Calculating the contribution of solar thermal towards the world energy supply

We should harmonize the methodology

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Project of the European program: Intelligent Energy Europe (EIE/05/129SI2.420023)
Project duration: January 2006 until December 2008

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The EU-Therra project

Objective:

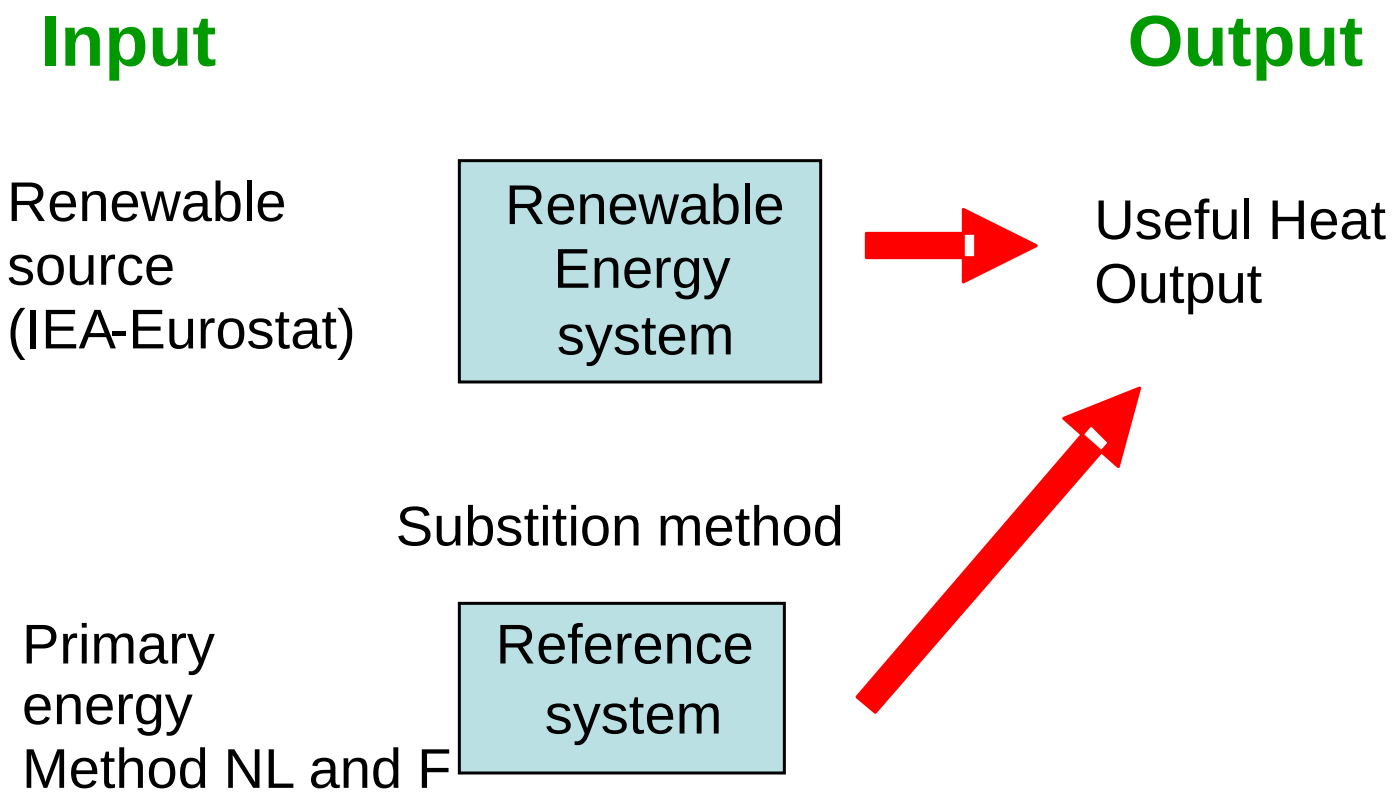
- Develop and disseminate a methodology for monitoring the total amount of renewable heat produced in the EU.
- The methodology should be acceptable for the key-actors in the EU and the participating countries and that it is tested in seven typical EU-countries.

- Countries: Netherlands, France, Greece, Austria, Poland, Portugal, Germany.
- Project finished in 2008

Solar thermal is part of our energy supply

- Solar thermal is not included properly in the energy statistics
- The EU RE-directive includes solar thermal
- There is a big need to harmonize the methodology
- The Therra project has a proposal

Renewable heat definitions



Variation in Solar collector calculations

Variation:
64 to 903

	kWh/m2
European Union (27 countries)	437
European Union (15 countries)	428
New Member States (CZ, EE, CY	618
Belgium	408
Czech Republic	337
Denmark	363
Germany	411
Ireland	406
Greece	391
Spain	898
France	412
Italy	562
Cyprus	658
Luxembourg (Grand-Duché)	347
Hungary	500
Netherlands	352
Austria	352
Poland	
Portugal	903
Finland	64
Sweden	185
United Kingdom	586

Succes of the 0.7 factor

- In 2004 the IEA SHC and trade association proposed a factor of 0.7 kW/m^2
- Now solar thermal can be compared in installed capacity
- IEA uses this factor, Eurostat is considering it.

The EU renewables directive

- Targets for each country
- Renewable Heat is included
- Heat is about 40% of the energy use
- Definition on final energy
- Monitoring by Eurostat

Final Energy is the input method if a solar system is installed at the end user.

Final Energy is the output method for solar district heating systems.

Proposal

Use of a simple formula

$$E = C * A\ [m2] * H_0\ [GJ/m2]$$

C = a coefficient dependant on the application(DHW, Solar combi, pool heating)

A = collector area in operation

H_0 = the global radiation

Summary

- Use a simple method that can be used in all EU countries and the rest of the world
- Use the Input definition to be in line with IEA, Eurostat and the EU RES directive
- Use the formula: $E = C * A\ [m2] * H_0\ [GJ/m2]$
- Base C on simulations that are checked with real data