

PERSPECTIVES ET VISION EUROPÉENNES SUR LA TRANSITION ÉNERGÉTIQUE

Energy efficiency, common sense

14/09/2022

Samuel Furfari

Senior official DG Energy, EC (retired)

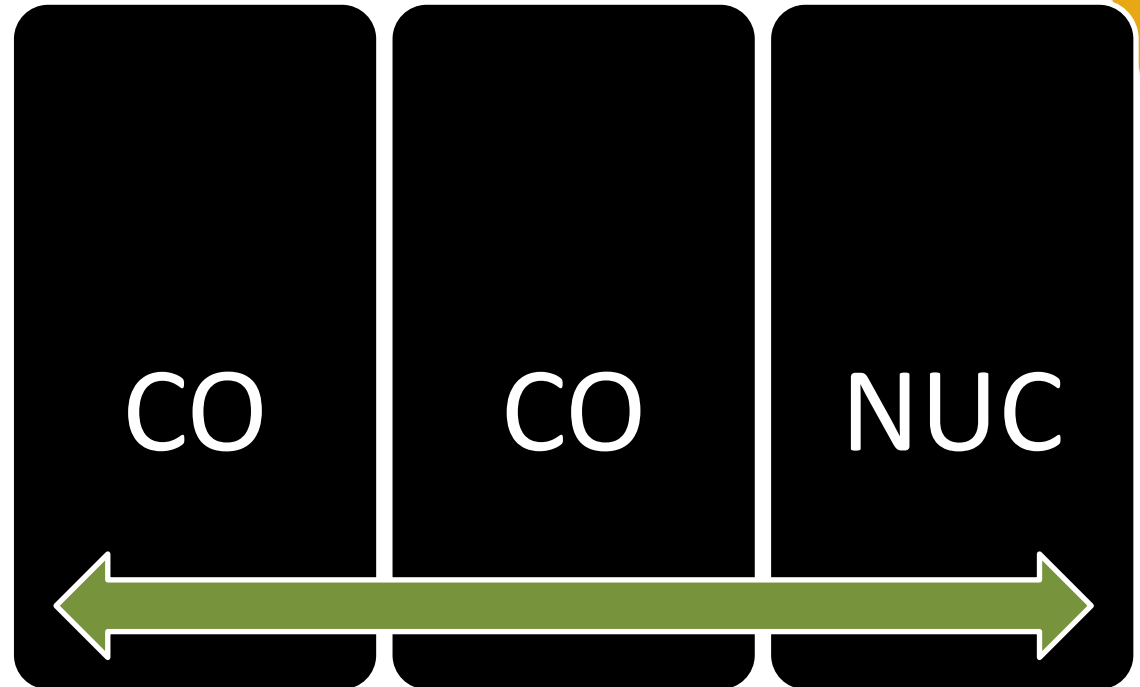
President of SEII

Prof Energy Geopolitics, ESPC London

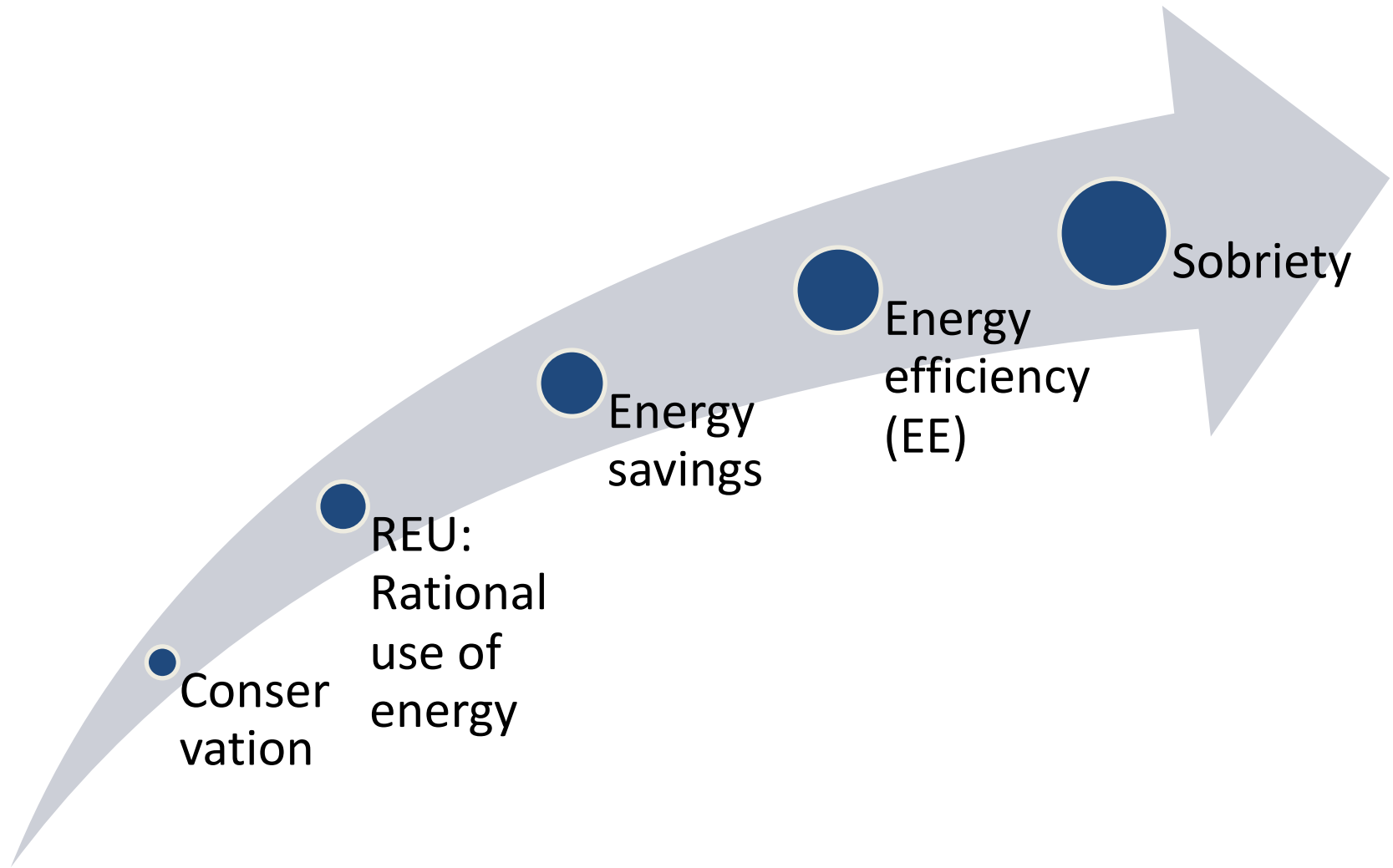


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COCONUC. the strategy of the 1980s



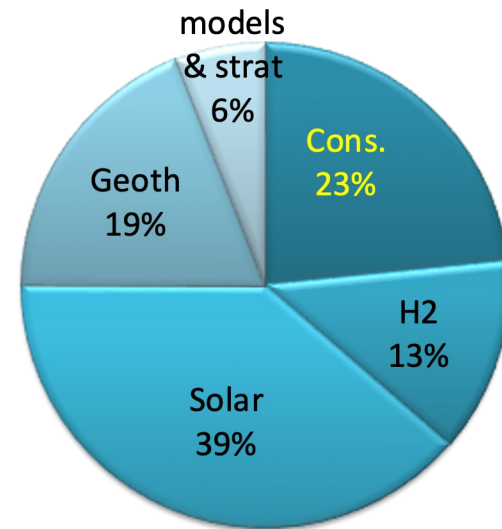
Evolution of the vocabulary



EE has always been the poor relation of energy policy

Table 4 The Community's energy research programme
(indirect action/contract research)

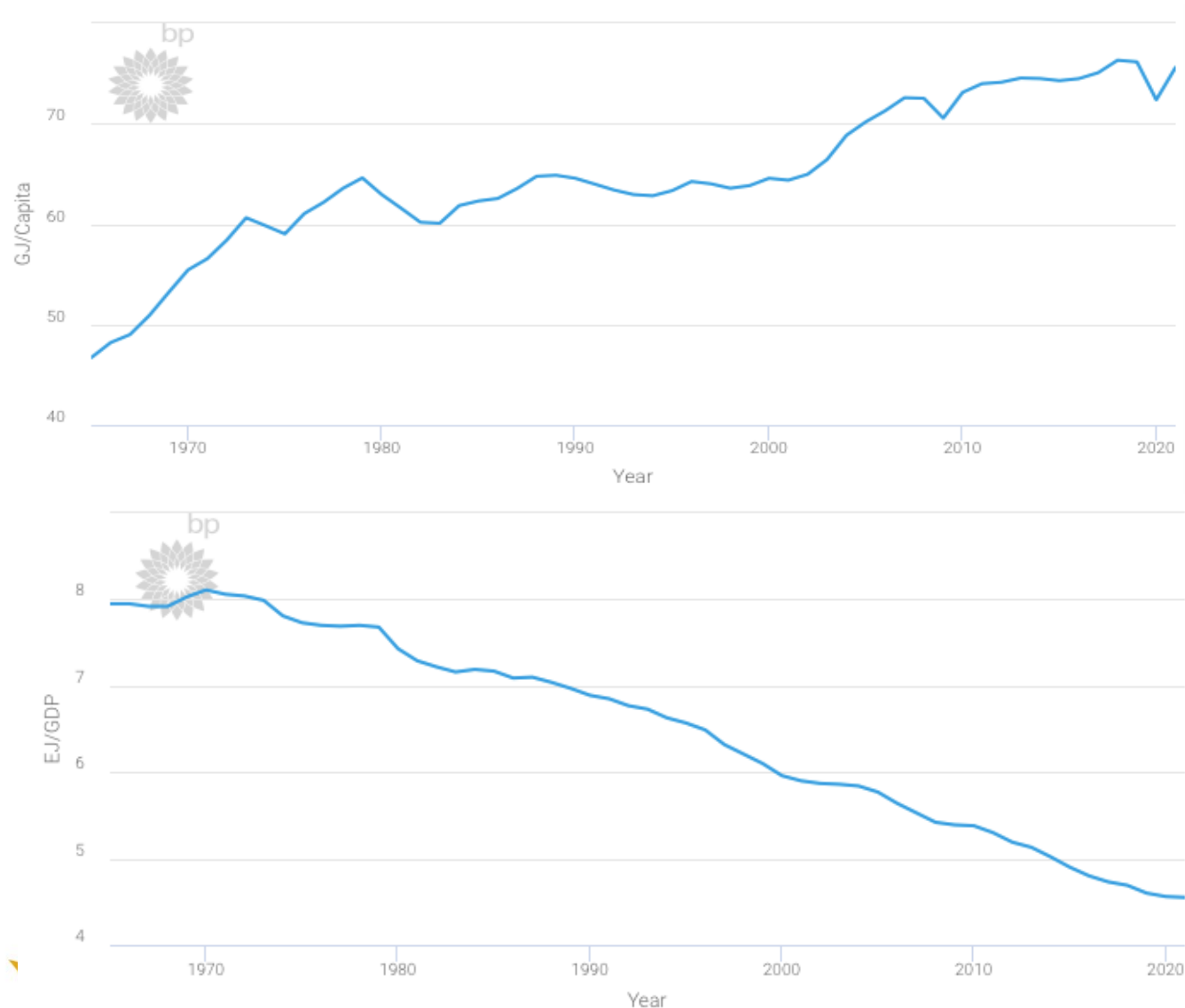
Topics or subprogrammes	Budgetary resources (million ECU)	
	1st Programme (1975-79)	2nd Programme (1979-83)
Energy conservation	11.4	27
Hydrogen	13.2	8
Solar energy	17.5	46
Geothermal energy	13.0	18
Energy models and strategy studies	3.9	6
TOTAL	59.0	105



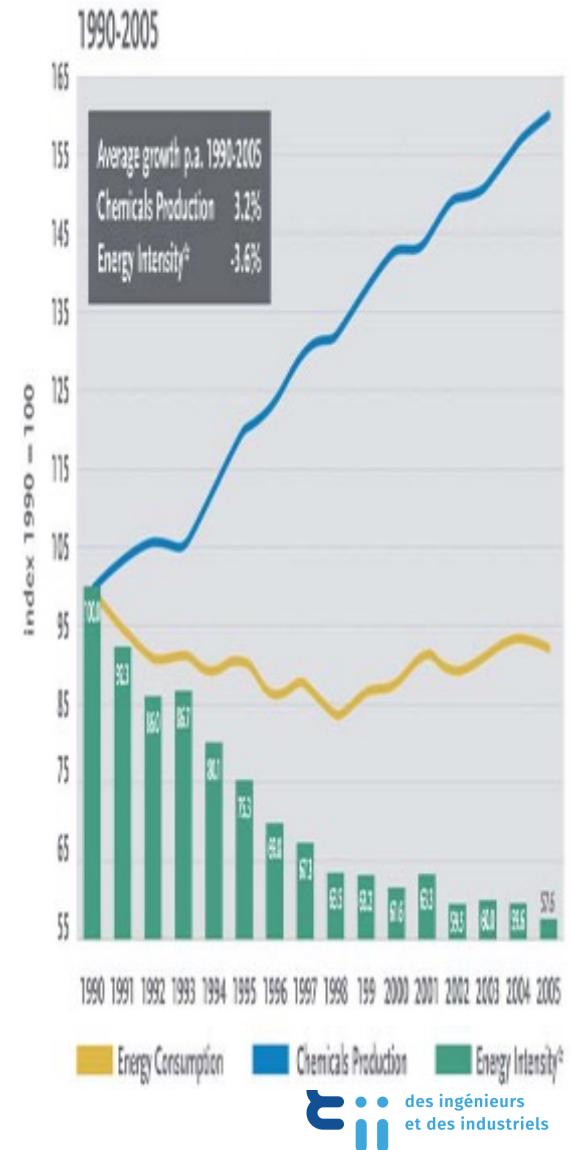
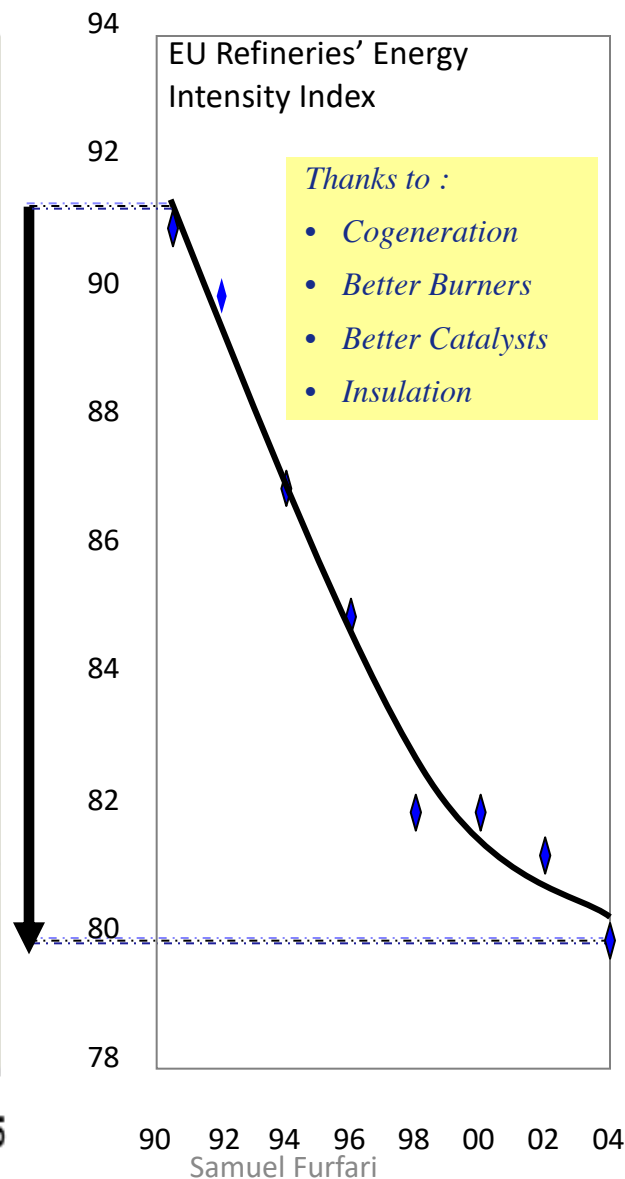
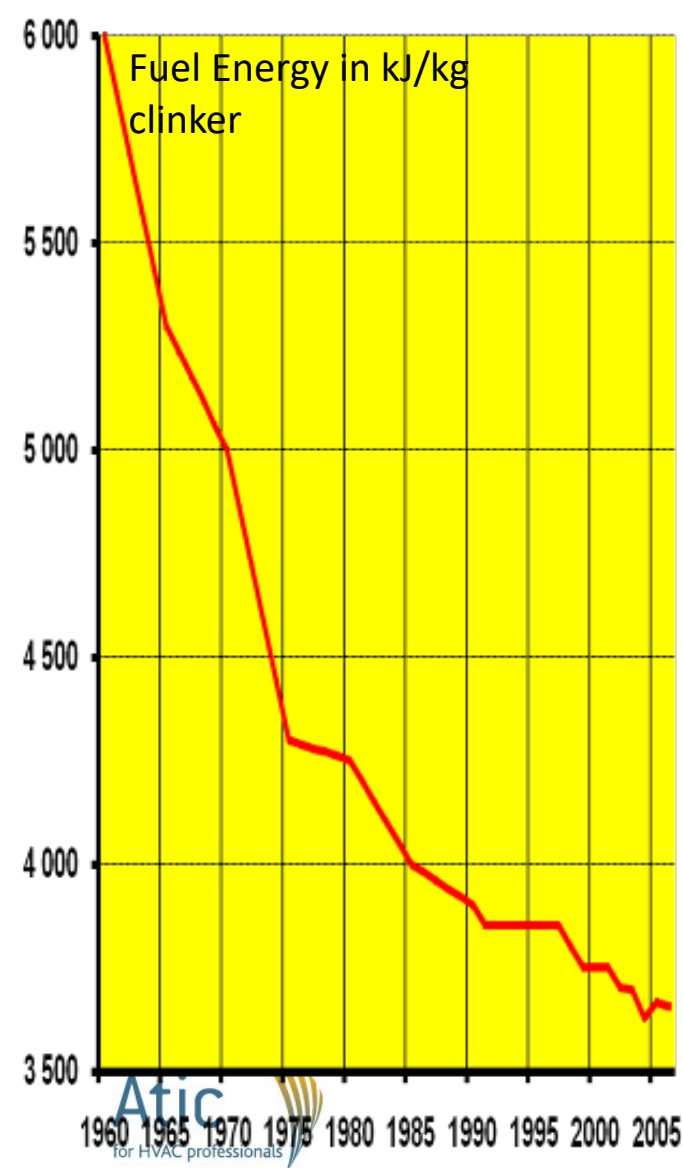
71% alternative
energies

Source : A Strub, Commission, in Hydrogen : energy vector for the future, Conference on 24/25 March 1981 under the direction of G. Beghi (ISBN 0 86010 4516), page 24

The increase in primary energy is limited by EE

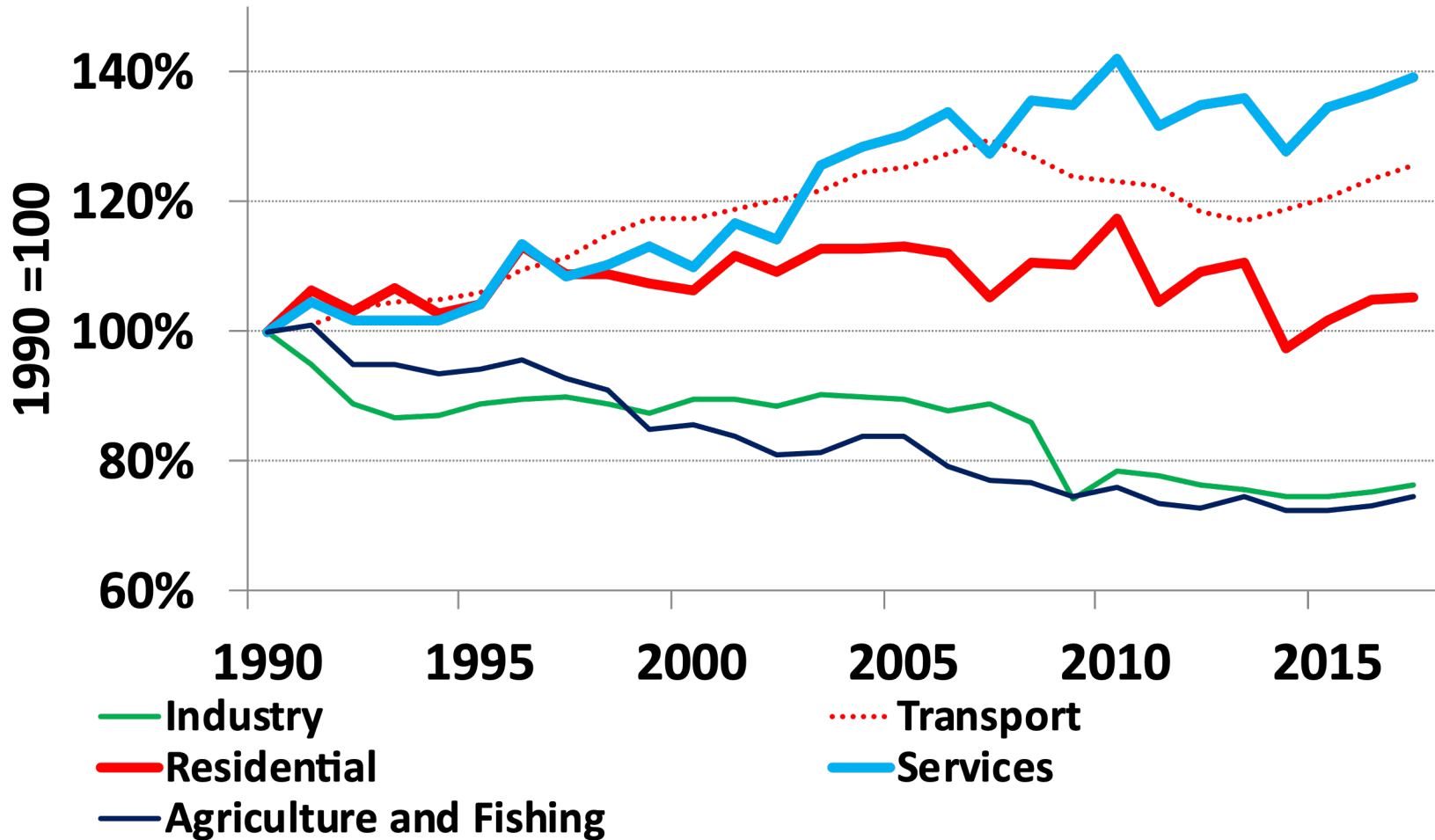


Industry has already reduced its EI



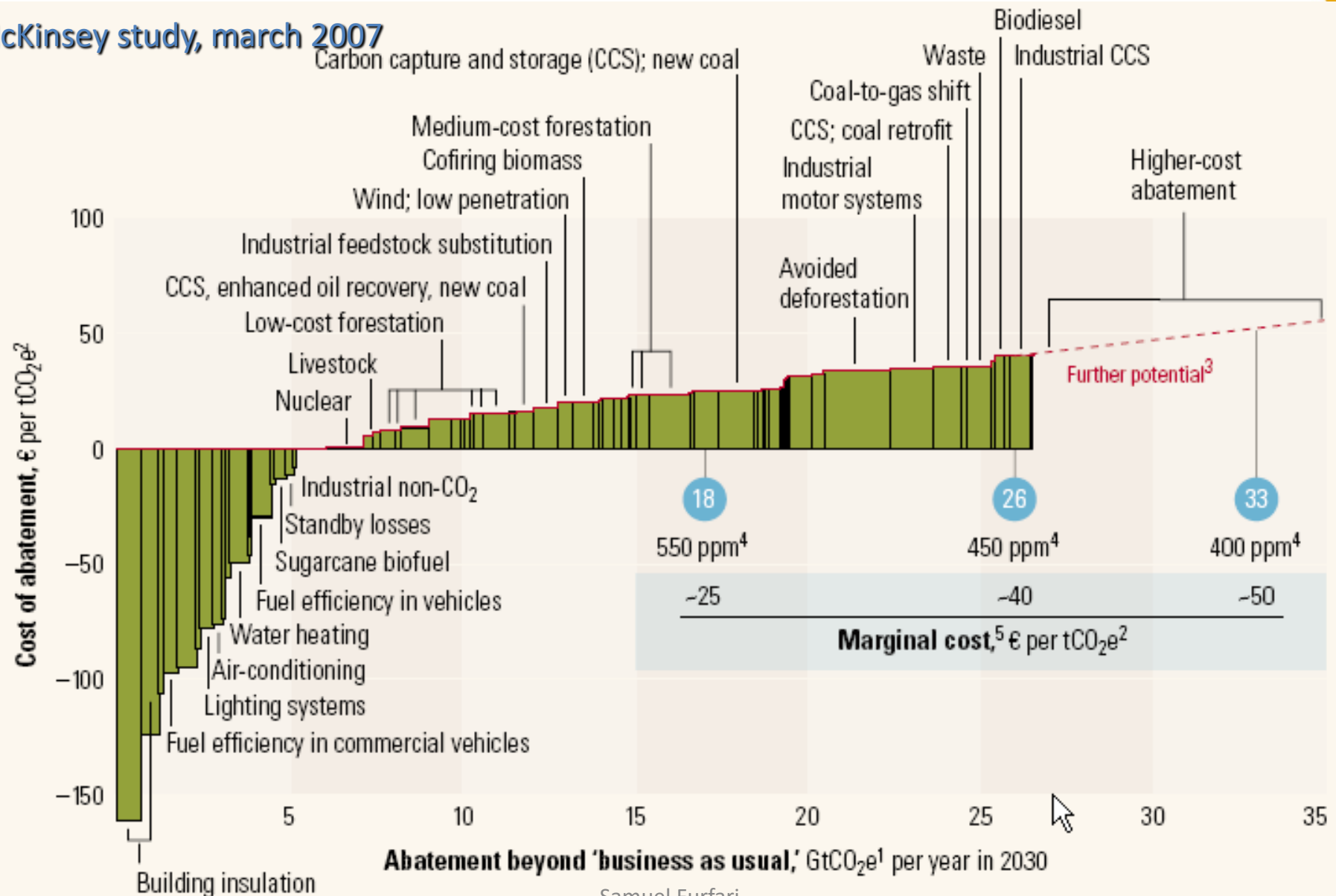
Energy intensity in energy consuming sectors

1990 = 100% - 2019 European Commission data for 2017

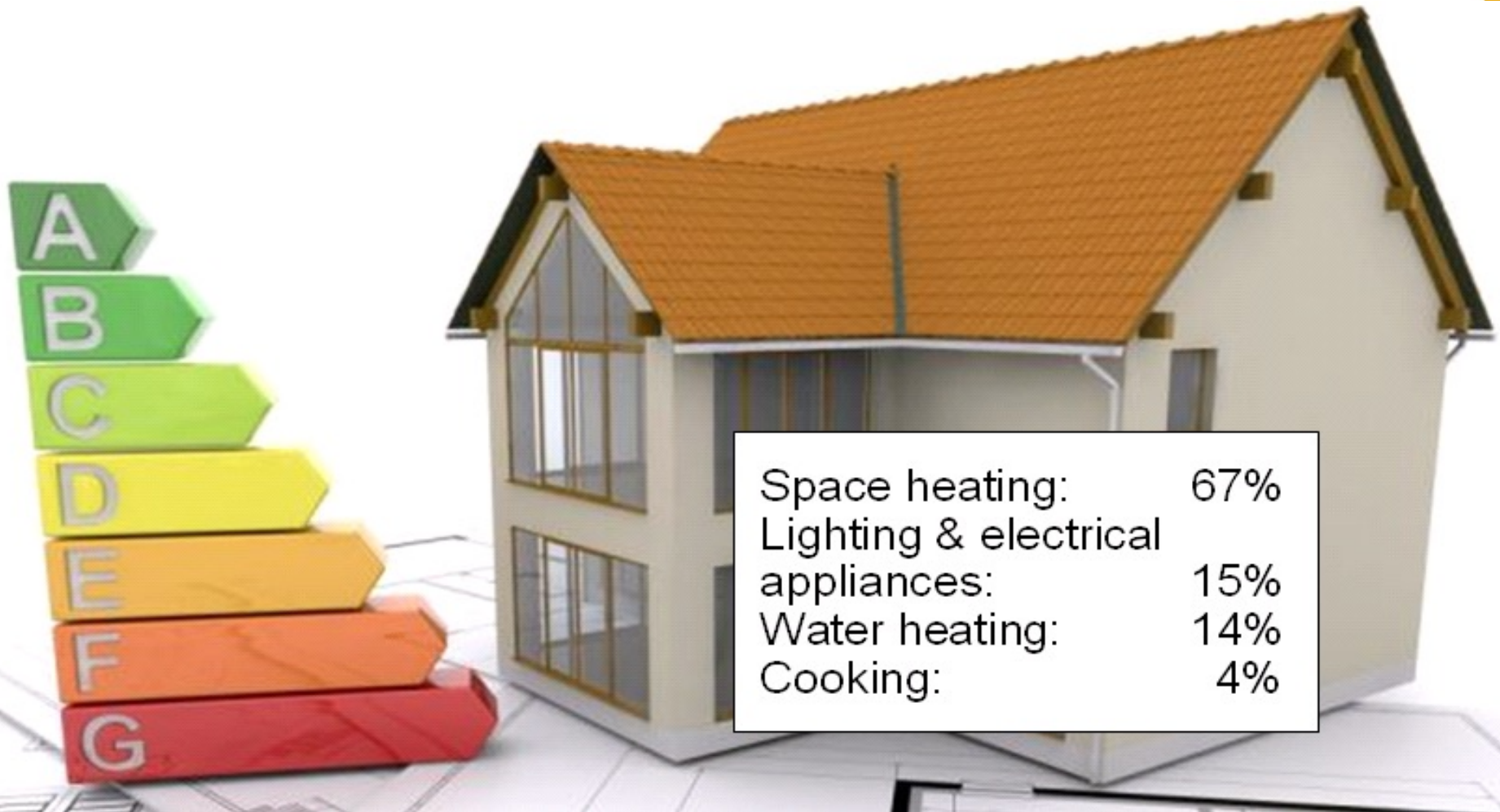


What costs the least if we want to reduce CO₂ emissions?

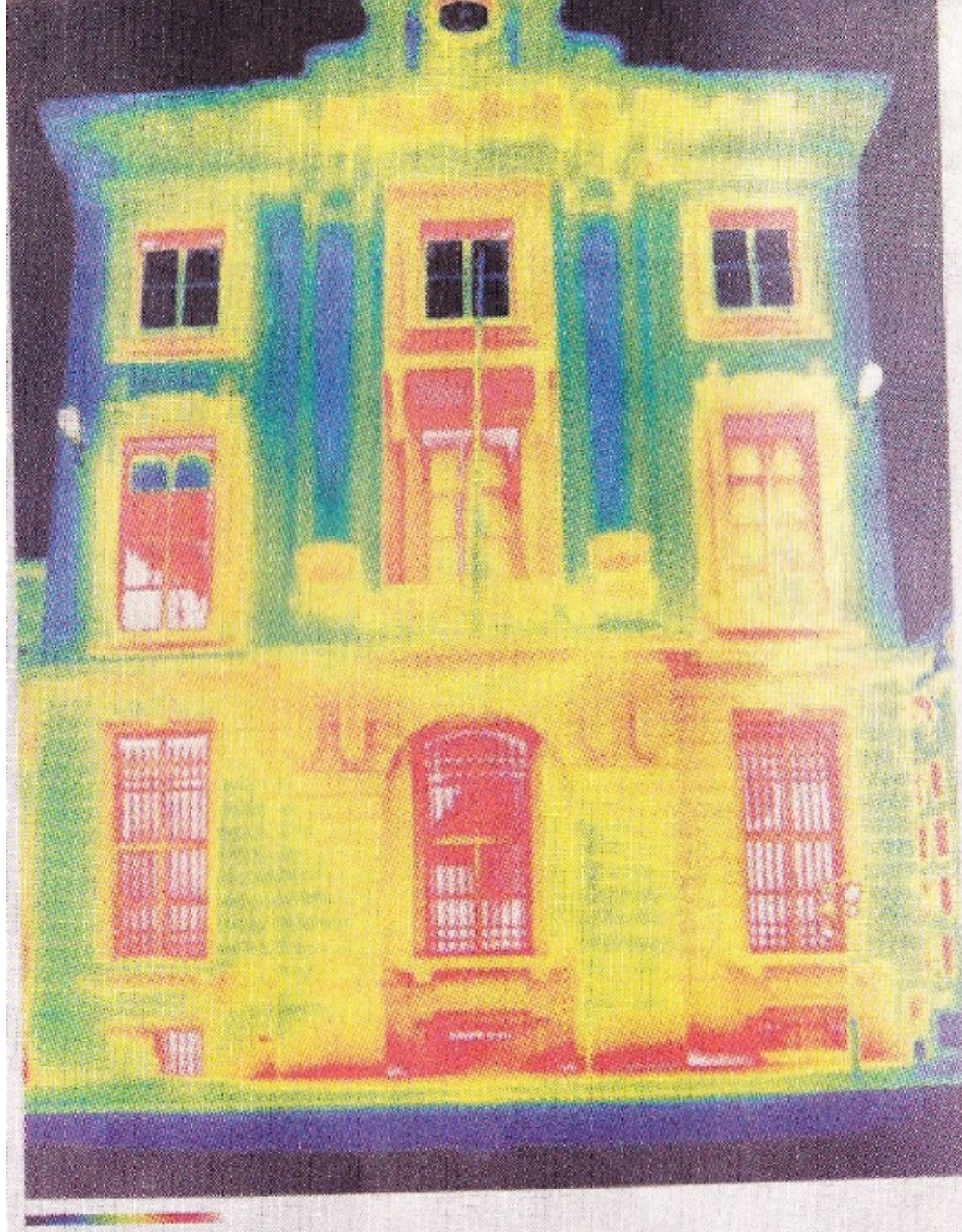
McKinsey study, march 2007



Under the roof, 80% of the energy used is heat



Do you
know this
house?



Professor's office in a French university

(Fév. 2010, photo S Furfari)

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HOTEL DU MINISTRE DES ARMEES



Histoire de Paris

Jean-Nicolas Corvisart (1755-1821)

Inscrit par son père en faculté de droit, Corvisart préfère s'engager comme infirmier à l'Hôtel-Dieu pour financer ses études. Docteur-régent en 1782, son refus de porter perruque le fait passer pour un dangereux révolutionnaire aux yeux de madame Necker, qui lui refuse son premier poste. Il commence donc sa carrière comme médecin des pauvres de la paroisse de Saint-Sulpice, et sa réputation lui vaut de ne pas être inquiété sous la Révolution. Son service de la Charité devient vite le plus fréquenté de Paris, et il obtient en 1796 la chaire de Médecine du Collège de France. Appelé en consultation auprès de Bonaparte, il devient en 1804 son 1er médecin, avec un traitement égal à celui d'un ministre. Napoléon lui demande même des leçons d'anatomie, mais renonce à la vue après avoir refusé pour la dissection l'usage du cadavre de son père.

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Government buildings: ~ 12% of EU assets

> 40% of windows are single glazed > 40% of double glazed windows are untreated.





The Green Paper on Energy Efficiency



2005

COM(2005) 265 final.
Green paper on energy
efficiency or doing more
with less. European
Commission.



Atic

for HVAC professionals



<https://slideplayer.com/slide/8444450/>

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No mention at all of
nuclear energy

Energy efficiency |
buildings, Heat pumps

Importing from
Ukraine | electricity, H₂

Hydrogen

More renewable

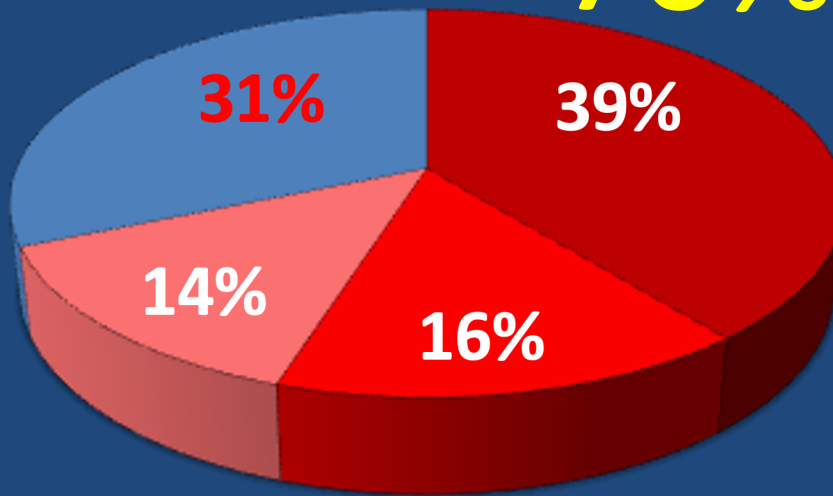
More non-Russian
gas

REPower EU May 2022

- €300 billion in financing
 - €72 billion in the form of grants
 - €228 billion in loans

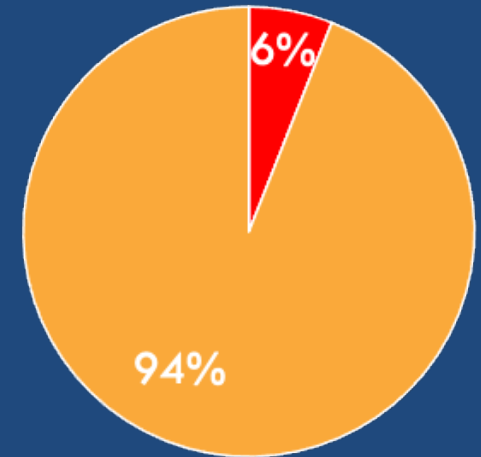
Gas \cong heat

70%



■ Heating (domestic) ■ Heating (Industry)
■ Heating (Intensive energy Chemical) ■ Electricity

Gas use in Germany

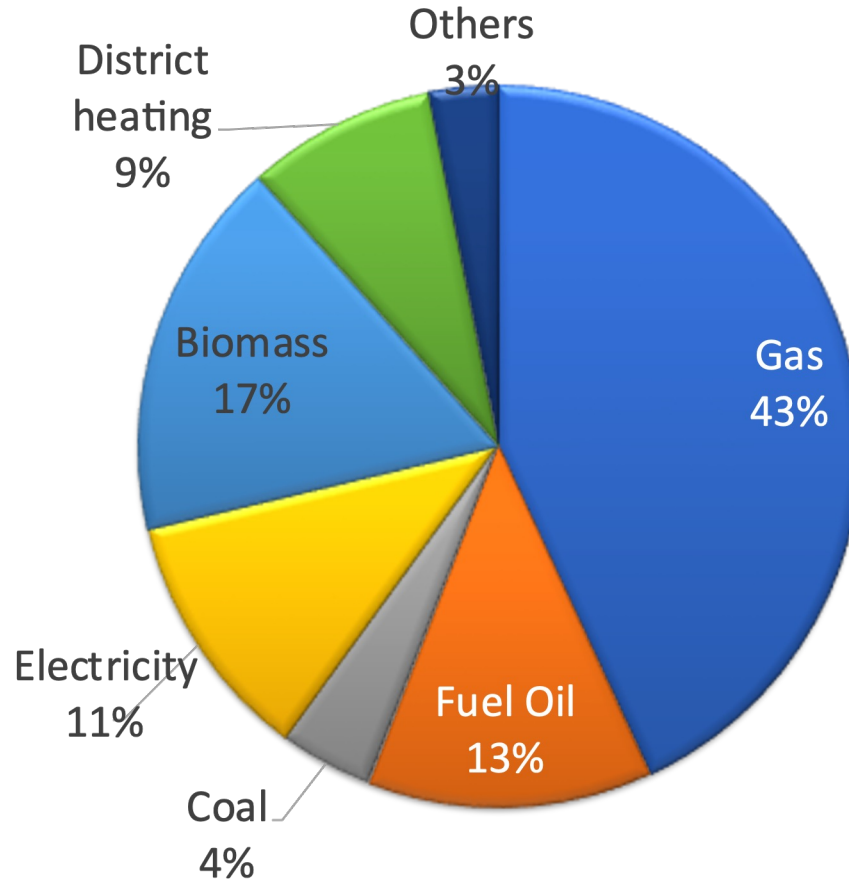


■ Gas in Power plant
■ Heating and chemistry



Fuel mix for heating and cooling in the residential sector

European Commission data



Digitalisation will make up for human shortcomings

Continuous measurement enables real behavioural change



Modules

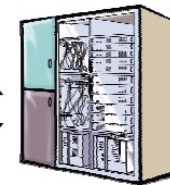


lient

Intranet



Serveurs



Alertes Email SMS



Fichiers vers serveurs client



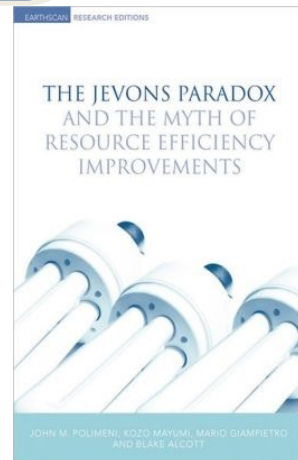
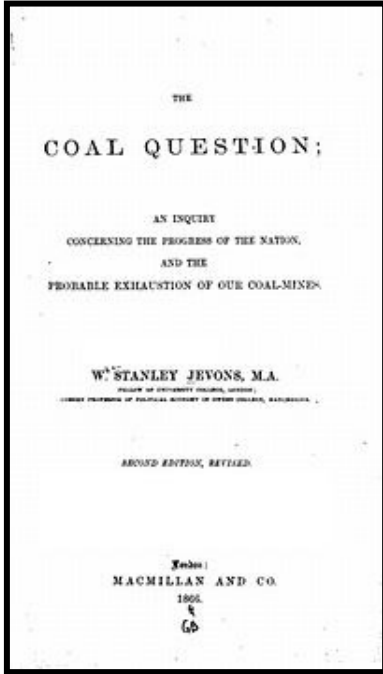
Stanley Jevons paradox

It is wholly a confusion of ideas to suppose that the economical use of fuel is equivalent to a diminished consumption. The very contrary is the truth.

Watt
machine
more
efficient

More use of
this
machine

More coal
use



The Rebound Effect



Energy
↓



Money
↑



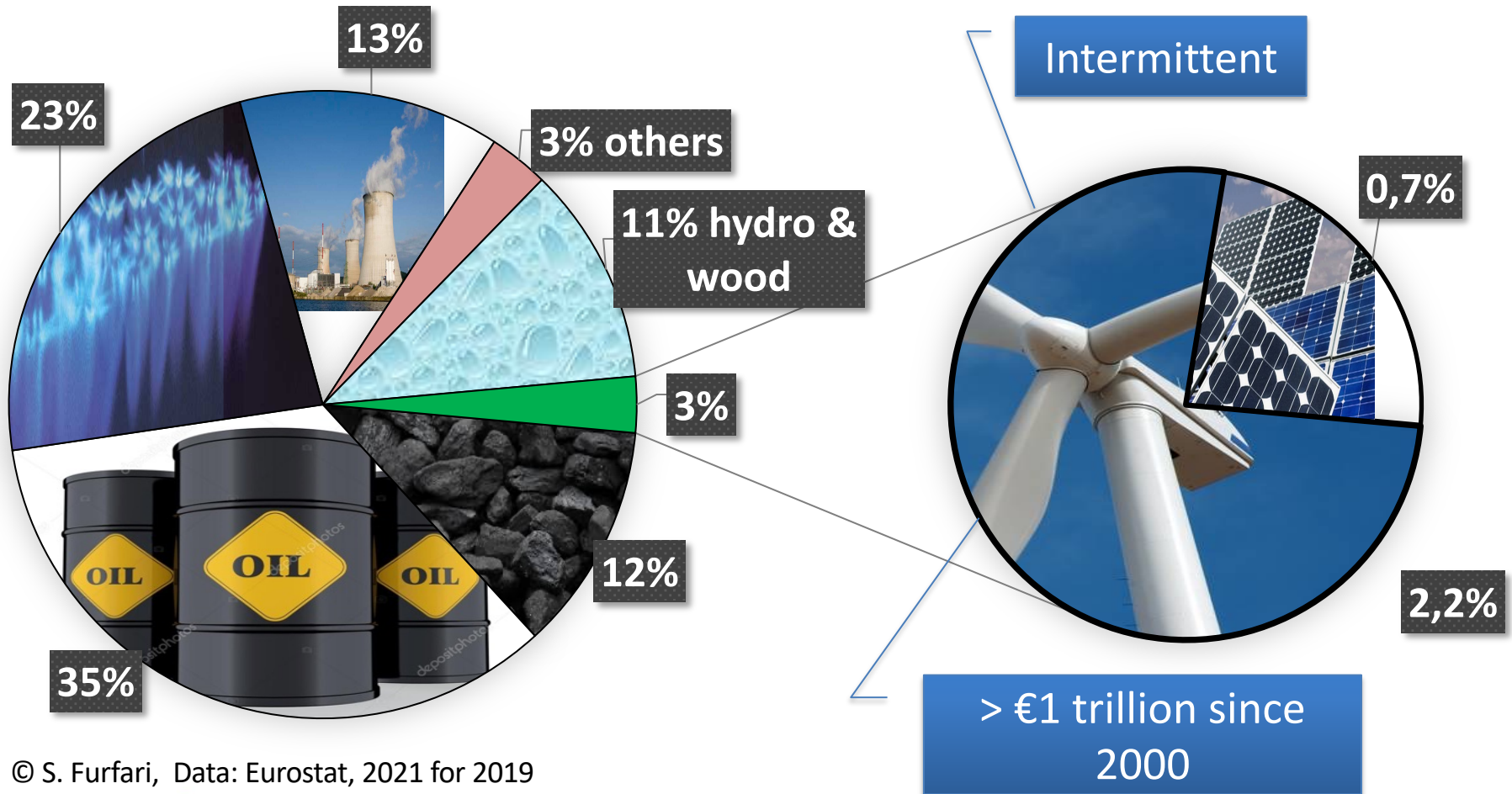
?

This effect does exist, but it is difficult to quantify



More energy

EU primary energy



© S. Furfari, Data: Eurostat, 2021 for 2019

Regular Article | [Published: 02 November 2021](#)

Is the European green deal achievable?

[Samuel Furfari](#) & [Ernest Mund](#) 

[The European Physical Journal Plus](#) **136**, Article number: 1101 (2021) |

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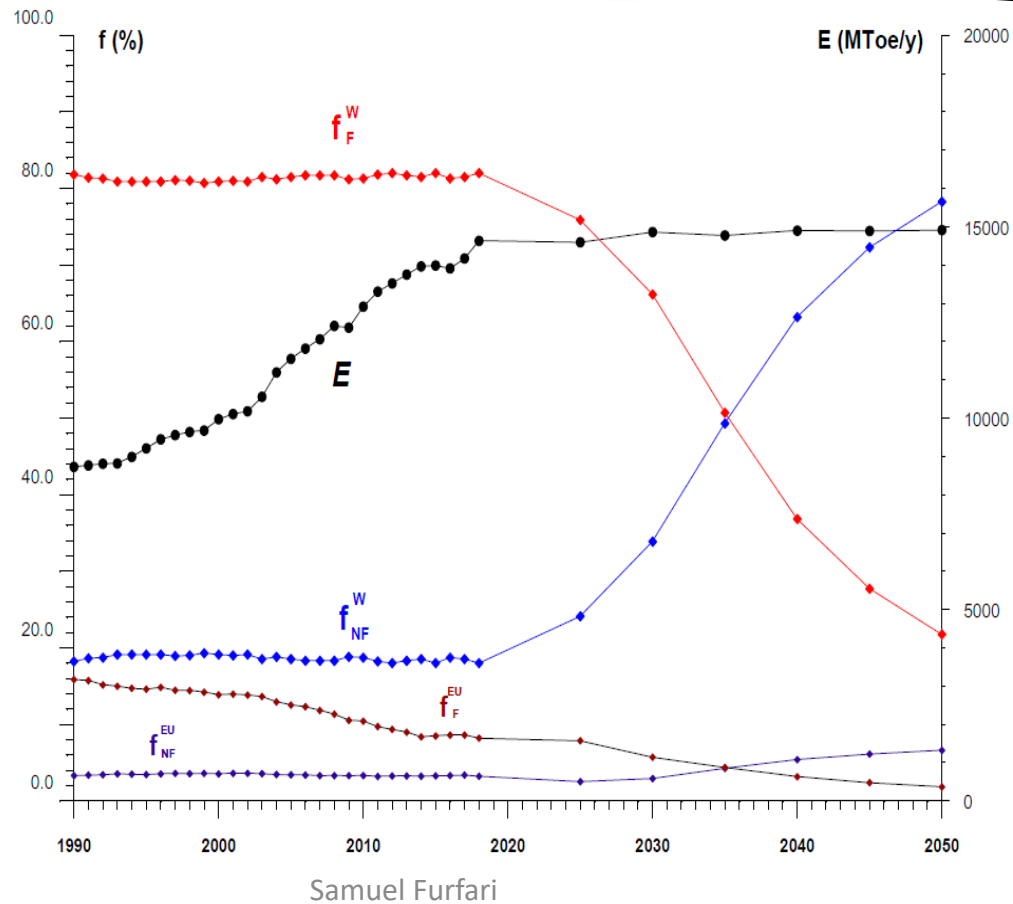




Photo by Samuel Furfari, September 2019

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Thank you for your attention

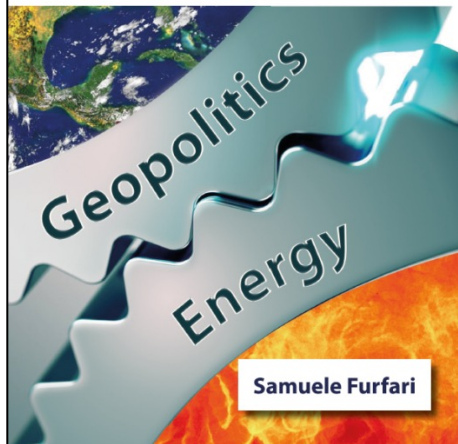
The changing world of energy and the geopolitical challenges

1. Understanding energy developments



The changing world of energy and the geopolitical challenges

2. Shifting Sands: The Geopolitics of Energy



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L'utopie hydrogène



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The hydrogen illusion



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