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Comprehensive assessment update, heating and cooling in the Clean Energy Package

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Energy Community

23rd ENERGY EFFICIENCY COORDINATION GROUP MEETING AND WORKSHOPS

Wednesday, 10 June 2020

Concerted Action EED Domain 5:

Actions to increase the uptake of efficient, low carbon heating and cooling in EU

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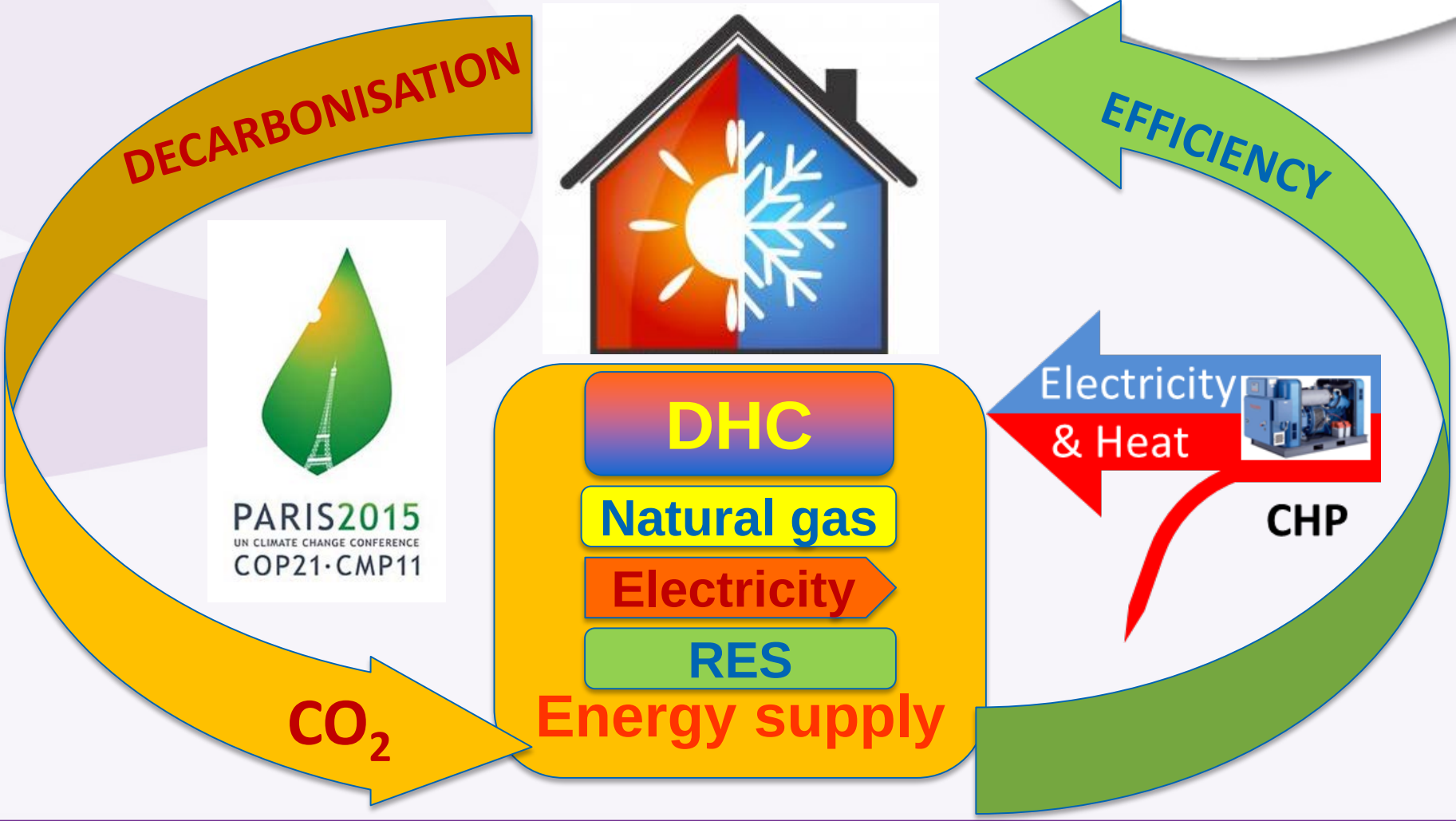

Clean energy package & HC

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ENERGY EFFICIENCY FIRST!

Energy performance of buildings – EPBD (revised)

- **minimum standards for NZEB** (share of RES and EE)
- **Long term renovation strategies (LTRS)**

Energy Efficiency – EED (revised)

- **new 32,5% target 2030,** extended **energy savings obligation (0,8%)**
- strengthened rules on **individual metering and billing of thermal energy**

Renewable energy Sources – RED II (recast)

- **new 32% RES target 2030**
- **RES & waste heat HC target:** total 1,3% incr./year, DHC 1,1% increase/year
- **RES & waste heat&cold potential in HC** (Comprehensive assessment EED)

EU Governance regulation

Heating & cooling planning

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2020 2021

National Energy and Climate Plans (NECP)

31.12. 2019

National long-term strategies

1.1. 2020

Comprehensive assessment of efficient heating and cooling (CA)
(revised Annex VIII of EED)

31.12. 2020

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

CO_2

RED II
Art. 15

Waste heat utilization!

NECPs have evident role in Heating & Cooling

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Yes & Partially…

Set new targets	**80%** (12+7/24)	**RES share!**
Set new policy & measures	**70%** (10+7/24)	**RES, Waste heat, CHP, DHC**

Comprehensive assessment (CA)

of the potential for the application of high efficient CHP and efficient district heating and cooling (Annex VIII)

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Comprehensive energy planning

I. Heating and cooling demand description

- by sectors, 10 years forecast

II. Heat map:

- **Heat linking within system boundaries**
- **Scenario construction: baseline + alternatives**

Technical potential: CHP & DHC

III. Cost-Benefit Analysis (CBA – Annex IX):

- economic analysis covering socio-economic and environmental factors
- to identify the most cost-effective and beneficial heating or cooling option for a given geographical area (NPV criterion for the evaluation)

Economic potential: CHP & DHC

IV. Strategies, policy and measures

for development of identified cost beneficial potential

IMPLEMENTATION

CA update - 3 highest-ranking practical needs of MSs (survey)

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Better assessment of…

Current and future heating demand	64% (14/22)	Data availability, GIS data, etc.
CHP potential	64% (14/22)	Fossil, RES
Waste heat availability potential	59% (13/22)	Industry, services, etc.

55%: Cooling demand (current, forecast), **Other heating & cooling alternatives** (HP, solar,…)

45%: DHC potential

Challenges of Comprehensive assessment & Annex VIII update

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Real benefit of CA?

- Basis for policymaking and implementation!

Decarbonization

- The most important aim and driver

Technologically neutral

- Only relevant HC technologies

Flexibility

- Country specific – climate, tradition
- Focus on key HC demand areas
- Market oriented – competitiveness

Second Cycle - Improvement

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Objectives of the CA update:

- Reducing administrative burden
- Linking with legislation (RED II, Gov.Reg.)
- Reinforced support for policy and planning
- Clearer structure and content
- Gathering better data for estimates
- Relying on various technologies to reach a favorable net effect for energy savings, RE rollout and GHG reduction

CA – Potential for efficiency in heating and cooling

new regulation

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- **COMMISSION DELEGATED REGULATION (EU) 2019/826 of 4 March 2019 amending Annexes VIII and IX to Directive 2012/27/EU of the European Parliament and of the Council on the contents of comprehensive assessments of the potential for efficient heating and cooling**

- **ANNEXES to the COMMISSION RECOMMENDATION on the content of the comprehensive assessment of the potential for efficient heating and cooling under Article 14 of Directive 2012/27/EU:**
  - Content of CA
  - Additional sources of literature
  - Process of CA
  - Waste heat accounting
  - Financial and economic cost-benefit analysis
  - External costs of the cost-benefit analysis
  - Voluntary reporting template

ANNEX VIII: Potential for efficiency in heating and cooling - *Content*

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Part I: Overview of heating and cooling

- Demand, supply, waste heat or cold, RES, map, demand forecast until 2050

Part II: Objectives, strategies and measures

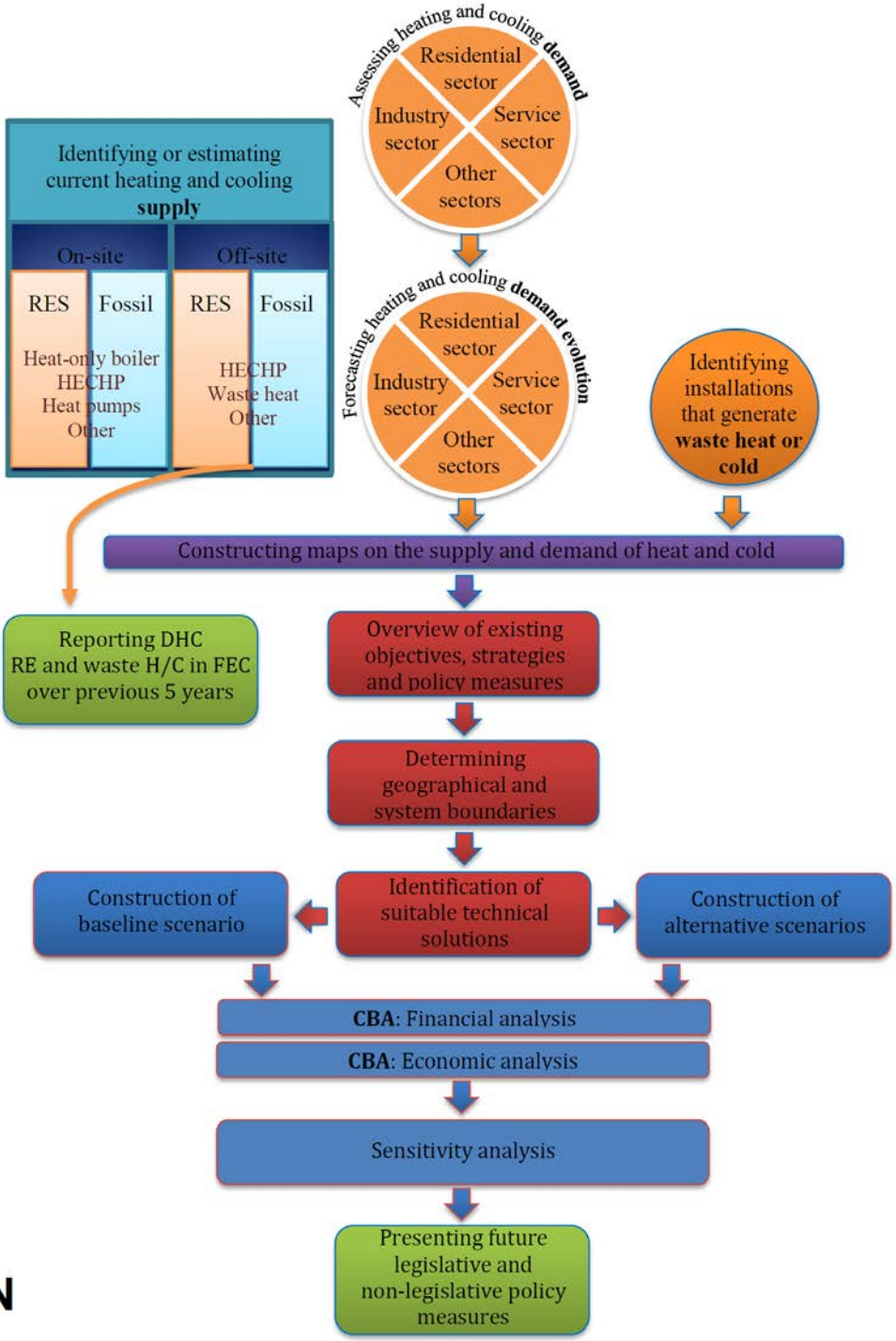
- Planned contribution to targets and Energy Union objectives (NECP,…)

Part III: Analysis of the economic potential for efficiency in HC

- All technologies, CBA (socioeconomic, financial) of baseline & alternatives scenarios, sensitivity analysis,…

Part IV: Potential new strategies and measures

- To realize economic potential, impacts of implementation (savings - CO_2, PE, €, RES & CHP share,…)



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Process for CA

COMMISSION
RECOMMENDATION (ANNEX III)

FOR A SUSTAINABLE FUTURE

Visualisation of heating and cooling – mapping!

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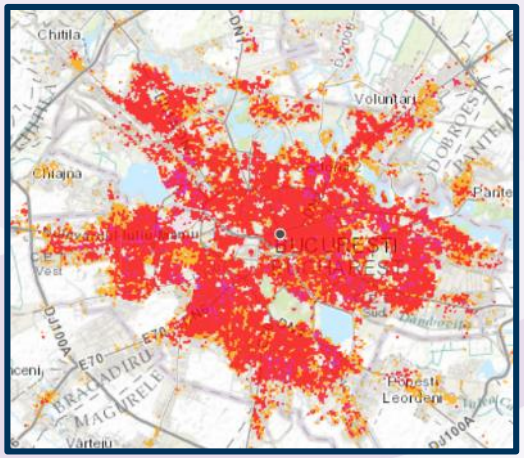
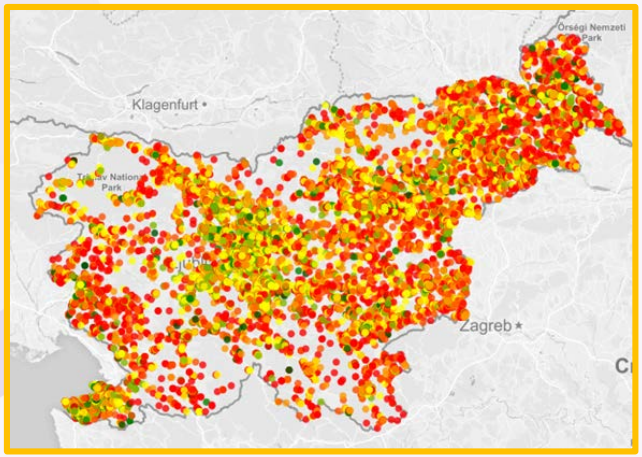
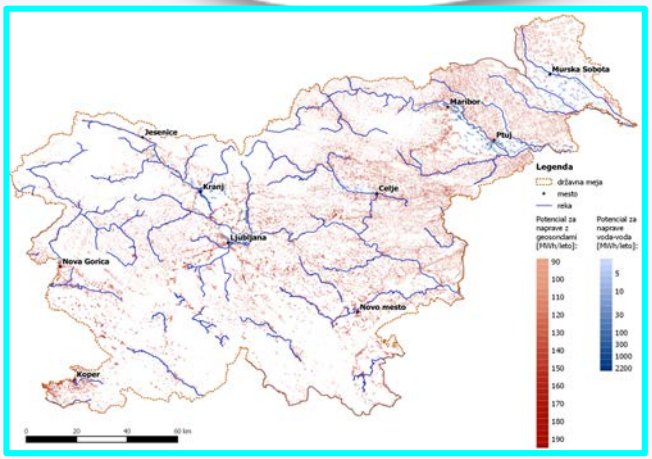
Demand, sources,...



Buildings EPC



Shallow geothermal potential



Heat Roadmap Europe 2050
A low-carbon heating and cooling strategy

ENERFUND
BUILDING RETROFIT POTENTIAL

LIFE CLIMATE PATH 2050

Sector integration – Heat, electricity, transport
Excess heat, RES & Heat networks – several synergies and benefits
Decarbonisation of heating and cooling
possible by the existing technologies.

Mapping of heating and cooling

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15/24 MS have not yet decided on methods and tools.

HOTMAPS

Heat Roadmap Europe

PLANHEAT

Cost Benefit Analysis (CBA)
level of implementation

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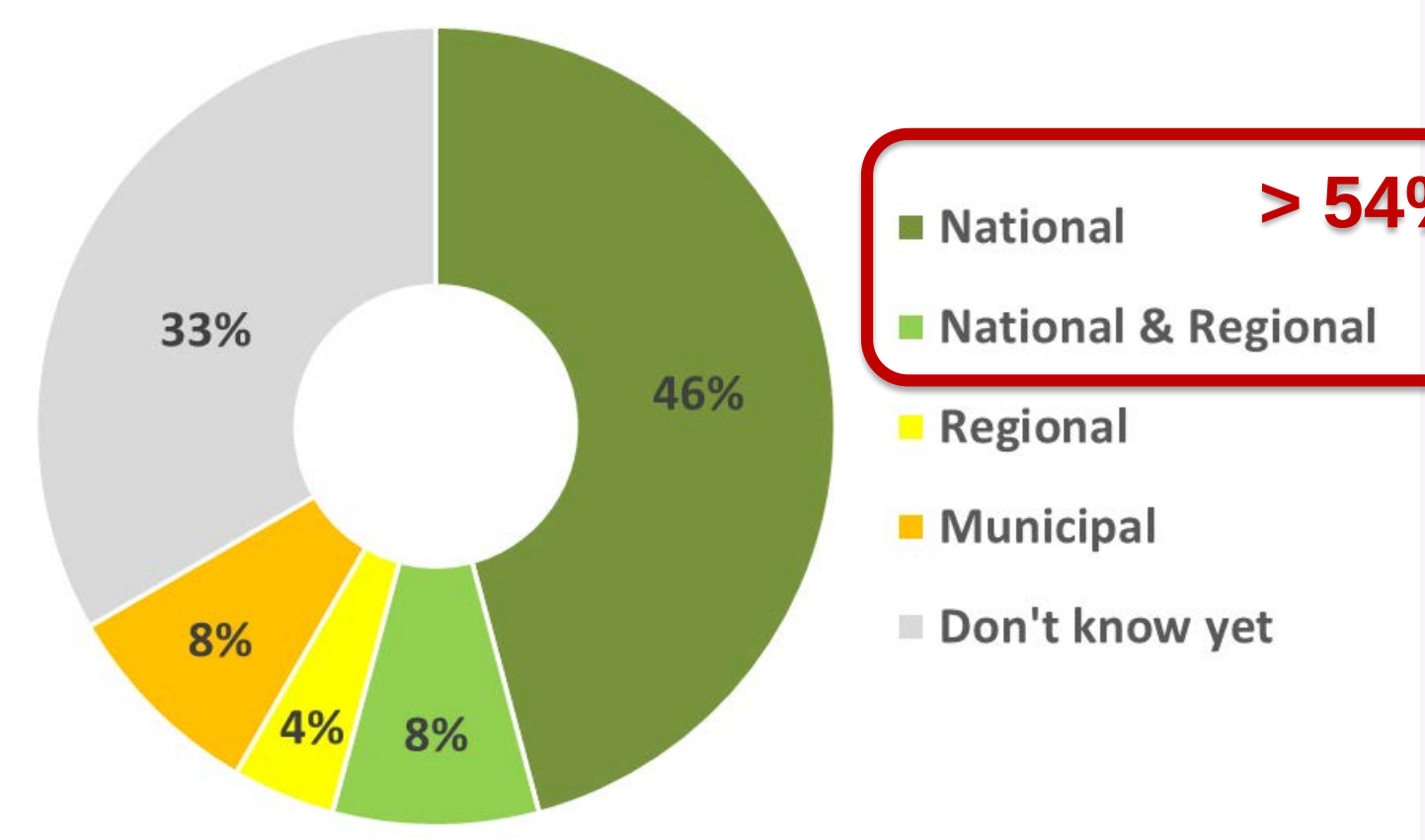
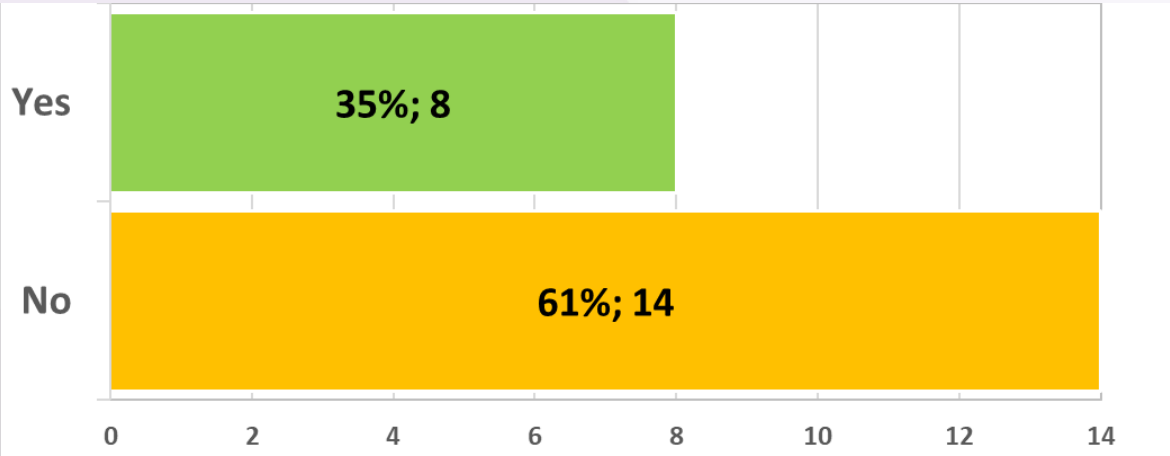


Waste heat definition



Only 3 MSs have national definition on renewable cooling.

- **Use or plan to use the RED II waste heat definition** (4 MS)
- **Have different waste heat definitions** (2 MS)
- **Definition focused on industrial processes** (3MS– high temperature for direct use)
- **Would like upgrade existing definition** (1 MS)

Additional clarification & guidance needed:

CHP, industrial processes, services, households, nuclear power plants etc.

Waste heat guidance

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- **Guidance and discussion was useful – steel need for further guidance:**

WH

REDII RES targets: Only energy delivered do DHC networks

EED: Energy savings

2 volumes of WH in CA update?

Fulfilling the 1,3%/a increase share of RES in industry?
REDII Art. 23 (1)

Waste heat and cold – data availability?

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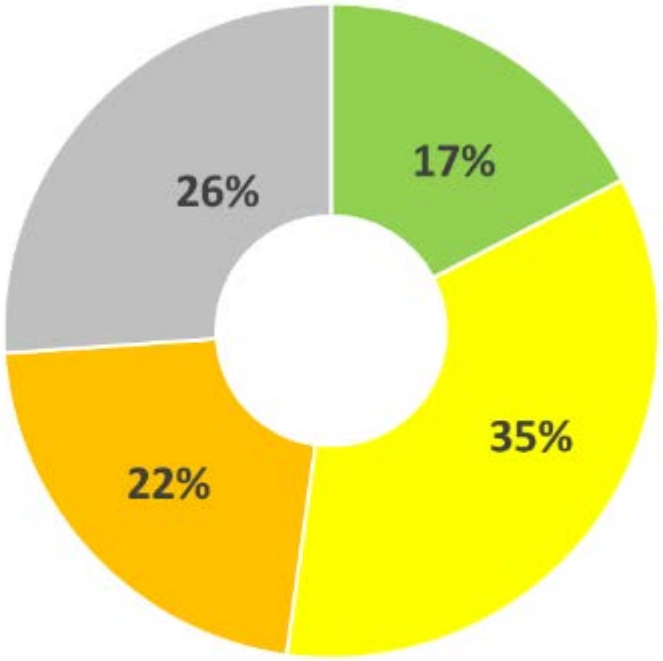
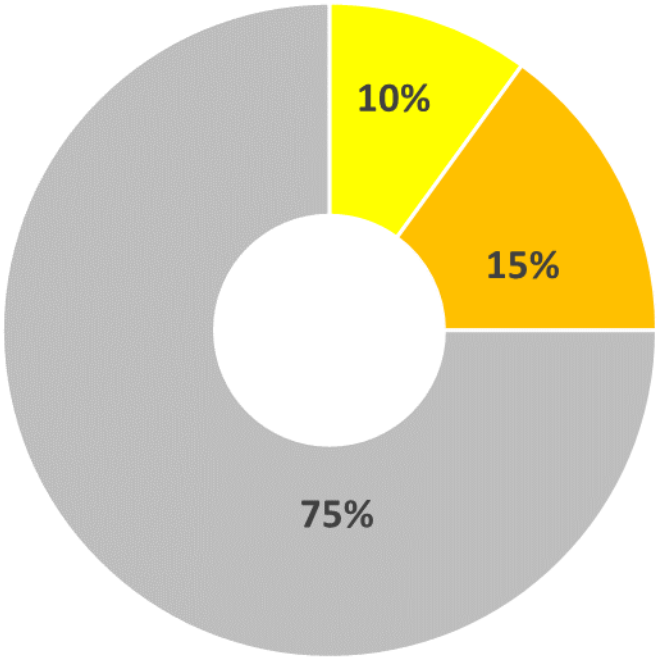


- Yes (Statistics, officially collected, mapping, etc.)
- Partially (not all sectors)
- First estimates (studies, energy audits, etc.)
- No



Progress for waste heat!

Very beginning stage for waste cold!

Comprehensive assessment update – MS are active!

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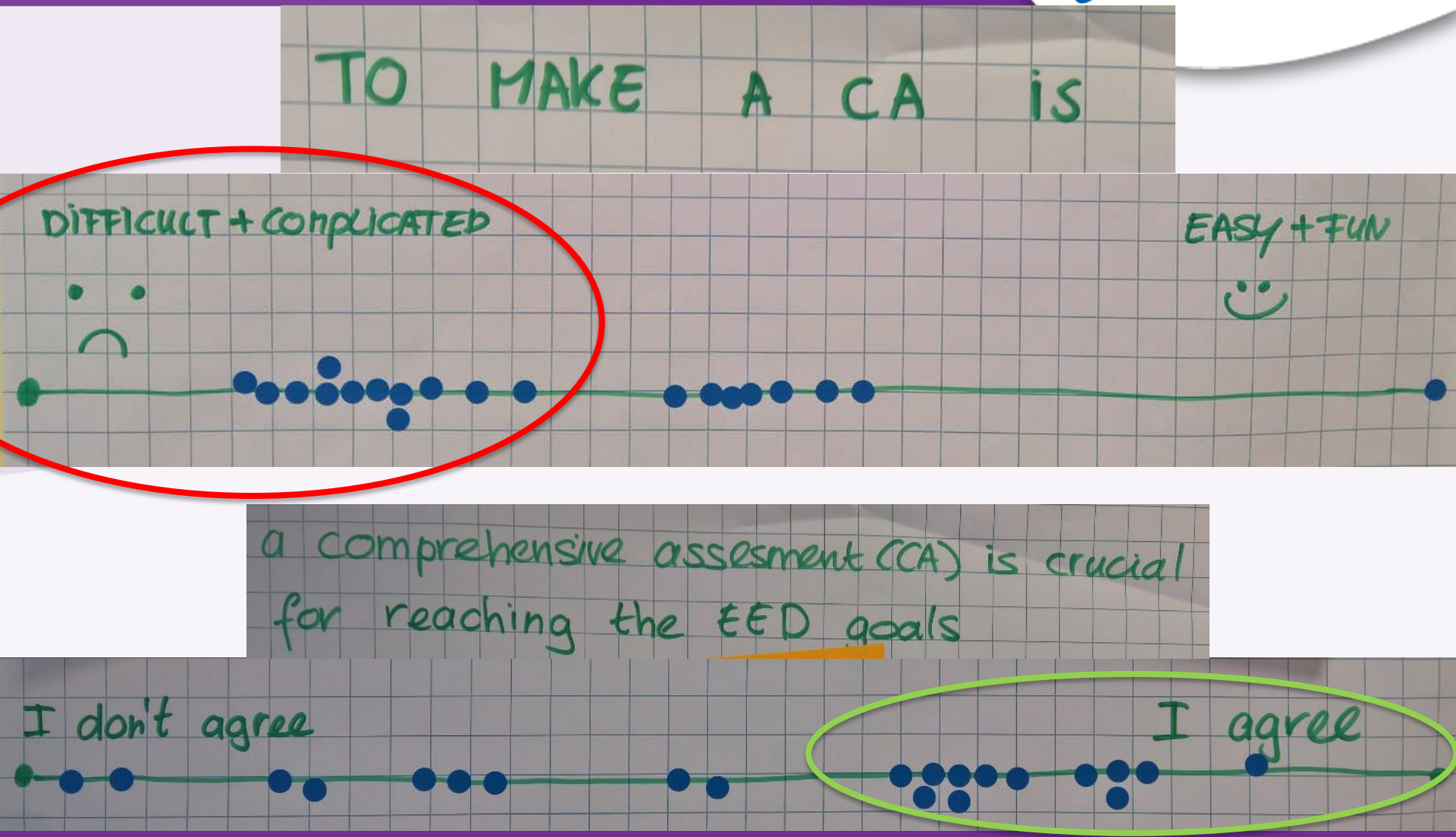
Status October 2019

Thinking – active in preparation

Outsourcing the implementation
Data collection challenge! **RES integration**

Expect more – Policy document?

How people see CA



The future (2050) is closer than you think!

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We need to make sure that we understand the long term implications of today's investment decisions.

Chris Huhne, Secretary of State for Energy and Climate Change, UK, 2010 – 2012

Early action on energy efficiency *- accelerated measures to avoid the long-term lock-in of inefficient energy use.*

Do you agree?

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WHAT IS YOUR OPINION?

Thank you for your attention!

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Thank you for your attention!

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