

Acceptance by ecolabelling

Jenny Gode



Assistant Director at
IVL Swedish Environmental Research Institute

Tel: +46 8 598 563 18

E-mail: jenny.gode@ivl.se

Web: www.ivl.se

REDUCE, RECYCLE, REPLACE: DOUBLING DHC NOW!

35th Euroheat & Power Congress, Paris May 9th and 10th 2011



EU project **Ec**heat **4** cities

- Aim to support the implementation of the Renewable Energy Sources Directive by ecolabelling of DH(C)
- Specific other objectives:

- Promote understanding and acceptance of DHC
- Establish more and improve DHC.
- Monitor and encourage RES and EE developments in DHC
- Trigger locally integrated and increasingly cost-effective solutions

Under-standable!

More!

Better!

Cost-effective!

Co-ordinated by



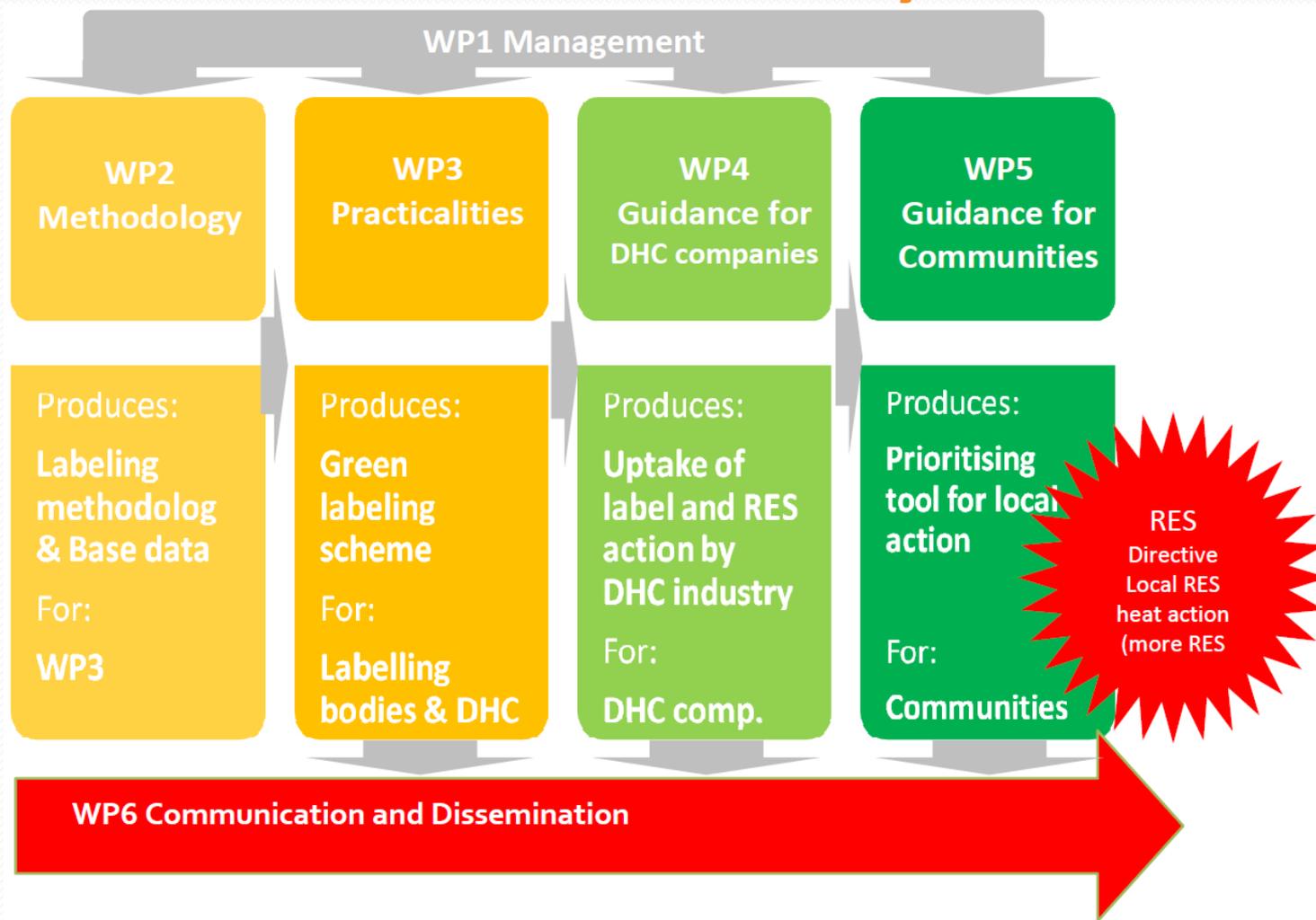
Other partners



Subcontractor (WP2)



EU project **Ec**heat **4** cities



Outline

- Round 1. Why ecolabelling of DH?
District heating has an important role in contributing to achieve European climate targets
- Round 2. How to ecolabel DH?
Structure of Ecoheat4cities' ecolabelling of district heating
- Round 3. European ecolabelling of DH?
Prospects and barriers of European ecolabelling of district heating

REDUCE, RECYCLE, REPLACE: DOUBLING DHC NOW!

35th Euroheat & Power Congress, Paris May 9th and 10th 2011



1. Why ecolabelling of DH?

- Main messages:
 - District heating has an important role in contributing to achieve European climate and renewable energy targets
 - Non-technical barriers hinder the development of district heating in Europe
 - Ecolabelling is a way to increase knowledge and acceptance of district heating

REDUCE, RECYCLE, REPLACE: DOUBLING DHC NOW!

35th Euroheat & Power Congress, Paris May 9th and 10th 2011



EU 20-20-20 targets by 2020

20% reduced
GHG
emissions
compared to 1990 levels

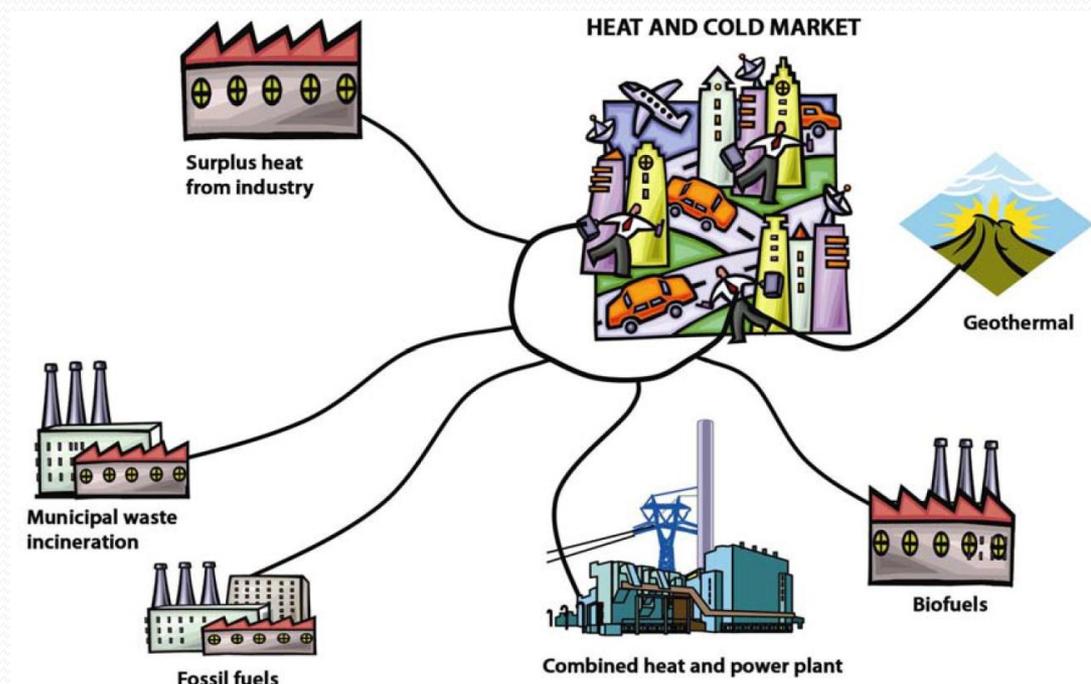
20%
renewable
energy

of levels in 2005

20% reduced
primary
energy use
of projected levels in 2020

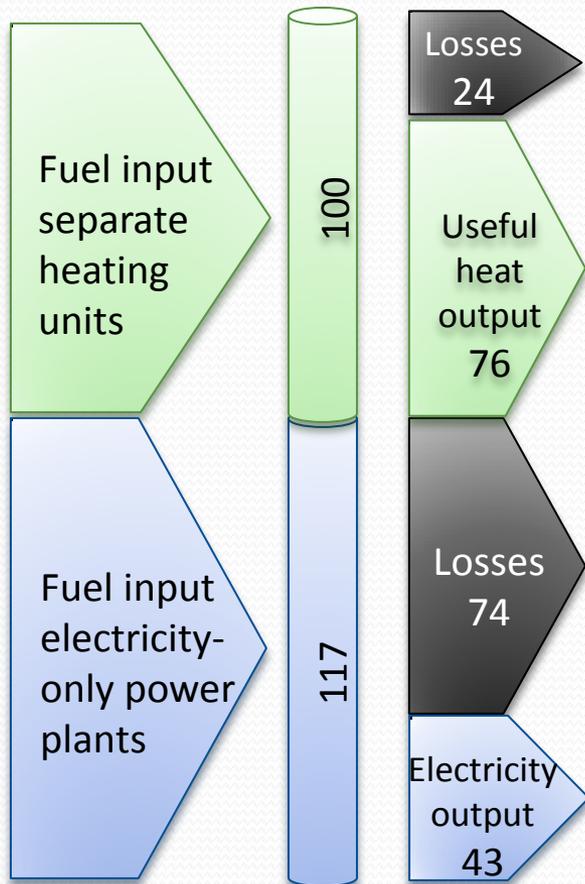
District heating – a good strategy

- District heating has a unique possibility to contribute to achieving the 20-20-20-targets by using energy that would otherwise be wasted

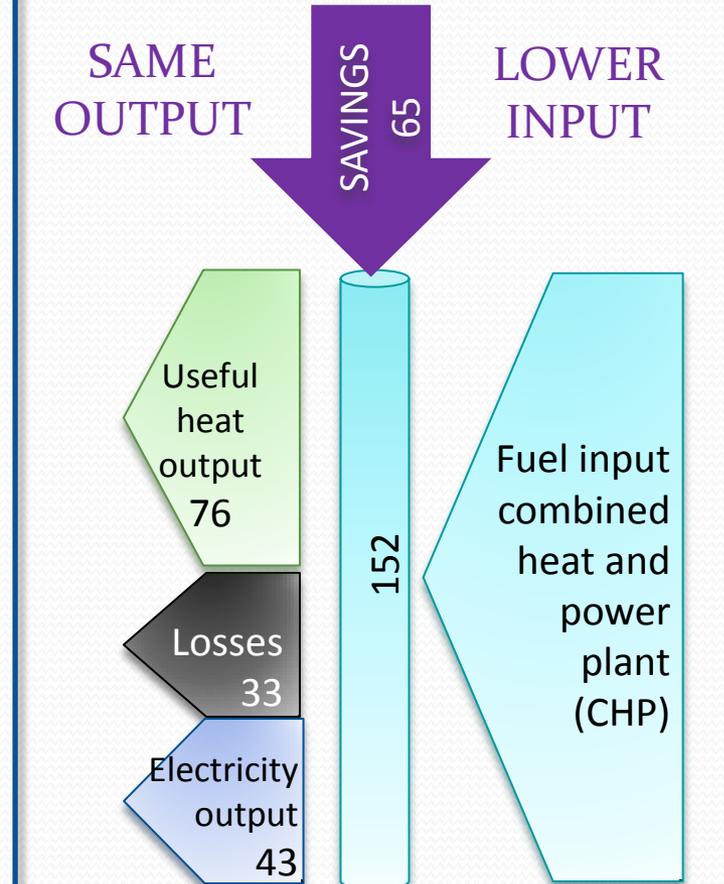


Benefits of combined heat & power with district heating

Separate production of heat and power



Combined heat and power



Non-technical barriers for DH

- Limited knowledge of district heating – knowledge is a prerequisite for increased acceptance of district heating
- The DH sector is perceived as little transparent and "old-fashioned"
- DH is considered difficult to compare to other heating options
- The local character of DH may be difficult to understand
- Customer awareness of the performance and environmental benefits of DH is low

What is ecolabelling?

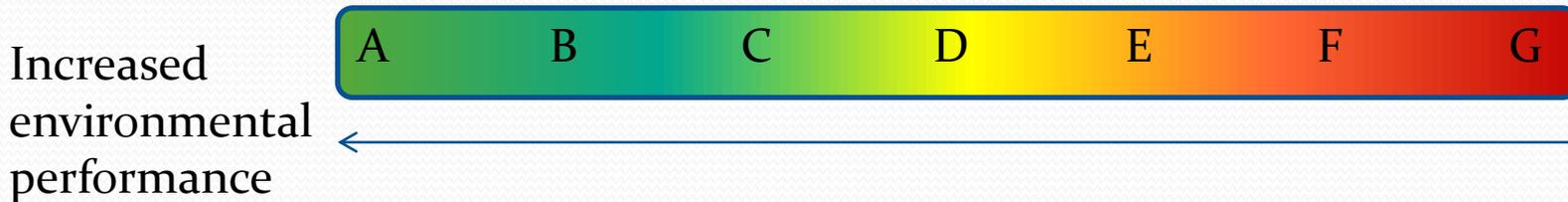
- A system to help consumers to choose products and services of high environmental performance
- For each product/service to label criteria are set up which have to be achieved (thresholds and/or point system)
- Examples of ecolabels and product groups
 - EU Ecolabel: cleaning products, appliances, paper products, services such as tourist accommodation
 - Nordic Ecolabel (Svanen): heating, houses, appliances, grocery stores, hotels
 - Swedish Ecolabel (Bra Miljöval): electricity, district heating, insurances, grocery stores



Bra Miljöval

Different kinds of labelling

- Labelling with "classification grades" – all products are labelled
 - E.g. Energy labelling of household appliances



- Label only for products meeting the labelling criteria
 - E.g. EU Ecolabel for heat pumps



Why ecolabelling of DH?

- Labelling of DH will
 - give information of energy and environmental performance of DH
 - encourage local politicians, citizens, potential investors etc. to make resource efficiency based choices
 - encourage DH companies to market the performance of their products from a primary resource perspective
 - give DH companies benchmarks and encourage DH improvement
 - enable European consumers to make wise eco-choices of heating
 - allow for easy comparison with other heating options
- Labelling of DH could thus contribute to achieving the 20-20-20 targets by increased market share of DH!

2. How to ecolabel DH?

- Main messages:
 - Detailed criteria selection based on thorough analysis of current EU documents will give higher acceptance
 - A common methodology for calculating labelling criteria is essential for transparency and comparison between countries
 - Three labelling criteria describe DH environmental performance:
 - Primary energy
 - CO₂
 - Fraction of renewable and recycled energy

REDUCE, RECYCLE, REPLACE: DOUBLING DHC NOW!

35th Euroheat & Power Congress, Paris May 9th and 10th 2011

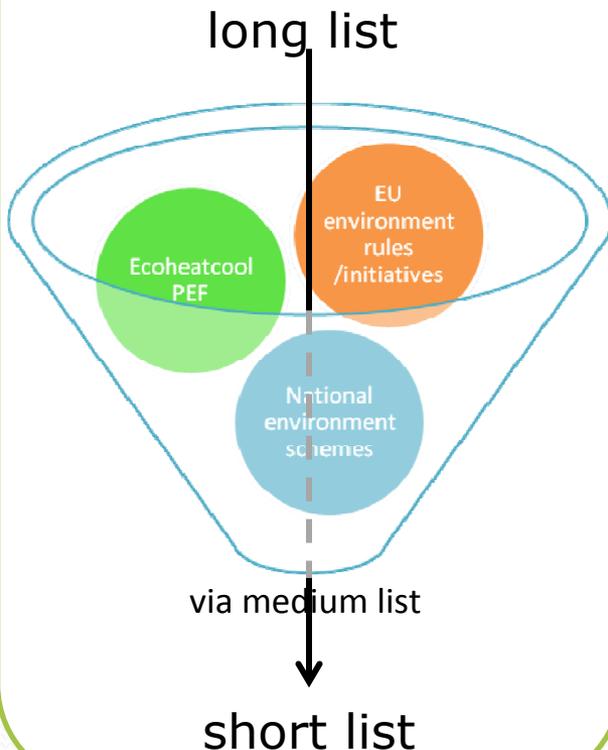


Starting points

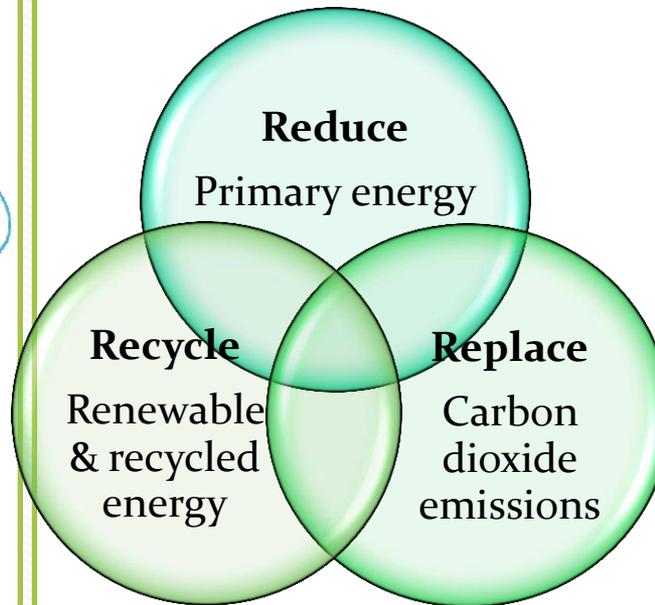
- Ecoheatcool method with primary energy concept
- Building on official documents to gain acceptance for the system
- Selection and definition of labelling criteria that
 - comprehensively describe environmental performance of DH
 - can be used to compare DH with other heating options (e.g. heat pumps, individual natural gas boilers...)
- Not ranking of different DH systems, but reward improvement (= increased grade)

Procedure for ecolabelling methodology

1. thorough criteria selection



2. short list → threshold criteria



Informative indicators (optional):
Fuel mix, emissions to air...

3. clearly defined methodology

CHP alloc.	PB method (primary energy) PB method RES simple (CO ₂)
Electricity	Tier 1. EU mix ($f_{p,el} = 2,6$, $K_{el} = 420$ kg/MWh, $R_{el} = 19\%$) Tier 2. Other if stated by national law
$f_{P,F,nren}$	Non-renewable PEF of fuels Tier 1. EU default values Tier 2. National default values Tier 3. Case-specific values
$f_{P,dh,nren}$	Non-renewable PEF of DH (MWh/MWh _{dh}).
K_{dh}	Carbon dioxide emissions of DH (kg/MWh _{dh})
R_{dh}	Share renewable + recycled energy in DH (%)
System boundary	Fuels: cradle to gate. Building: Cradle to delivered heat.

Thorough criteria selection

Long list

≈ 50 sources found in public documents,
10 criteria categories

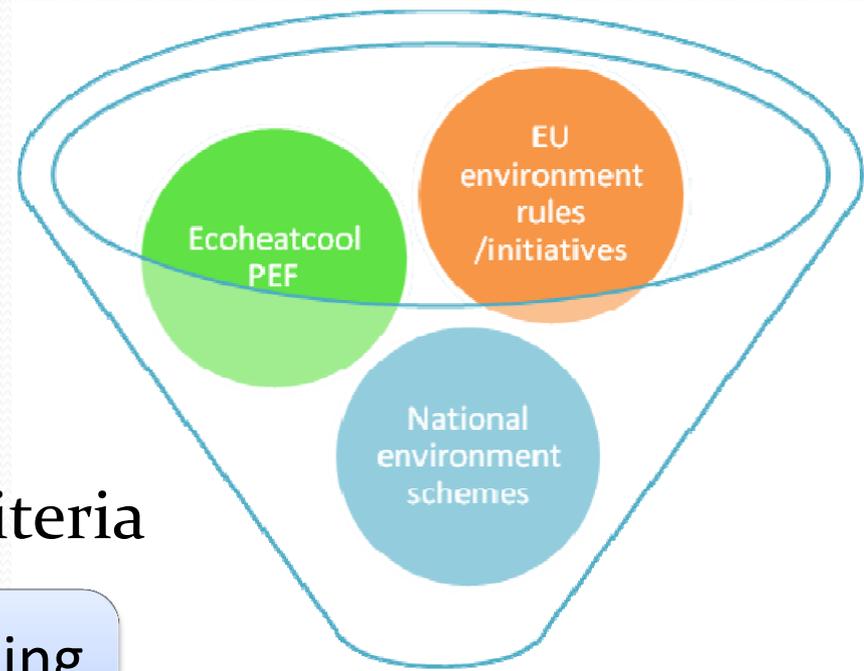
Medium list

6 criteria

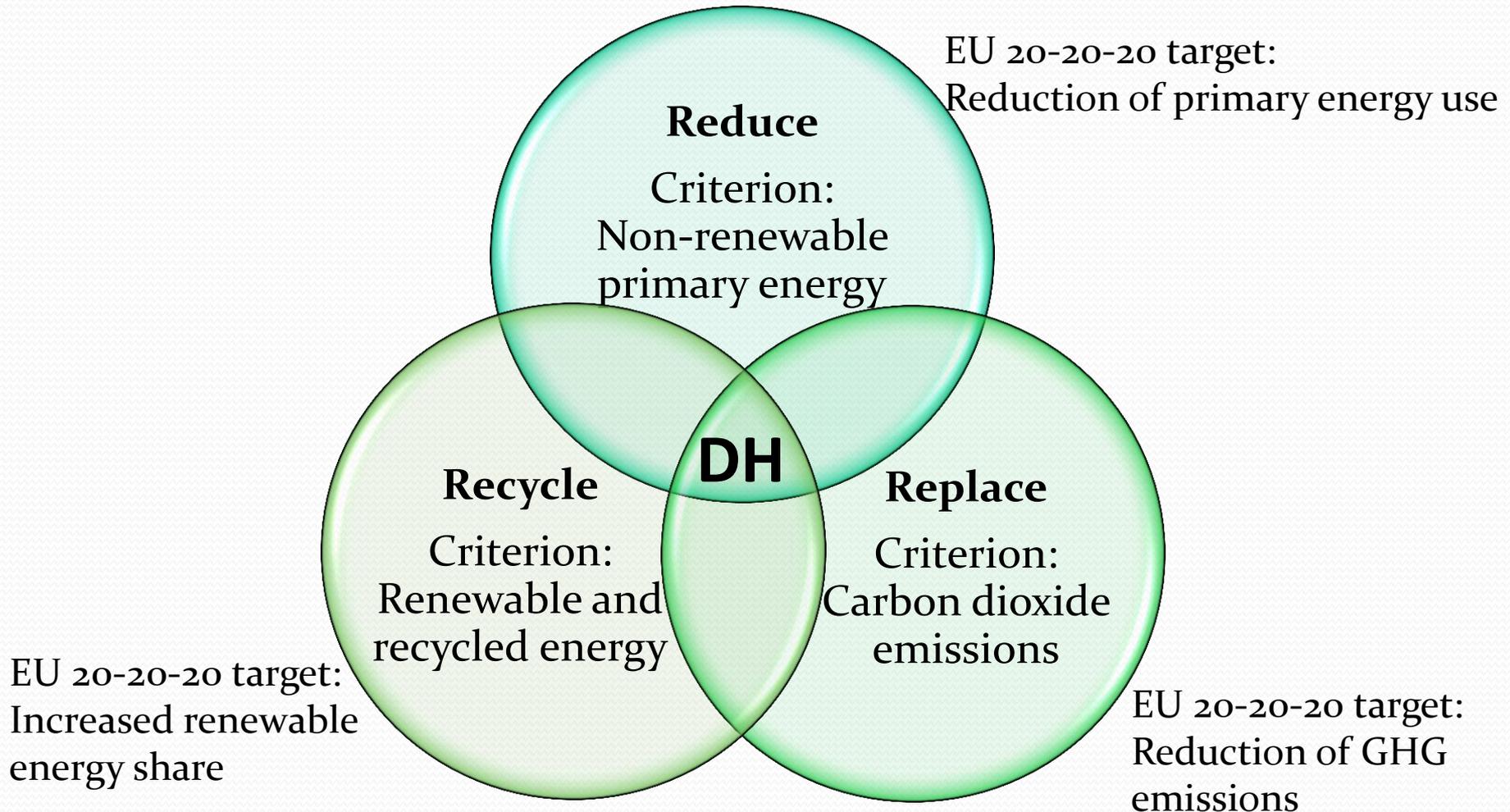
Short list

3 criteria

Labelling criteria



Three labelling criteria

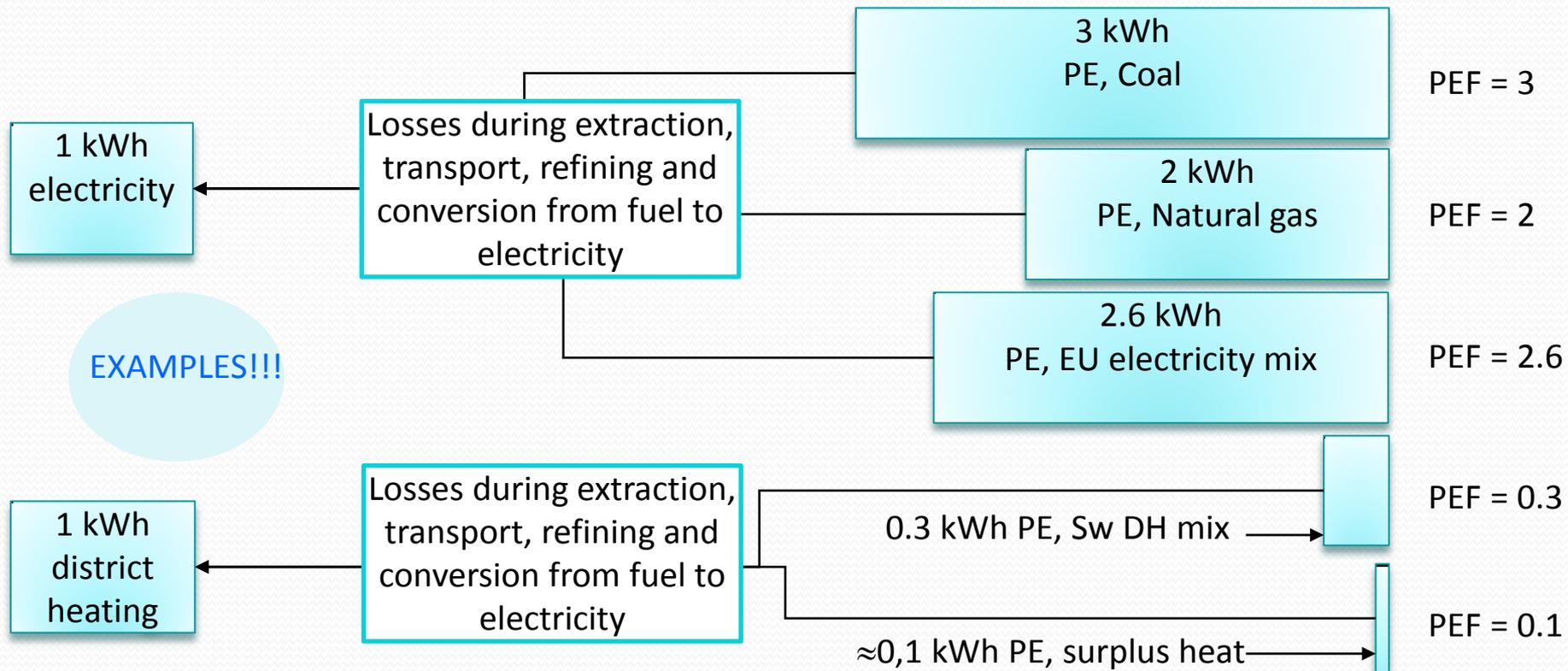


Primary energy tells a lot about environmental performance

PEF examples (non-renewable primary energy factors)

end-use energy

primary energy



Carbon dioxide emissions

- Visualise fossil emissions of CO₂
- Promote renewable and efficient conversion chains
- Direct link to climate targets and some relation to other emissions as well

Renewable and recycled energy

- Special focus of Ecoheat4cities project to promote locally integrated energy sources
 - Unique possibility of DH to use recycled and local energy resources
- Chosen methodology with system perspective raised a need for a criterion to support recycled energy
- Fill a gap in the methodology to fully represent the environmental performance of various DH production

3. European ecolabelling of DH?

- Main messages:
 - Large differences between countries → challenges
 - Advantages of common system override the challenges
 - Piloting of ecolabelling system in different countries will be important (in Ecoheat4cities)

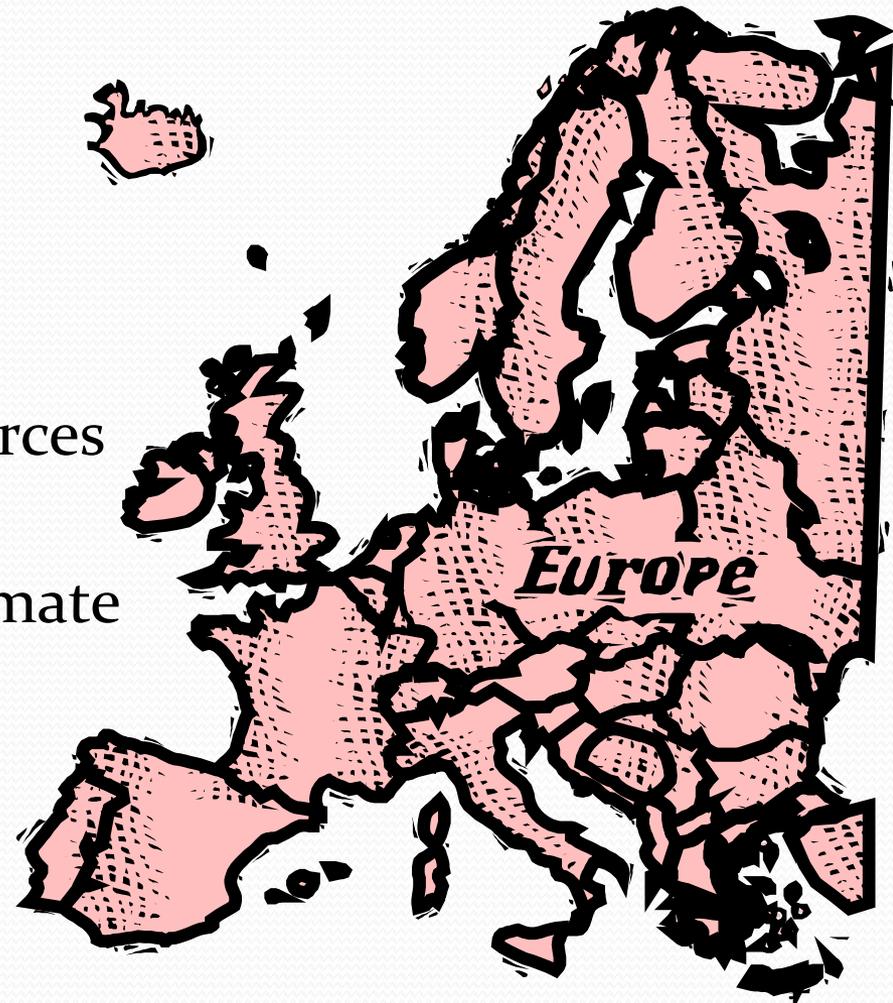
REDUCE, RECYCLE, REPLACE: DOUBLING DHC NOW!

35th Euroheat & Power Congress, Paris May 9th and 10th 2011

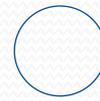


Large differences in Europe

- Large local differences, e.g. regarding
 - Current DH production
 - DH in place or not?
 - Population density
 - Available local energy resources
 - DH competitors
 - Local conditions such as climate



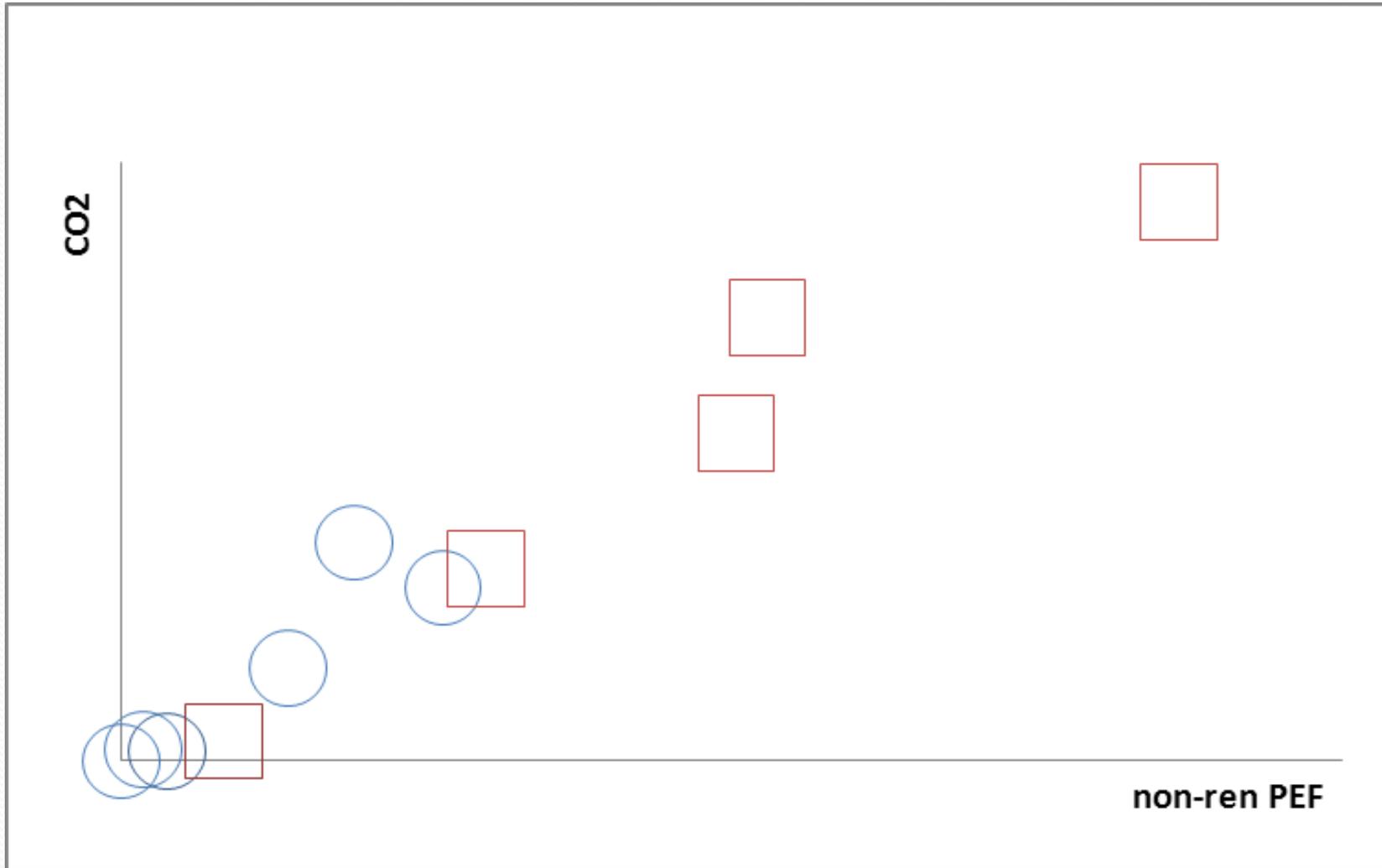
Some figures



District heating



Other heating options



non-ren PEF

Challenges of common system

- Existing national regulations complicate some common methodology choices
- Large varieties – high rate of high classification in one country, low classification in another

Realistic with common system?

- Yes!
 - common system → lower administrative costs, larger implementation, larger acceptance
 - enable benchmarks
 - inspire continuous improvement
- Important with piloting of the ecolabelling system
 - in different countries
 - on different target groups
 - *to be done in the Ecoheat4cities project!*

Summing up

- A common European ecolabel for district heating may
 - Promote understanding and acceptance of DH
 - Establish more and improve DH
 - Encourage renewable and energy efficient developments in DH
 - Trigger locally integrated and cost-effective solutions

and thus:

- Contribute to achieving the EU 20-20-20 targets!

Thank you!

Jenny Gode

Assistant Director at
IVL Swedish Environmental Research Institute

Tel: +46 8 598 563 18

E-mail: jenny.gode@ivl.se

Web: www.ivl.se



REDUCE, RECYCLE, REPLACE: DOUBLING DHC NOW!

35th Euroheat & Power Congress, Paris May 9th and 10th 2011



Ecoheat4cities

Ecoheat4cities aims to support the implementation of the Renewable Energy Sources Directive by ecolabelling of district heating and cooling

Contact person:

Birgitta Bechtold (Euroheat & Power)

Avenue de Tervuren 300

B-1150 Brussels

Tel. : +32 (0) 2 740 21 10

Fax : +32 (0) 2 740 21 19

For further information:

www.ecoheat4cities.eu

REDUCE, RECYCLE, REPLACE: DOUBLING DHC NOW!

35th Euroheat & Power Congress, Paris May 9th and 10th 2011

