

The Policy of the Belgian Government relating to SMRs

BNLA Conference

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Dr. Tom Vanden Borre

Chief of Staff

Federal Minister of Energy

Tinne Van der Straeten

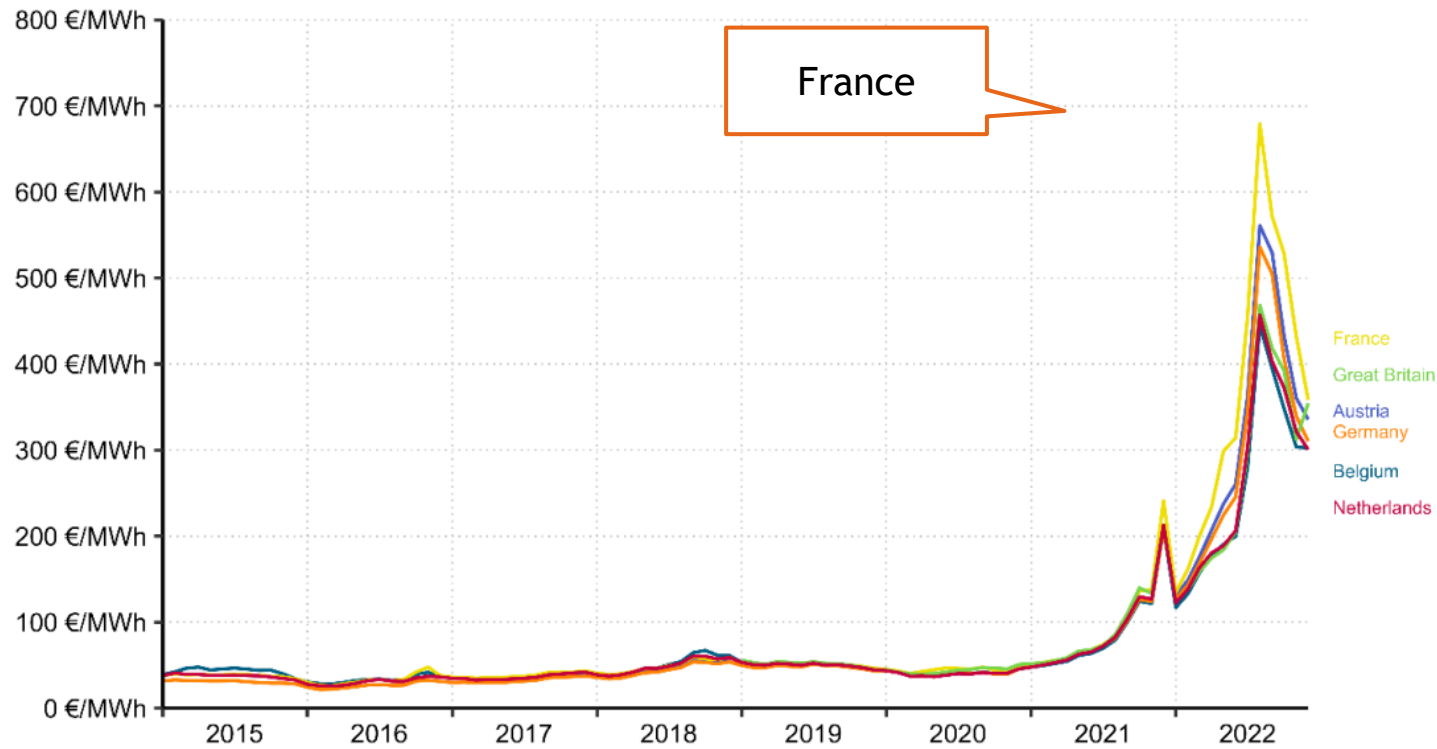
Federal government managed an unprecedented crisis



- ▶ Problems of electricity supply from neighboring countries, esp. French nuclear power plants
- ▶ Invasion of UKR by Russ → demonstrated consequences of high dependence on fossil fuels

One year-ahead contracts price evolution

Monthly average year-ahead prices for delivery in Belgium and neighbouring countries (in €/MWh)

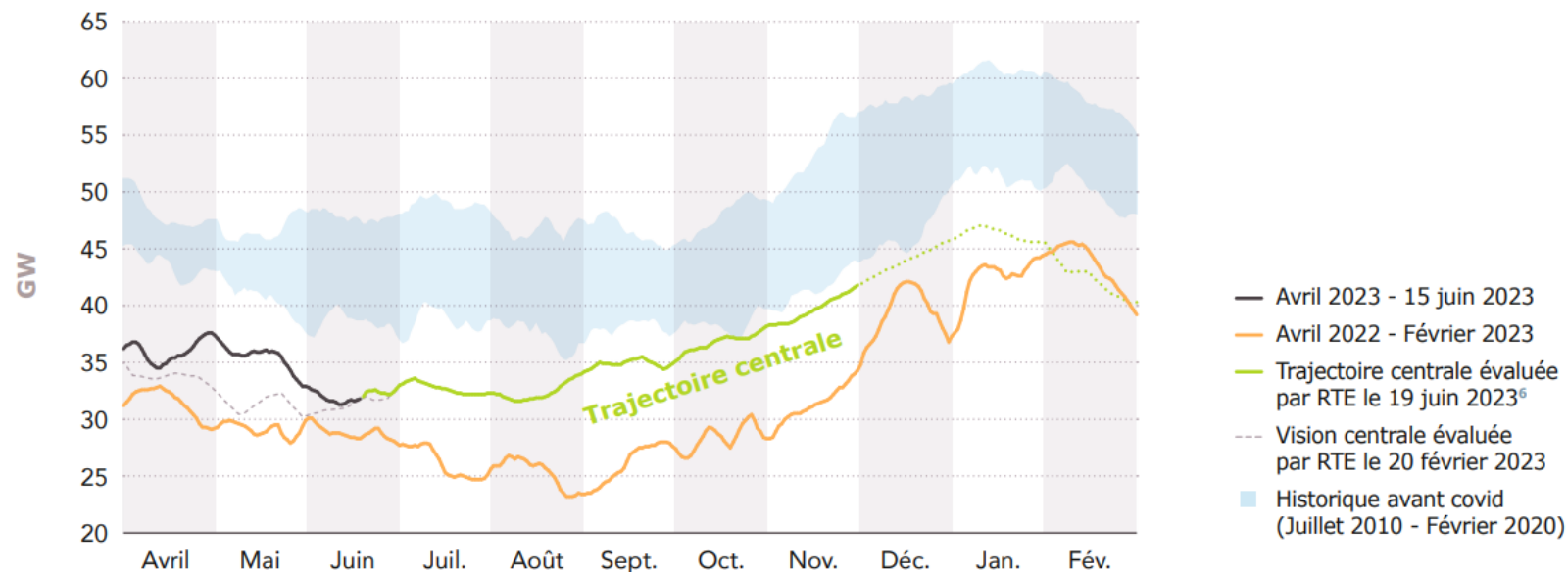


Source: calculations CREG based on data Ice Index

Year ahead electricity prices

Continued unavailability of an important number of French nuclear power plants

Figure 2 Disponibilité prévisionnelle du parc nucléaire pour l'été 2023 et pour l'hiver 2023-2024



► [Perspectives pour la sécurité d'approvisionnement en électricité pour l'été, l'automne et l'hiver 2023 - Complet \(rte-france.com\)](https://www.rte-france.com/fr/actualites/actualites/2023/02/2023-02-20-perspectives-pour-la-securite-dapprovisionnement-en-electricite-pour-lete-lautomne-et-lhiver-2023-complet)

Disponibilité du parc nucléaire (edf.fr)

Il y a actuellement 37 réacteurs sur le réseau représentant une puissance disponible de 40.4 GW.

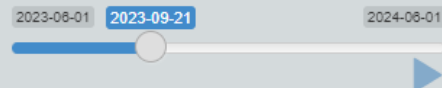
5 prochains retours

Réacteurs	Date retour	Puissance nominale
Gravelines 1	21/09/2023 23h	910 MW
Nogent 2	22/09/2023 22h	1310 MW
Cattenom 2	23/09/2023 15h	1300 MW
Chinon 2	23/09/2023 23h	905 MW
Flamanville 1	23/09/2023 23h	1330 MW

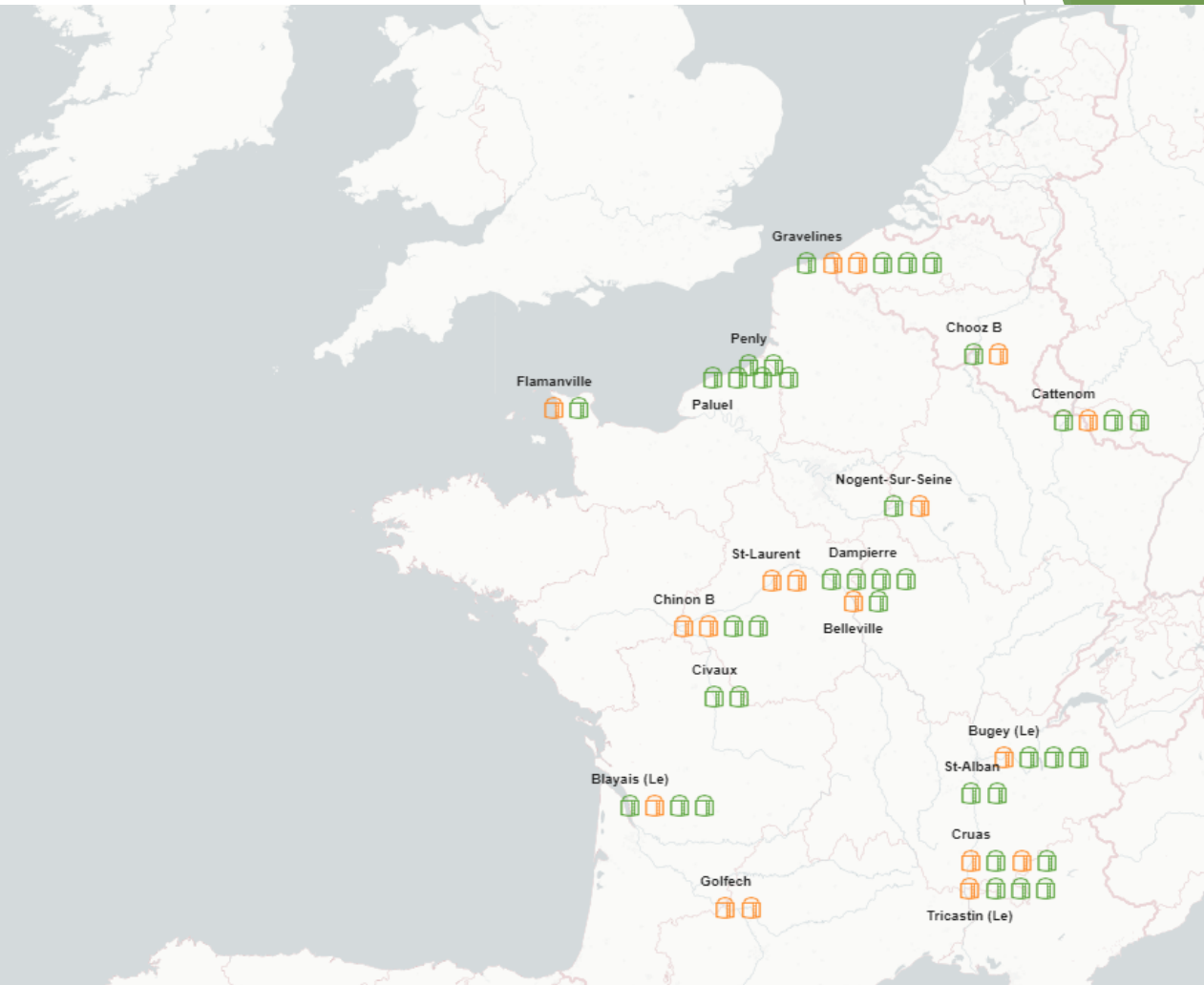
3 prochains départs

Réacteurs	Date départ	Puissance nominale
Cruas 2	23/09/2023 00h	915 MW
Nogent 1	23/09/2023 00h	1310 MW
Dampierre 3	23/09/2023 02h	890 MW

Calendrier de disponibilité des réacteurs



Dernière mise à jour des informations : 21/09/2023 09h36



Swift response of the federal government Dec 21-March 2022

- ▶ Unprecedented package to help consumers and business to pay energy bills
- ▶ Boost in energy transition and independence
- ▶ Extension of D4 and T3 nuclear power plants for a period of ten years
- ▶ SMR

Belgium engages in technology assessment of SMRs



The development of Small Modular Reactors (SMRs) could play a role, along with other forms of sustainable energy, in achieving the goal of a climate-neutral energy system by 2050



Mandate to Minister of Energy and Minister of Economy: ask SCK/CEN to perform technology assessment of all SMRs under development



Budget of 100 mio € over 4 years

Technology assessment SMRs to put safety and waste minimization as top priorities

- ▶ Passive Safety
- ▶ Minimization of long-lived & radiotoxic nuclear waste
- ▶ Non-proliferation
- ▶ Flexibility
- ▶ Economic viability
- ▶ Economic insurability
- ▶ Contribution to the Sustainable Development Goals
- ▶ Time to market

Federal government also to continue Myrrha

- ▶ Crucial to keep production of radio-isotopes in our country
- ▶ MYRRHA has the ambition to drastically reduce the radio toxicity of spent fuel and high-level radio-active waste and optimize the final disposal of the waste
- ▶ In governmental agreement the importance of Myrrha-project is recognised
 - ▶ Belgium allocated 558 MEUR₂₀₁₈ for 2019 - 2038
- ▶ A stage-gate decision will be taken in 2026 whether to proceed with phases 2 and 3, either sequentially, or in parallel

Conclusions

- ▶ *The federal government decided*
 - ▶ *to support the industrialization of selective advanced SMRs that satisfy its 8 criteria (Gen IV)*
 - ▶ *to pursue through the MYRRHA project, in an international context, the necessary research concerning innovative solutions for high-level radioactive waste management and the qualification of materials for fast neutron and fusion reactors*
- ▶ *The safe disposal of nuclear wastes will be a necessary condition and remains the first priority for Belgium for the coming decades. Belgium has taken a first step in its national nuclear waste policy and has launched a broad participatory process under the auspices of the King Baudouin Foundation before taking the next steps.*