



Building low carbon scenarios for Belgium

International Conference on 2050 Calculator
Taipei, TAIWAN, 10-12 February 2015



TOWARDS A
LOW CARBON SOCIETY

Low carbon strategies context

UN

Cancún Agreements (December 2010):

The Conference of the Parties,

...

45. *Decides that developed countries should develop **low-carbon development strategies or plans**;*



EU

European Council (February 2011):

*“Reaching the EU objective, in the context of necessary reductions according to the IPCC by developed countries as a group, of reducing greenhouse gas emissions by **80-95% by 2050 compared to 1990** as agreed in October 2009 will require **a revolution in energy systems, which must start now.**”*



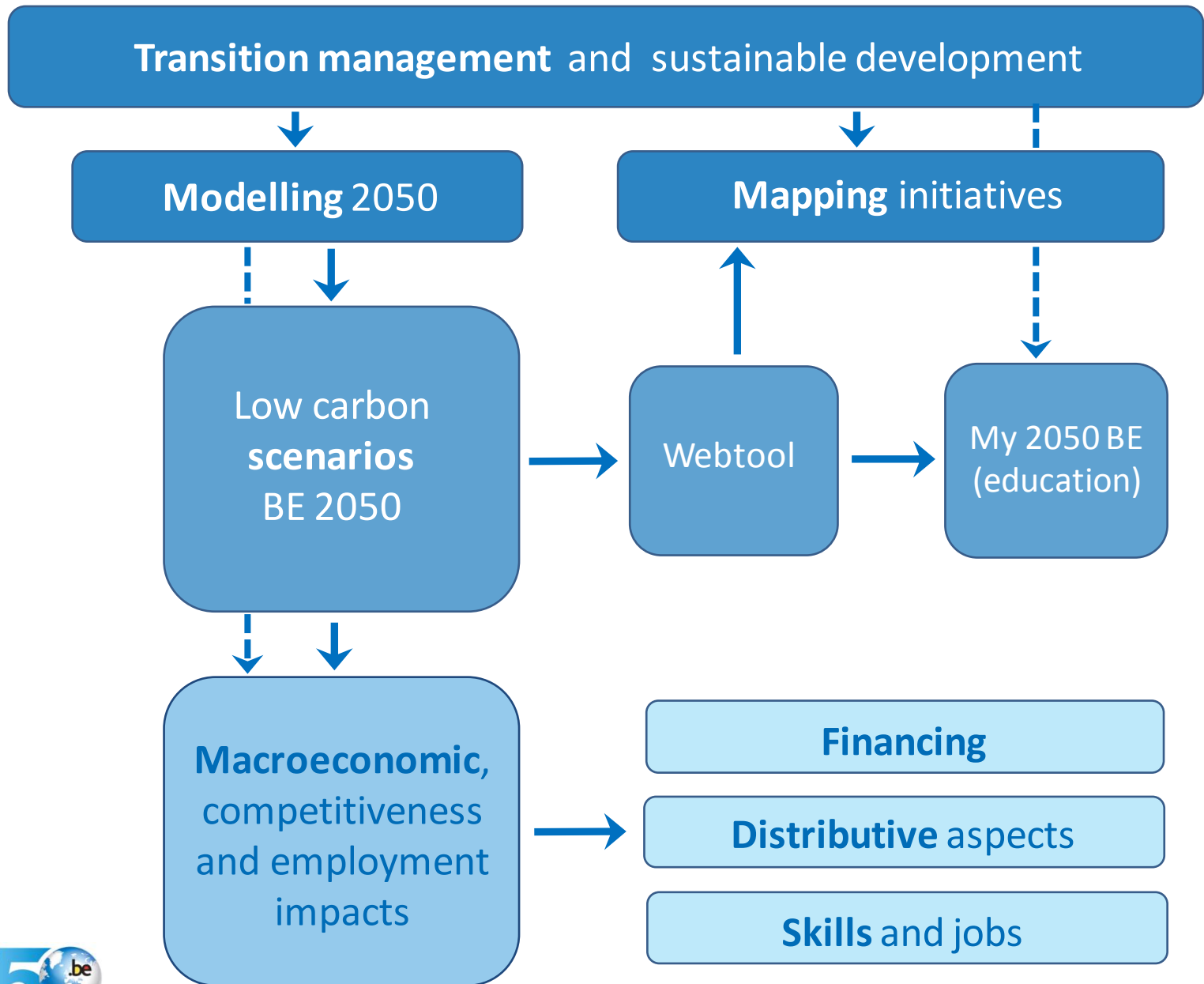
European Commission (2011): Low Carbon Economy Roadmap

BE

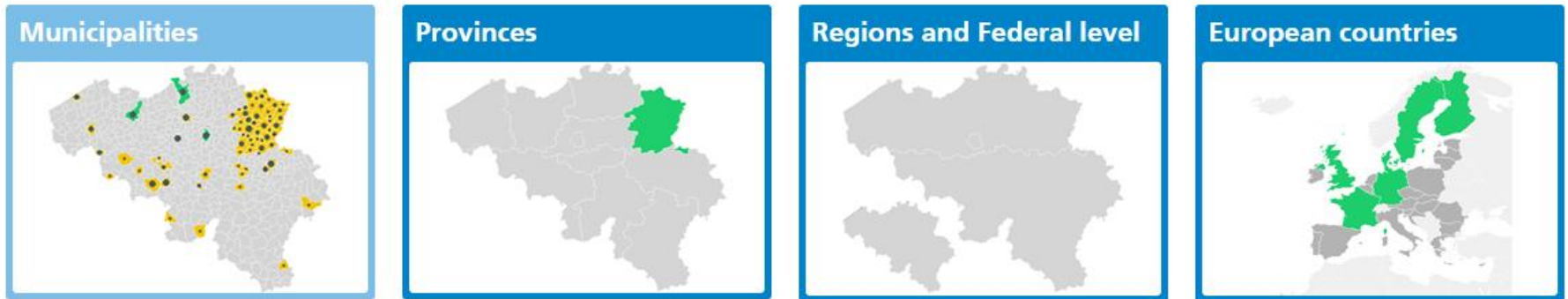
Federal long-term strategic vision on sustainable development (2013):

*Objective #31. Belgian GHG emissions will be domestically **reduced by at least 80 to 95% with respect to their level in 1990.***





Overview of government-led initiatives



Click directly on a municipality in order to see its engagements, or [click here](#) to view a synthesis table presenting all municipality initiatives.

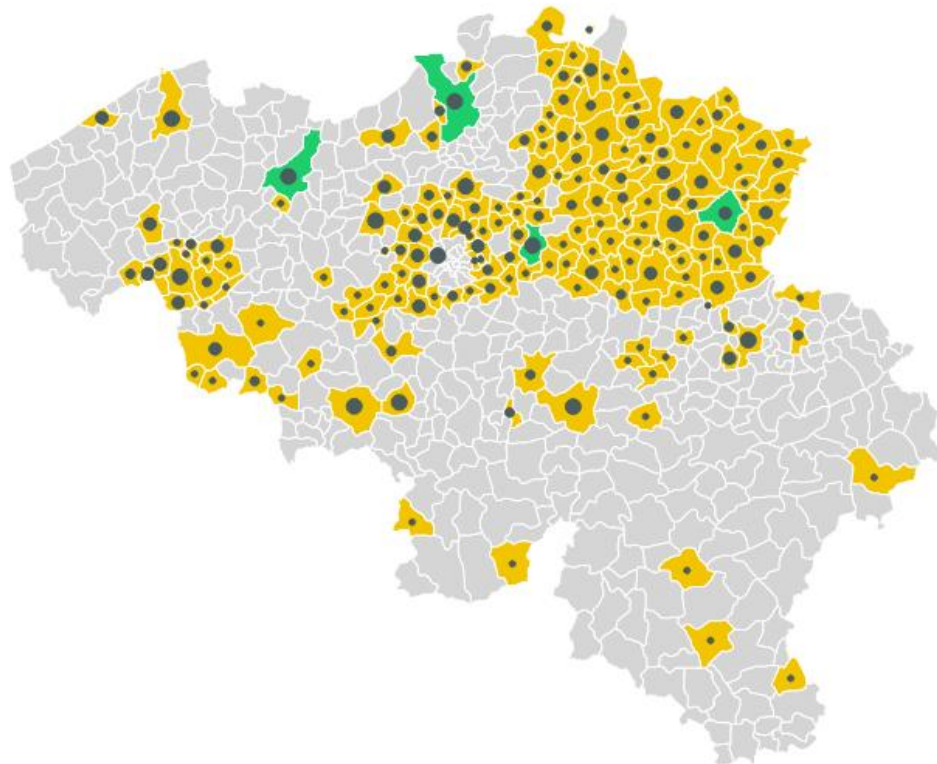
Legend

Population :

- <15.000 residents
- 15.000 > 30.000 residents
- 30.000 > 75.000 residents
- > 75.000 residents

The initiatives :

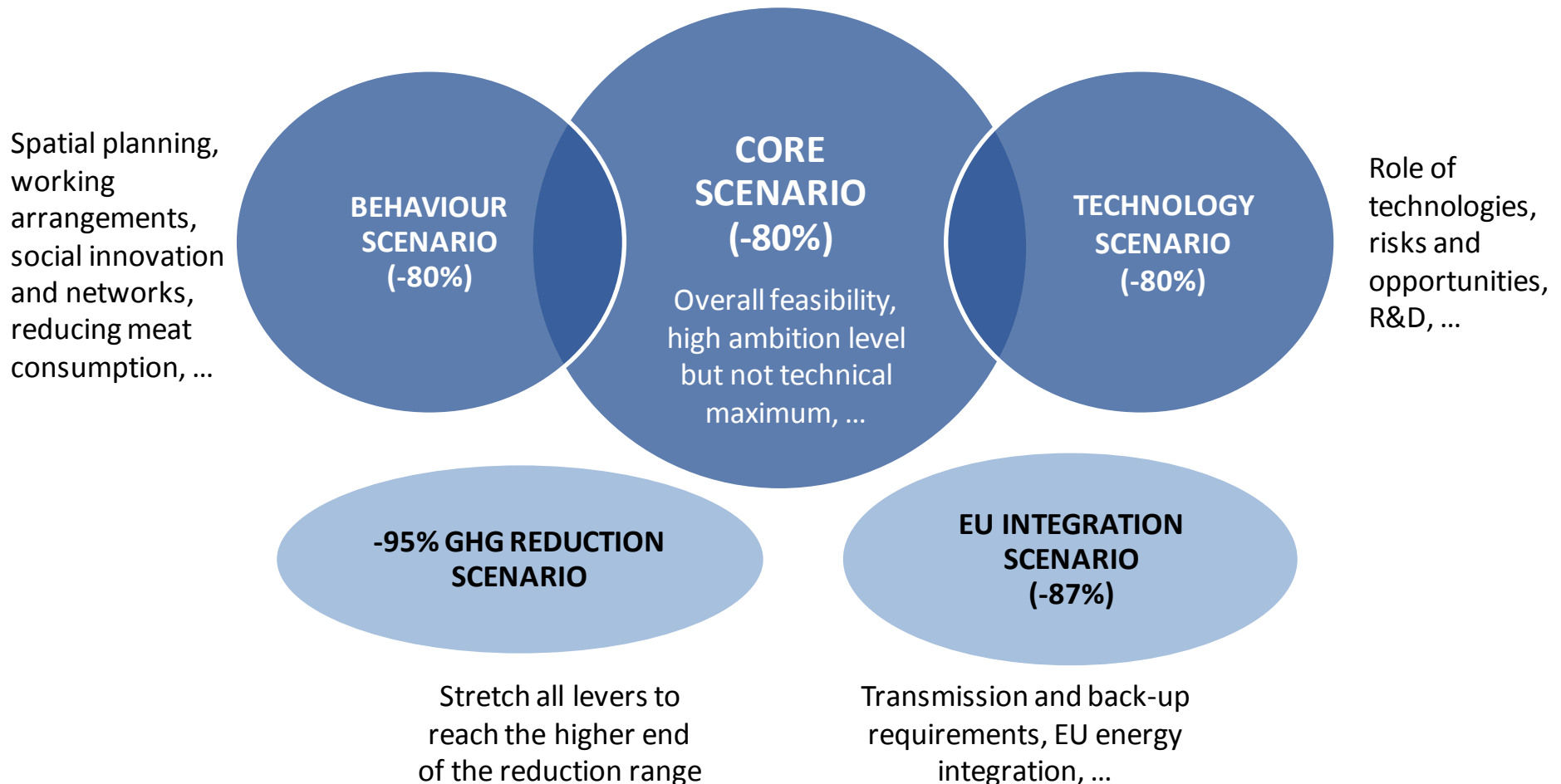
- Middle term initiatives
- Long term initiatives



Deep involvement of key actors

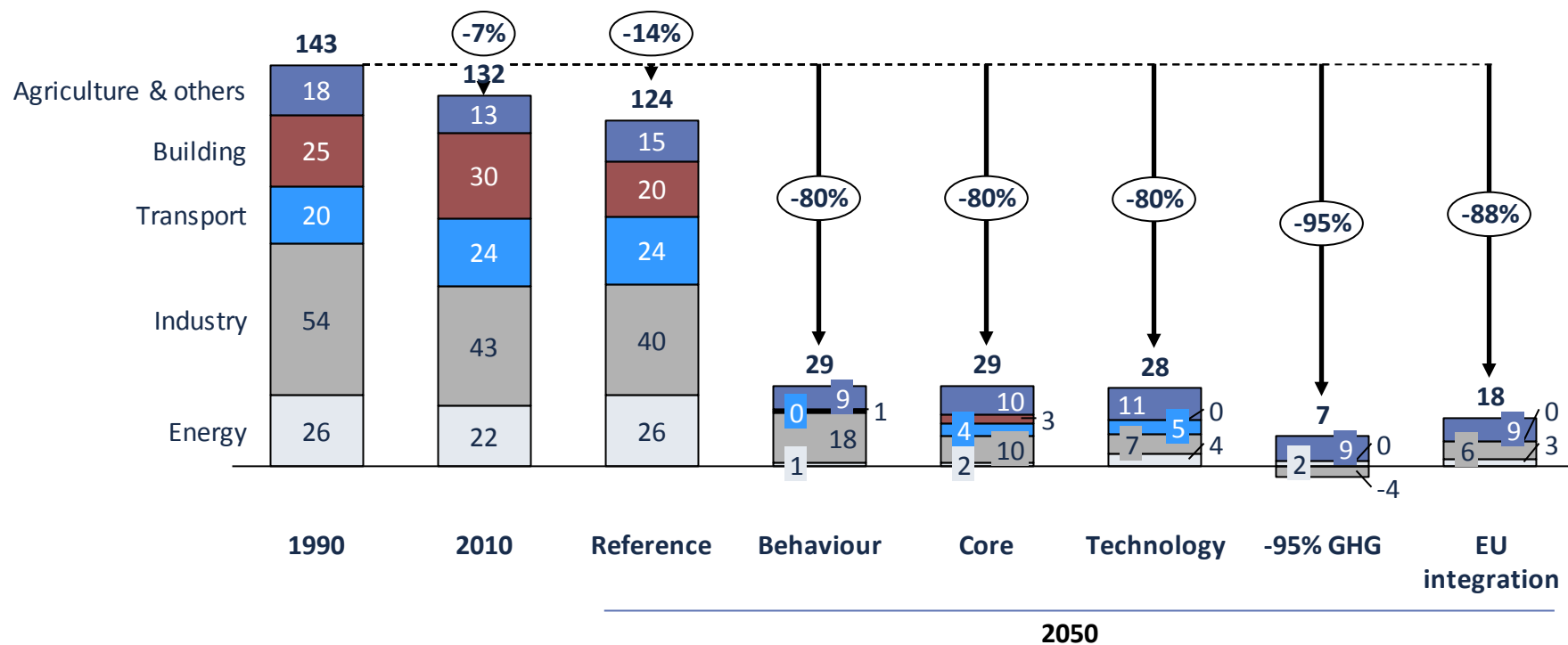
- For the identification of the **levers** and the definition of their ambition levels (1 to 4)
 - Mainly at the **expert level** (from universities, public administrations, interest groups incl. sectoral federations, consultancy companies, ...)
 - Thematic **workshops** with limited number of participants
 - Key success factors: **careful selection** of experts and robust analysis prior to the discussion
- For the definition of the **scenarios**:
 - Mainly **stakeholders** (Business federations, Trade unions and environmental NGOs)
 - Key success factors: **balanced package** of ‘technical-storylines’

5 scenarios/storylines built on the basis of stakeholders consultations

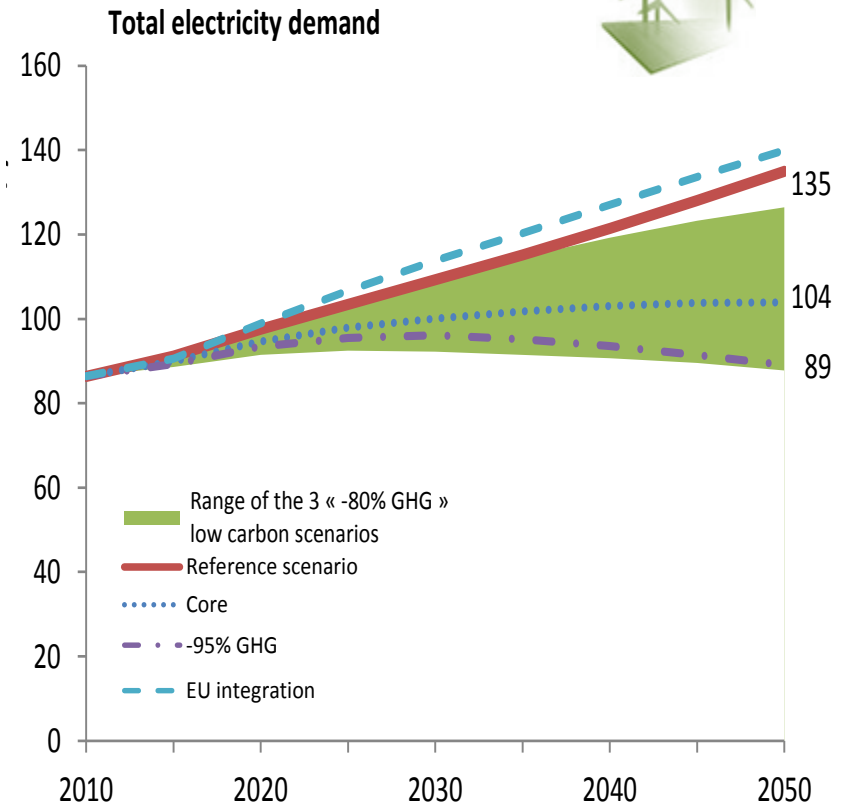
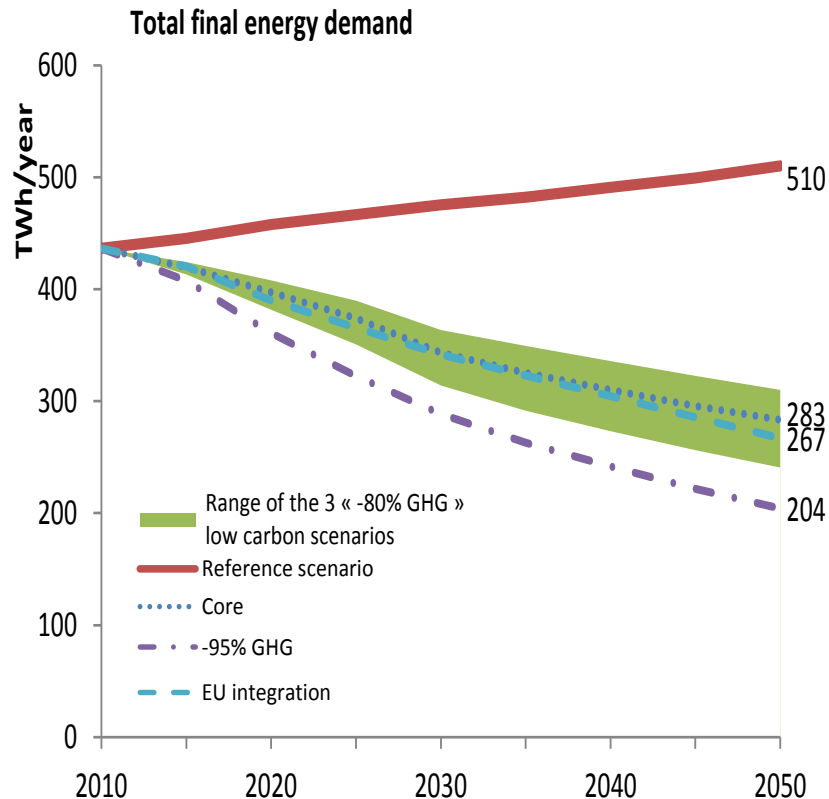


A set of 5 scenarios reaching 80 to 95% GHG emission reduction

GHG emissions in Belgium (MtCO₂e per year)



Scenarios allow to build ranges for most indicators



SECTORAL FINDINGS

FINDING 1



In the transport sector, reduced mobility demand and electrification play a key role.

FINDING 2



In the buildings sector, the renovation rate of existing buildings must increase and fossil fuel heating systems must be replaced by environmental heating systems.

FINDING 3



In the industry sector, energy efficiency and process improvements will allow further emission reductions. International competition needs to be taken into account.

FINDING 4



In the agriculture sector the technical potential for reduction is relatively limited. Behavioural changes, such as eating less meat, can play an important role.

FINDING 5



The share of electricity in the energy mix must rise significantly and can be provided by renewables.

OVERALL FINDINGS

FINDING 6



Lowering energy demand is key.

FINDING 7



Fossil fuels are drastically reduced and renewables increase manifold.

FINDING 8



Sustainable biomass will likely be important for the low carbon transition. Carbon capture and storage could also play a significant role but raises concerns regarding its feasibility and potential risk.

FINDING 9



Intermittent energy sources will increase significantly. They are manageable but require large interconnection, back-up and demand-side management measures.

FINDING 10



The low carbon transition requires additional investment expenditures that are compensated by reduced fuel expenses.



TOWARDS A
LOW CARBON SOCIETY

Belgium's transition to a low carbon society by 2050

In the context of the international negotiations under the United Nations, Belgium has committed to develop a low carbon development strategy. Such a strategy must be defined in the context of the European commitment to reduce greenhouse gas emissions by 80% to 95% in 2050 compared to their 1990 level. This site presents the initiatives taken by the Federal Government to contribute to the preparation of a Belgian low carbon strategy.

 [More information](#)

> Scenario analysis

Build your own scenario

Mapping of initiatives

Complementary analyses

www.climatechange.be/2050

vincent.vansteenbergh@environment.belgium.be