



**NATIONAL ENERGY AND  
CLIMATE PLANS IN THE DANUBE  
REGION**

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# Outline

- The contents of the study
- EU ambitions – climate and energy framework
- Highlights into outcomes
  - Effects of decarbonisation objectives
  - Targets and expected results in the renewable electricity sector
  - The role of biomass as a resource and sink
  - Ambitions in the transport sector
  - The future of gas consumption in the Danube Region
  - Envisaged electricity generation mix of DR countries
- General insights related to the assignment

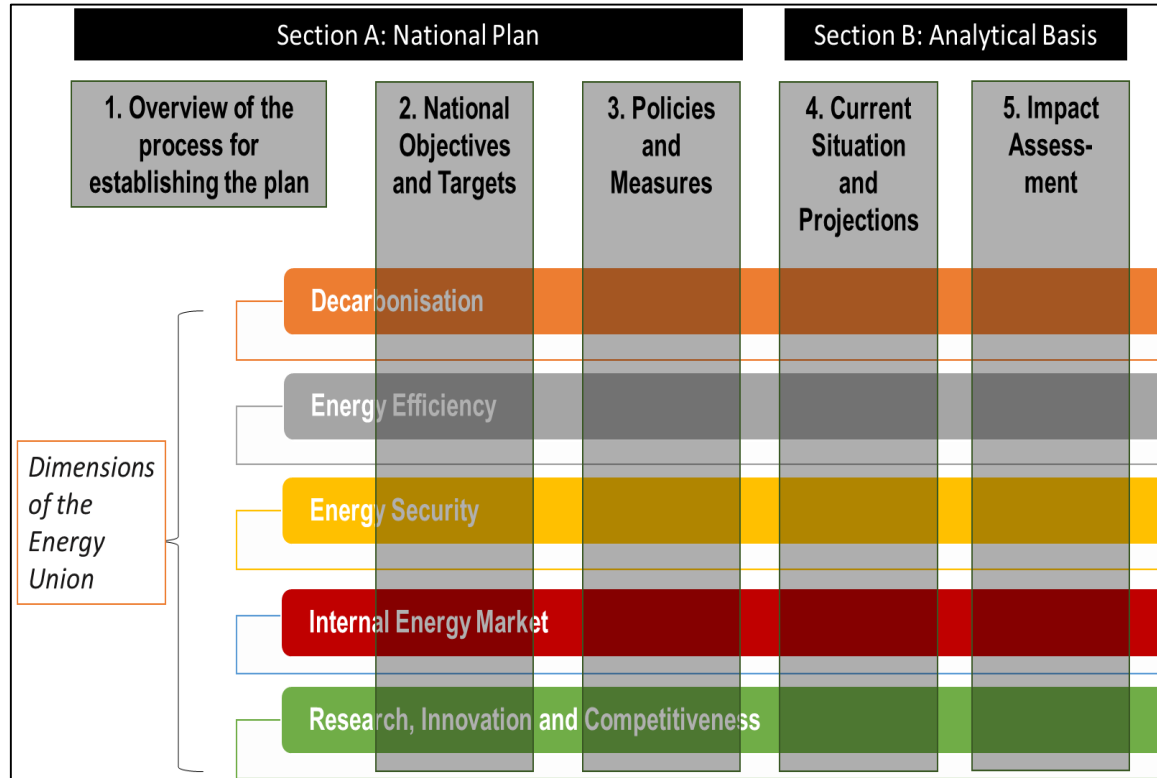
## The climate and energy framework for 2030 and increased climate ambition

Climate target by 2030	-40%	-55%
ETS	-43%	To cover all emissions of fossil fuels (incl. Transport, Buildings); Cap reduction to be revisited
ESR	-30%	To provide subsidiary action or to be repealed
LULUCF	No loss of sink	To integrate Agriculture (AFOLU) and to achieve net zero
RES	32%	38-40%
EE	32.5%	36% of final energy consumption, 40% of primary energy consumption

*Source: Communication From the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Stepping up Europe's 2030 climate ambition - Brussels, 17.9.2020 COM(2020) 562 final*

# Contents of the study

## Structure of the NECPs



## Structure of the study

### INTRODUCTION

#### 1 Climate policy goals and status of interim target achievement

- 1.1 Climate policy goals of the European union
- 1.2 Status of 2020 target achievement
- 1.3 Factors hindering target achievement

#### 2 The structure and required content of NECPs

- 2.1 The role of National Energy and Climate Plans
- 2.2 Structure and required content

#### 3 Overview of NECPs by policy areas

- 3.1 Decarbonisation, GHG emissions
- 3.2 Renewable electricity
- 3.3 Renewable heating and cooling
  - Use of biomass
- 3.4 Transport
- 3.5 Energy efficiency of buildings
- 3.6 Industry decarbonisation
- 3.7 Natural gas
  - The role of Hydrogen and synthetic gas
- 3.9 Electricity
  - System flexibility
- 3.11 Sector coupling

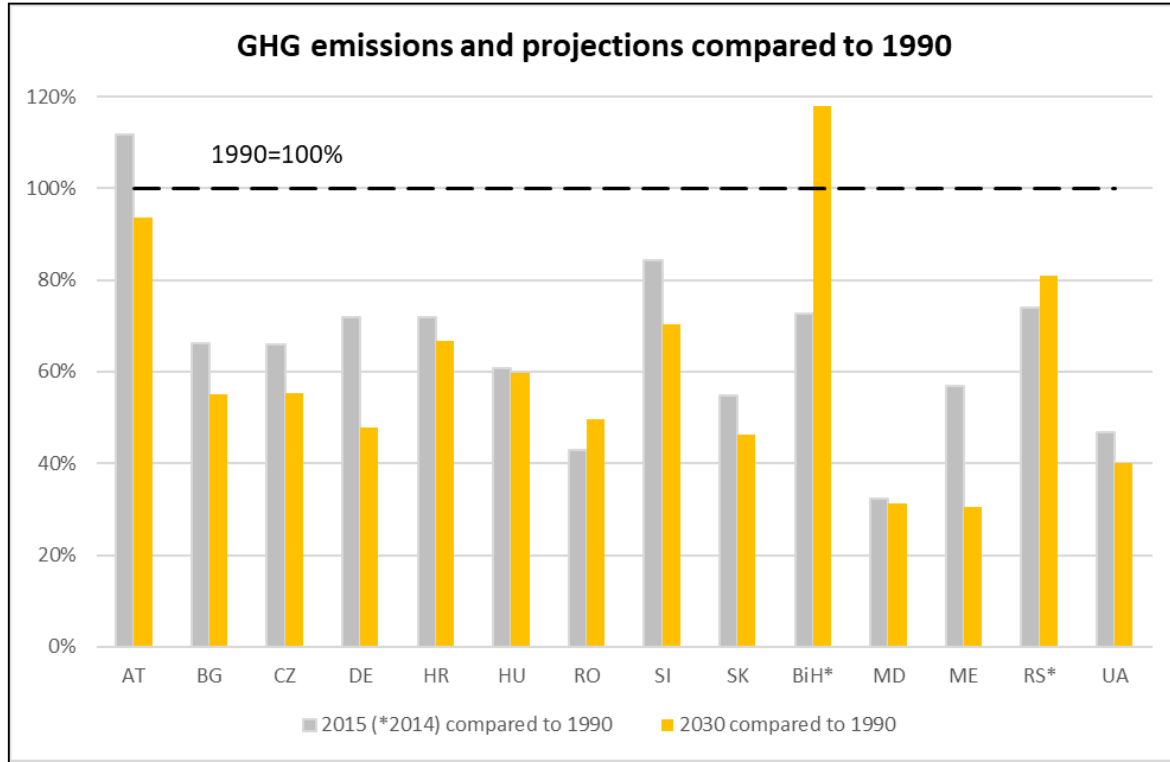
- Objectives
- Measures
- Impacts

#### 4 Possible impacts of policies on other member states and regional cooperation

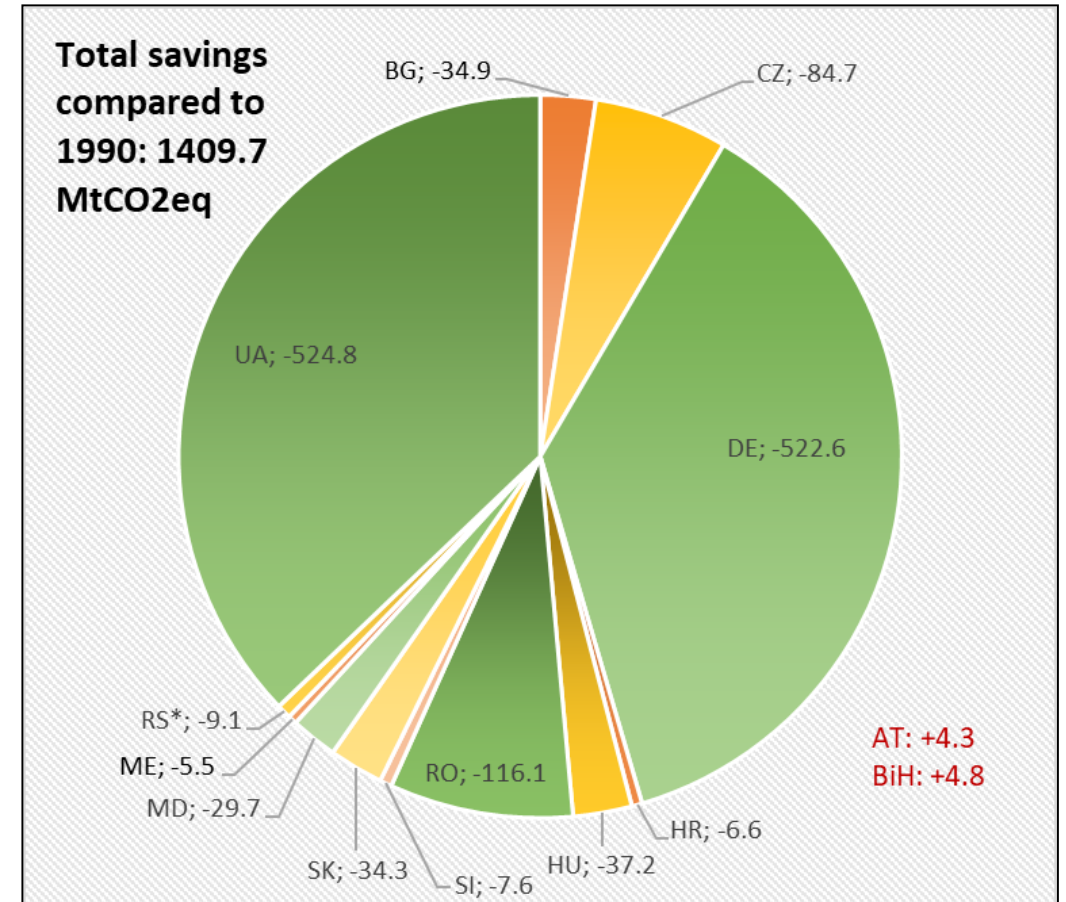
### SUMMARY, CONCLUSIONS, RECOMMENDATIONS

# Decarbonization, GHG emissions

- Data include LULUCF and depict projected WAM emissions, except UA and BiH, where it is non-available, therefore INDC targets (unconditional) are considered.
- Total expected savings amount to 1410 Mt CO<sub>2</sub>eq compared to 1990. The largest contributors are DE and UA.

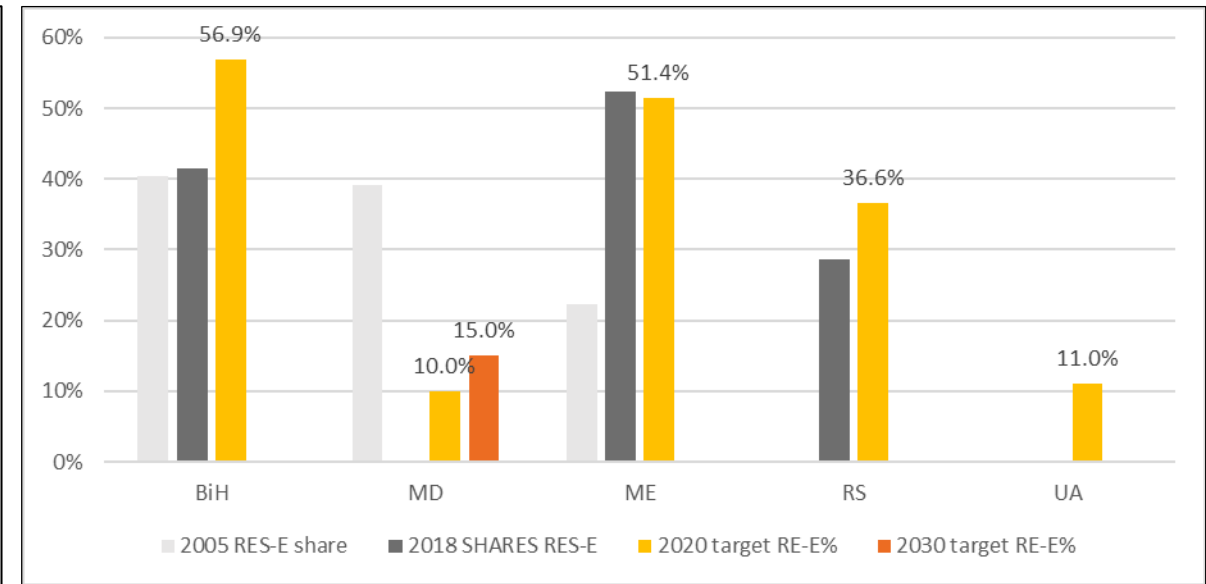
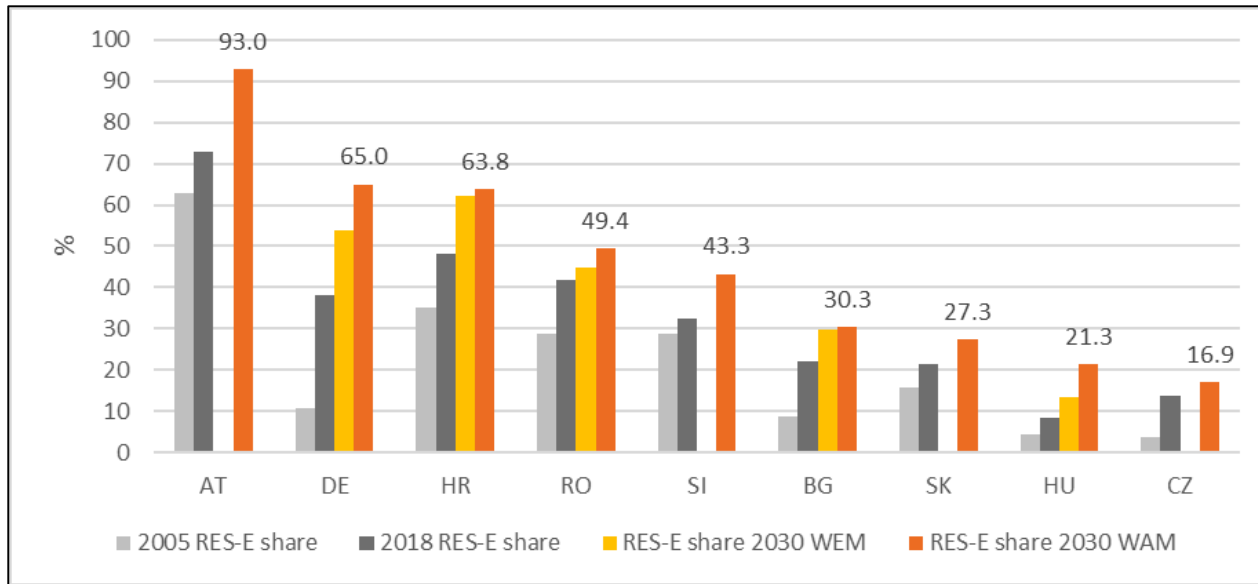


- The improvements compared to 2015 (2014) are much lower, total savings are about -250 MtCO<sub>2</sub>eq. DE contributes 72%, UA 24%) RO, BiH, RS increase their emissions.



# Renewable electricity sector: targets

- Countries intend to increase their RES-E shares to a varying extent, (AT intends to reach 100% (excl. balancing energy)) but desaggregated targets are not presented in all cases.
- Countries with significant initial hydro production (AT, BiH, ME) started from high initial RES-E shares (in 2005)
- The main policy measures are operating support schemes (moving away from FiT to market premium, introducing tendering schemes), but investment support, preferential loans and tax exemptions are also applied. Information and awareness raising is hardly mentioned in NECPs (might be contradictory with the aim to put consumers at the heart of the energy transition).

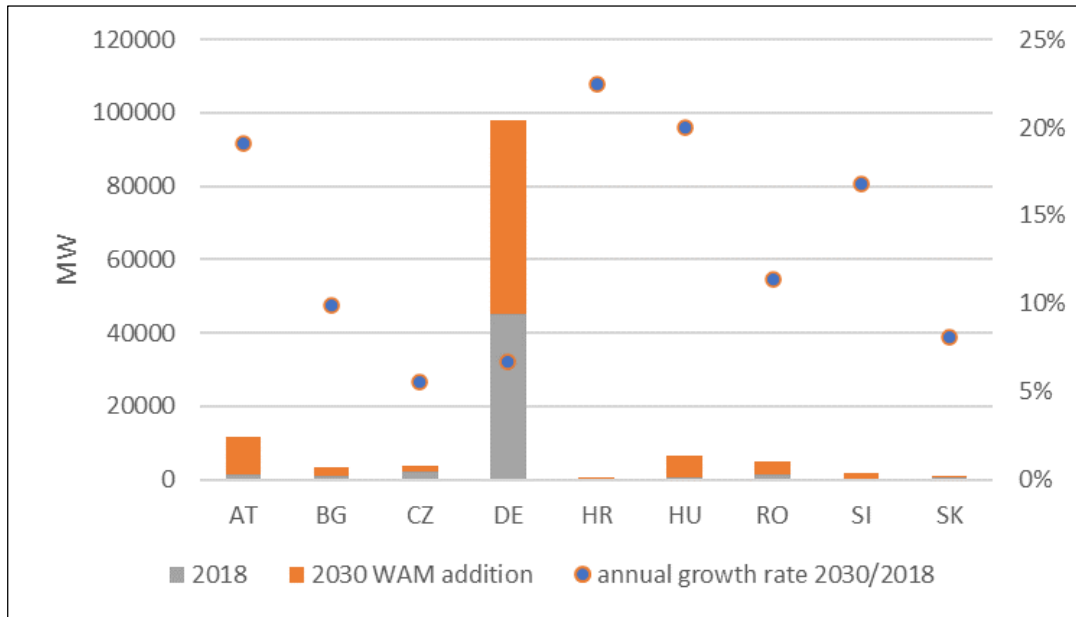


RENEWABLE ELECTRICITY SHARES IN 2005, 2018 AND IN THE 2030 WEM AND 2030 WAM SCENERIOS (%)

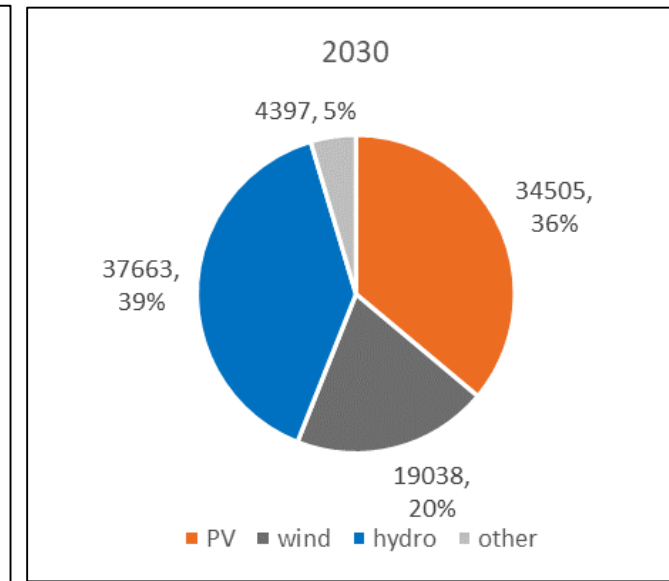
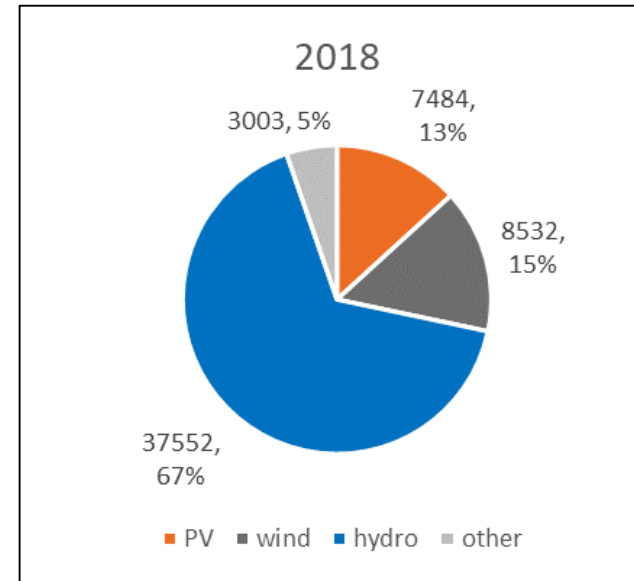
RENEWABLE ELECTRICITY SHARES IN NON-EU DANUBE REGION COUNTRIES (%)

# Expected RES-E development

- Serious investment and high annual growth rates are planned in solar PV and wind capacities, which will change the renewable electricity capacity mix significantly (*if DE is excluded*)
- High ambitions: AT, DE, HR, low ambitions in CZ, BG, RO, SK, middle ranking: SI and HU



SOLAR PV CAPACITIES IN THE EU COUNTRIES OF THE DANUBE REGION 2018 AND 2030 (MW, %)



RES-E CAPACITY MIX IN THE DANUBE REGION COUNTRIES, 2018 AND 2030 (MW, %) (EXCLUDING DE AND UA)



Trends foreseen in EU MSs' NECPs - 2018-2030 WAM

## BIOMASS USE:

- Biomass heat: +24%
- Biomass electricity: +168%
- Biomass energy (total): 1027 PJ to 1383 PJ (+35%)

## BIOMASS RESOURCES:

- Net carbon sinking by LULUCF: 68 to 20 Mt/yr (-70%)

## One-sided climate policy:

### SUPPORT FOR BIOMASS USE FOR ENERGY:

- Financial incentives for biomass energy
- Carbon emissions of biomass combustion accounted as zero by convention

### NO SUPPORT FOR CARBON SEQUESTRATION:

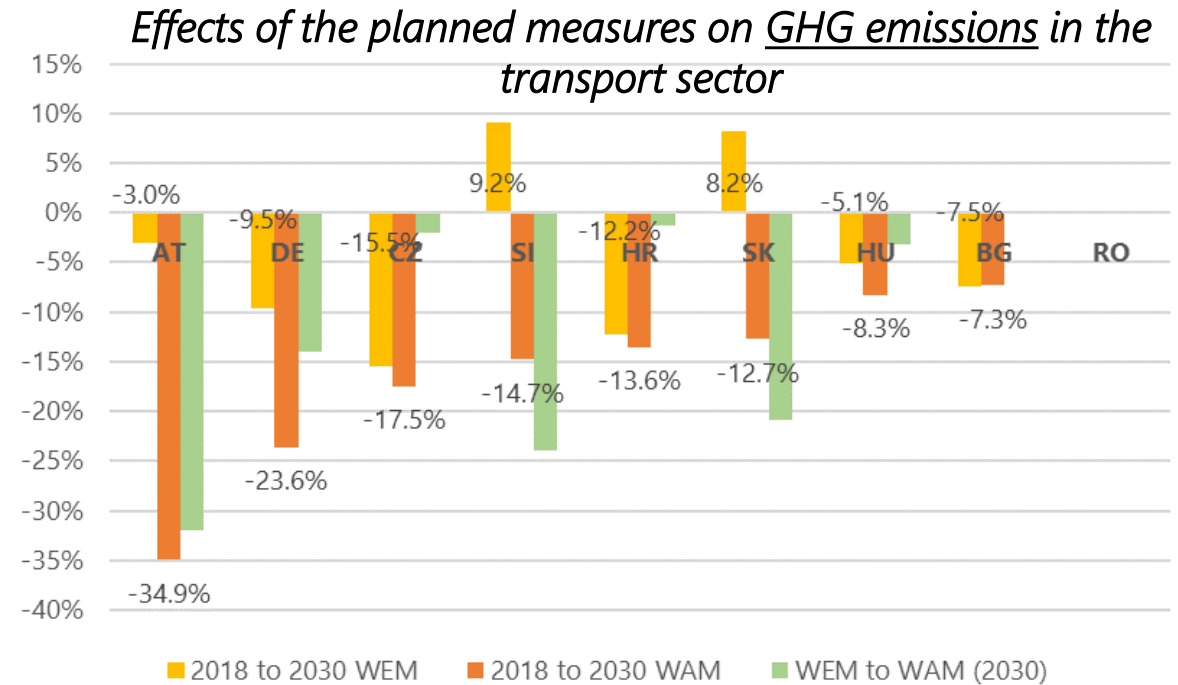
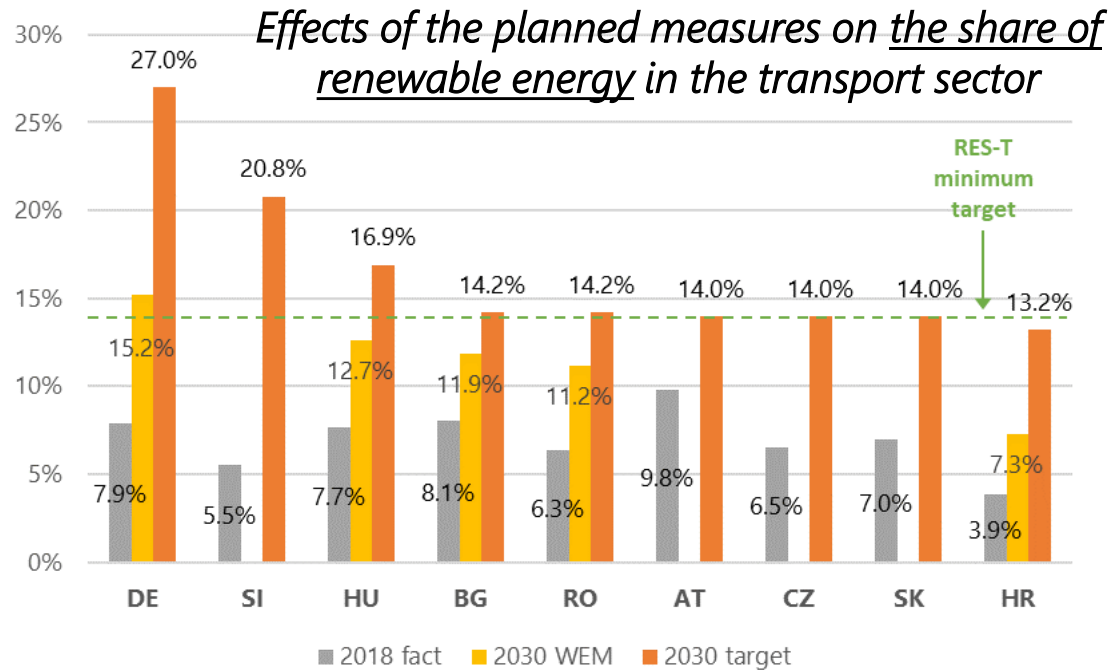
- Economic value of existing carbon stocks ignored
- Options value of further sequestration ignored

Similar trends in EnC countries



# Transport sector: targets and expected outcomes

- Countries already estimate a declining GHG trend in WEM scenarios and strong reductions in WAM, which seems very optimistic compared to trends in the past

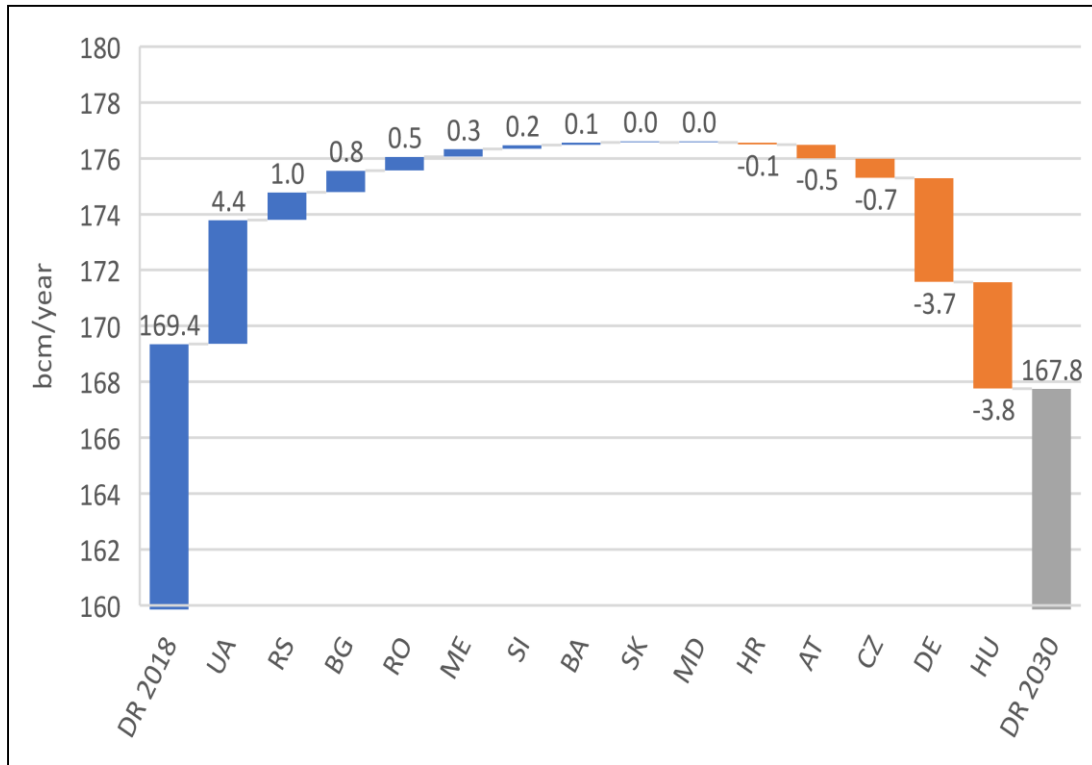


## Non-EU countries

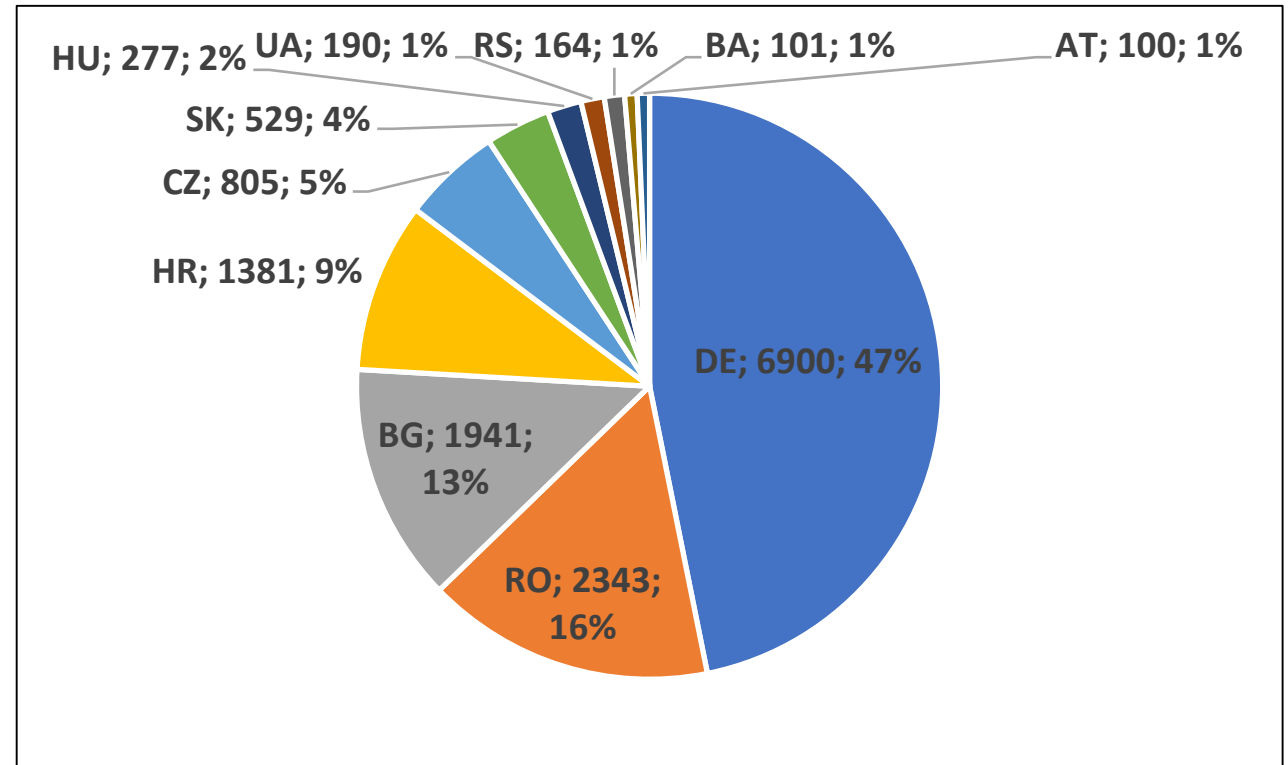
- Less detailed documents: strategic goals rather than measures
- Most targets and specific measures aim to improve energy efficiency by replacing old petrol/diesel cars and targeting road development – in sharp contrast to measures in EU countries where electromobility is much more in focus.

# 15 Bn EUR investment planned for stagnating gas consumption

Natural gas consumption 2020 -2030, bcm/year

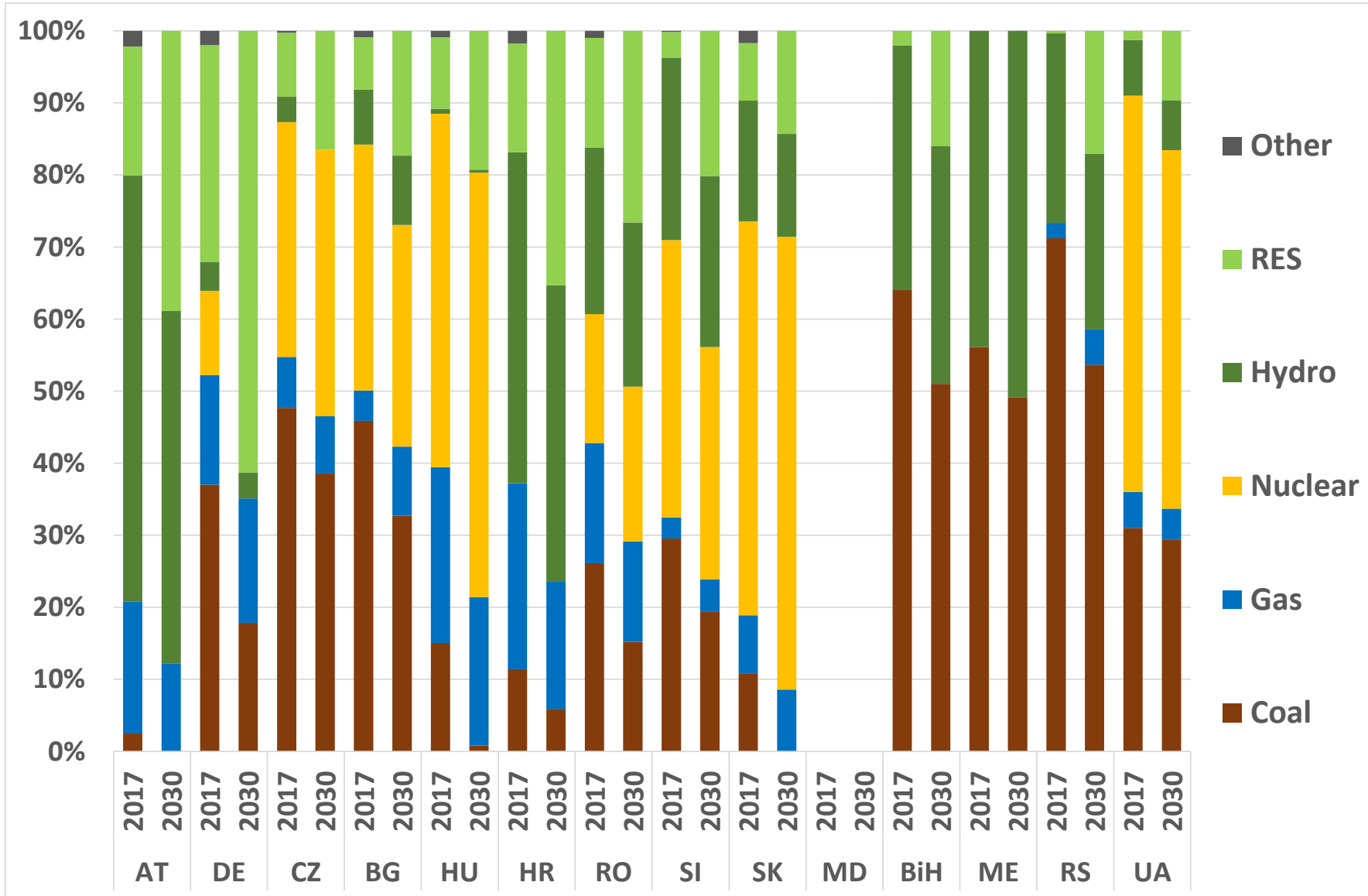


Cost of planned priority gas infrastructure by DR countries, MEUR



- 2/3 of investment is planned in countries with decreasing gas consumption (AT, CZ, DE, HR, HU)
- No phasing out of gas despite decarbonisation plans
- Decreasing demand is related to heating sector energy efficiency and decarbonisation measures

# Electricity generation mix 2017-2030



- Coal: eroding dominance in EU countries, lasting reliance in WB6
- Nuclear: stable, or increasing share in power generation of CEE countries
- Gas: moderate growth of gas fired capacities > transition fuel in the heat sector
- Hydro: lasting element of power systems

# Some general insights

- NECPs are very different in terms of target setting, formulating specific measures and presenting expected outcomes
- Targets are set based on the modeling results of envisaged measures and are not formulated explicitly in a disaggregated manner – countries adjust their ambitions to what can be achieved using the measures they apply or want to introduce
- Although the NECPs are published, the tables of annexes submitted under Part 2 cannot be accessed, while not all of the projected results are presented in the main documents. This makes the assessment difficult.
- Non-EU countries are in the process of establishing their NECPs. We used the Energy Strategy documents and National Communications to the UNFCCC to overview their future goals, policy instruments and envisaged development – they are not as comprehensive and up-to-date, and have different content. The new NECPs will provide better insight.
- Some of the important areas included in NECPs require special expertise: e.g. agriculture, waste sector, F-gases, and some technologies not widely used and mentioned but having large potential could be assessed in dedicated studies.

**Thank you for your attention**

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