

Energy Demand Reduction as part of the Clean Energy Transition in Europe

Adel El Gammal, Secretary General, EERA

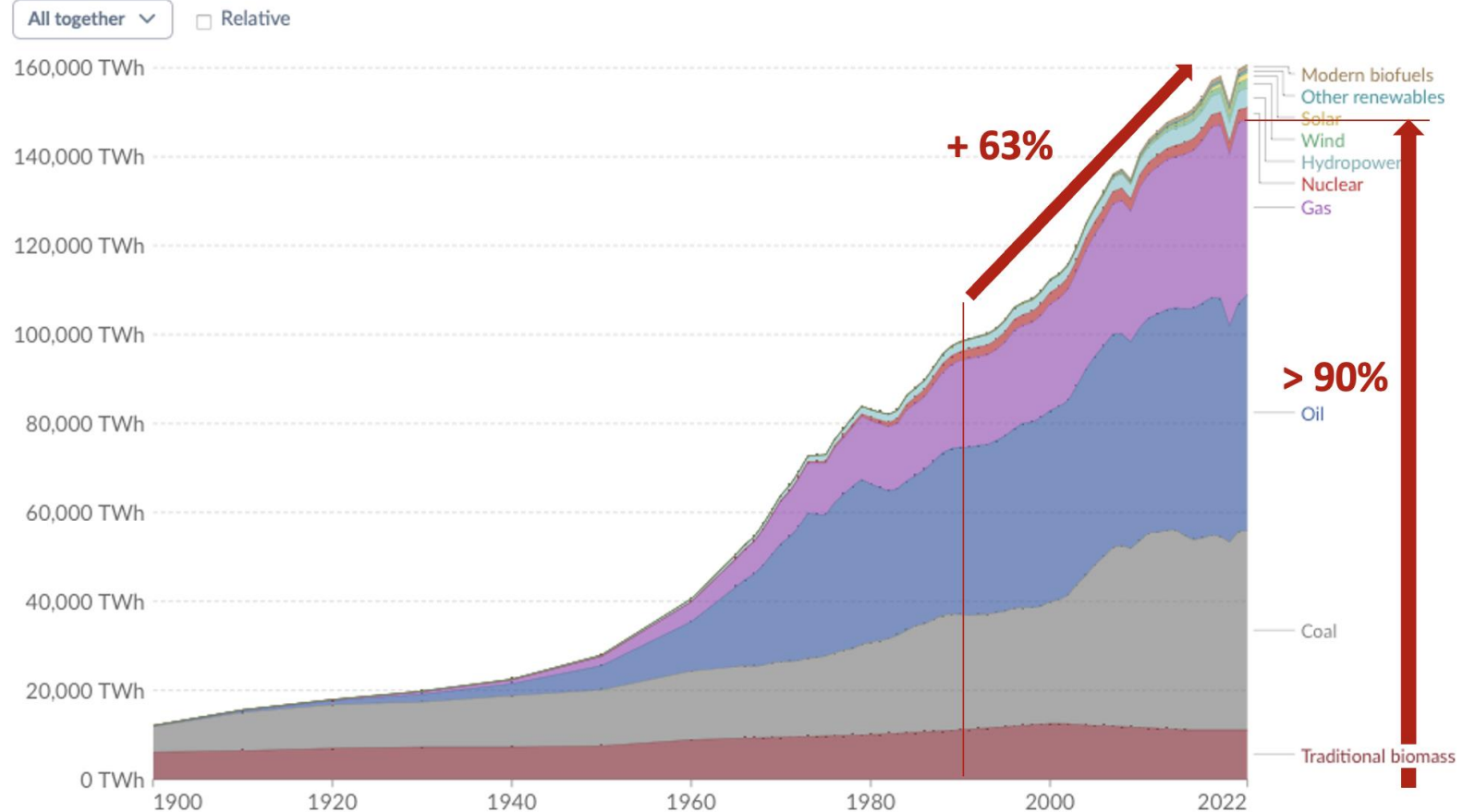


The World is **Energy Hungry**.

Despite scaling up renewable energy deployment, **Fossil Fuels still largely dominate** the primary energy consumption

Global direct primary energy consumption

Direct primary energy consumption does not take account of inefficiencies in fossil fuel production.



Source: Energy Institute Statistical Review of World Energy (2023); Vaclav Smil (2017)

OurWorldInData.org/energy • CC BY

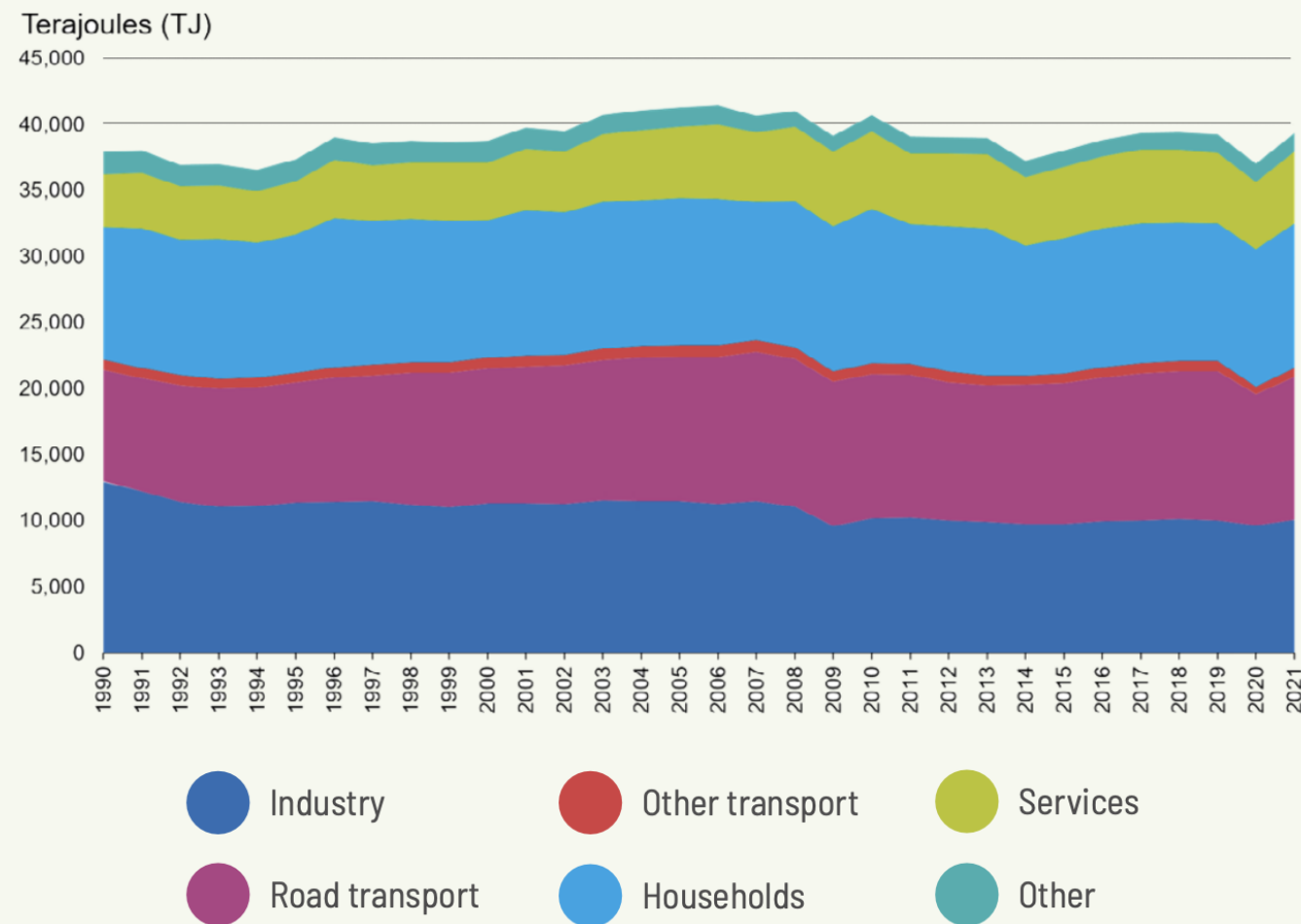
In EU, the total final energy consumption **has remained almost constant compared with 1990.**

In 2021 (rounded figures):

| | |
|-------------|-----|
| Households: | 28% |
| Industry: | 26% |
| Transport | 29% |
| Services | 14% |

Final energy consumption by sector, EU, 1990-2021^[11] (terajoules)

(Source: Eurostat (nrg_bal_c))

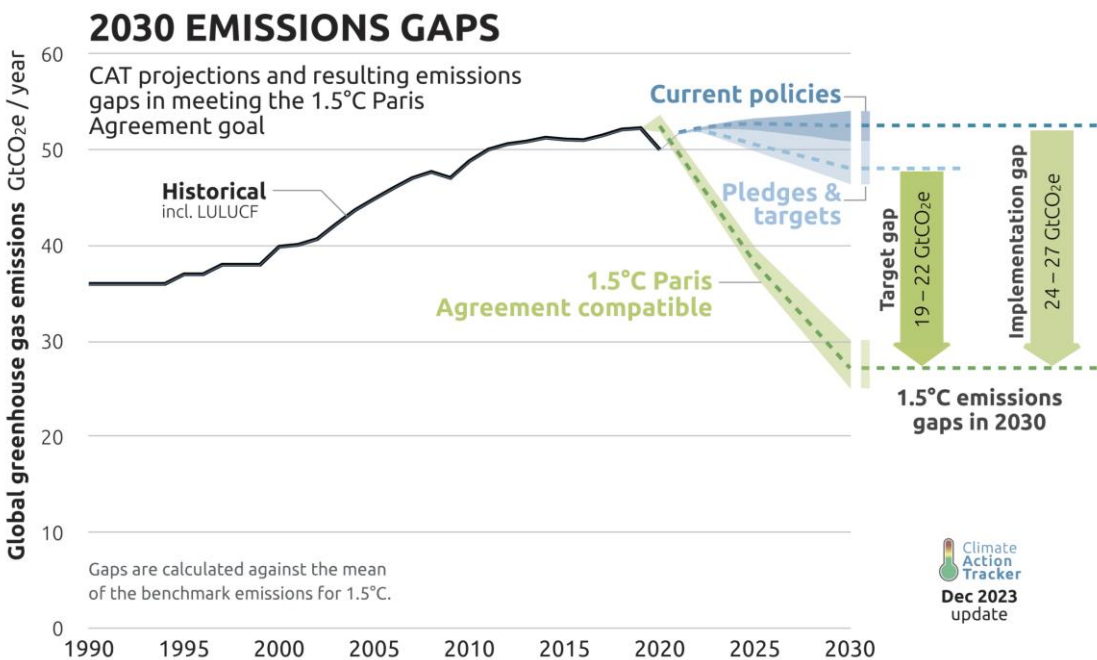


The World is completely off track to meet Paris Agreement targets.

Leading to warming of 2,5°C – 3°C by end century (UNEP Gap report 2023)

The EU target is 55% emissions reduction by 2030

In EU, total emissions reduction in 2022 was close to 32% vs.1990 (EEA analysis 2023)



| Peak warming throughout the twenty-first century (°C) | | | |
|--|------------------------|------------------------|------------------------|
| Scenario | 50% chance | 66% chance | 90% chance |
| Current policies continuing | 2.7°C (range: 1.8–3.5) | 3.0°C (range: 1.9–3.8) | 3.5°C (range: 2.3–4.5) |
| Unconditional NDCs continuing | 2.6°C (range: 1.8–3.4) | 2.9°C (range: 2.0–3.7) | 3.4°C (range: 2.3–4.4) |
| Conditional NDCs continuing | 2.3°C (range: 1.7–3.3) | 2.5°C (range: 1.9–3.6) | 3.0°C (range: 2.2–4.2) |
| Unconditional NDCs and net-zero pledges using strict criteria | 2.5°C (range: 1.8–3.2) | 2.7°C (range: 1.9–3.5) | 3.2°C (range: 2.3–4.1) |
| Conditional NDCs and all net-zero pledges (most optimistic case) | 1.8°C (range: 1.6–2.3) | 2.0°C (range: 1.8–2.5) | 2.4°C (range: 2.0–3.0) |

Source: UNEP Gap Report 2023

Central messages of the Discussion




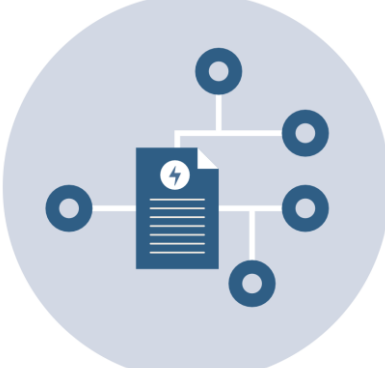
1. **Decarbonization rates of the supply side** of the economy is **not compatible with climate targets**
2. **Energy demand reduction** has been historically solely limited to fossil fuels in crisis times.
3. **Driving long-term energy demand reduction** is essential to accelerate the CET
4. **Energy demand reduction** should be integrated at the **core of EU policymaking for all energy-consuming sectors**
5. Alongside with accelerating deployment of low carbon technologies



Energy demand reduction has several positive impacts

In developed economies, evidence shows long-term structural energy demand reduction is possible **without compromising the level of wellbeing**.

Energy Demand reduction has **several additional key benefits**

| | | | |
|--|---|---|--|
| <p>Reducing environmental risks</p>  | <p>Reducing cost of the CET</p>  | <p>Reducing geopolitical pressures</p>  | <p>Addressing limitations of circularity and digitalisation</p>  |
|--|---|---|--|

The 3 energy demand reduction strategies

ENERGY EFFICIENCY

Is the demand reduction strategy most recognised by policymakers.

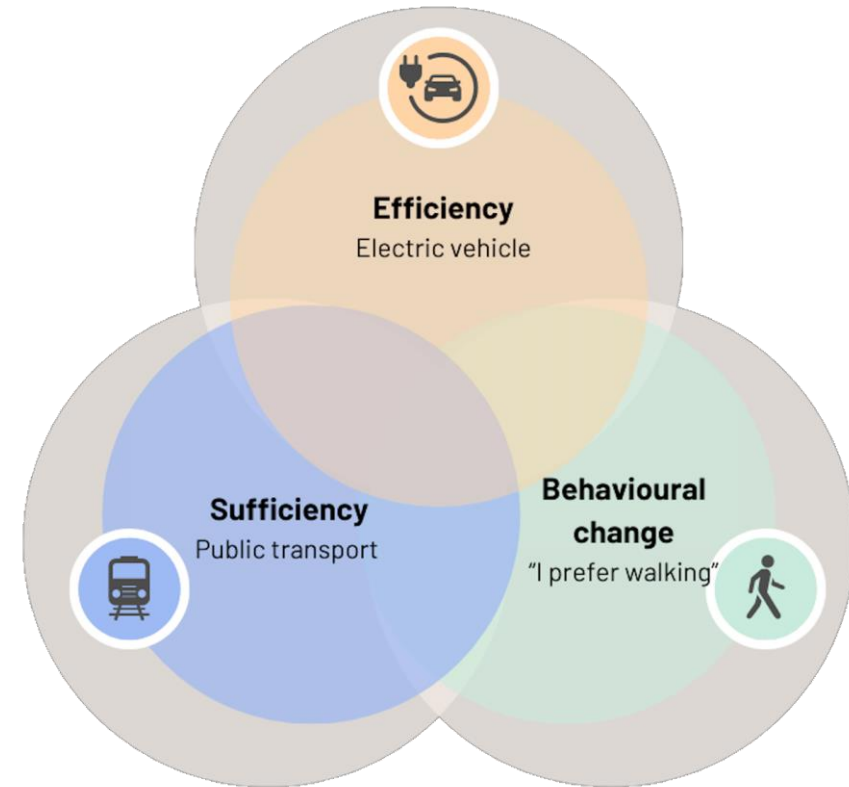
However, energy efficiency per se **does not guarantee an absolute reduction in energy use.**

ENERGY SUFFICIENCY

Addresses the limitations of energy efficiency. It targets **long-term energy savings** by offering alternative ways of achieving a **similar level of comfort and services with minimal energy consumed**

BEHAVIOURAL CHANGE

Is the cornerstone of energy demand reduction. **Its potential remains largely untapped**, but increasing knowledge is being developed on its drivers and barriers.



Policy recommendations



1. **INTEGRATE LONG-TERM ENERGY DEMAND REDUCTION INTO THE EU'S CLEAN ENERGY TRANSITION STRATEGY**



2. **SET TARGETS FOR ENERGY DEMAND REDUCTION**



3. **INTEGRATE ENERGY SUFFICIENCY INTO LONG-TERM DEMAND-REDUCTION POLICY**



4. **ENCOURAGE INVESTMENT IN ENERGY DEMAND REDUCTION**



5. **MAKE CITIZEN ENGAGEMENT AND COMMUNITY EMPOWERMENT PRINCIPLES WORK**



Thank you
www.eera-set.eu