



# District Heating in Europe and Germany

*Werner R. Lutsch*



## WHO WE ARE

- International association for district heating and cooling
- Headquarters in Brussels, Belgium
- 100 members from more than 30 countries
- National DHC associations, utilities, manufacturers, universities, research institutes and consultancies





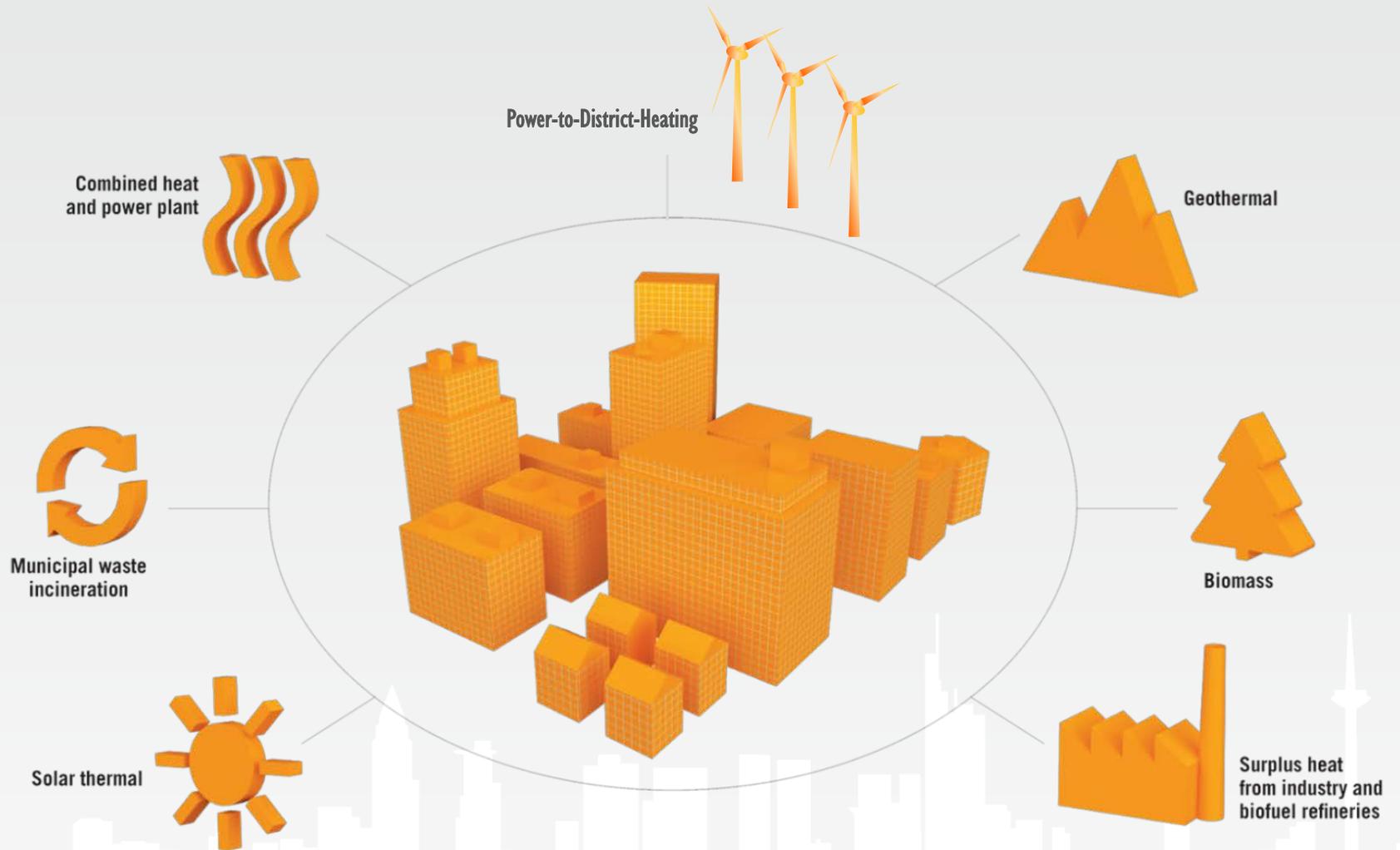
## OUR VISION

- No energy transition without sustainable cities.
- No sustainable cities without sustainable heating and cooling.
- No sustainable heating and cooling without district energy.



- **AGFW** is the independent and impartial association in Germany promoting energy efficiency, (district) heating, cooling and CHP – Combined Heat and Power – at national and international levels
- **AGFW** reunites more than 525 (regional und municipal) energy suppliers, consultants, personalities and industrial operators of this industry (component and system manufacturers, manufacturing and assembling companies, testing institutes, ...) in Germany and Europe
- **AGFW** represents closed to 100 % of the heat load connected to German district heating systems – the largest scale in Western Europe.
- **AGFW** means more than four decades of experience in this field. Established 1971 we have a long and distinguished track record of delivering **energy efficiency solutions** to our members and to the society

## DHC ... the most Efficient and Flexible Heating and Cooling System





## ADVOCACY & REPRESENTATION

- We bring the unified voice of our industry in EU and international debates on district energy.
- We advise our members on all relevant EU policy developments (energy, environment and climate action, competition, research and innovation).
- We provide the network for information and expertise exchange among industry players, decision-makers, academics, researchers and young professionals.



# CLEAN ENERGY FOR ALL EUROPEANS

**The EU Winter Energy package proposals:**

challenges and opportunities to the district heating sector



## EU ENERGY UNION

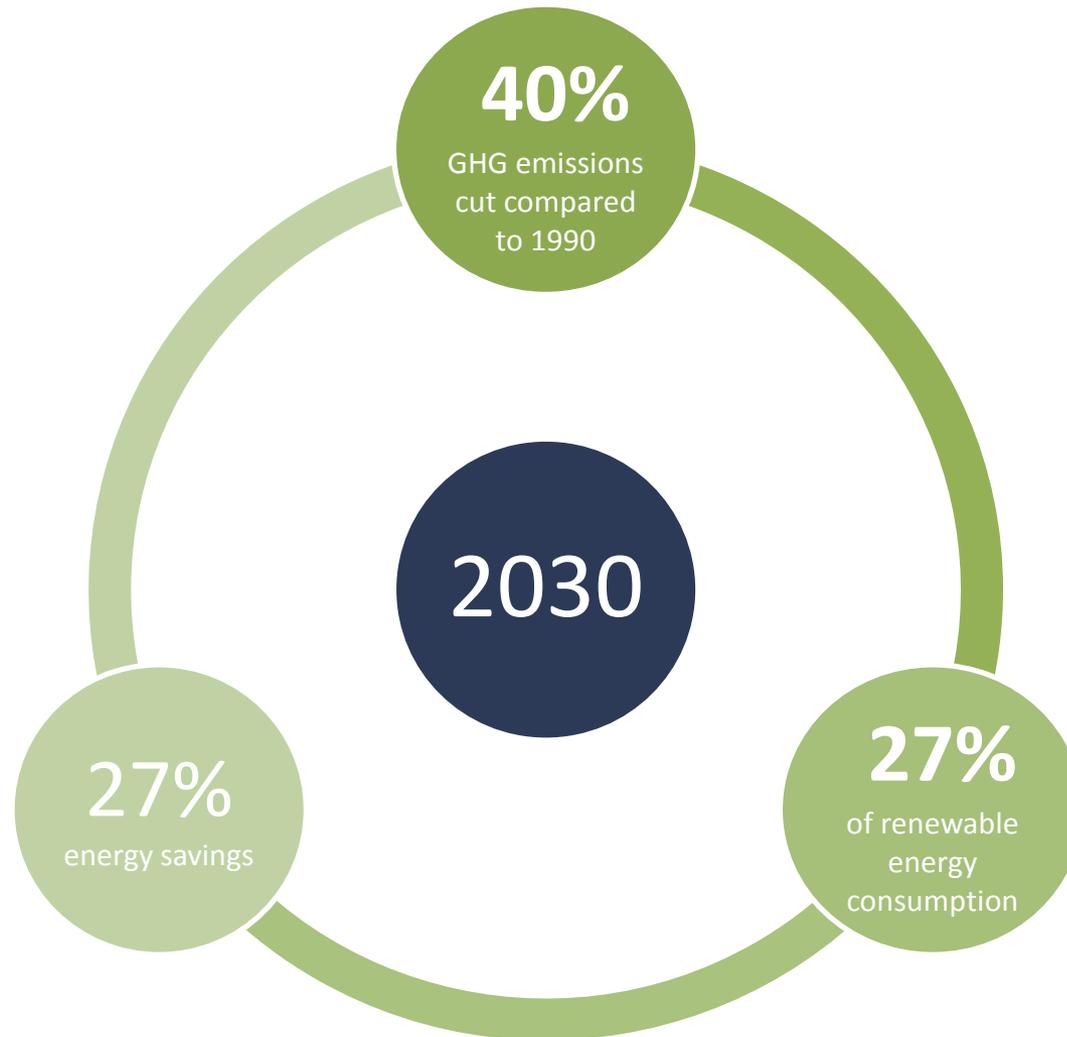


*“If we want a cost-effective transition to a low-carbon economy, we have to create an internal energy market where European rules apply”*

Maroš Šefčovič, the European Commission's Vice President for the Energy Union

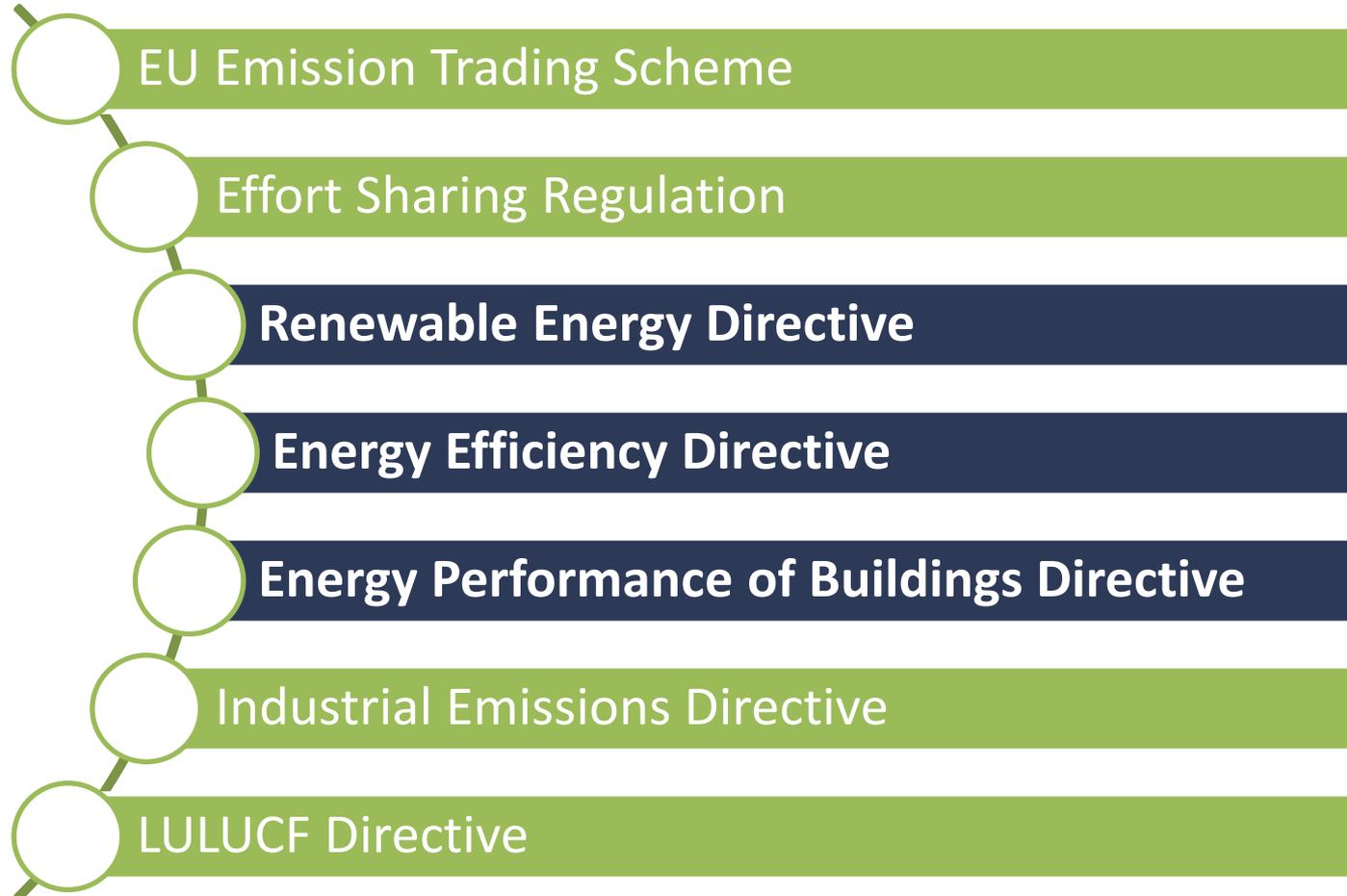


# EU Energy Targets for 2030





## Tools at EU disposal





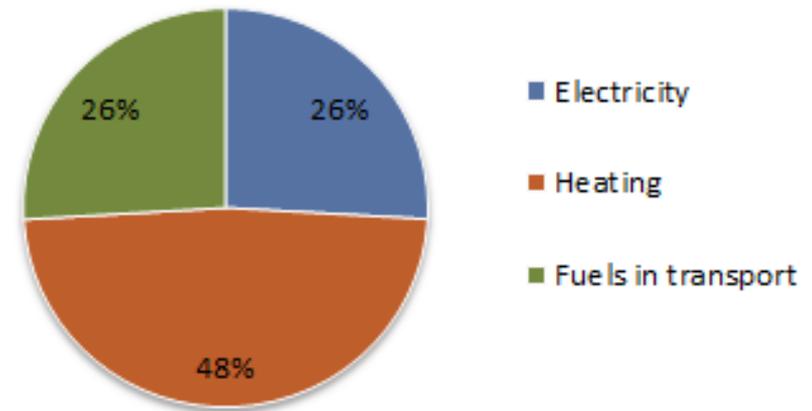
# WHAT ABOUT HEATING?



## IN THE SHADOW OF POWER AND TRANSPORT

- Even though heating accounts to half of European final energy consumption, the sector has long been overlooked by EU policy makers, who focused on electricity, gas, oil and transport sectors.

### Final energy consumption broken down by sector (EU)





## 2015-2016 BREAKTHROUGH YEARS

- In 2015-2016, we witnessed a steadily increasing interest in DHC and the heating sector itself, pushed by new discussions on energy security and the recognition of great decarbonisation potential
- DHC is being recognized by local authorities & cities taking the lead in climate change efforts





## 2015-2016 BREAKTHROUGH YEARS

- In 2016, the first EU Heating and Cooling strategy proposed by the Commission, recognising the important role of DHC.
- **2016/2017 – first proposals of EU legislation that will shape the sector**

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN  
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL  
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**An EU Strategy on Heating and Cooling**

{SWD(2016) 24 final}



# WHAT IS THE EU PROPOSING?



## CLEAN ENERGY FOR ALL EUROPEANS

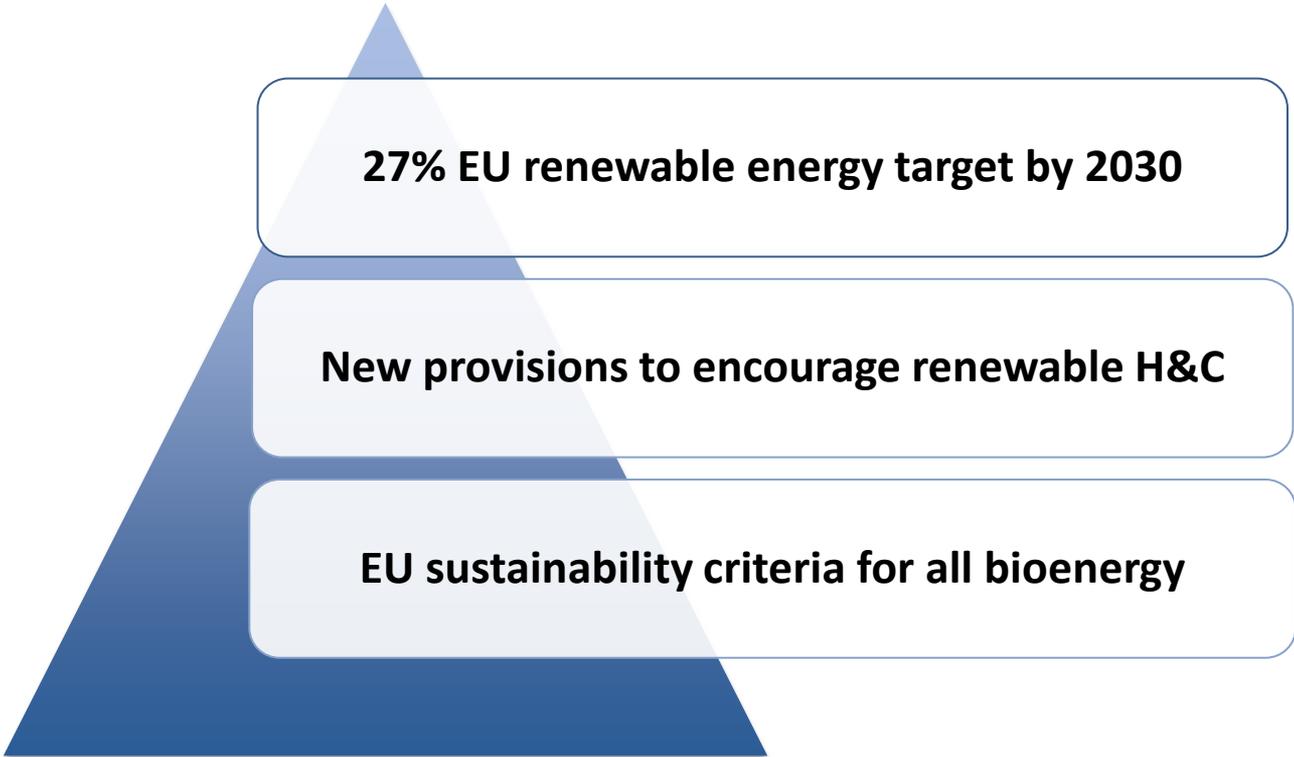


- Published on November 30th last year
- More than 4500 pages
- Sets the scene for the EU policy on energy for the period 2020 - 2030
- Several legislative proposals important for the district heating sector, such as:
  - Revision of the Energy Efficiency Directive
  - Revision of the Energy Performance of Buildings Directive
  - Recast of the Renewable Energy Directive



## **RENEWABLE ENERGY DIRECTIVE**

### **Key elements:**



**27% EU renewable energy target by 2030**

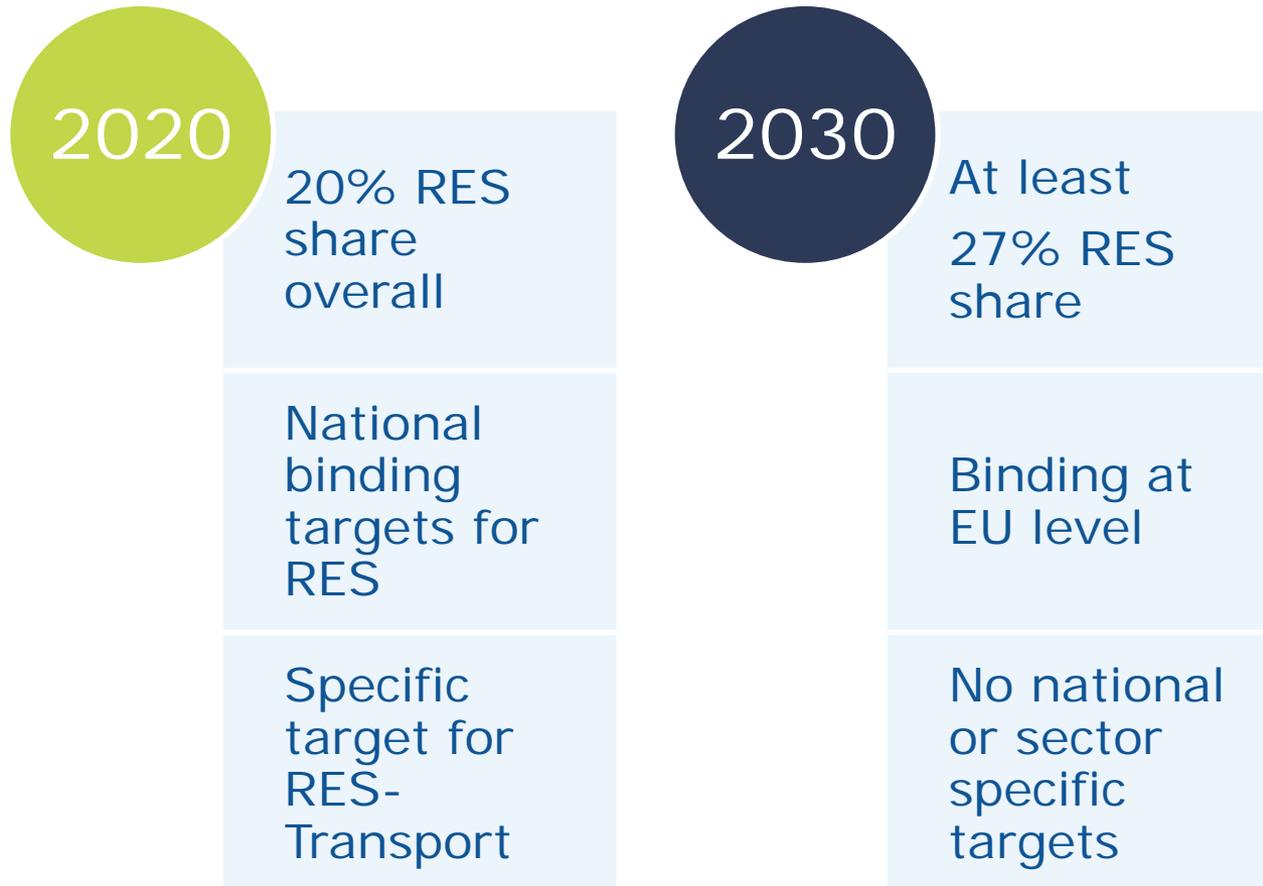
**New provisions to encourage renewable H&C**

**EU sustainability criteria for all bioenergy**



## RENEWABLE ENERGY DIRECTIVE

Moving to a new more European approach to renewables



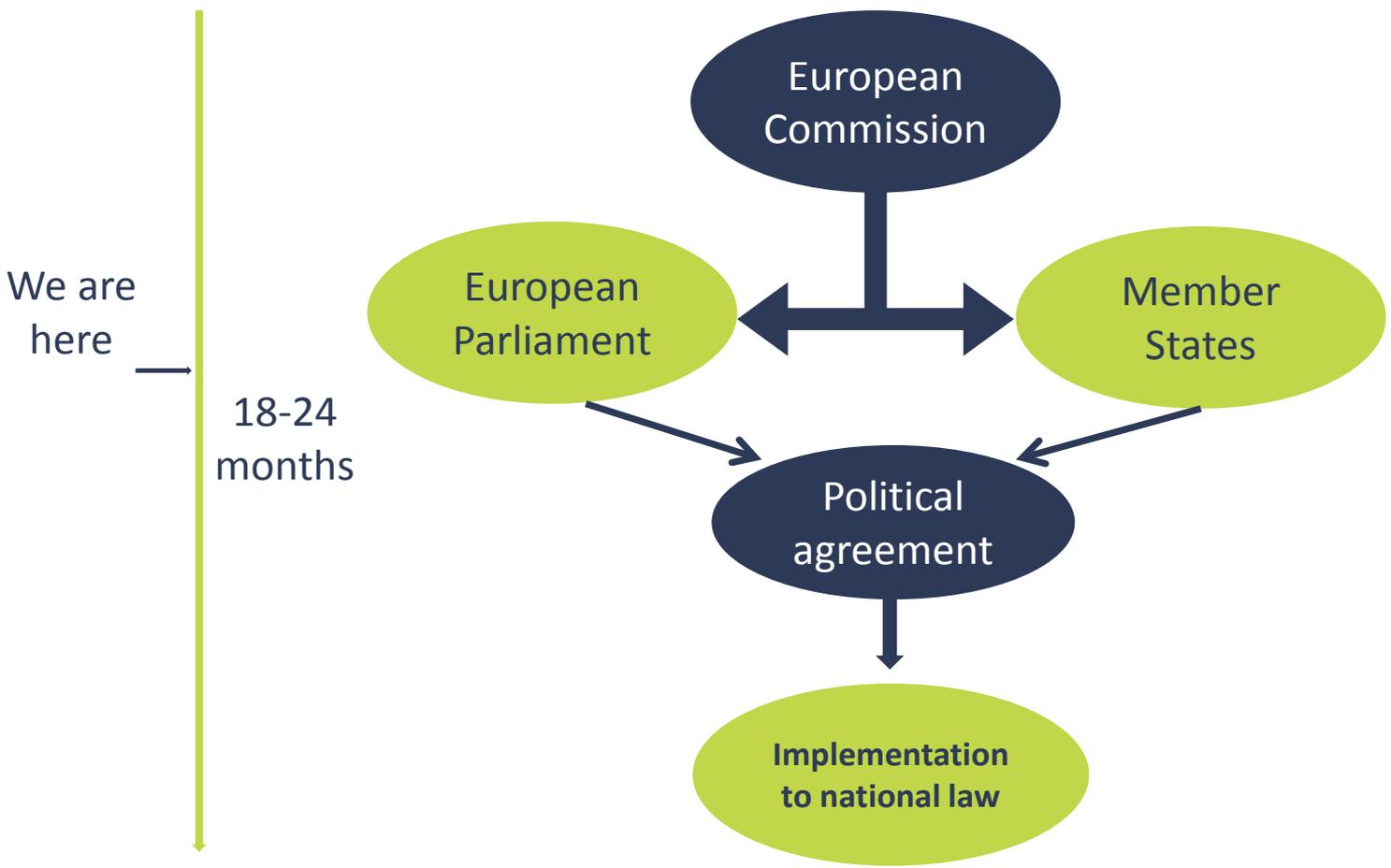


**WHAT WILL HAPPEN NEXT?**



## THE PROCESS

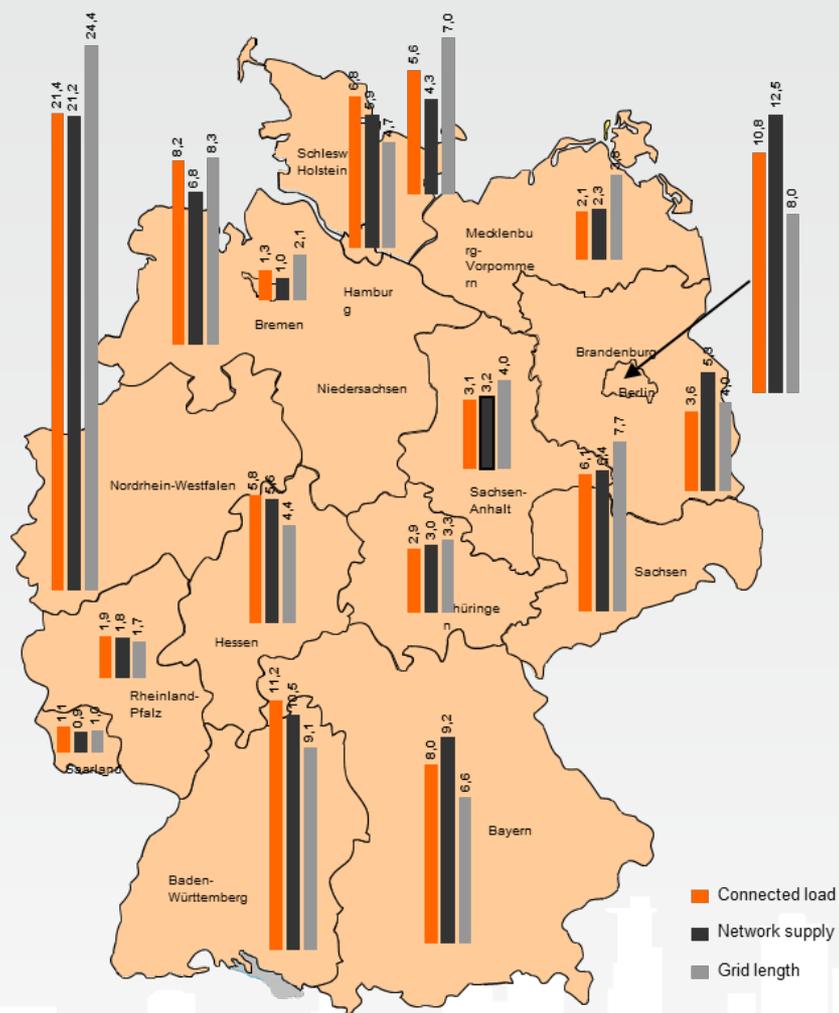
**CURRENT PROPOSAL IS NOT THE FINAL LEGISLATION, AND IT WILL BE SUBSTANTIALLY AMENDED BY BOTH THE EUROPEAN PARLIAMENT AND MEMBER STATES**





## CONCLUSION: EU'S STICKS & CARROTS

- EU's recognition of the heating sector and strong support to DHC is a unique opportunity that needs to be welcomed
- Support is not unconditional – the European Commission is asking for assurances (price, fuel mix, efficiency) about which version of DHC people will end up getting
- We must be open-minded, accept the offers in principle and start working with the EU institutions and national governments to get the details right in practice.
- **Next 2 years will be very busy and exciting for the DHC sector!**



- The district heating connected load in Germany is approximately **57.000 MW<sub>th</sub>**
- **13%** CHP share in the public electricity production (17% total)
- The district heating customers are: **46%** private homes, **36%** public buildings, commercial and trade sector and **18%** industry
- Over **84%** of District Heating is generated in high efficient co-generation (CHP) plants

## FACTS ABOUT DHC AND CHP

- » **75 %** of the global pollutants are **emitted in cities** (predominantly major cities and metropolitan areas)\*
  - » Cities which have been developing **DH from CHP in favor of individual heating** (oil, natural gas, coal, biomass) were able to significantly **lower their air pollutants** (CO<sub>2</sub>, CO, SO<sub>2</sub>, NO<sub>x</sub>, particulate matter)\*
  - » The DHC sector in Germany has always been advocating an **efficient, environmentally friendly and secure heating supply** at fair market conditions
  - » Around **56 % of the space heat** in German residential and administrative buildings is **suitable for district heating supply**\*\*
- » Investments in these future-proof technologies have to be realized today in order to be effective in the following 60 years and provide security of supply for our people

\* source: IEA – International Energy Agency \*\* source: BEI - Bremer Energie-Institut im Auftrag des Bundeswirtschaftsministeriums

**Let’s make things different**

**CHP and DHC combine efficiency, flexibility and renewability for the heating and electricity market to form a smart, multi-functional instrument.**

**This technology is able to...**

- ... give more flexibility to the renewable electricity market**
- ... provide integration services via power-to-district-heat**
- ... support CO<sub>2</sub> reduction targets**
- ... secure renewable energy sources for the heat market**
- ... create cost effective solutions for the heat market**
- ... create local jobs and added value to our communities**
- ... shape the energy conception (Energiewende) citizen-friendly**

**CHP and DHC are the key to the German energy transition (Energiewende)**

**THANK YOU**