




The lights will stay on

**Decarbonization of the European
heating sector**

Stockholm - May, 26 2023



Introduction: A
major issue

A common ambition at a european level : Decarbonization, electrification and renewable energies

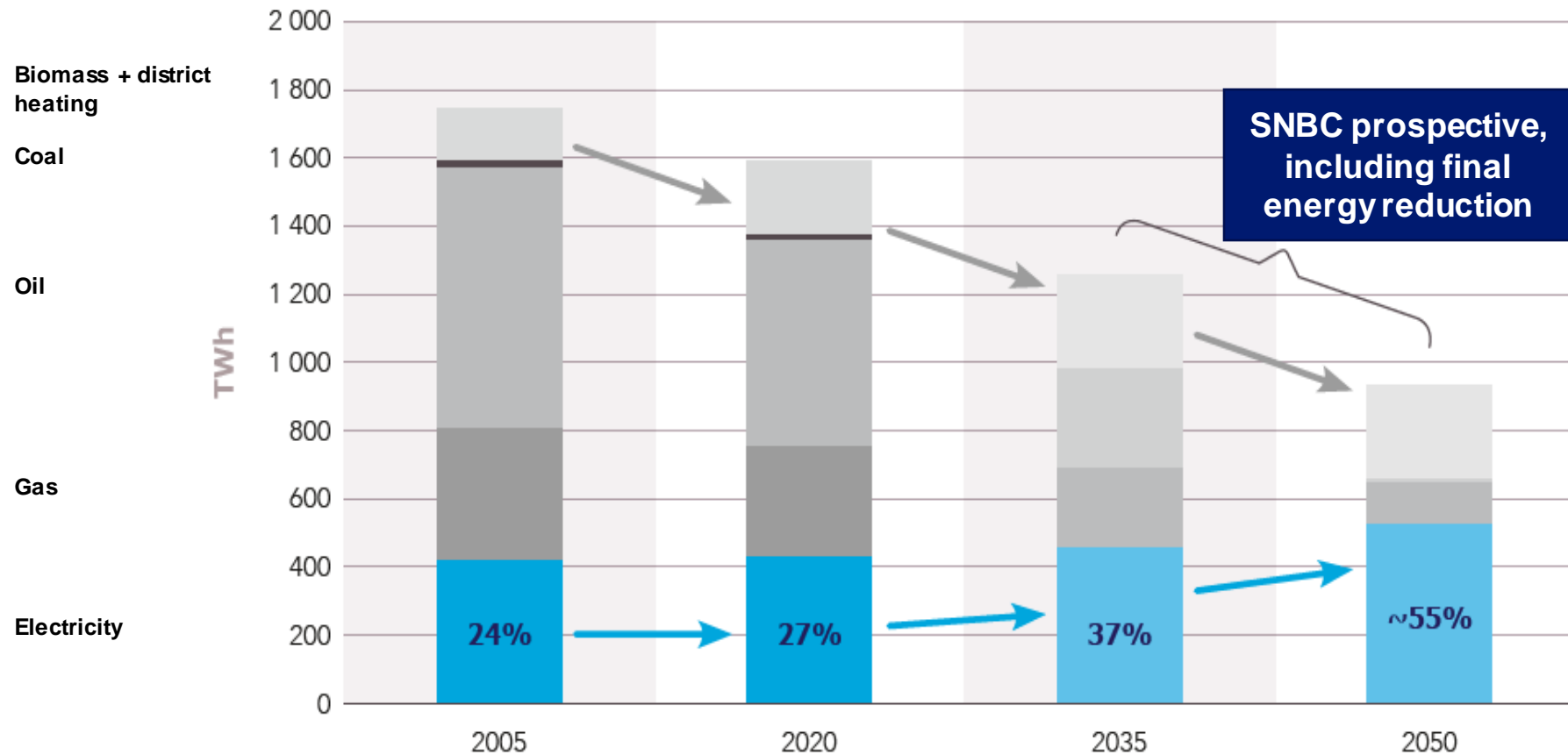


Electricity will be key in 2050



Part of electricity in the french energy mix. 2020 → 2050

Low Carbon National Strategy (SNBC) 27% → 55%



Final energy demand evolution and part of electricity in France metropolitan area (real figures + SNBC)

Major questions in the coming years



A carbon neutral trajectory based on massive electrification of uses



Some issues on the production park



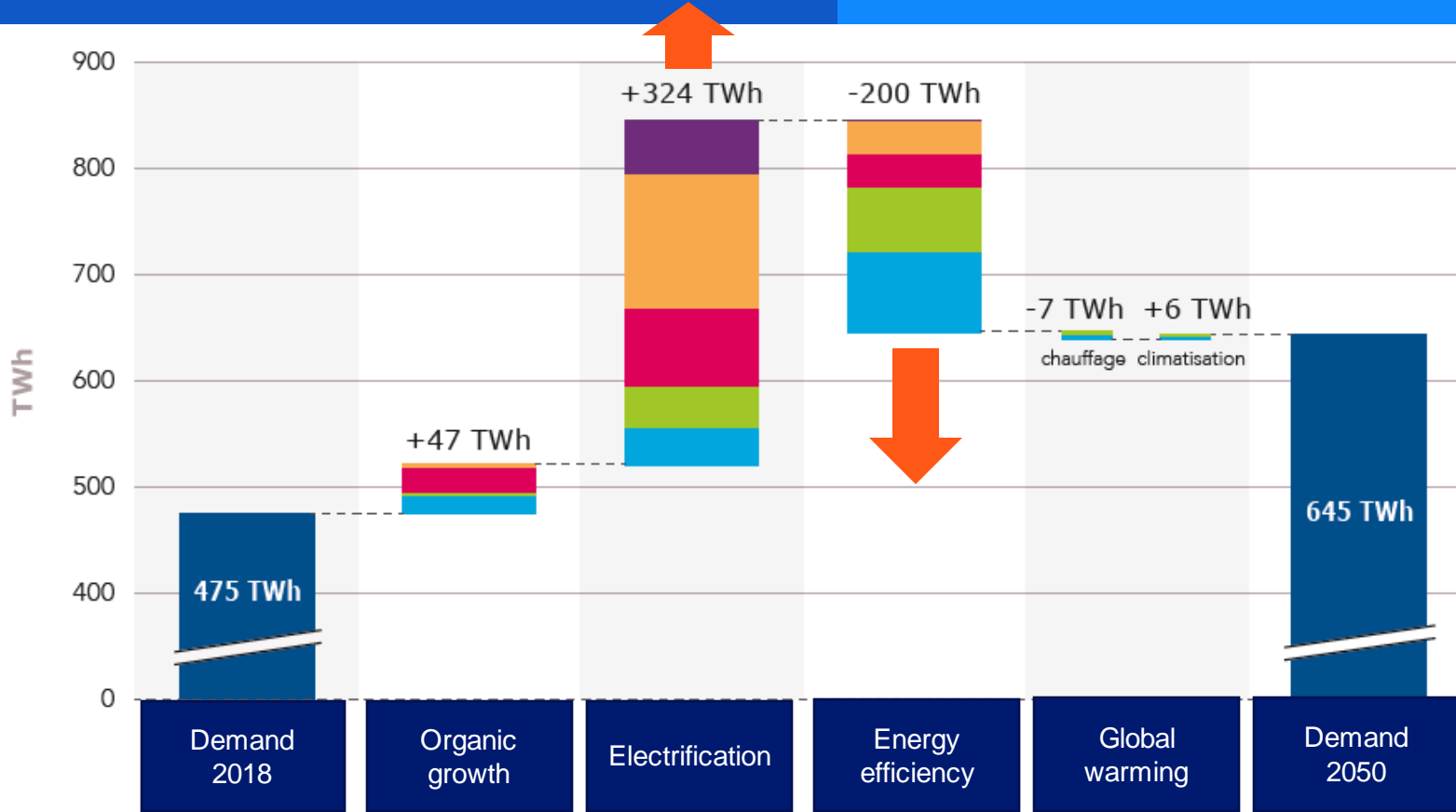
Will the lights stay on ?



Lights will stay on !

Demand evolution is quite limited

French electricity demand evolution 2019 → 2050 **RTE (french TSO) 475 → 645 TWh**



A demand curve that will mainly change, from today to 2050...

Winter peaks both in the morning and the evening

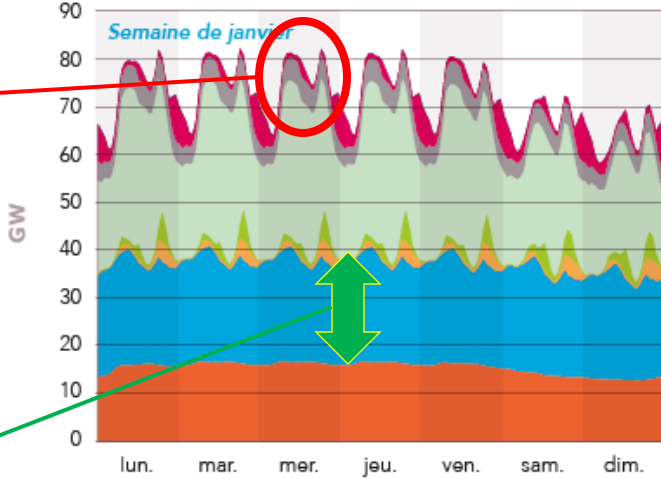
Today

A slight reduction of power for heating (-5 GW)

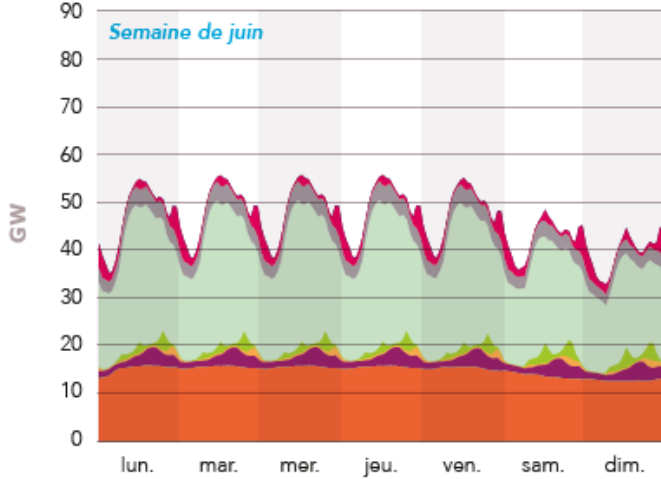
EV charging and H2 production when renewable available

2050

WINTER

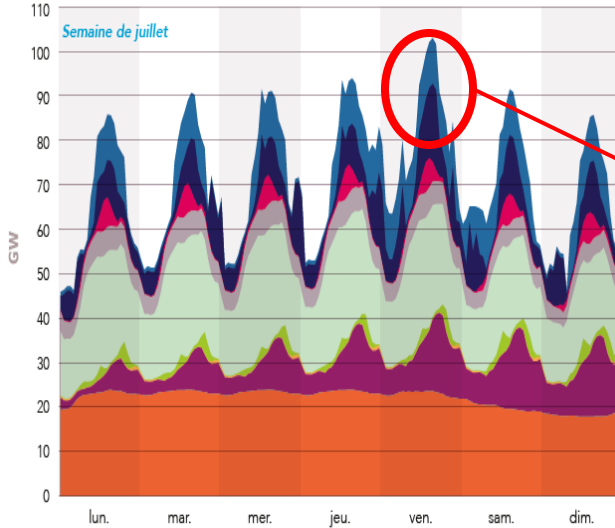
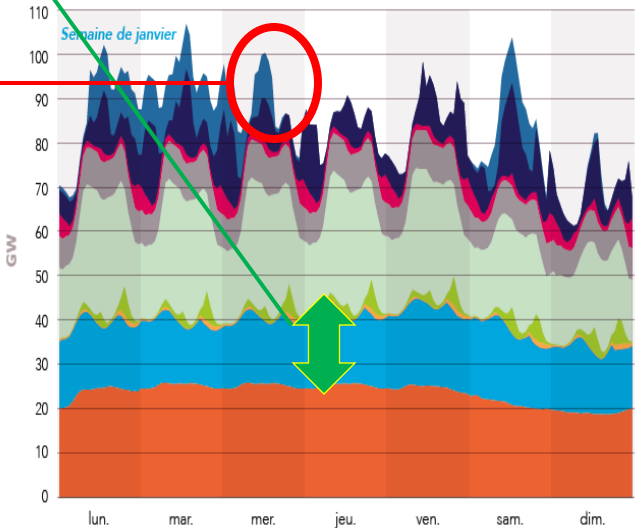


SUMMER



RTE – Futurs énergétiques 2050
(Heating = dwellings + tertiary)

- Hydrogène
- Véhicules électriques
- Eau chaude sanitaire
- Pertes
- Autres
- Cuisson
- Éclairage
- Climatisation
- Chauffage
- Industrie et énergie



Summer peaks comparable to those observed in Winter

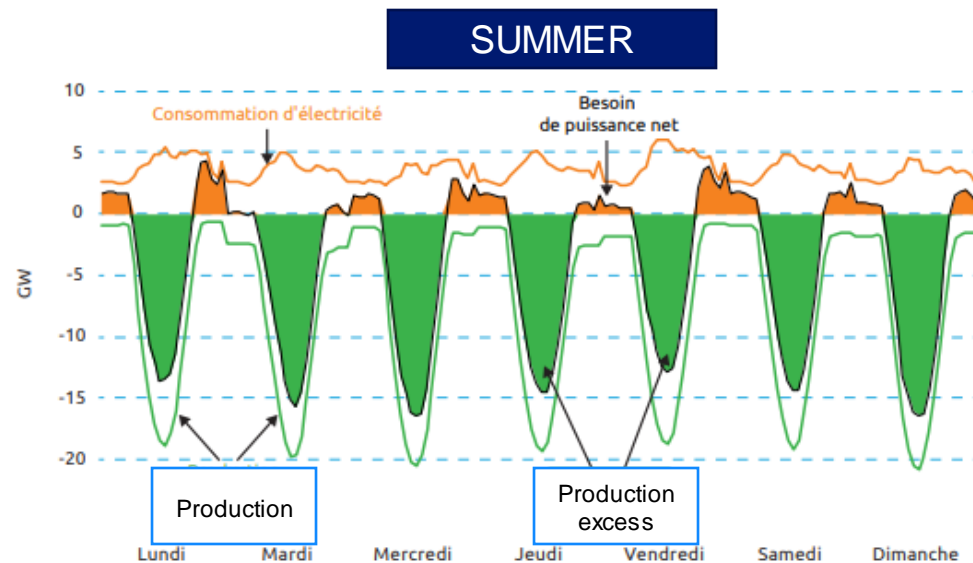
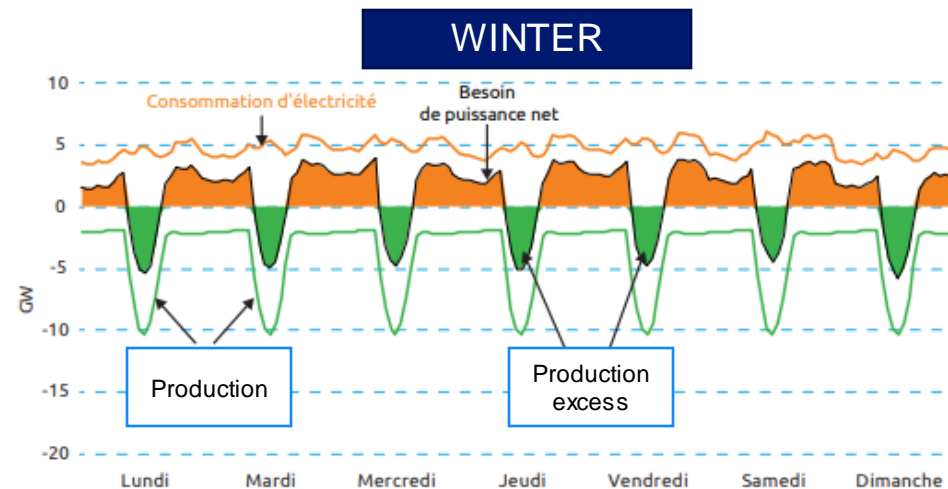


New investments in
the grids

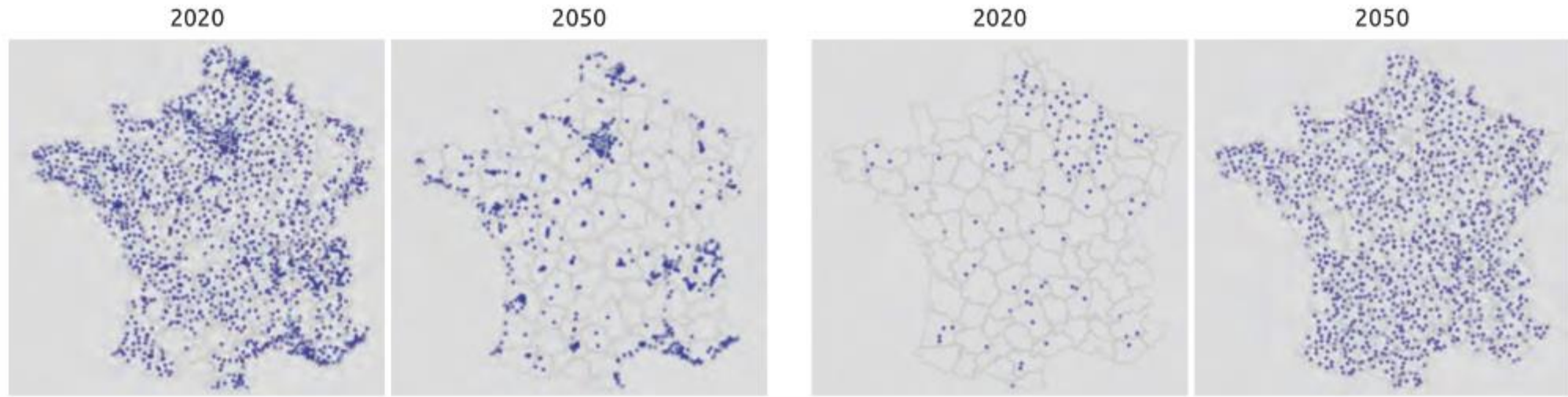
A new shape of the grid...

1

New uses on the grids will imply major reinforcements in the substations...



... All over the territory



Substation reinforcement due to the expansion of DEMAND

Substation reinforcement due to the expansion of GENERATION

ENEDIS – Prospective 2050

2

Substations reinforcements
will be mainly driven by
decentralized renewable
generation

A stylized illustration of a town. In the center, a large dark blue square contains the text "Tack så mycket!". To the right, there are several houses: a white house with a blue roof and a blue circle in the gable, a blue house with a dark blue roof and six dark blue square windows, and a smaller blue house with a dark blue roof. The background features green hills, a green tree, and various blue and green geometric shapes representing buildings and foliage.

Tack så mycket !