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REKK

Workshop on energy efficiency in  
district heating

WebEx online meeting

10 March, 2022

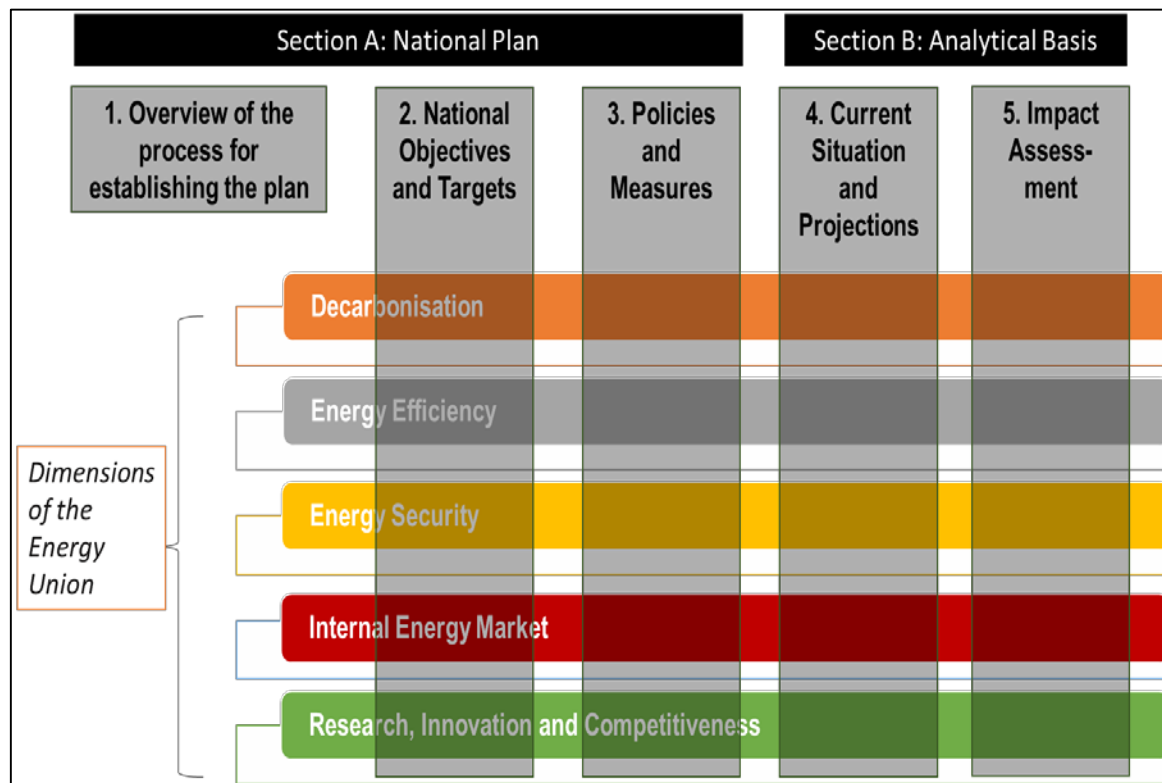
**RENEWABLE HEATING AND COOLING IN  
THE DANUBE REGION COUNTRIES –  
TARGETS AND MEASURES IN NECPS**

# Outline

- The study on NECPs in the Danube Region
- Present status of RES H&C in DR countries
- What do the NECPs of EU DR countries include?
  - relevant EU regulation
  - targets and projections of the countries for 2030
  - overview of the policies and measures
  - current and expected (wam) consumption of RES-H&C by source
  - geothermal potential and opportunities
  - the role of biomass in renewable heating and climate ambitions

# Contents of the study

## Structure of the NECPs



[NATIONAL ENERGY AND CLIMATE PLANS IN THE DANUBE REGION](#) ", published by the [Sustainable Energy Priority Area \(PA2\)](#) of the EU Strategy for the Danube Region (EUSDR)

## 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

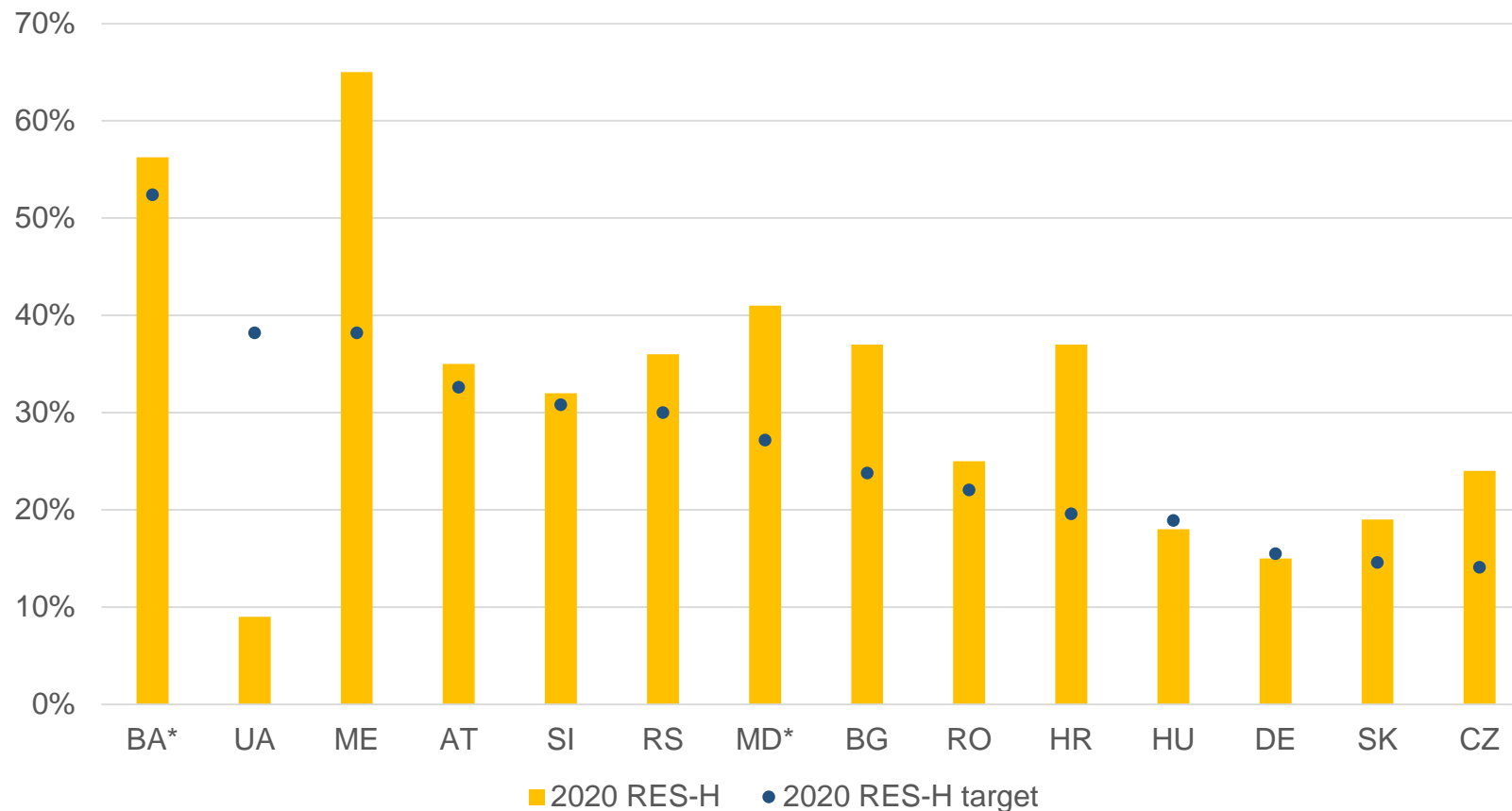
- 3.1 Decarbonisation, GHG emissions
- 3.2 Renewable electricity
- 3.3 Renewable heating and cooling
  - Use of biomass
- 3.4 Transport
- 3.5 Energy efficiency of buildings
- 3.6 Industry decarbonisation
- 3.7 Natural gas
  - The role of Hydrogen and synthetic gas
- 3.9 Electricity
  - System flexibility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

- Objectives
- Measures
- Impacts

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

### SUMMARY, CONCLUSIONS, RECOMMENDATIONS

# Present status - renewable H&C in the Danube Region, 2020



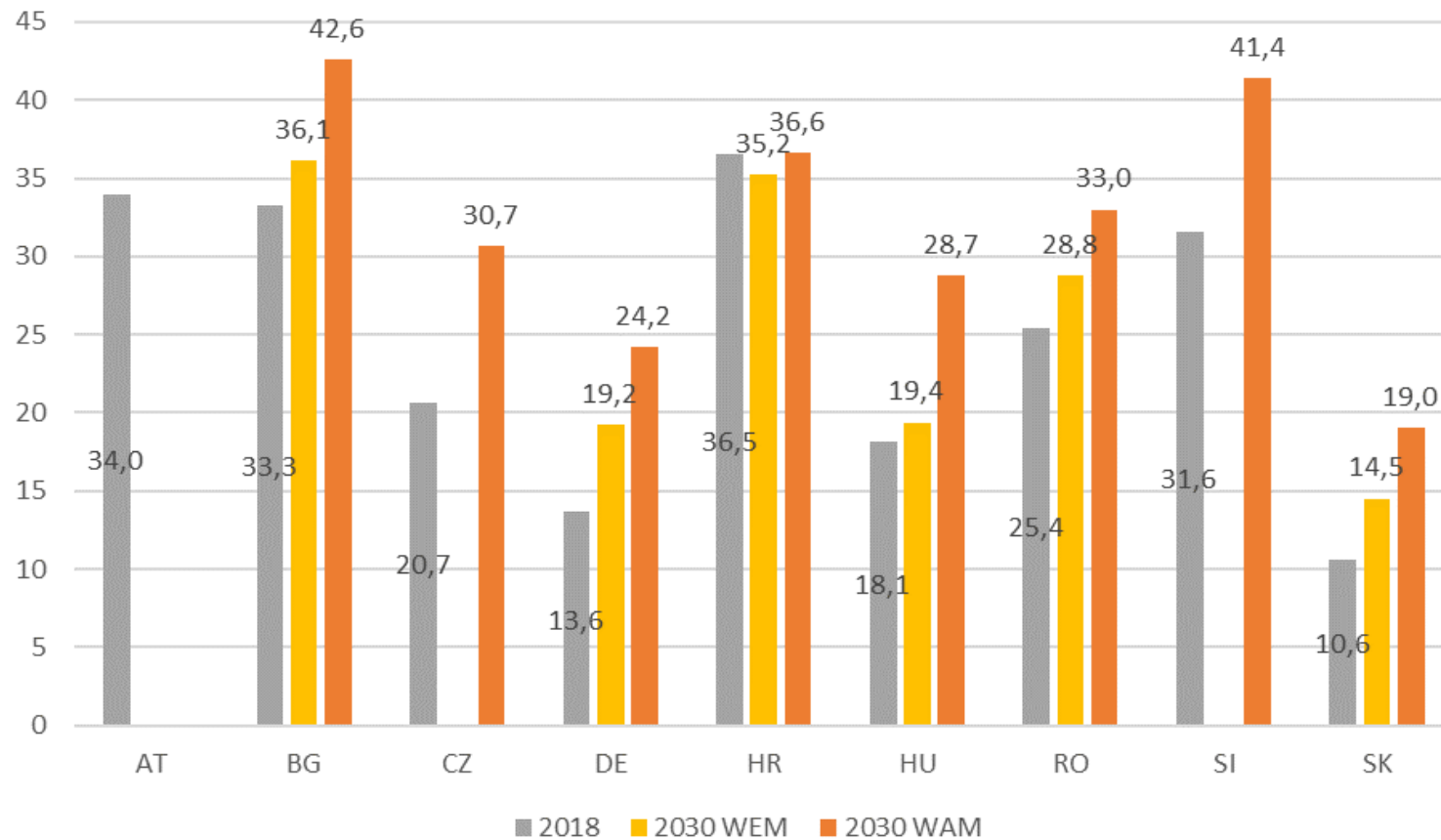
Source: Shares database, \*BA figure is for 2019, source: 4th RES progress report of BA.

# Current EU regulation related to RES-H

- The sector plays a very important role in reaching the overarching RES targets
- The 2018 Renewable Directive (EU 2018/2001, RED II) does not define binding sectoral RES share target but sets the following for heating and cooling:
  - Increase RES share by an indicative annual average of 1.3% from 2021
  - Set a minimum level of RES for new buildings and buildings subject to major renovation, if economically and technically feasible
  - Increase the share of renewable and waste heat / cooling in district heating and cooling systems by 1% annually.
  - Obligation to connect providers with these heat sources to their network unless it is not feasible
- Each country voluntarily defines its own indicative sectoral ambitions

# Current RES shares and projections for 2030

SHARE OF RENEWABLE ENERGY IN THE H&C SECTOR COMPARED TO 2030 WEM AND WAM SCENARIOS (%)



# Policies and measures in the sector

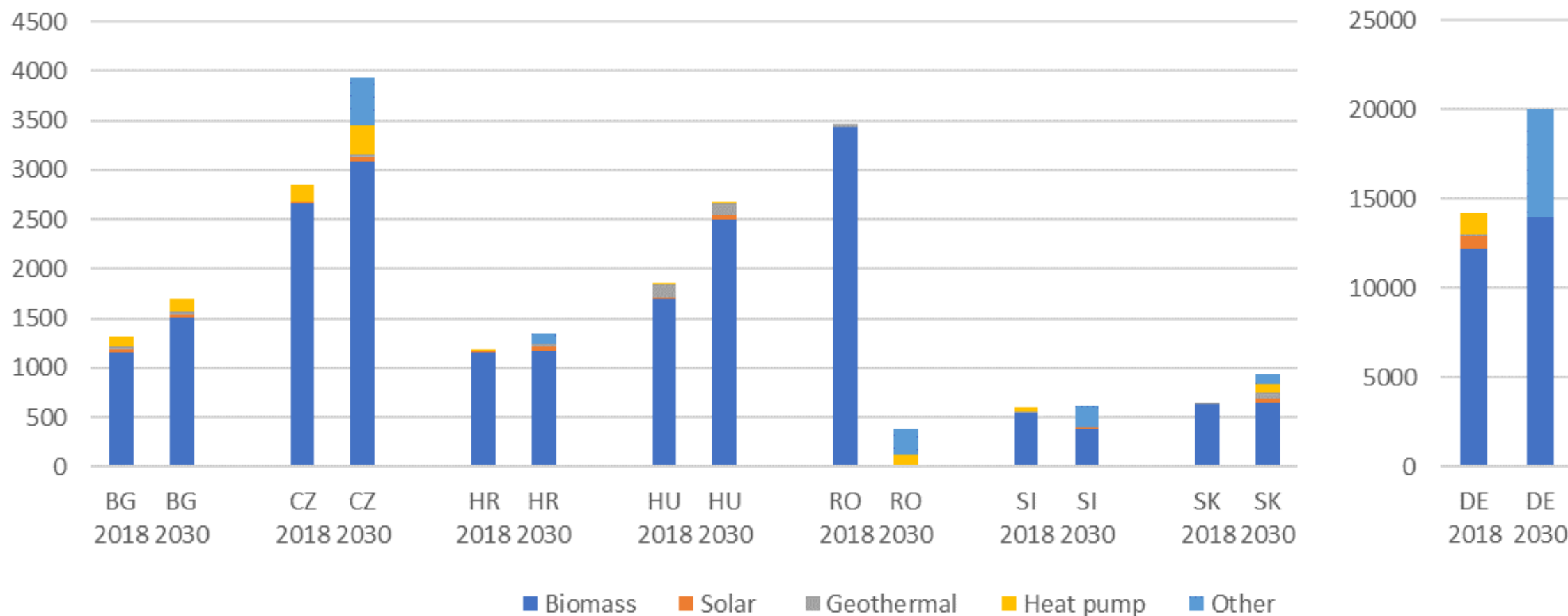
- Lack of experience with well established support schemes like feed-in-tariff, operating support is rare
- Investment support is the most common in the sector
- Introduction of guarantees of origin are among the plans of some DR countries
- Specific policies target RES integration in district heating

Financial instruments	AT	BG	CZ	DE	HR	HU	RO	SI	SK
Investment support	Implementation	Policy formulation / decision making	Implementation	Policy formulation / decision making	Implementation	Implementation	Implementation	Policy formulation / decision making	Proposed, but no targets, measures
Operating support	Not in target / No information	Not in target / No information	Implementation	Not in target / No information	Not in target / No information	Proposed, but no targets, measures	Not in target / No information	Not in target / No information	Policy formulation / decision making
Price subsidy	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Policy formulation / decision making
Refundable aid	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Policy formulation / decision making	Not in target / No information	Not in target / No information	Not in target / No information
Guarantees of origin	Proposed, but no targets, measures	Policy formulation / decision making	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information	Not in target / No information

System development	AT	BG	CZ	DE	HR	HU	RO	SI	SK
Building new RES based district heating	Not in target / No information	Policy formulation / decision making	Proposed, but no targets, measures	Policy formulation / decision making	Policy formulation / decision making	Not in target / No information	Implementation	Implementation	Proposed, but no targets, measures
Refurbishment of existing systems	Policy formulation / decision making	Proposed, but no targets, measures	Proposed, but no targets, measures	Policy formulation / decision making	Not in target / No information	Policy formulation / decision making	Implementation	Not in target / No information	Implementation
Individual heating	Policy formulation / decision making	Implementation	Not in target / No information	Policy formulation / decision making	Policy formulation / decision making	Implementation	Not in target / No information	Not in target / No information	Policy formulation / decision making

Not in target / No information
  Proposed, but no targets, measures
  Policy formulation / decision making
  Implementation

# Current and projected (WAM) consumption of RES-H by source (Ktoe)





# Geothermal potential

- Geothermal energy could be available for more than 1/4 of the EU population
- There are various support programs in the EU DR countries, although the planned pace of deployment is below the potential
- Non-EU DR countries do not include geothermal development in their strategies

## EUROPEAN CITIES WITH DISTRICT HEATING SYSTEMS (LEFT) AND GEOTHERMAL HEAT AT 2000 M DEPTH

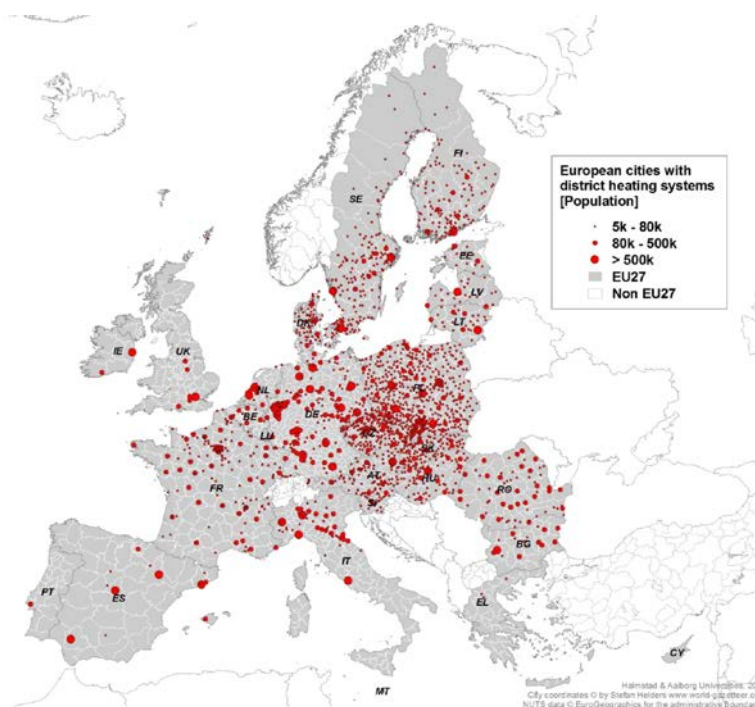


Figure 9: Cities with district heating systems in EU27 by city size and for cities having more than 5000 inhabitants. The map shows 2188 cities with 2445 systems [8].

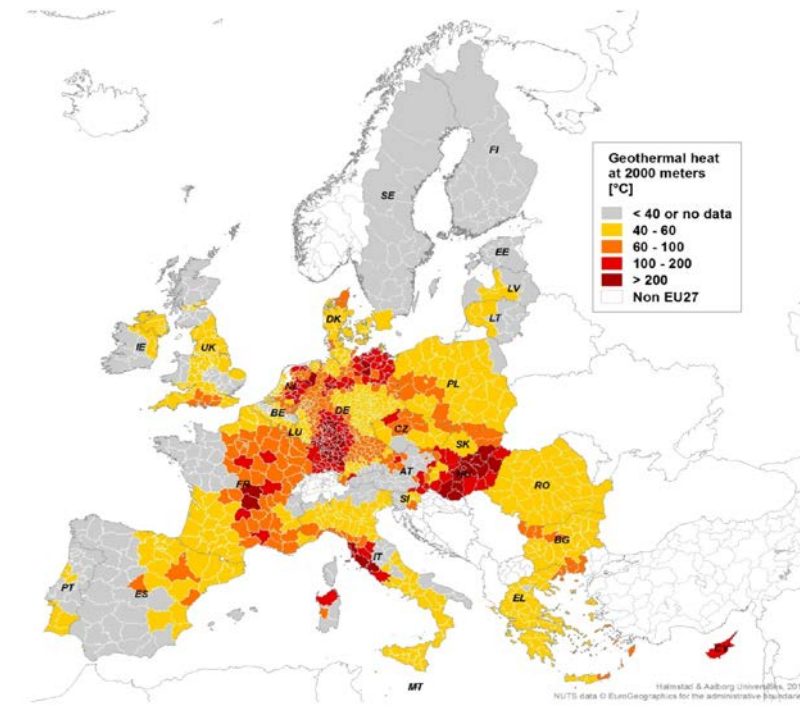
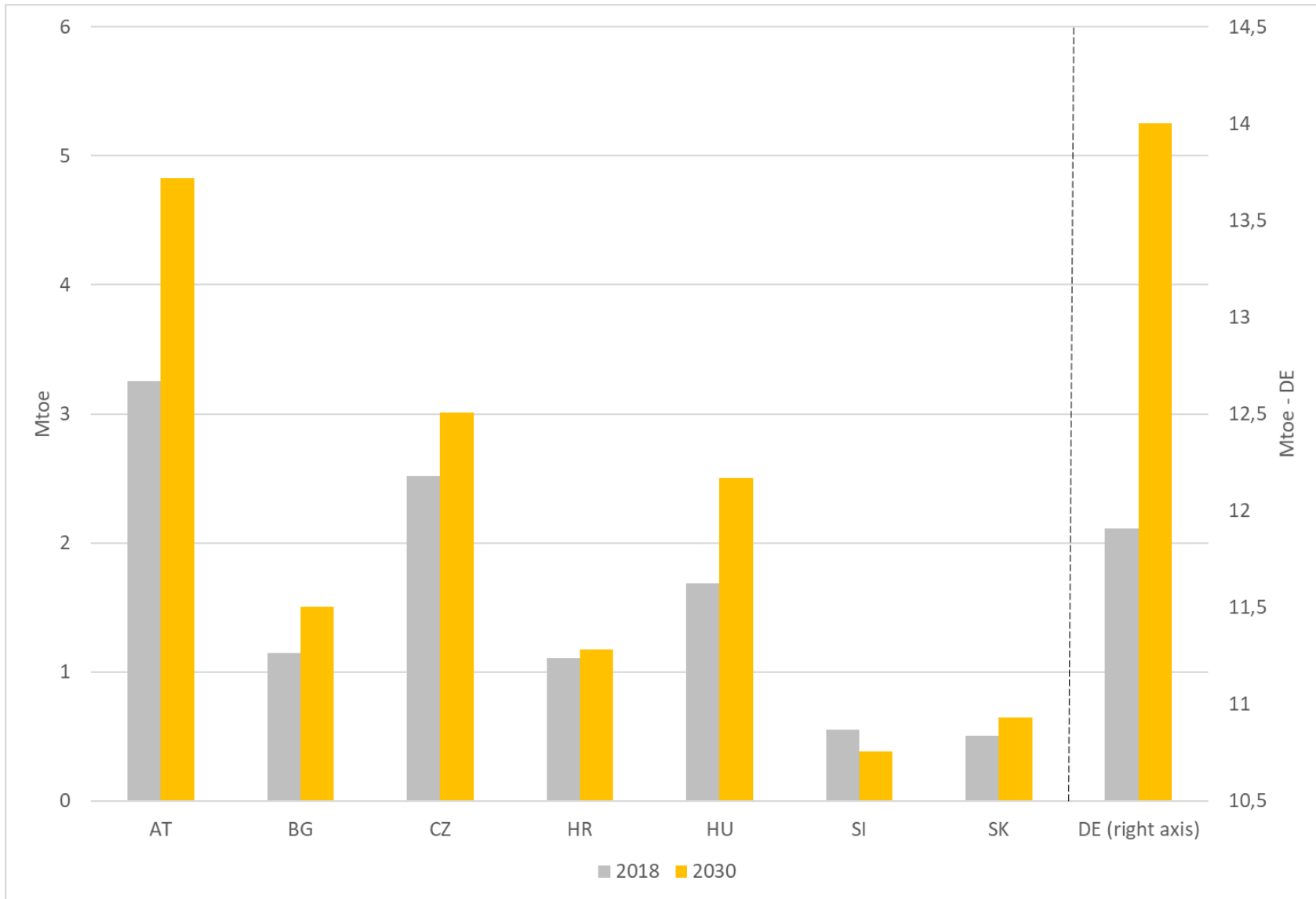


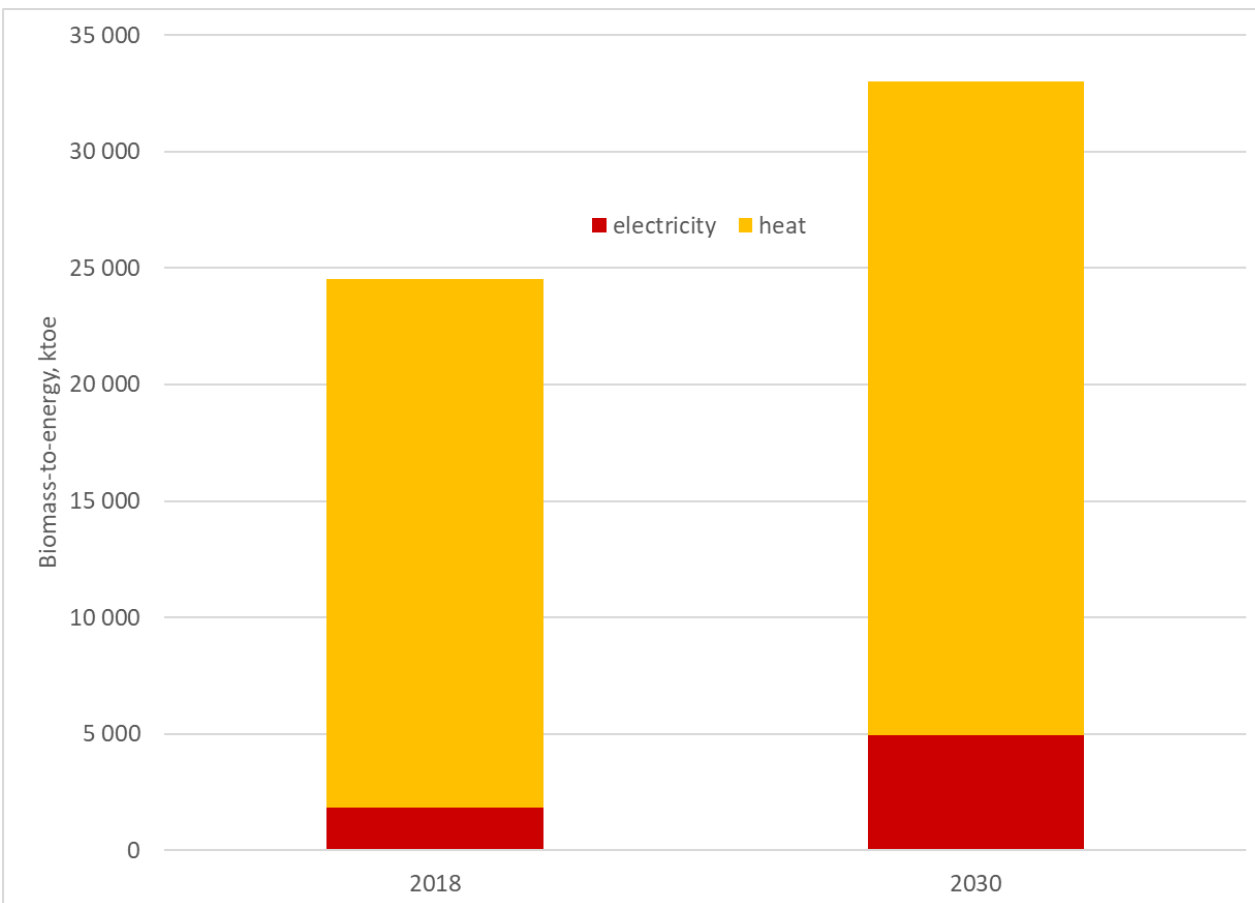
Figure 84: Identified geothermal heat resources by temperature at 2000 m depth by NUTS3 region. Source: European Commission, Atlas of Geothermal Resources in Europe. Publication EUR 17811, Luxembourg 2002.

# The role of biomass-to-heat in EU DR countries



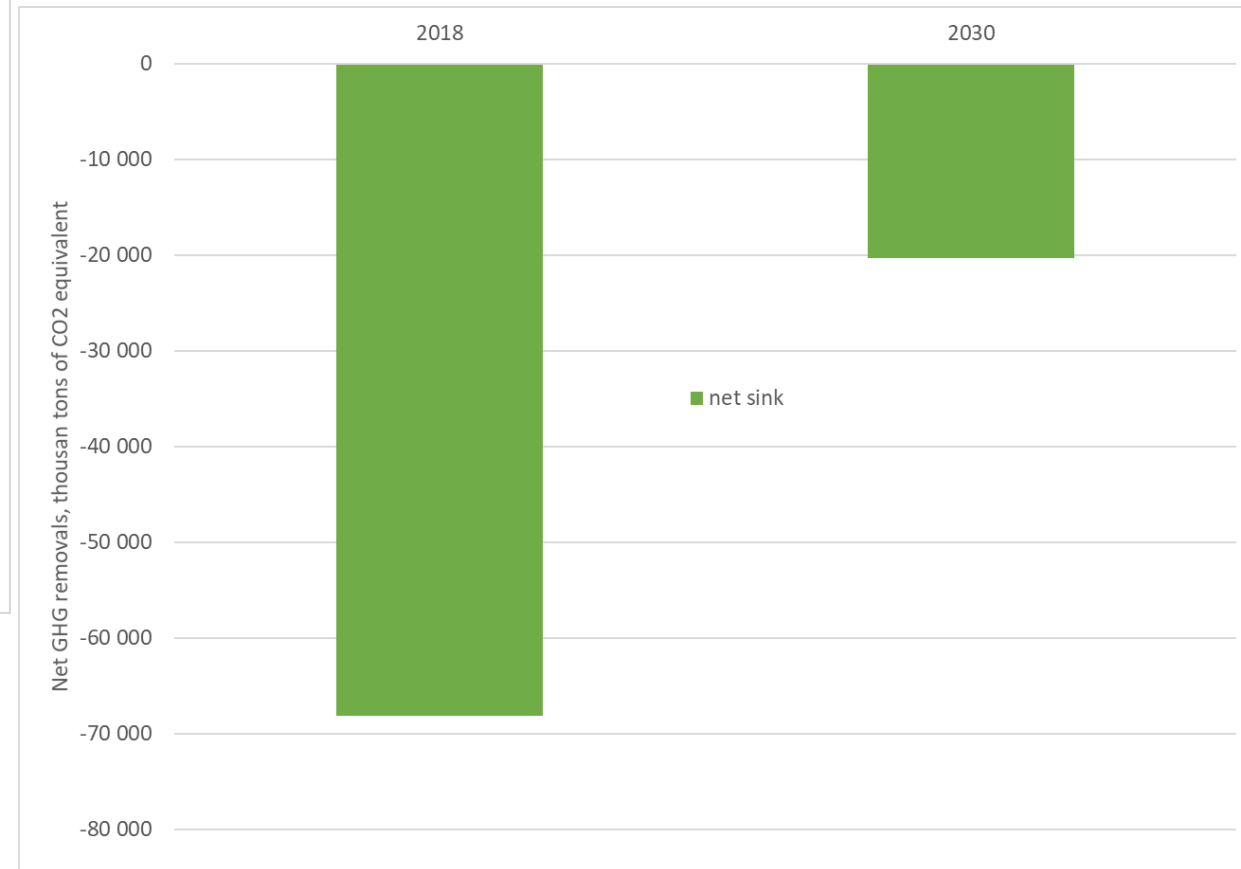
- biomass has been the primary renewable energy option for DR countries
- ubiquitous and affordable mostly for household heating.
- altogether, the region is set to increase biomass heating by 24%, from 22.7 Mtoe in 2018 to 28.1 Mtoe in 2030 (with non-EU countries also included).

# the role of biomass in renewable heating and climate ambitions



- Heat and electricity combined, biomass-to-energy will grow from 1027 PJ in 2018 to 1383 PJ in 2030 (35% increase, WAM).
- Net efficiency rates (averages): Electricity: 30-40%, Heat: 70-85%

- Loss of LULUCF carbon sinks of 70% by 2030 (WEM)
- One-sided climate policy: supporting biomass-to-energy while ignoring the climate economic value of forest sequestration and carbon storage.
- Without integrative climate policy instruments to target biomass resources as well, any further support for biomass-to-energy should be reconsidered.



**Thank you for your attention!**

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