The France case
Role of nuclear energy and lessons for future

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How Can Nuclear Power Contribute to Climate Change Mitigation?

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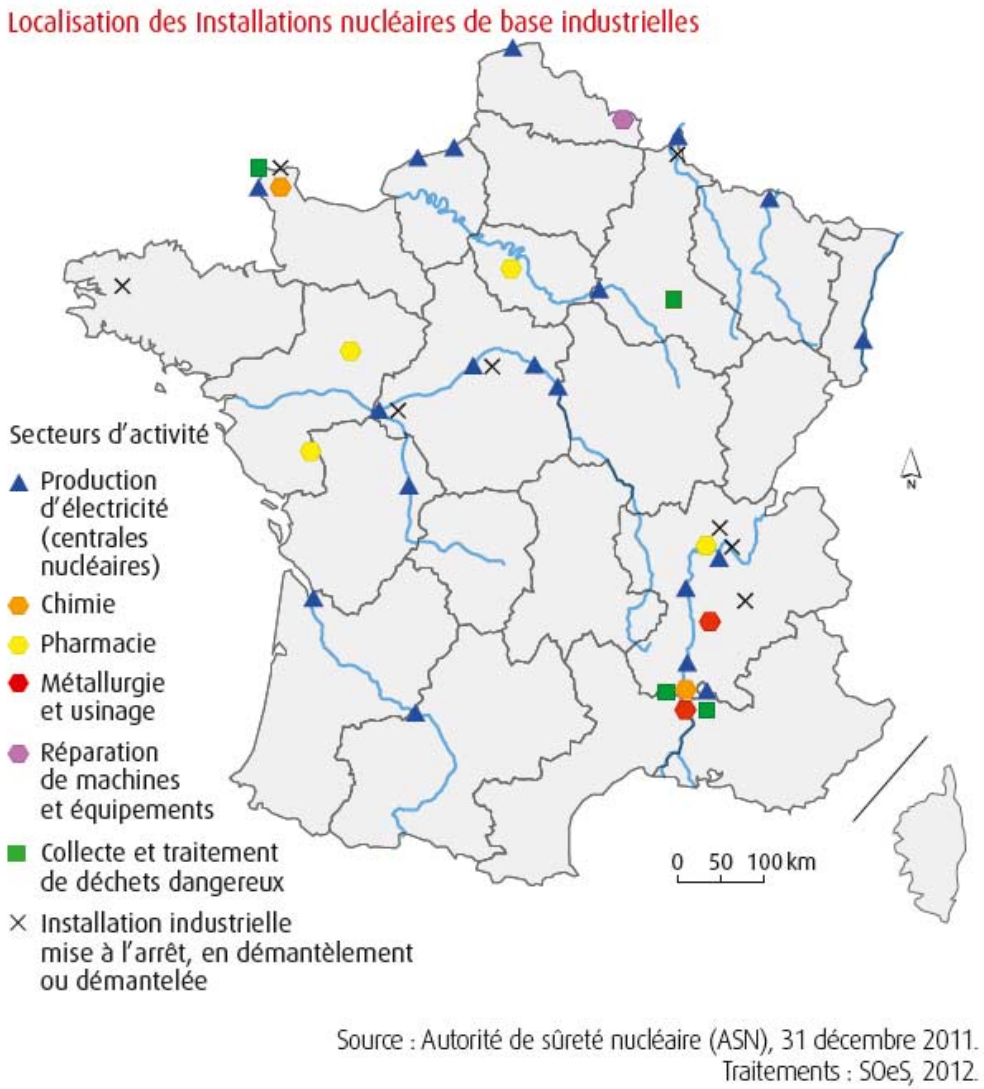
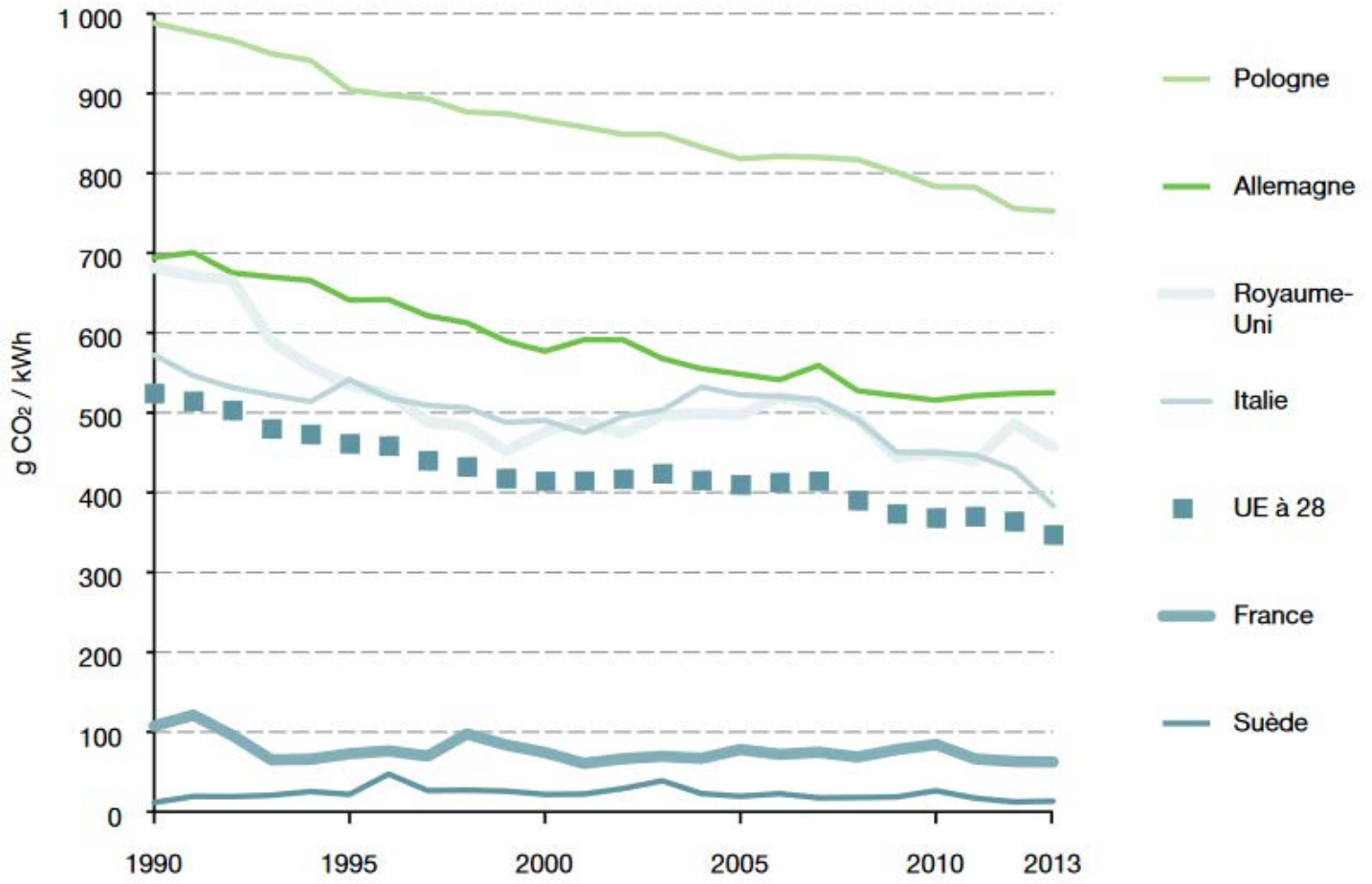
Location of nuclear installations in France (source: SFEN and ASN)



Some comments on these facts and figures as far as the future is concerned

- In France, EDF has already its electricity 97% CO2 free, thanks to a mix composed of nuclear, hydro and renewables (due to a decision in the mid seventies to become less dependent on oil)
- The Energy Transition Law (LTECV) stipulates that the nuclear installed capacity is capped by the present installed capacity, i.e : 63,2 GW
- Implementation of this law needs care, if one wants to keep benefit of this particular situation
- As a matter of fact, any departure from the present situation could lead to emission increase as well as costs increase (not only because carbon has a price but also because a massive increase in renewable would need to be balanced by fossil fuels unit if some nuclear facilities are closed too quickly)
- On the basis of recent experience nuclear generation can be adapted to renewable generation which is important because it is necessary to keep going the security of the network

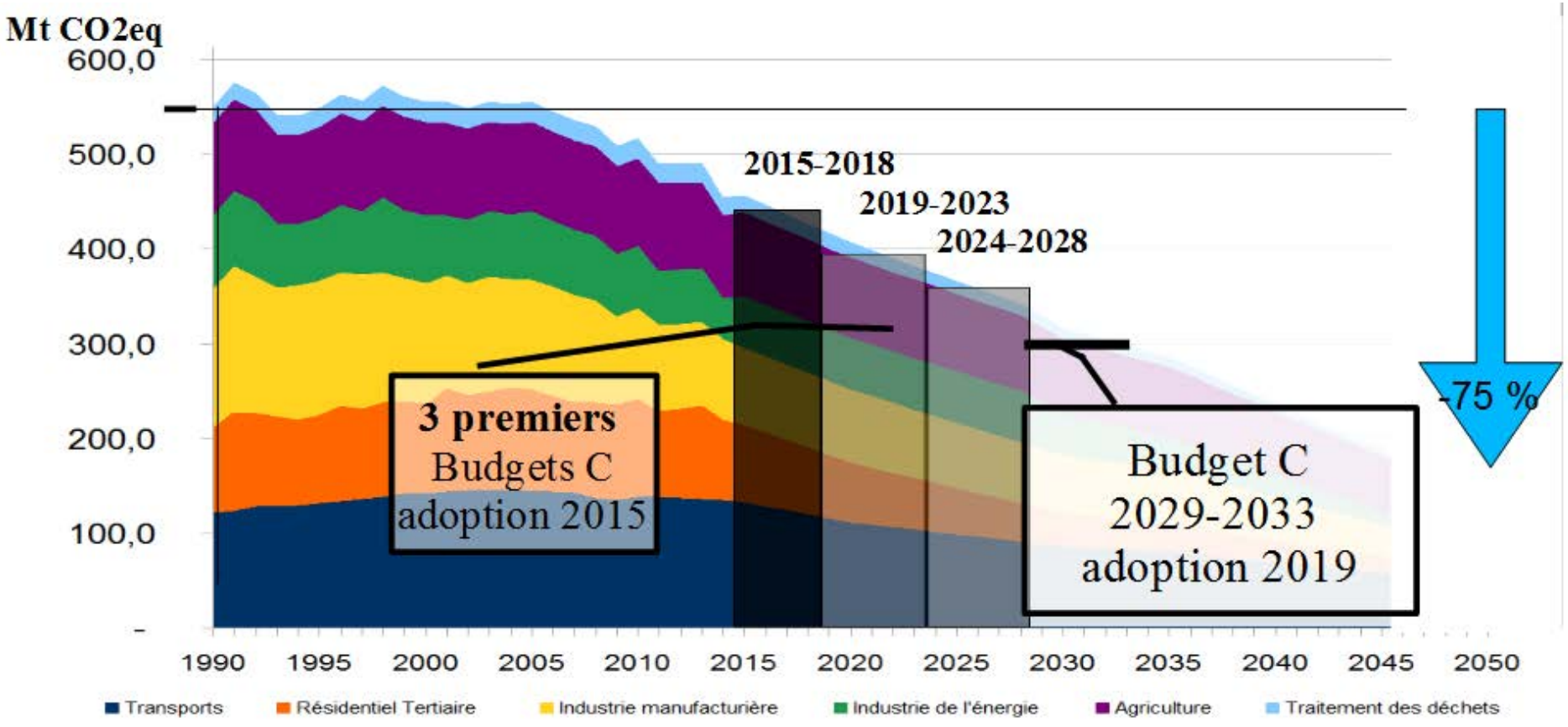
CO_2 emission when generating 1 KWH electricity within EU (from IEA and I4CE)



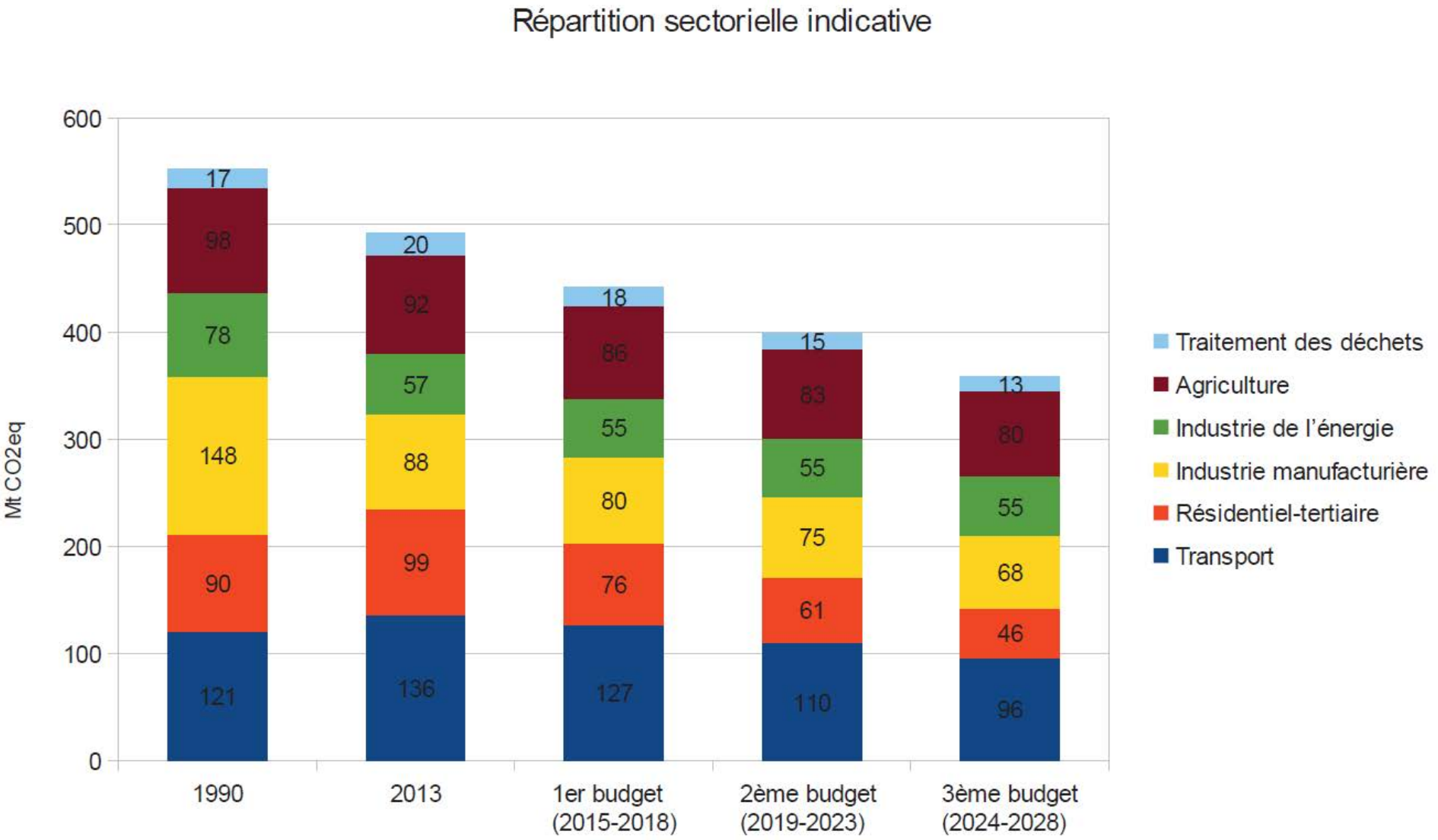
Some objectives of LTECV (published JO, 18/08/2015)

- **Reducing GHG emission by 40% between 1990 and 2030 et dividing by 4, GHG emission between 1990 and 2050 (factor 4); the targets are described in SNBC (low carbon national strategy)**
- **Reducing final energy consumption by 50% in 2050 with the reference 2012,** with the goal of an intermediary objective of 20% in 2030
- **Reducing primary energy consumption of fossil fuels by 30% in 2030 compared to 2012**
- **Bring share of renewable energies at 23% of final consumption in 2020, and 32% in 2030**
- **Bring share of nuclear generation in electricity generation at 50% in 2025**

Emission trajectories in SNBC (low carbon national strategy)



Carbon budgets in SNBC (low carbon national strategy)



Some general considerations

- Parties need to reduce their carbon emissions together with reaching the goals of their energy policy
- What is at stake is historical ! In 35 five years from now 80% of the worldwide generated electricity will have to be low carbon
- Electricity demand should double to meet needs of society
- Low carbon electricity is key, as we know that using electricity will help also to decarbonise many sectors of the economy
- All low carbon technologies identified by IPCC have to be used appropriately depending on national circumstances
- Nuclear energy is an industrial solution, low carbon and efficient
- Most prospective studies show that if we want to be closer, at least make an attempt, to the 1,5°C target, nuclear energy has to be considered to so;e extent