



LOW-EMISSION STRATEGY POLAND 2050

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with the support of

European Climate Foundation

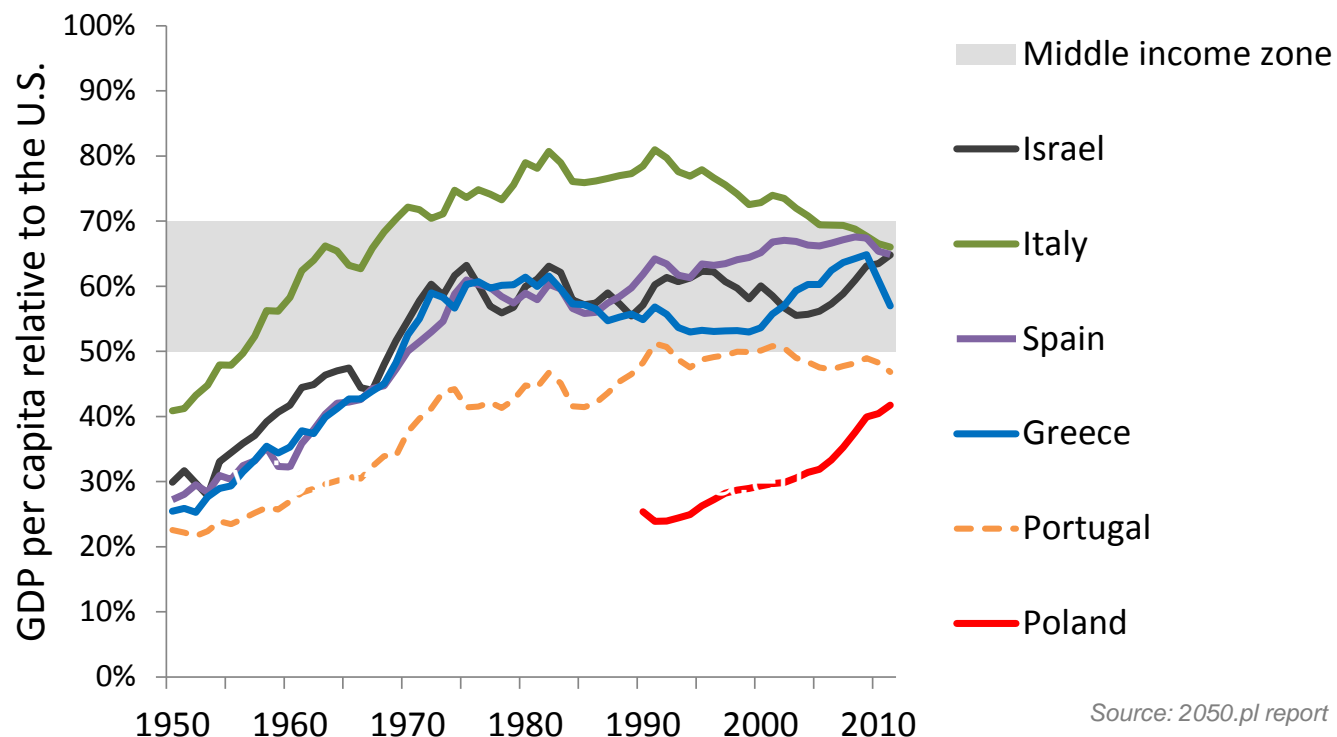
Brussels, 29 October 2014

Participants of the project

- ✓ Project partners: IBS, ISD, ECF
- ✓ Forum of Experts: some 75+ top, most recognized experts in the countries and representatives of public administration
- ✓ External partners for every sector of economy: power, industry, agriculture, transport, EE, etc.
- ✓ Ambassadors: people committed to the idea and trained & equipped to present the results

The Polish economy and the middle income trap

The grey area marks the "**middle income zone**" which corresponds to approx. **50-70 percent of the US GDP per capita**



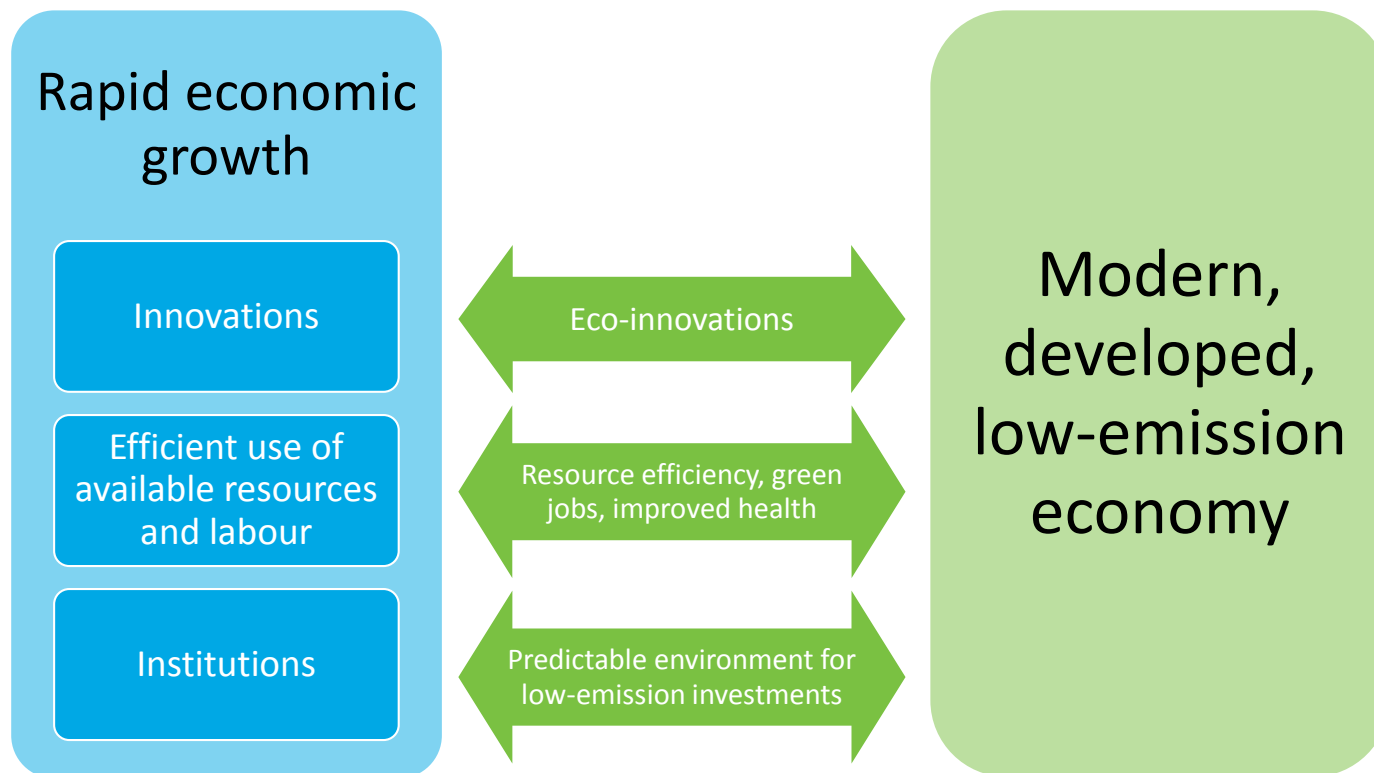
- Poland – catching up economy, the growth fueled by **the low costs of labour and the diffusion** of innovations
- Innovations, stable institutions and improved resource and labour market efficiency **necessary to avoid** the growth slowdown

What determines the success or failure of a middle-income country?

		Innovations	Labour market	Resource efficiency	Institutions
		Global Innovation Index 2012 rank	Employment rate, ages 15-64, 2000-2010 (%)	Average y/y energy intensity change 2000-2011 (%)	Doing Business 2012 rank
Above the trap	Austria	22	70,7	-0,8	32
	Finland	4	69,5	-1,7	11
	Ireland	9	67,1	-2,3	10
	Japan	25	75,6	-1,7	20
	South Korea	21	67,1	-2,3	8
In the trap	Israel	17	58,8	-0,5	34
	Italy	36	57,8	-0,8	87
	Spain	29	62,3	-1,3	44
	Greece	66	60,5	-1,6	100
	Portugal	35	72,2	-1,1	30
	Poland	44	56,2	-2,5	62

Sources: Eurostat, OECD, World Bank, World Energy Council

Climate and development policies are complementary



Source: 2050.pl report

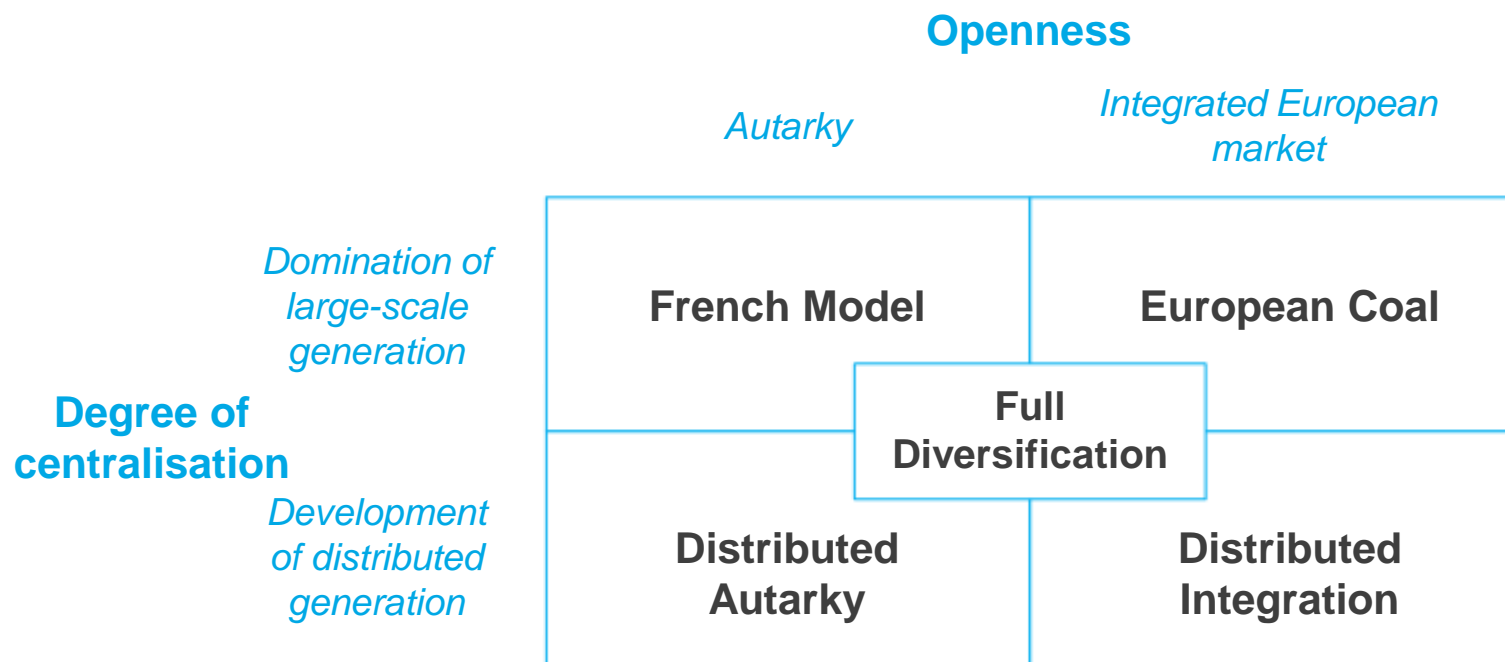
- The need **to improve** general business-friendliness and innovative base
- Positive effects of **“greening”** growth for the high-tech economic sectors

The choice

Poland can chose between one of the two development paths:

- **The limited development scenario** that keeps the current *status quo ante* with respect to the reform agenda;
- **Modernisation scenario** in which future development is based on three pillars:
 - High quality institutions and regulations
 - Innovation
 - Resource efficiency;

Alternative pathways for the Polish energy sector

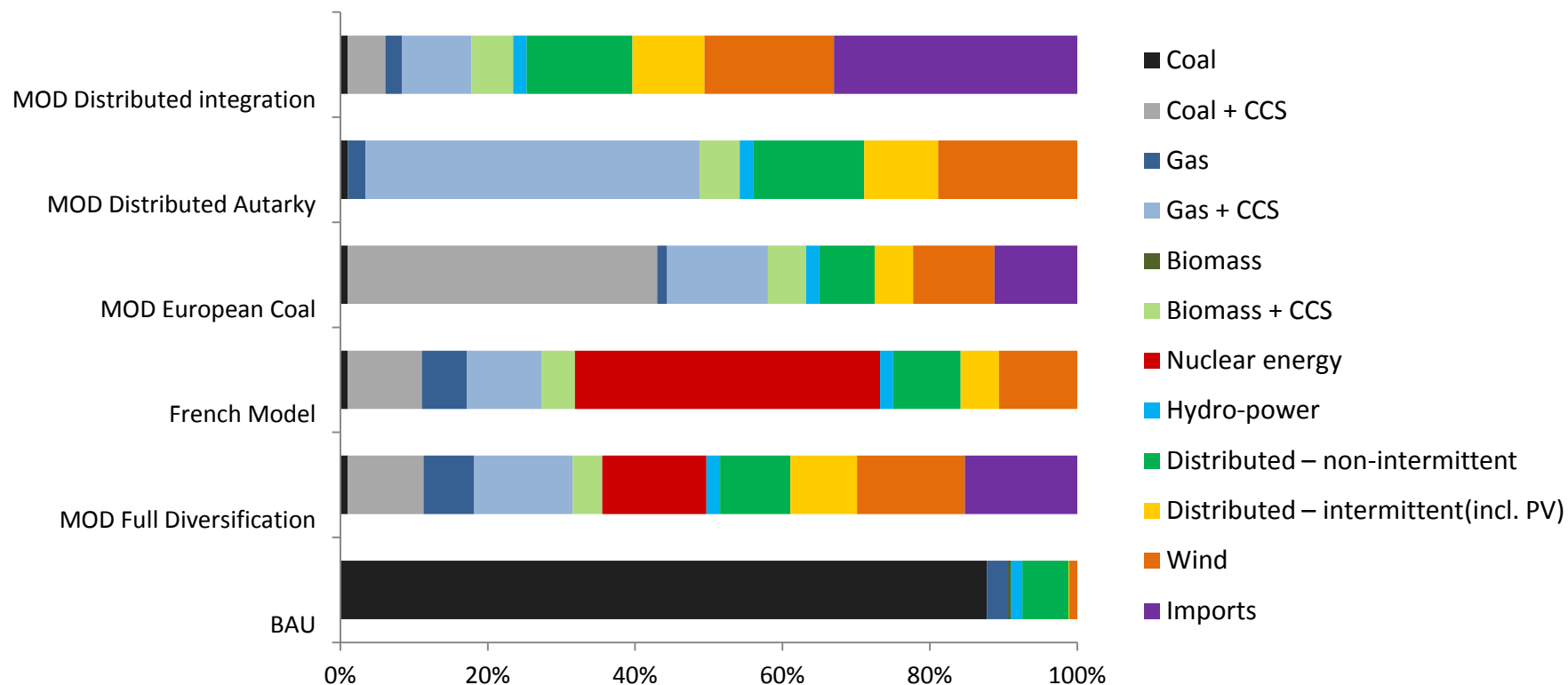


Source: 2050.pl report

- Similar dynamics for all paths – the **gradual phase-out** of the existing coal plants, gas as the **bridging technology**
- Key differences not only in technologies but also in the **centralisation** and **openness**

Alternative pathways for the Polish energy sector

Electricity generation mix in Poland 2050 by scenario



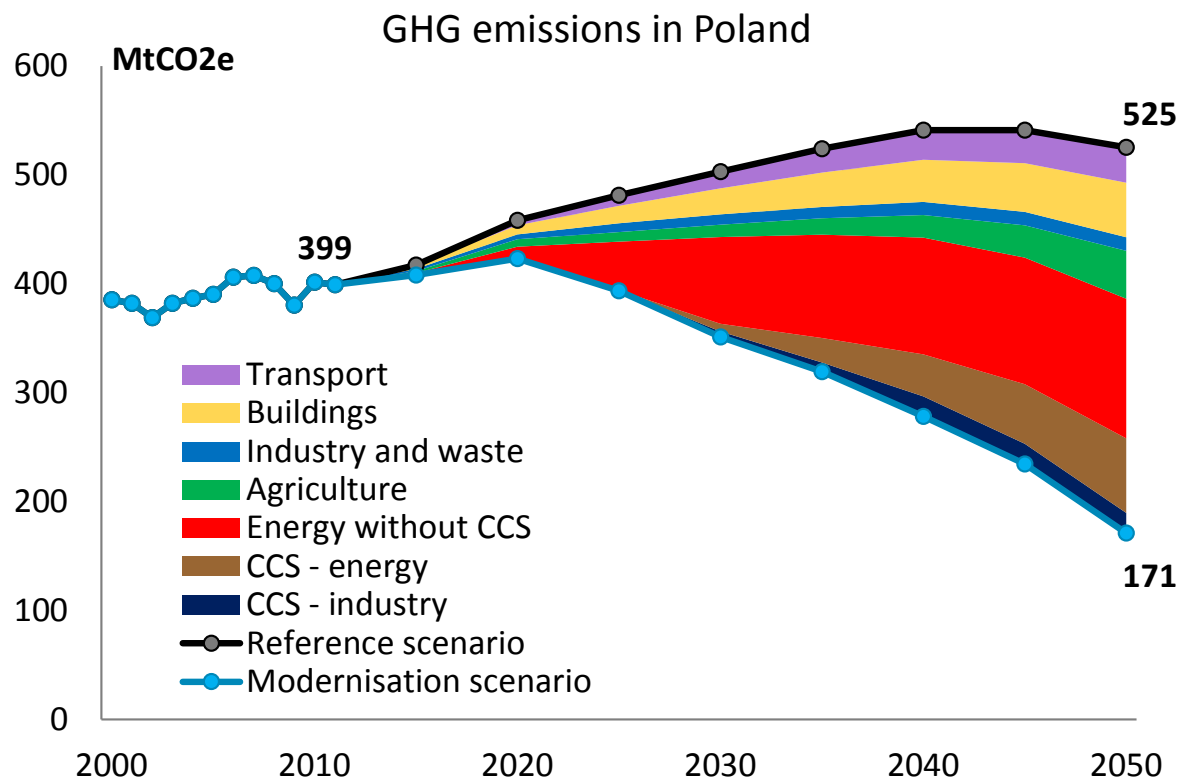
MOD – modernisation scenario; BAU – reference scenario

Source: 2050.pl report

- All mixes except BAU provide approx. **90%** GHG reduction in 2050



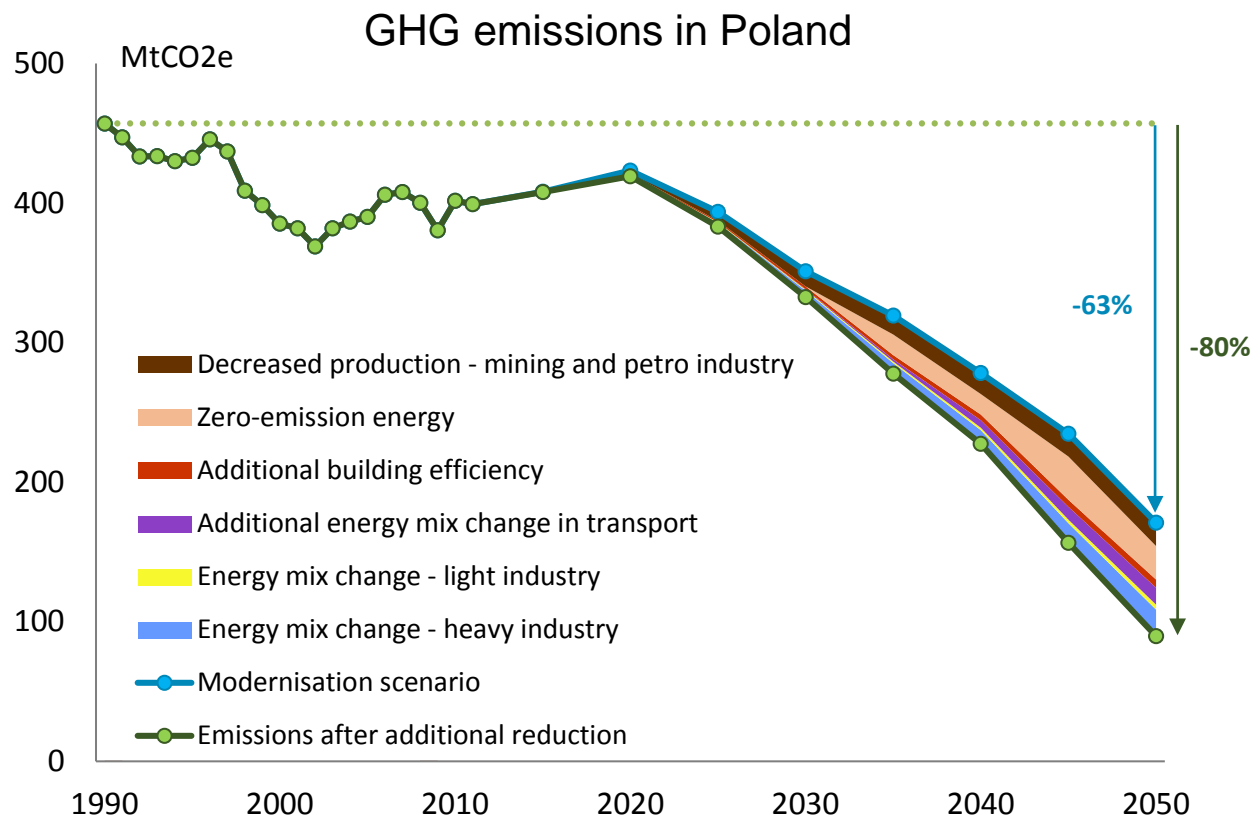
Deep cuts possible without major technological breakthroughs



Source: 2050.pl report

- Reducing emissions by **more than half** relative to 1990 is not only possible, but also does not require resorting to expensive technologies such as CCS
- CCS implementation increases the reduction potential to more than **60%**

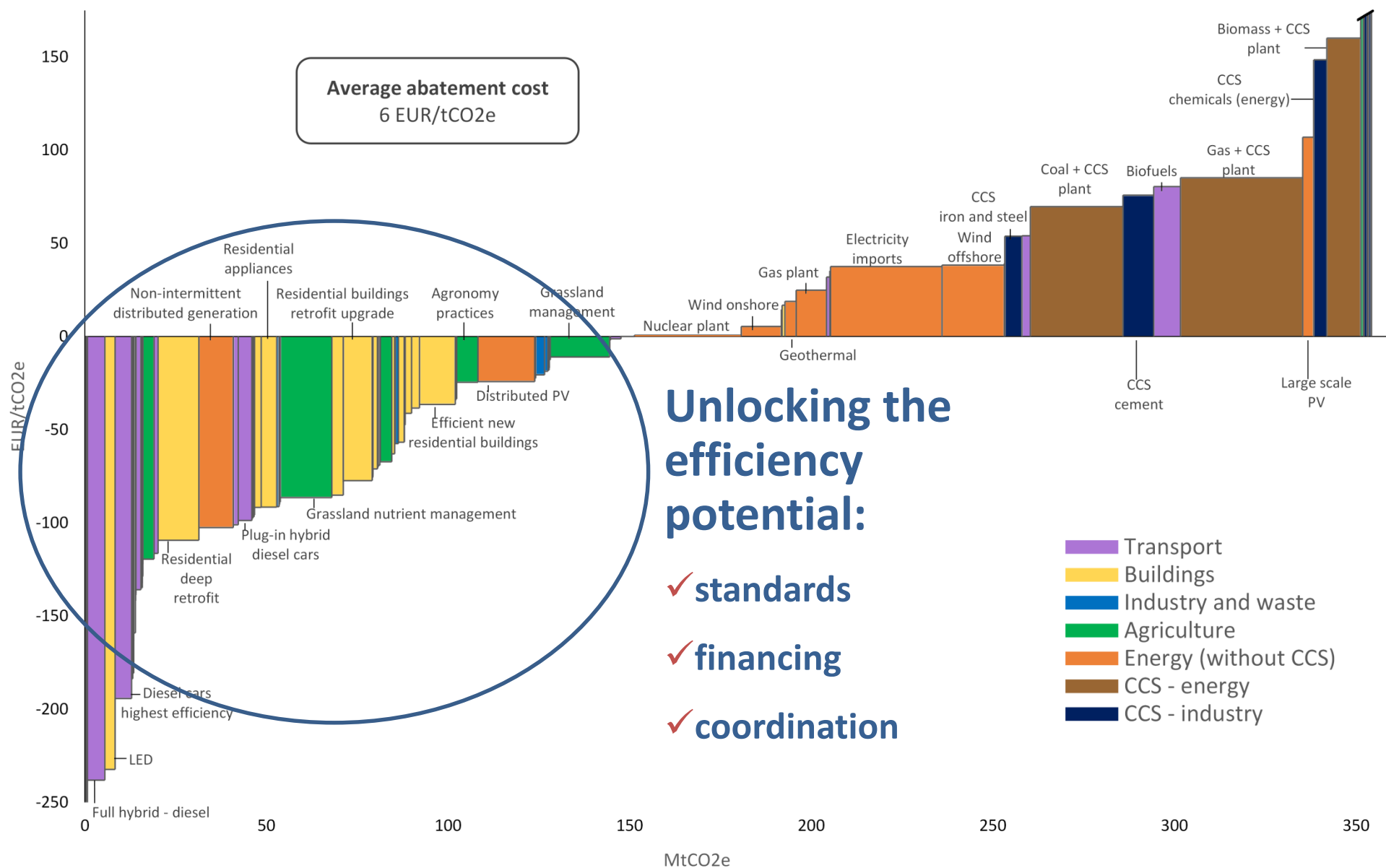
... but to achieve ambitious goals we need more innovations



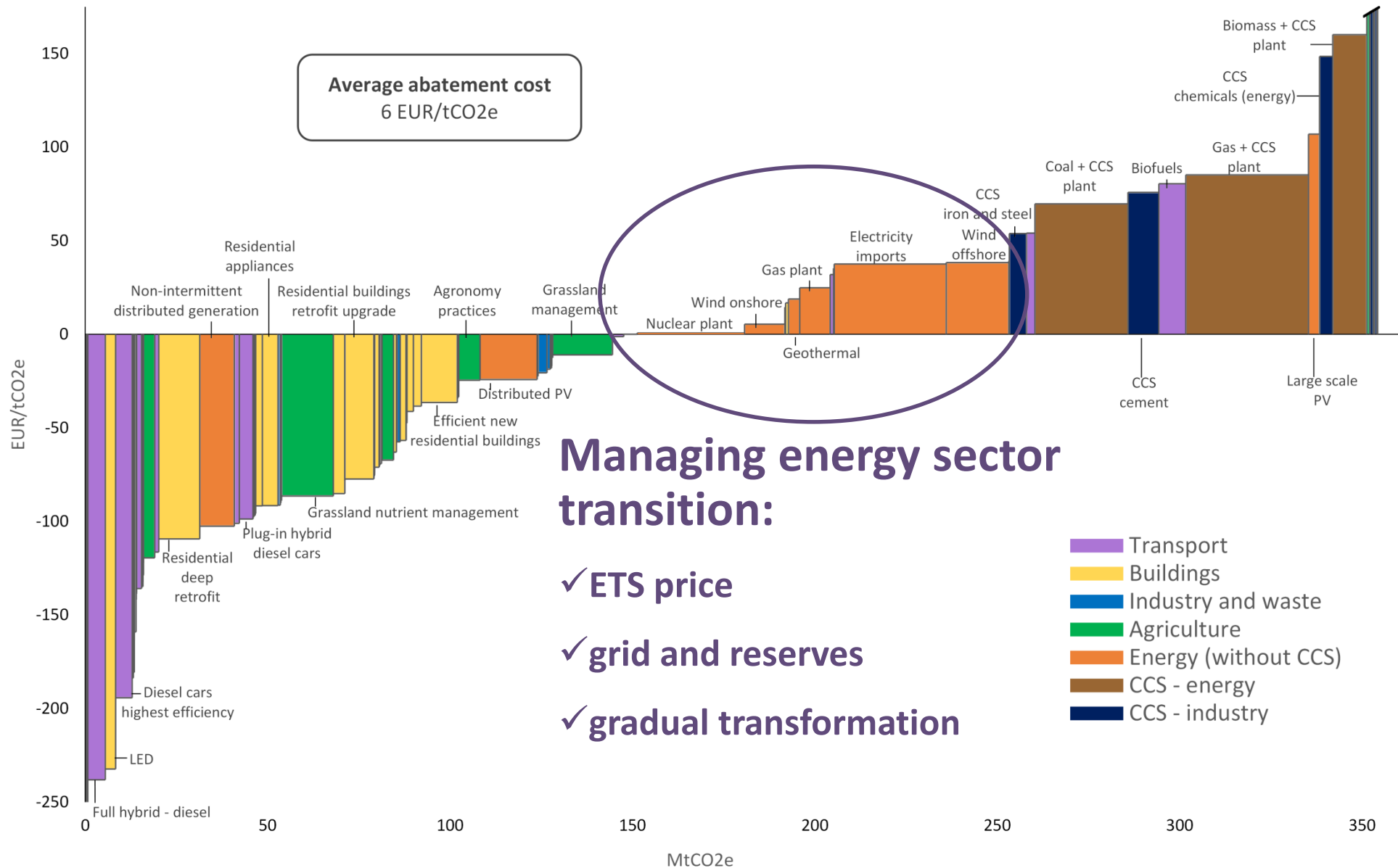
Source: 2050.pl report

- 80% emission reduction requires the development of low-cost, low-emission energy technologies allowing for the **deep change in the energy mix**
- Current substantial **investments in eco-innovations** increase the odds of a breakthrough in this area

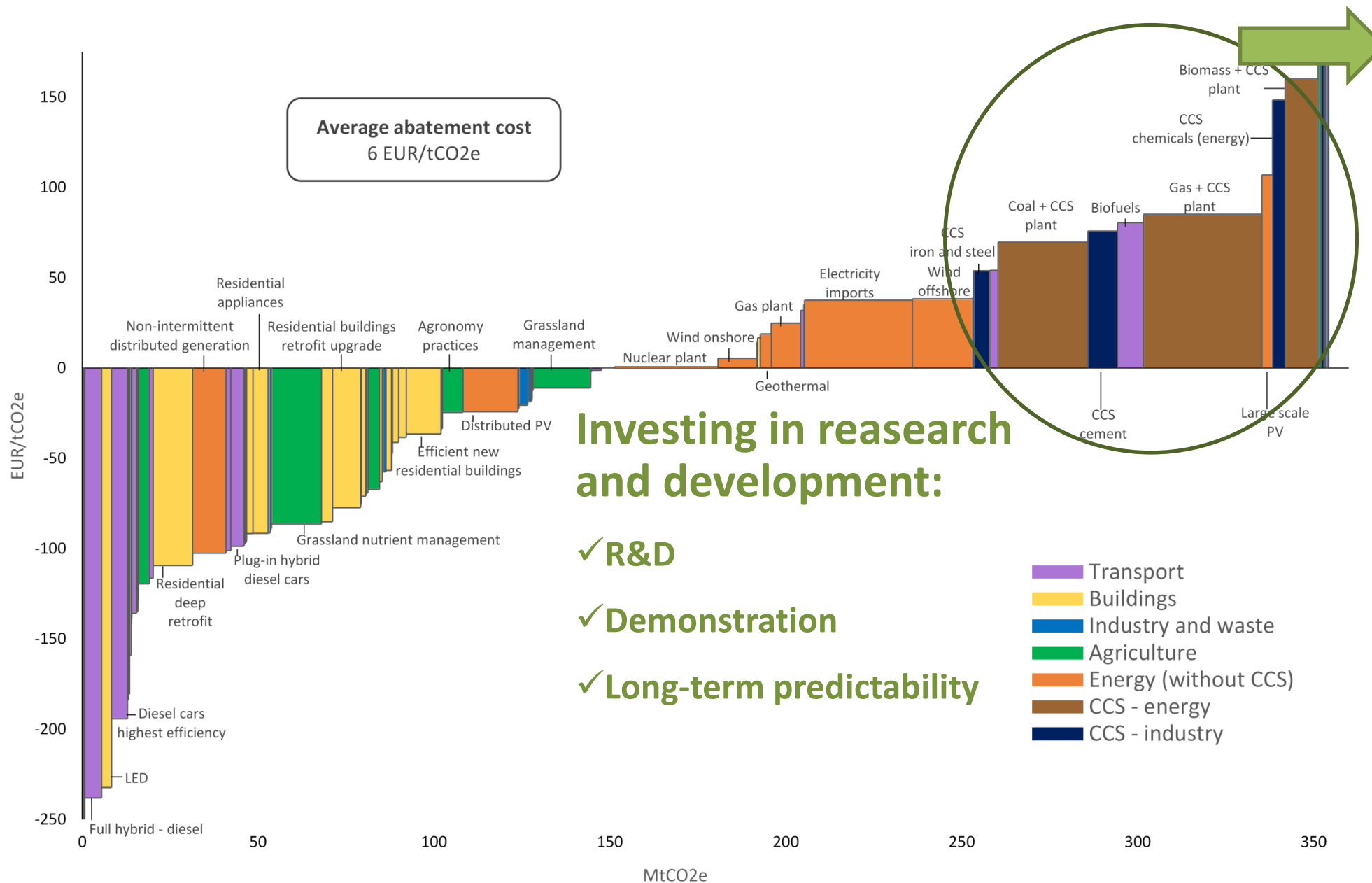
The cooperation between public and business sector



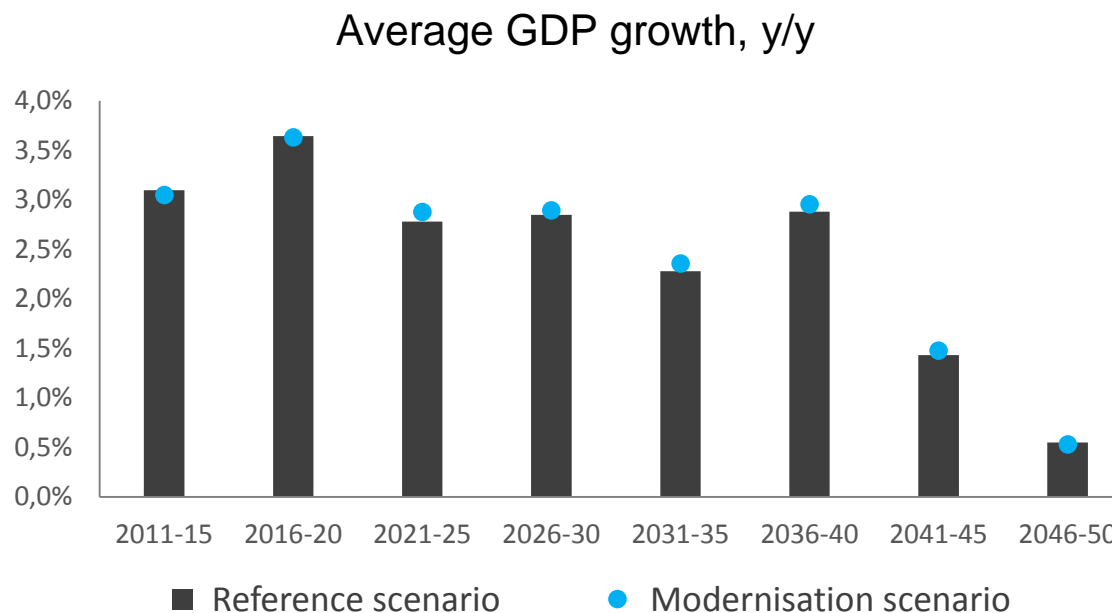
The cooperation between public and business sector



The cooperation between public and business sector



The macroeconomic perspective

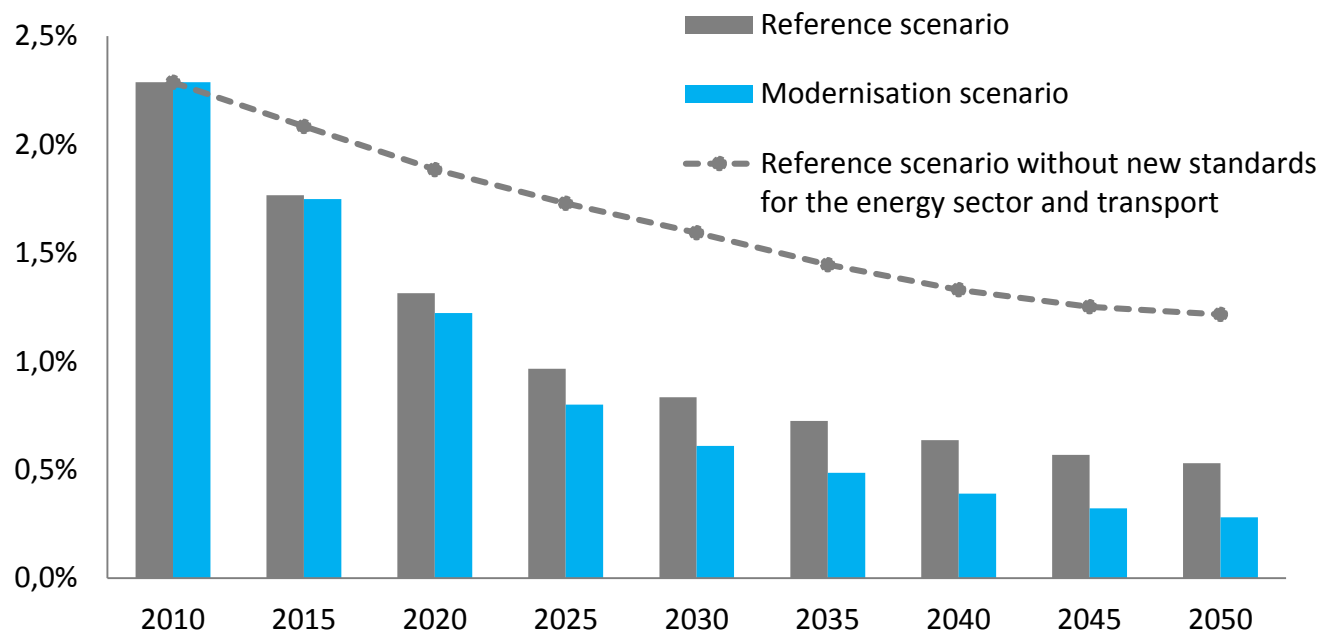


Source: 2050.pl report

- The long-run efficiency gains outweigh short-run restructuring costs resulting in a **small but positive impact** on the GDP (1-1.5%) and employment (0.2%)
- If the low-emission transition will be coupled with the development of the local innovations then positive impact on the GDP will be **doubled**

External costs

Health costs as a % of GDP in Poland



Source: 2050.pl report

- Assuming significant "cleaning" of the fossil fuels use in the reference scenario, low-emission transformation brings the total benefit of **100bn EUR over 40 years**
- Costs and potential of "clean" fossil fuels technologies are uncertain, alternative technologies are **already available and rapidly developing**

**Thank you
for your attention**

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