Reducing Energy Demand
- Transport, Built Environment, and Industry –

Note: Energy consumption in agriculture, fishing and “other” makes up 3% of final energy consumption, and is not included in the above figure.
Source: DG Energy: EU Energy in Figures 2012
Energy in NL 2013

• Primary energy use: 3225 PJ
  – Chemical: 67%
  – Electricity: 13%
  – Heat: 20%

• The Energy Challenge
  – Mitigate climate change
  – Renewable production
  – Reducing energy demand
  – Energy and resource efficiency
Broaden your vision!

Materials Matter: connecting energy and material efficiency
Ernst Worrell, Utrecht University

Propositions prepared by Team Energy

“In the long run material efficiency is more important than energy efficiency.”

“The way we use materials today is unsustainable, we need a shift to a different material regime.”
Broaden your vision!

How can we make energy efficient buildings?
Marijke Menkveld, ECN

Propositions prepared by Team Energy

“A radical new concept of constructing is required to make the build environment fully sustainable.”

“There always exists a trade-off between energy efficiency and comfort.”
Energy efficiency in transport: is gasoline the best diesel fuel?
Bart Somers, TU/e

Propositions prepared by Team Energy

“Electrification of transport is the future, sustainable fuels are of the past.”

“The human factor is the bottleneck in improving efficiency in transport, it has to be replaced by technology.”

YES  NO
Program

Your own proposition as input for discussion?

→ Provide during the break!

13h15  Reception with coffee/tea
13h45  Welcome & Introduction
       Erik Langereis, Chair of the day - DIFFER - Dutch Institute for Fundamental Energy Research
13h50  Materials Matter: Connecting Energy and Material Efficiency
       Ernst Worrell - Copernicus Institute of Sustainable Development, Utrecht University
14h35  How can we make energy efficient buildings?
       Marijke Menkveld - ECN
15h20  Break
15h40  Energy Efficiency in transport; 'Is gasoline the best diesel fuel?'
       Bart Somers - Combustion Technology/Internal Combustion Engines, TU/e
16h25  General discussion with audience
16h55  Closure by chair
17h00  Open café
Broaden your vision!

1. The key to sustainability lies in social advances rather than technological improvements.

2. 100% recycling is a myth.

3. The energy provider is your best partner for your home energy management.

4. Even an optimal Dutch performing energy policy does only have a symbolic impact on climate.

5. We need to move from zero Joule to zero Watt.
Discussion: Broaden your vision!

**Transport: better fuels and new combustion technologies**
- Electrification of transport is the future, sustainable fuels are of the past.
- The human factor is the bottleneck in improving efficiency in transport, it has to be replaced by technology.

**Industry: Material and energy efficiency**
- In the long run material efficiency is more important than energy efficiency.
- The way we use materials today is unsustainable, we need a shift to a different material regime.

**Built Environment: Energy efficient building**
- A radical new concept of constructing is required to make the build environment fully sustainable.
- There always exists a trade-off between energy efficiency and comfort.