in decline for some time (more deaths than births). You can't compare the nuclear risk to anything else and it's simply unacceptable.

## **What would happen if there was a nuclear catastrophe in France ?**

As even the supporters of nuclear power have begun to acknowledge recently, there's no such thing as "zero-risk". A catastrophe including damage to the reactor housing and release of a nuclear cloud is frighteningly possible here in France. Imagine if your area had to be evacuated for a couple of centuries. In Chernobyl some 800,000 disaster rescue workers were exposed to radiation and are now either dead or seriously ill. If it happened in France, who would volunteer ?

## **Is nuclear safety a good example for other industries to follow ?**

That's what's often suggested but it's false. The nuclear safety authority (ASN) isn't independent, it's managed by the very pro-nuclear industry minister. For many years now it has been "demanding", in vain, that Cogema shut down the notoriously dangerous plutonium factory at Cadarache (Bouches du Rhone). The ASN is also incapable of imposing serious safety measures against earthquake risk : EDF simply refuses to carry out the necessary work. In any case, whether the safety controls are serious or not, nothing could prevent the kind of suicide attack we saw on 11<sup>th</sup> September : nuclear facilities (including the 'new' EPR reactor) and production facilities such as La Hague and Marcoule are not prepared for a civil airliner crashing on them.

## **Is civil nuclear power independent of military nuclear capability ?**

Enriched Uranium and Plutonium make it possible to build nuclear weapons. Presently, both are produced as a result of 'civil' nuclear activity: uranium is enriched under the pretext of creating fuel for nuclear power stations, which then in turn produce plutonium. That's why Saddam Hussein bought a nuclear reactor (from... France !) in 1976, and why today North Korea and Iran are both pretending to a 'civil' nuclear programme. 'Civil' nuclear and military nuclear are two faces of the same monster.

## **Would withdrawing from nuclear power mean lost jobs ?**

If we decided to withdraw from nuclear power, there would still be tens of years work : the time to shut down all the reactors (everything has been arranged in this country so that immediate shut down is impossible), then dismantle them, an extremely complex operation and one which we've not yet really mastered, all of which has a cost attached which is much greater than ever officially announced.

In addition, the economic plan for energy and the development of renewable energy are big creators of jobs, even more than nuclear power. Withdrawal from nuclear power would be a great employment opportunity... better still for the health of the workers who wouldn't risk radiation exposure to earn a living.

## **Do our neighbour countries benefit from the French nuclear programme ?**

Sadly, yes. French nuclear electricity, in addition to the costs already known (risk, waste problem, etc..) has one other major disadvantage : it dissuades some of our neighbours from making enough effort in terms of energy economy and developing renewable energy. They can simply import some cheap, French nuclear electricity that France is happy to sell

at a loss to keep its reactor network running. We pay the difference... and we keep all the nuclear waste !

### **Aren't nuclear stations invaluable in the regions where they're sited ?**

Their preferential salaries, sponsorship of local cultural events and, above all, secure employment, mean that the towns and regions where reactors are situated are beholden to the nuclear industry in the way that our forefathers were to the landed gentry. You'd think we were back in the Middle Ages ! Renewable energies allow the means of energy production and therefore jobs to be spread more evenly geographically across the whole country, and an end to the nuclear 'power' barons.

### **Is the EPR reactor a symbol of nuclear progress ?**

The EPR reactor is more powerful but, although designed 15 years ago, it's almost identical to current reactors. Worse still, in 2003 our organisation "Sortir du nucléaire" made public a "confidential defense" document which shows that, like all current reactors, EPR reactors have no defence against a suicide crash / attack. That's unacceptable for any reactor scheduled for construction post 11.9.2001.

### **Are nuclear fusion – and the corresponding ITER reactor – a viable solution ?**

If ITER was really everything people tell us we would be in favour. But no ! ITER will never produce electricity (the official 'goal' is to try and run a fusion experiment for.... 400 seconds !). 2002 Nobel Prize for Physics winner, Japanese scientist Tadatashi Koshiba, has denounced ITER as only likely to produce "*very large quantities of tritium, radioactive hydrogen that is extremely dangerous to all forms of life*" and "*50,000 tons of nuclear waste with an average life of more than 1000 years*". And all that without any guarantee that the fusion process will ever deliver any electricity.

### **Would it cost a lot of money to withdraw from nuclear power ?**

Actually it's carrying on with nuclear power that costs so much ! Reactor maintenance, servicing every ten years, the replacement of vapour generators, changes to reactor pile covers, the (still unanswered) questions regarding nuclear waste, etc.. : it adds up to billions of Euros of nuclear expense on an ongoing, continuous basis. Add on the costs of the cancers suffered by plant workers and people living nearby, and that's without even considering the possibility or cost of another Chernobyl.

Nuclear power is an ecological, human, economic and democratic disaster. In order to avoid the catastrophe we all fear, to make real energy economies, to finally make the effort to develop renewable energies and give future generations a chance of a decent life, the decision to get out of nuclear power needs to be taken NOW !

*If you would like to better informed and understand more about the nuclear issue, there are a large number of documents, brochures and reports you are welcome to browse. You could also become a member of "Reseau Sortir du nucléaire" and / or help it achieve its aims.*

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