



Make Energy Efficiency Visible in the Energy Mix

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Study supported by

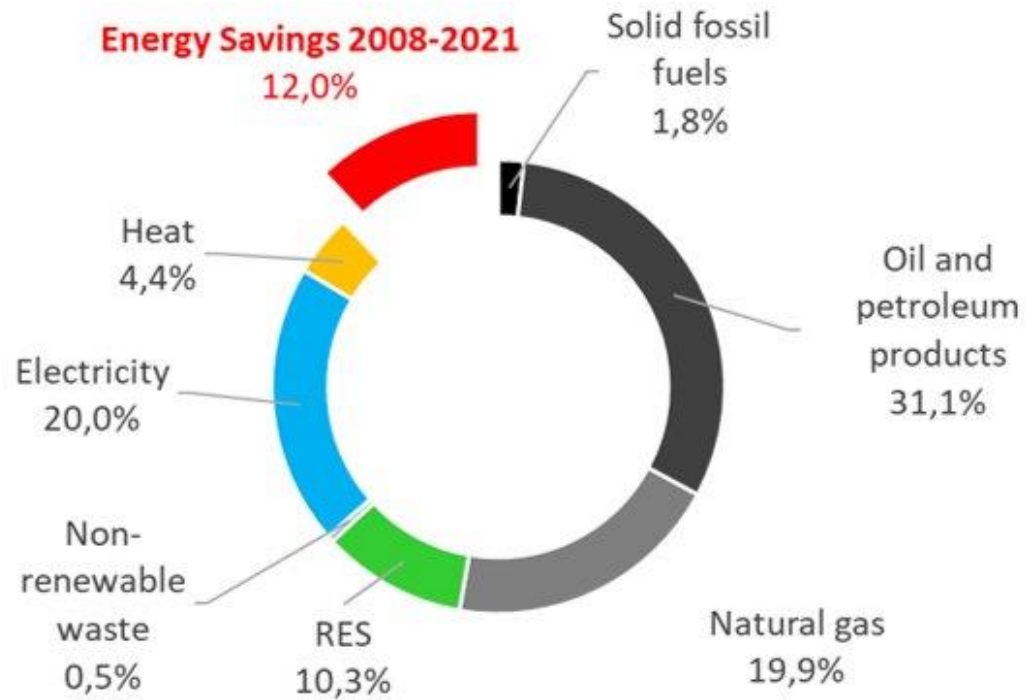


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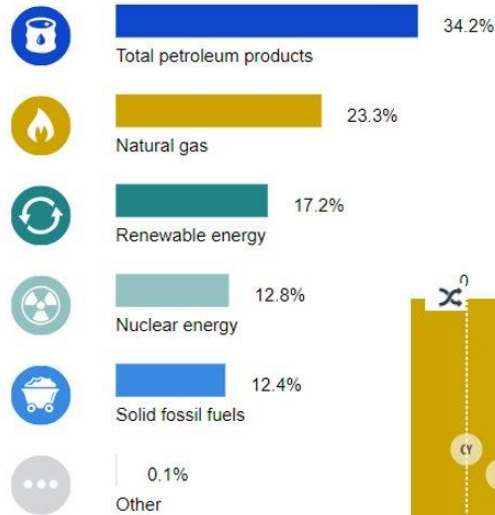
Background – Current situation



How the energy mix is represented (1)

SUPPLY – Shares in gross available energy

DEMAND – Shares in final energy consumption

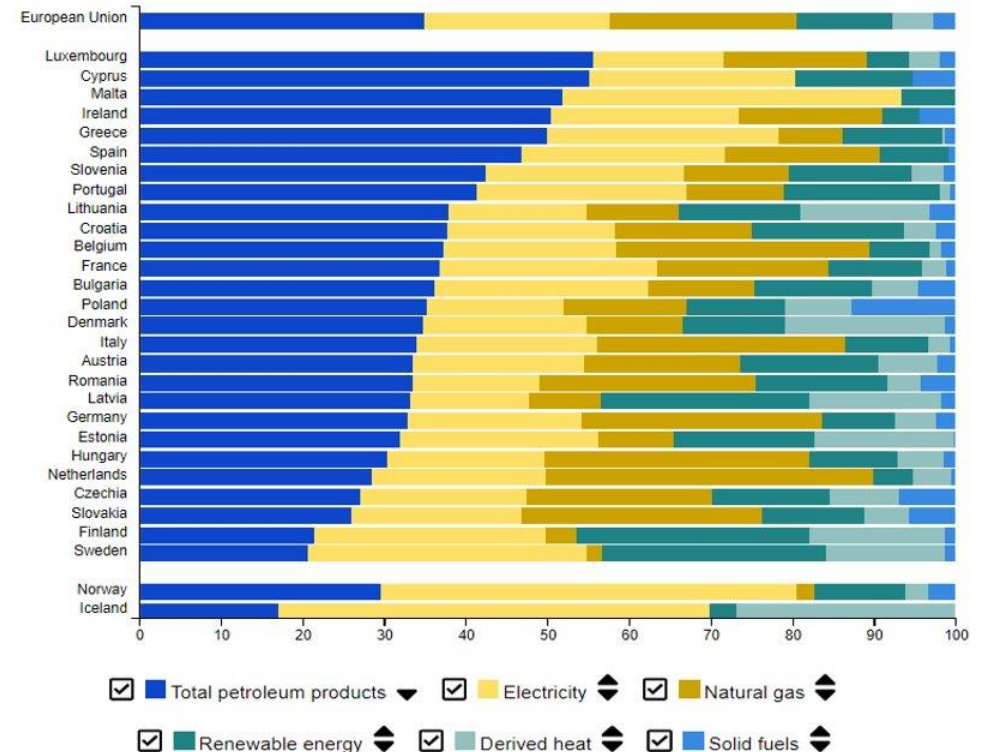
Energy mix for the European Union 



Share of energy products in total energy available, 2021 (in %)  



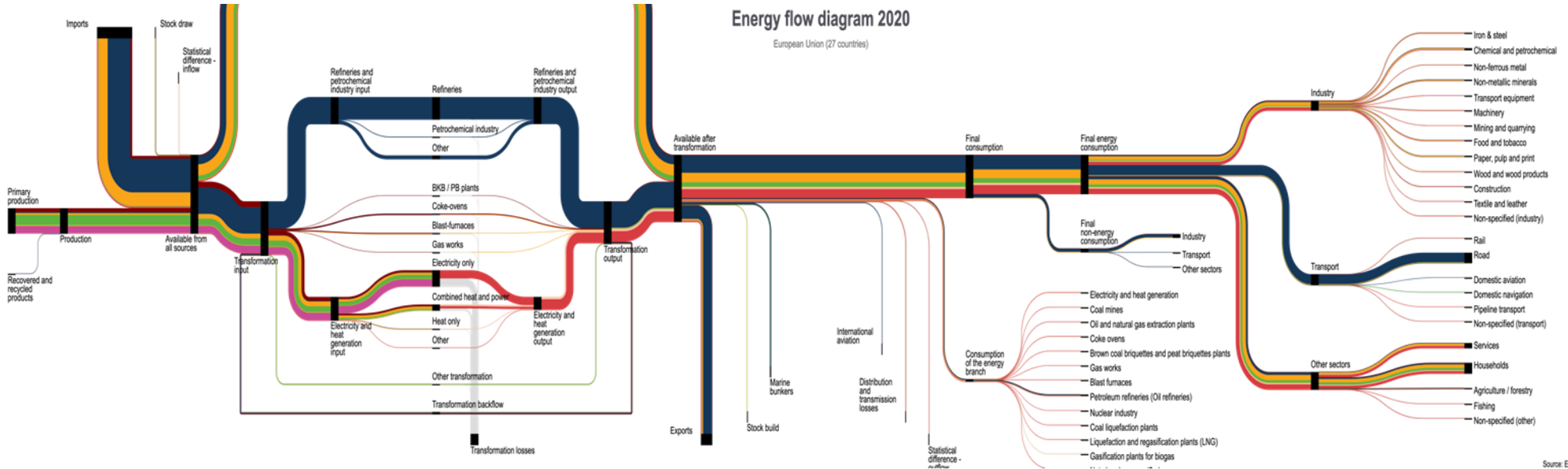
Share of energy products in total final energy consumption, 2021 (in %)



Source (all figures): Eurostat's [‘Shedding light on energy’](#)

All data for year 2021

How the energy mix is represented (2)



Sankey diagram shows the whole flow...

...but still 'hiding' the contribution of energy efficiency

Conclusion from the review of major energy publications

Energy efficiency is **not included in the headline figures** of the energy balances, energy statistics or other similar

Energy efficiency is **reported, but separately**: either included in a dedicated section or chapter (in general publications on energy statistics), or in separate reports

Out of sight,
out of mind

Figures of energy mix including EE do exist

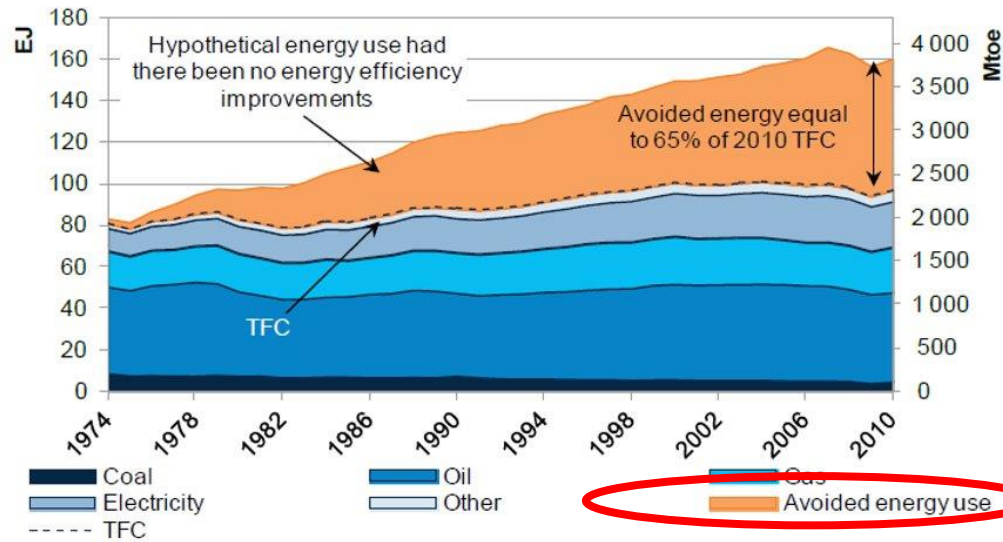
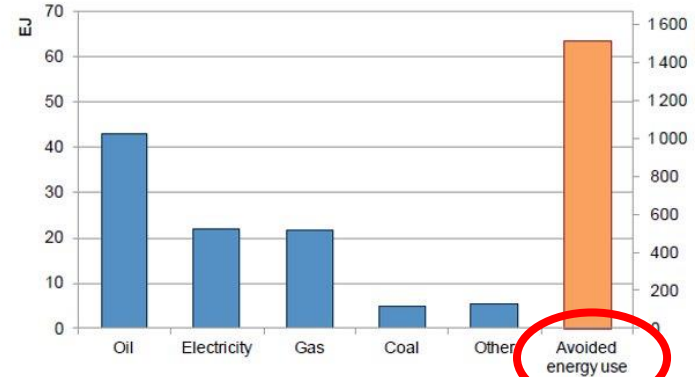


Figure 3.4 The "first fuel": contribution of energy efficiency compared to other energy resources consumed in 2010 in 11 IEA member countries



Note: the 11 countries are Australia, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom and the United States. Avoided energy use represents the difference between global TFC in 2010 and the volume of energy that would have been consumed had there been no improvement in energy efficiency since 1974, based on a long-term IEA decomposition analysis. For comparison with this 35-year period of constant efficiency investment, offshore oil and gas rigs in operation today are on average about 24 years old (Reuters, 2011).

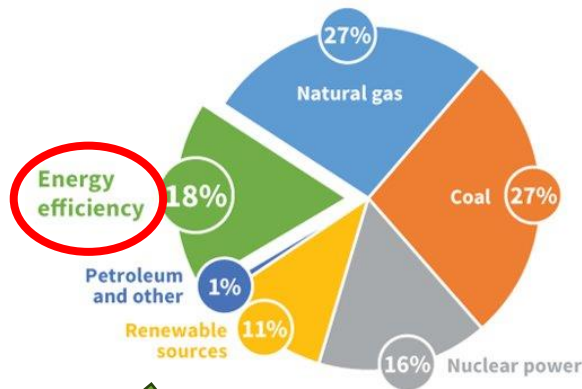


(2013). Energy Efficiency Market Report 2013 – Market Trends and Medium-Term Prospects.

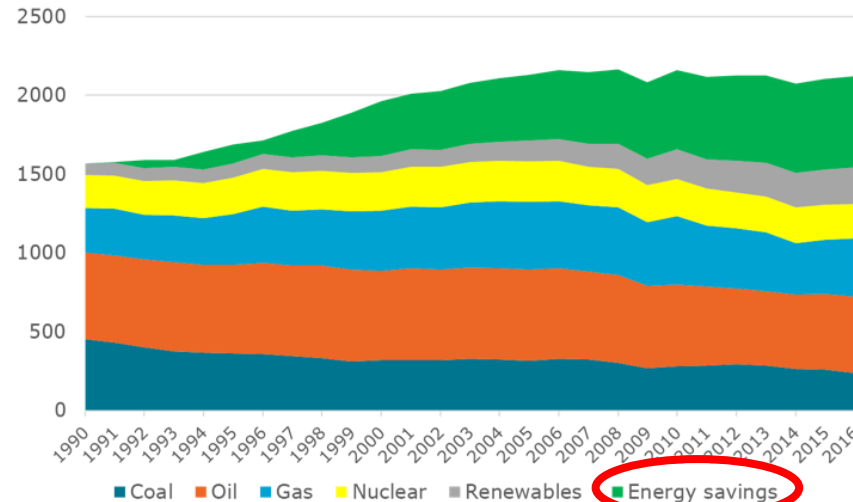
("energy efficiency from hidden to first fuel")



(2016). The greatest energy story you haven't heard: How investing in energy efficiency changed the US power sector and gave us a tool to tackle climate change.



Share of US electricity generation by resource (2015)



EU Primary energy consumption (Mtoe)



(2019). Energy savings at sector level in ODYSSEE.

Why it does matter

- ✓ For energy efficiency to be really considered an **energy resource**
- ✓ In line with the **Energy Efficiency First principle**:
 - For energy efficiency to be considered systematically among the possible options
 - Ensuring a level playing field also in the energy statistics

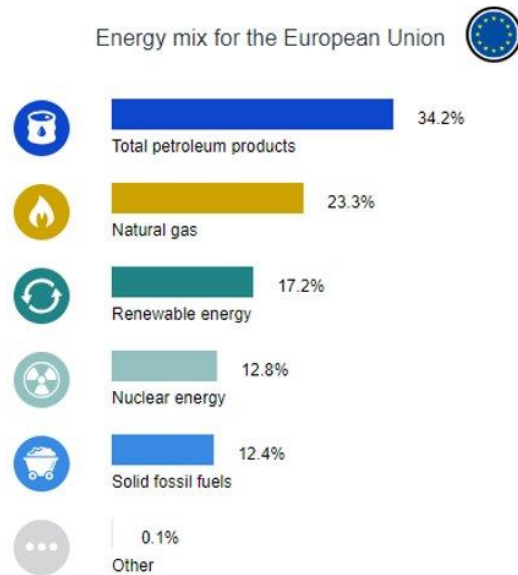
Otherwise: risk of main debates on energy policy to keep **focus on energy supply**

7 actions to make energy efficiency more visible

Action 1

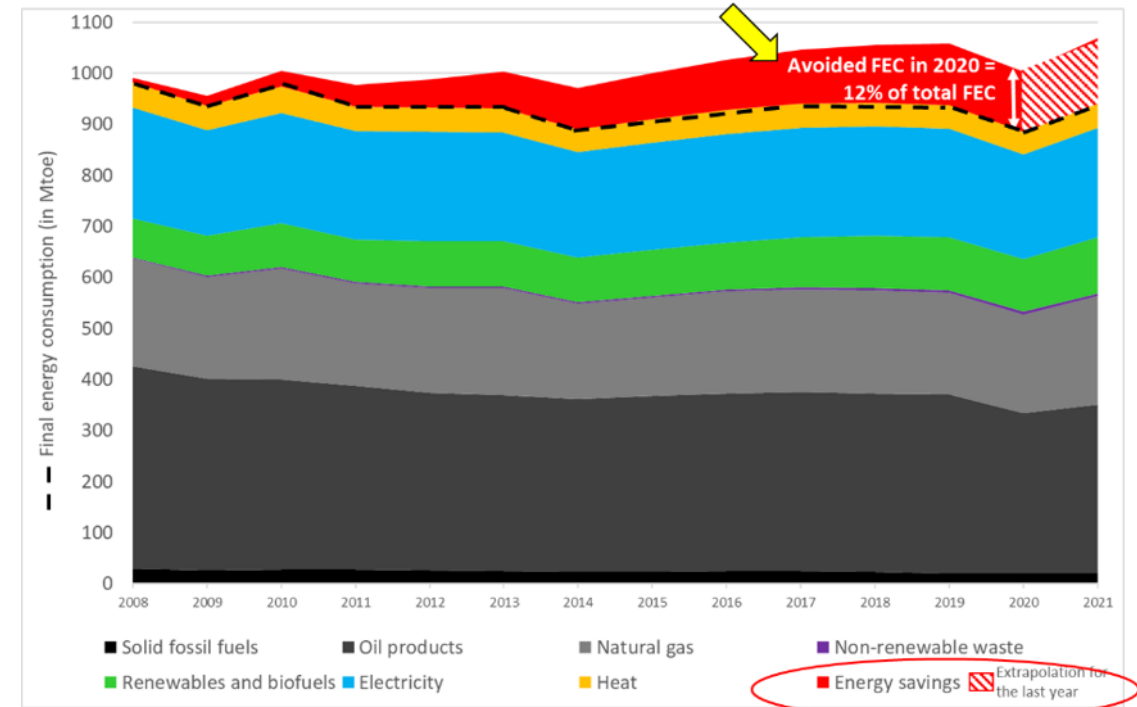
Integrating energy efficiency in the energy mix

‘Supply’ perspective
(primary energy)



&

‘Integrated’ perspective
(final energy)



Data sources:

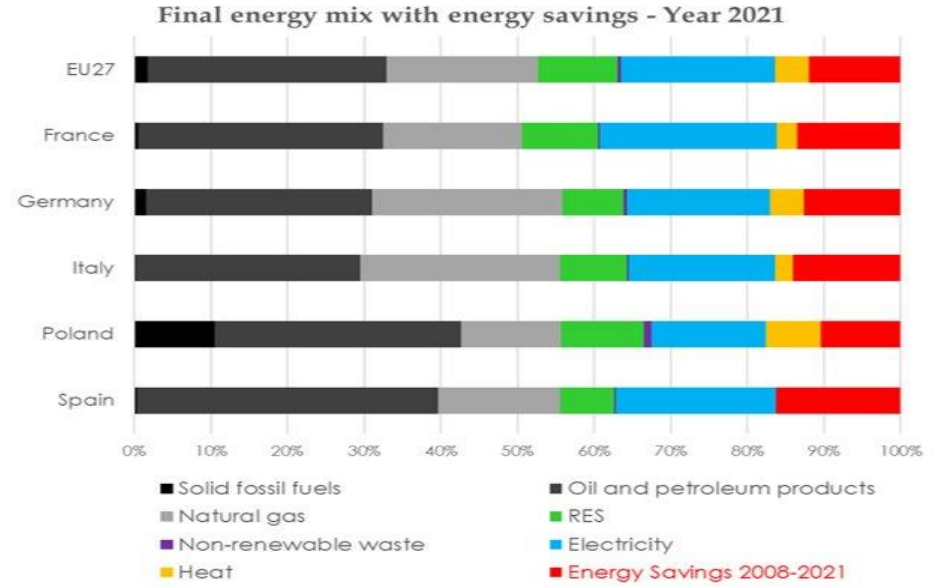
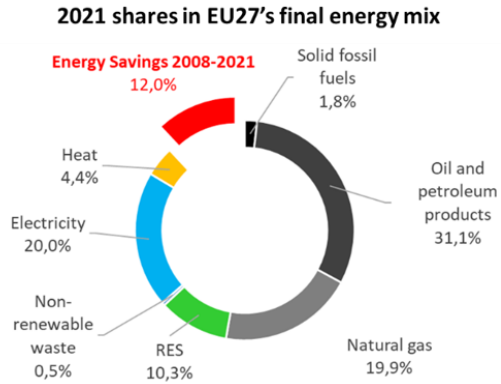
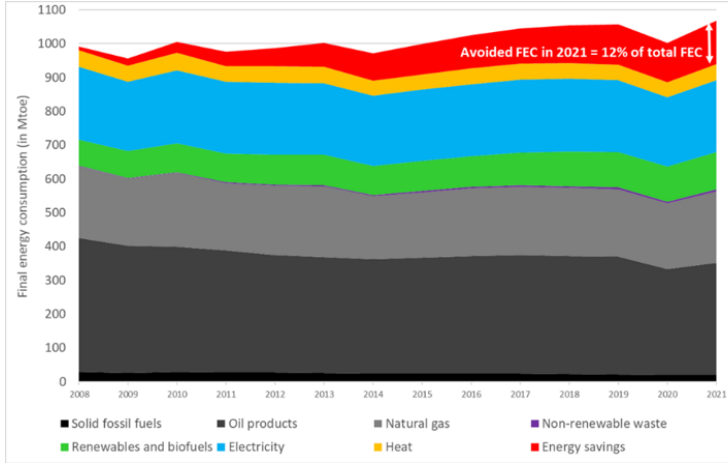
‘supply’ energy carrier: [Eurostat complete energy balances](#)

‘energy savings’ data: [ODYSSEE Energy Saving Tool](#)

Action 2

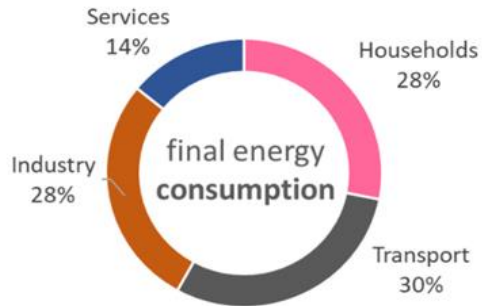
Integrating the energy mix in the energy efficiency publications

Integration = both ways

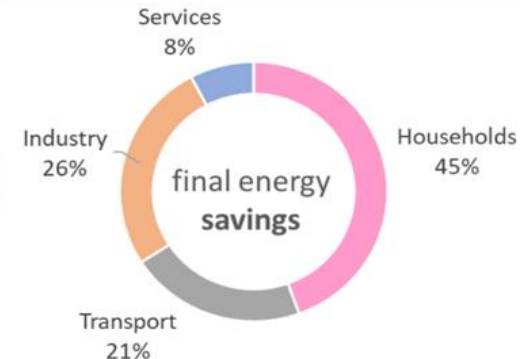


+ developing an 'energy savings' balance

EU27's final consumption mix



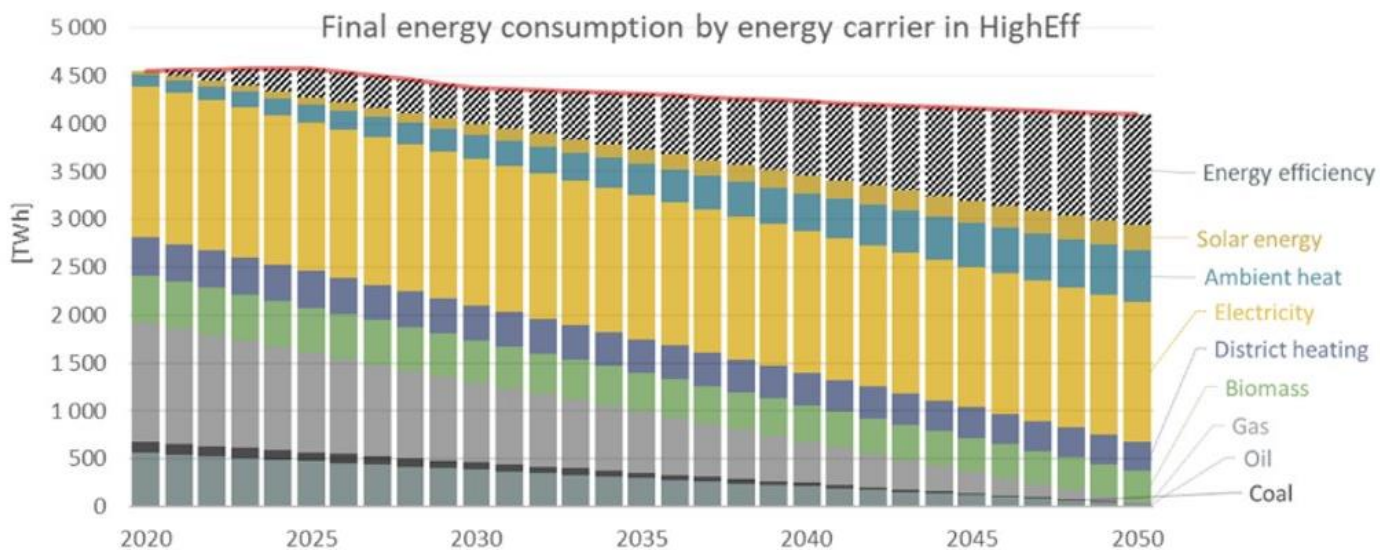
EU27's final savings mix



Action 3

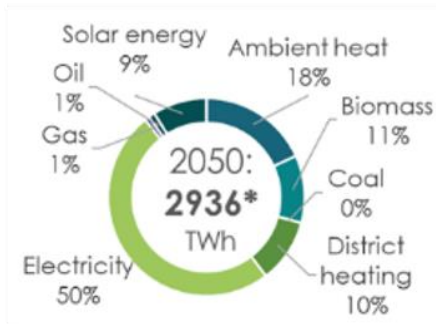
Making energy efficiency visible in forward-looking scenarios

Showing the contribution from additional energy efficiency improvements

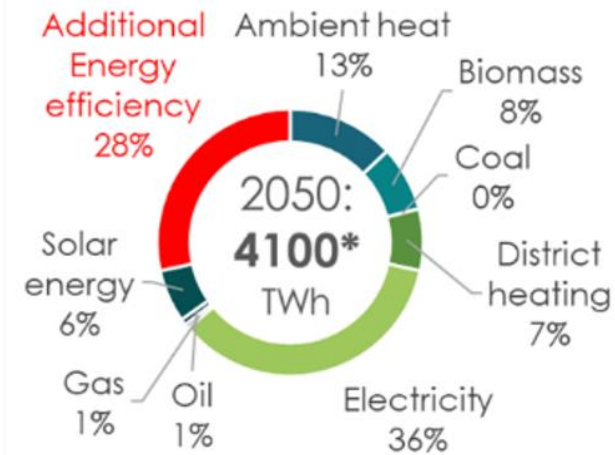


Tim Mandel's graph based on data from the [ENEFIRST scenarios](#) and [Scenario Explorer](#)

Projected 2050 (usual way)



Projected 2050 (showing energy efficiency)



enefirst. scenario with higher ambition for energy efficiency in **buildings**

Action 4

Allocate means to data collection in line with data needs

More ambitious policy framework



More data needed



Digitalisation does not solve everything and does not work alone!

Action 5

Establish a European working group on energy efficiency data

ISO 50049 = what options are well established



Need to agree on methodological choices



Forum to discuss current practices & developments



International agreement does not remove the flexibility for national / other publications to be specific

Action 6

Improving the visibility of the results of energy efficiency policies

➔ Inform policymaking

➔ Transparency for citizen

➔ Visibility for market players

See also the presentation about the French observatory on building renovations

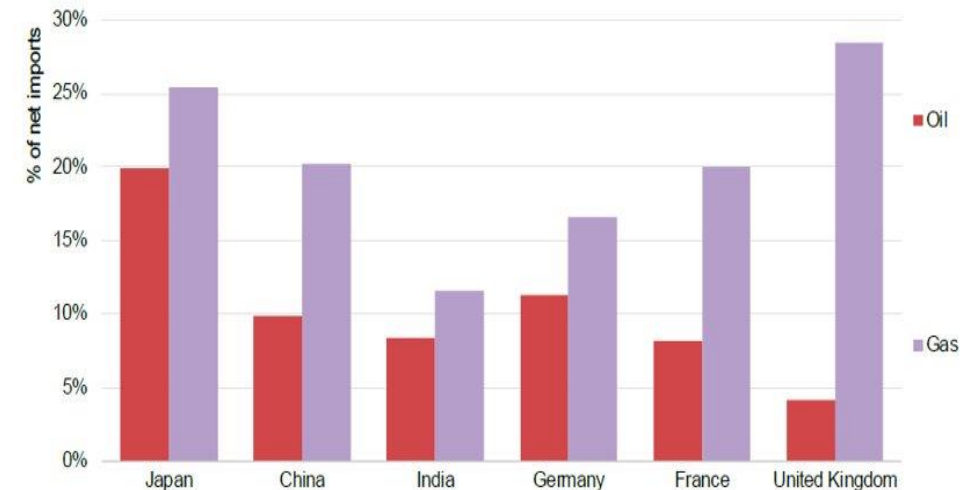
Action 7

Highlighting the topical impacts of energy efficiency



➔ highlighting the impact(s) according to the policy priorities

Figure 3.3 Avoided oil and gas imports in 2018 due to technical efficiency gains since 2000



THANK YOU

For more details:
See the report

Contact the author: jsb@ieecp.org

We thank all the experts for
the valuable exchanges!

Study supported by

