

# Low carbon strategy and Slovak climate targets

Milan Zvara  
Emission Trading Department  
Directorate of Climate Change and Air Protection

## Wider context

- Full name: Low-Carbon Development Strategy of the Slovak Republic until 2030 with a View to 2050
- Obligation stemming from:
  1. Paris Agreement
  2. EU legislation- Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action
  3. Program of the government (2016-2020)
- Deadline- end of 2019/ beginning of 2020

## Strategy- main parts

- Overall political and legal context of the Strategy
- Overall reductions (achieved and planned) and targets up to 2050
- Detailed analyses of individual sectors (Energy, Industrial processes, Transport, Agriculture, Land use change and Forestry, Waste)
- Possible sources of financing
- Social and economic impact of proposed measures
- Annexes - details on projections and modelling used

# Strategy- process of creation

Lengthy process in parallel with NECP:

- Modeling exercise- project with the World Bank between 2016-2019 - A Low-Carbon Growth Study for Slovakia
- Outcome of the modeling is not consistent with new targets:
  - We committed to Climate Neutrality by 2050 in June 2019
  - We set ambitious national ETS (-43%) and non-ETS target (-20%) in 2019
- Government adopted the strategy in March 2020
- Strategical environmental impact assessment still in process (COVID)

# Strategy- what is its aim

- This Strategy aims to identify measures, including additional measures, to achieve climate neutrality in Slovakia by 2050.
- This ambitious target was formally defined after the completion of the modelling of possible emission scenario, and therefore other less ambitious emission reduction scenarios are analyzed in detail:
  - scenario with **existing WEM measures**
  - scenario with **additional WAM measures**.
  - Latter added **new measures- NEUTRAL** (not modelled)

# Reduction targets

- **Long term target (2050)**- achieve climate neutrality in Slovakia
- **Short term targets (2030):**
  - -43% (compared to 2005) for sectors in the EU Emission Trading System (EU ETS)
  - -20% (compared to 2005) for sectors not in the EU ETS (non-ETS). The target set in the EU legislation is -12% , (only national target set in the EU legislation). The strategy sets new more ambitious target for non-ETS emissions.
- Provided that we fulfill both sectoral targets- we would achieve - **53% to 55 %** reduction compared to 1990.

# Reduction targets

- There is no overall national short term target (2030), only collective EU target, which is currently set to at least -40 % compared to 1990
- September 2020- Commission proposed to raise this target to at least -55 % compared to 1990 (including sinks which would make otherwise make -52 % )
- December 2020- expected agreement on the target update followed by new revise and more ambitious legislation (part of the overall Commission programmed known as European Green Deal)

# 8 Strategy- reduction targets

	EU targets	National targets
GHG reduction target (1990)	at least - 40 %	not set (only collective EU target)
ETS target (as of 2005)	- 43 %	- 43 %
Non-ETS target (as of 2005)	- 30 %	- 12 % (-20% )
Renewable energy target	32 %	19,2%
Energy efficiency target	32,5 %	30,3 %



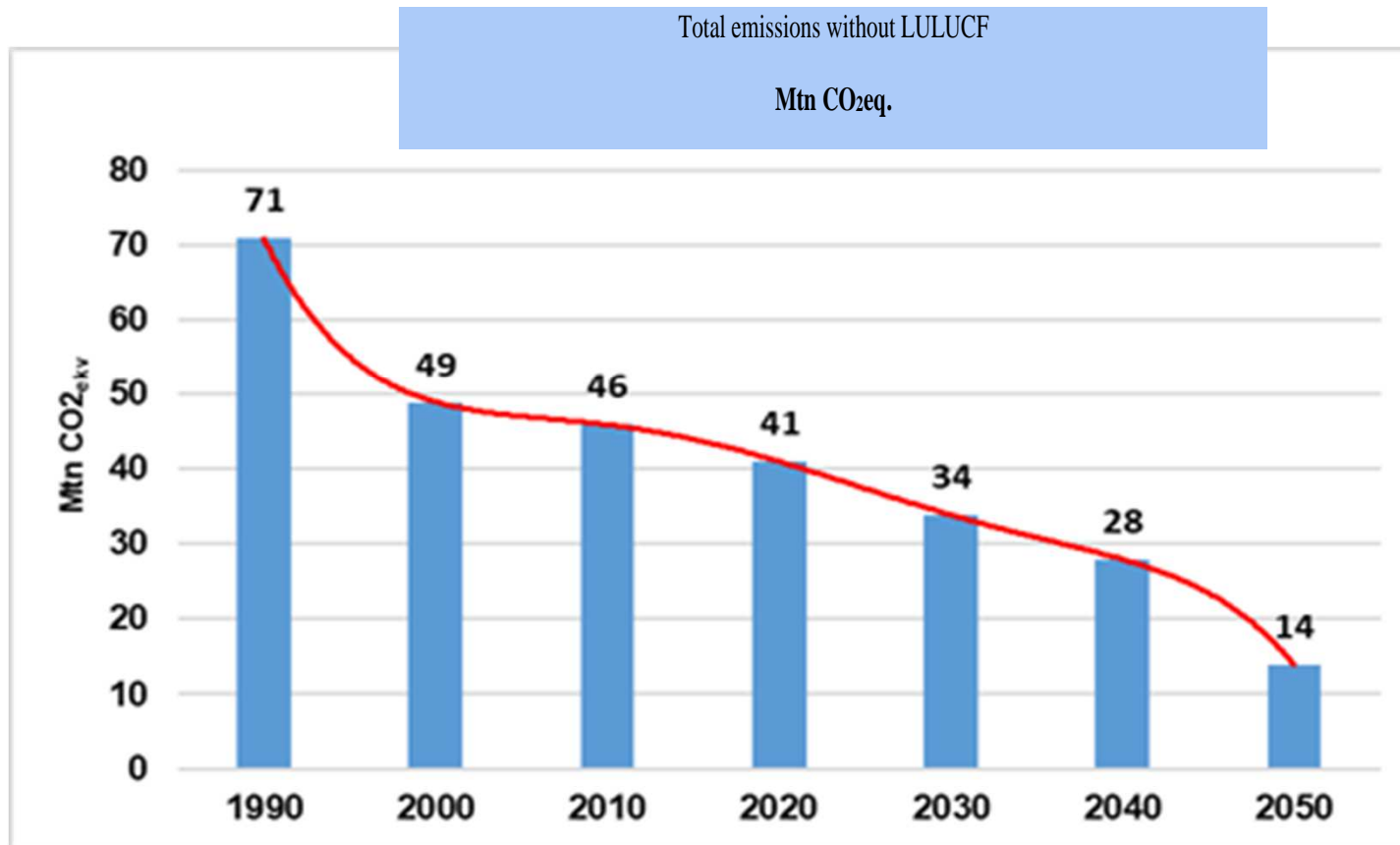
# 9 Strategy- modelling work

- Reduction is not automatic, models showed that without additional measures , i.e. under BAU-business as usual (WEM scenario) we will have the same emissions in 2030 as are today (which are the same level as it was in 2012) – **41%** reduction compared to 1990
- Models show that with additional measures we would achieve in 2030 – **47%** reduction compared to 1990
- Models show that even with additional measures (more or less currently adopted national and EU targets) will get us in 2050 only to - **-70% or max. -80%** reduction which means emission gap from 23 to 14 MtCO<sub>2</sub>ekv.

# Strategy- modelling work

- With Land use and forestry sector (LULUCF) generating sinks (removals of the carbon from the air) we will be able to cover only between **7 to 14 MtCO<sub>2</sub>ekv**.
- Therefore introduced **new measures NEUTRAL** (not modelled)
- Strategy analyses measures and economic / social impacts only for measure WAM (not NEUTRAL), i.e. only in scenarios with planned reduction of -47% by 2030 or -70 % by 2050
- To achieve climate neutrality in 2050 – necessary to adopt new policies and model them (will be done in the update of the Strategy)

# Strategy- modelling work



*Source: SHMI projects (until 2040) and an expert estimate of the MoE; the projections rely on the data used in the Slovak-CGE and CPS model*

*Note: All emissions are total greenhouse gas emissions without LULUCF in Mt CO<sub>2</sub>eq.*

## Strategy- main outcomes of the modelling

- Decarbonization of electricity generation is achieved through additional investment in nuclear generation and renewables.
- **Policy focus before 2030-** renovation of the buildings, removal of the coal from the energy and industry sector ( **after 2030** electrification of transport and recuperation of the heat from industry)
- In the industrial sector, during 2025-2035 the reduction is to be achieved thanks to more ambitious efficiency policies . After 2035, the rising EU ETS price is the main driver of investment in more efficient technologies.
- Any decarbonization scenario for Slovakia requires electrification of the transport sector in the long-term.

# Strategy - cost of decarbonisation

- -70 % target will cost additional **8 billion EUR** (2031-2050) and **196 billion EUR** (2031-2050) compared to reference scenario (BAU). In other words it will be annual additional cost on the level of 1,8 % GDP up to 2040 and 4,2 % GDP up to 2050
- Savings- 2 billions EUR on fuels
- Households - additional 1 billion/annum in the year 2030 and 8 billions/annum in the year 2050
- Higher GDP in the long term but lower household consumption, lower wages and higher unemployment

# Strategy - cost of decarbonisation

- The cost of decarbonisation would be considerably higher than those calculated in this strategy (previous slide)
- According to recent developments, it is clear that the higher cost of decarbonisation will in future be partly offset by the higher amounts of funding available for it. EU funding is more and more focused and streamlined into climate financing

## Available financing sources after 2020

- **9.9 to 10.5 billion** EUR should be available before 2030 for climate measures through the EU budget (the figure only covers the period until 2027), the Modernisation Fund and the Environmental Fund (both the Funds cover the period between 2020 and 2030).
- In the long term, between 2027 and 2050, the SR will **have 42 to 45 billion EUR** available for climate change measures just from the EU budget, where other national and European funds are not taken into account.
- This figures were estimated in December 2019 (Strategy was finalized), not covering additional EU money (Recovery Fund, Just Transition mechanism).

## Available financing sources after 2020

1. Modernization Fund (ETS )- 1,3 billion EUR
2. Environmental fund (Slovak ETS auction revenues)- 1,2 billion
3. EU budget (25% goes to climate change)- around 8 billion EUR up to 2027 ( estimation that from 2021 until 2050 Slovakia could receive from 25 to 38 billion EUR from EU budget only )
4. Other European funds- Switzerland and Norway
5. Innovation fund (ETS)- for whole EU- 140 billion EUR
6. Just Transition Mechanism- 100 billion EUR for whole EU up to 2030 (as of today we expect up to 1 billion EUR)



# Latest developments and Strategy

- Strategy needs to be **updated** (no later than 5 years since its adoption):
- Modelling work is **outdated** (national and EU targets changed or to be soon changed)
- Current policies to be soon substantially changed – European Green Deal - with big changes in EU ETS, non ETS sectors and land use sectors, carbon border adjustment...
- When EU target for 2030 will be raised to -55%, our scenario with additional policies (WAM) will become business as usual scenario (BAU)

## Where can you find our strategy (in English):

- <https://www.minzp.sk/klima/nizkouhlikova-strategia/>
- <https://unfccc.int/documents/21291>
- [https://ec.europa.eu/info/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-long-term-strategies\\_en#strategies](https://ec.europa.eu/info/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-long-term-strategies_en#strategies)



Thank you for your attention

[milan.zvara@enviro.gov.sk](mailto:milan.zvara@enviro.gov.sk)