

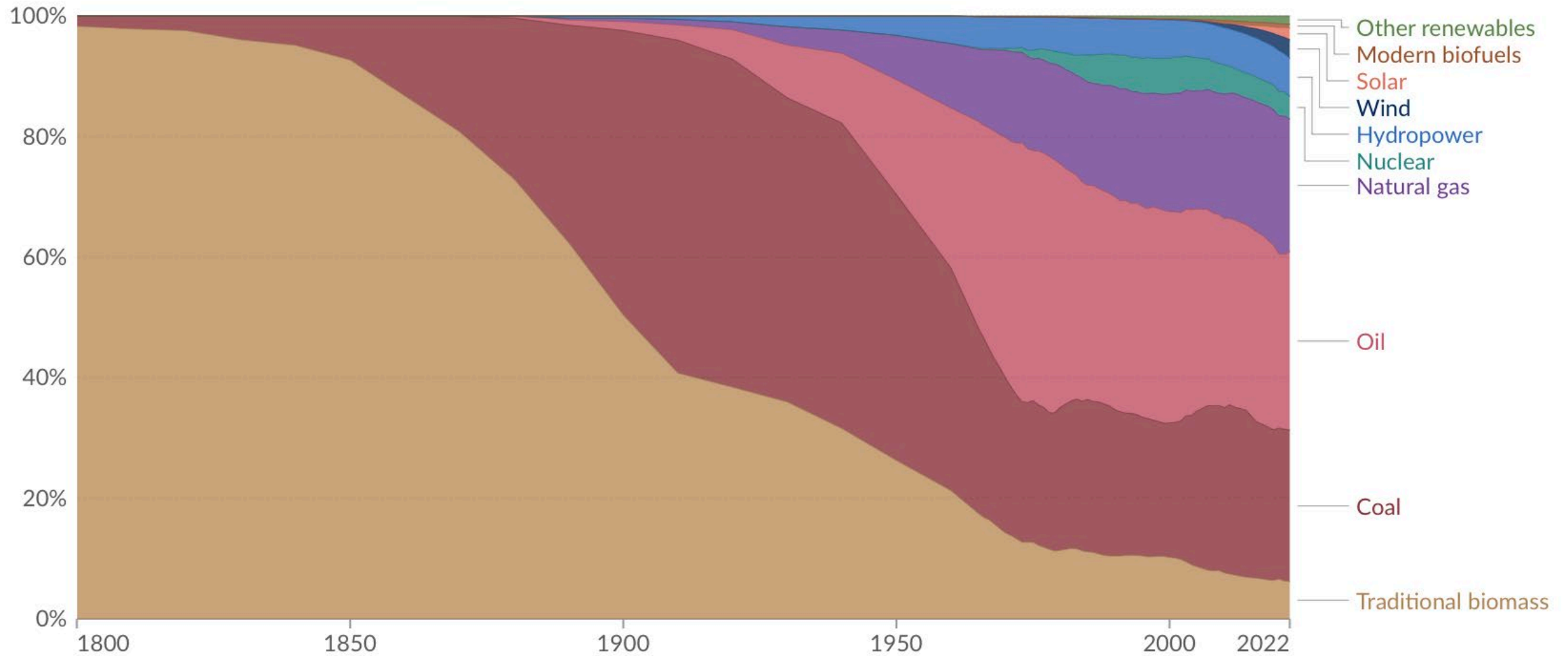
# 5 things we have learned from the Energy Transition

Tomás González

April 17 2024

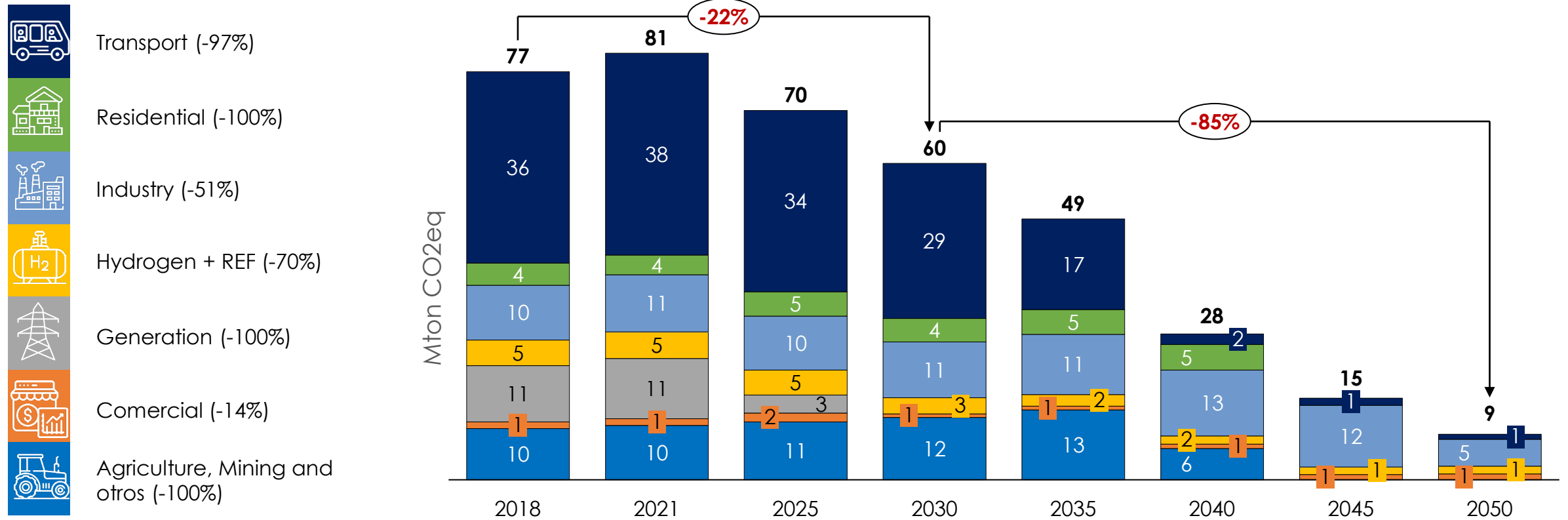


# 1. The ET needs massive, quick and wide-ranging changes (1/3)



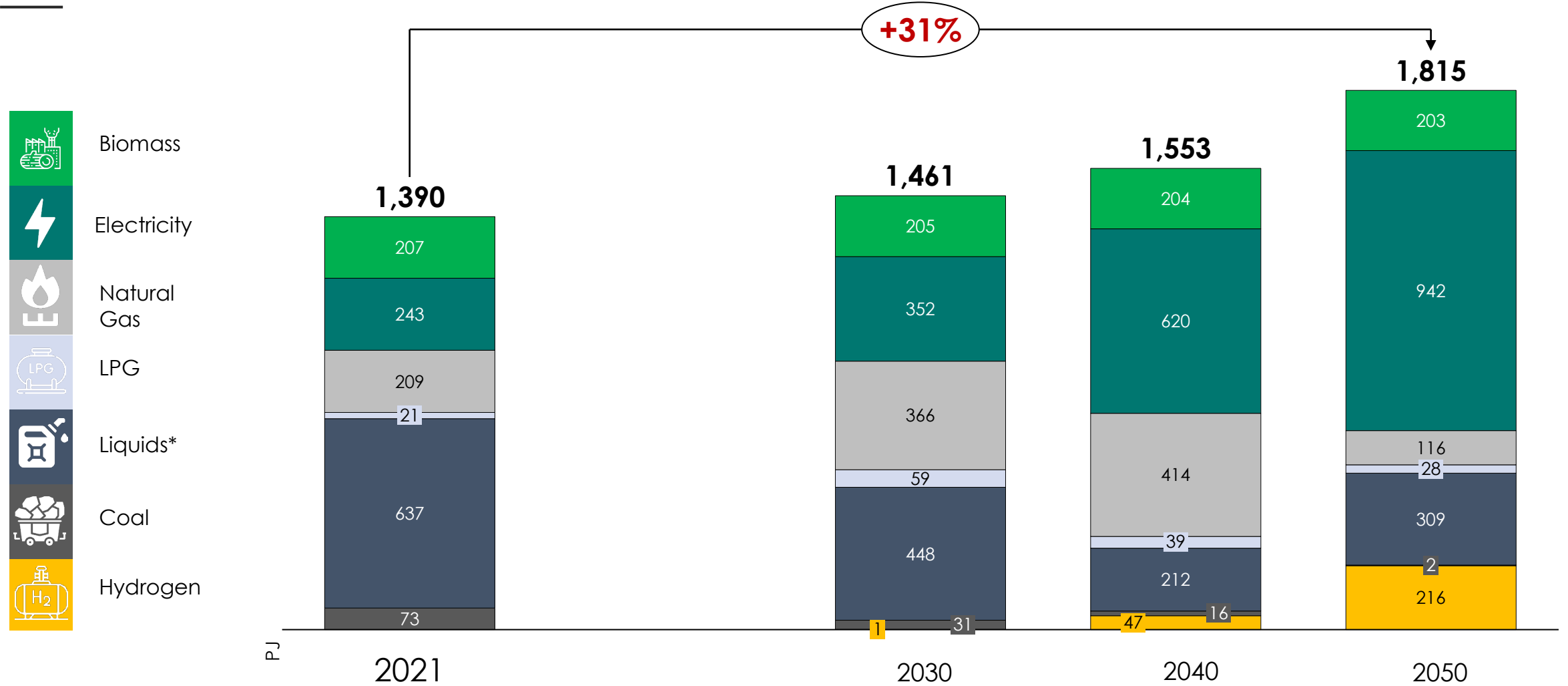
SOURCE: OWD based on IEA Statistical Review of World Energy (2023) and Smil (2017)

# 1. The ET needs massive, quick and wide-ranging changes (2/3)



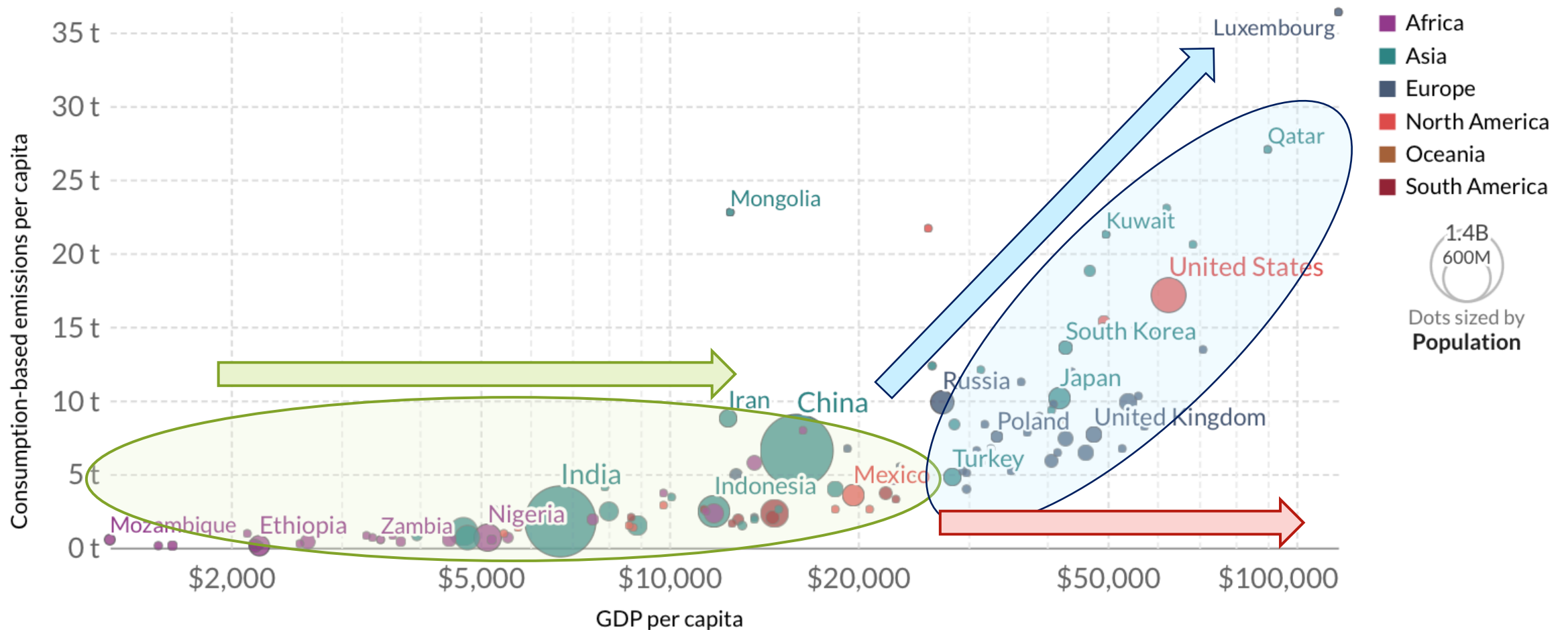
SOURCE: CREE ET-Roadmap 2050

# 1. The ET needs massive, quick and wide-ranging changes (3/3)



SOURCE: CREE Colombia ET-Roadmap 2050

## 2. There is a fundamental tension at the heart of the ET

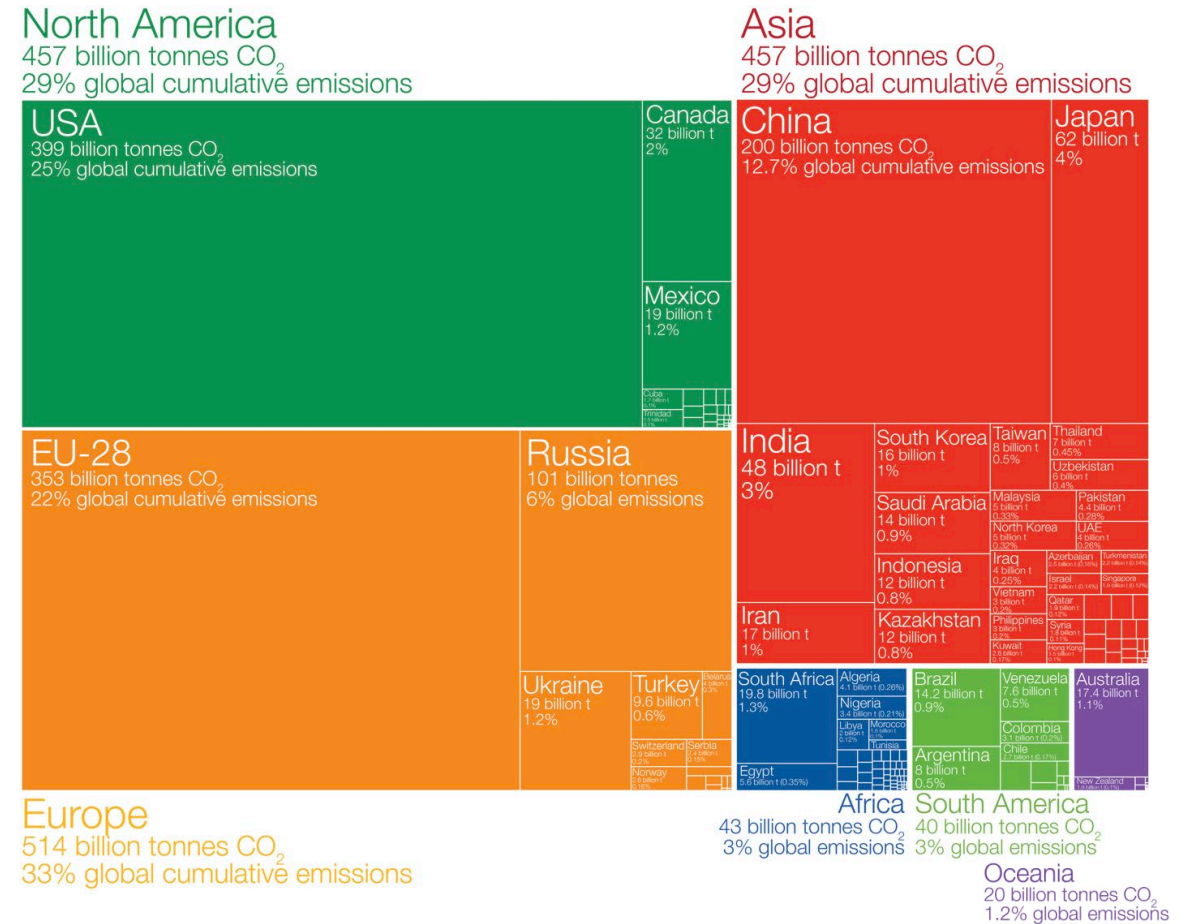
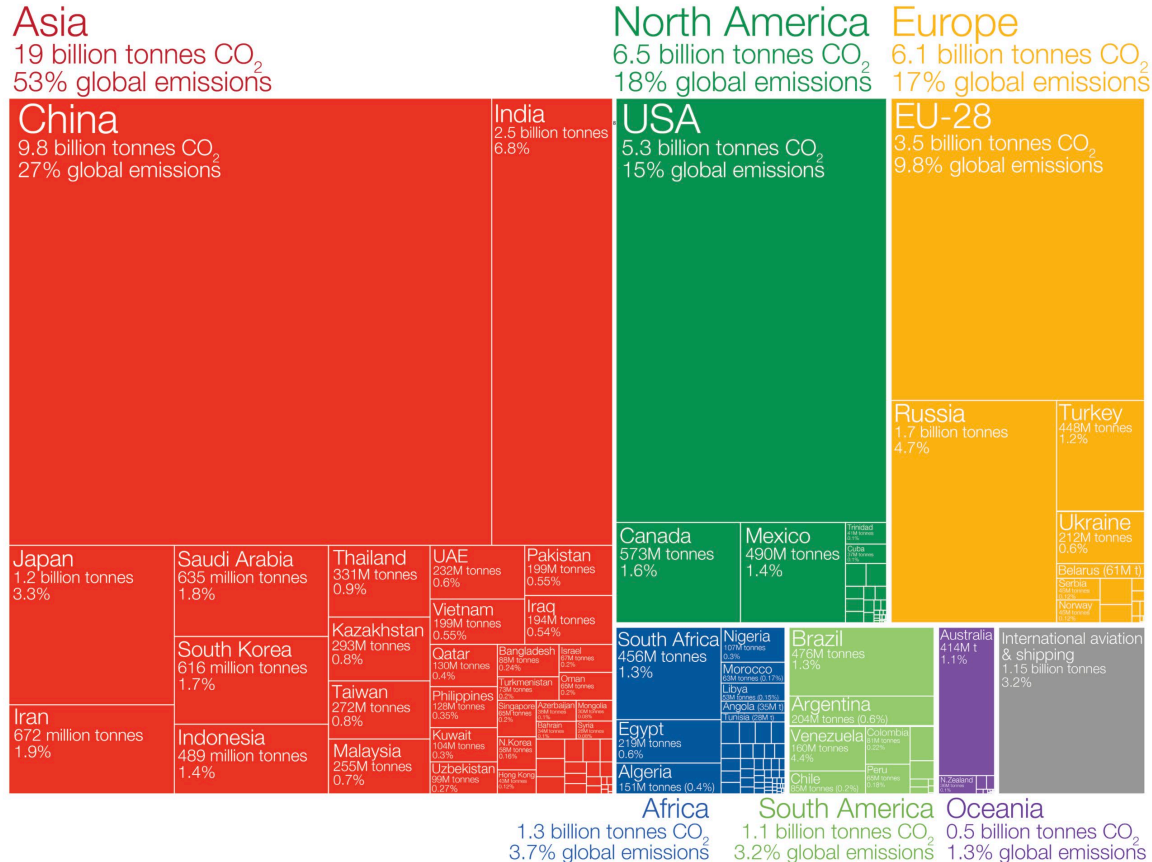


SOURCE: OWD based on World Bank data

# 3. The energy transition has to be “fair” (1/2)

## CURRENT



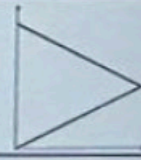
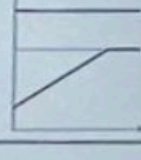
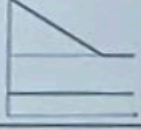
## HISTORIC



SOURCE: OWD based on GPC and CDIAC

# 3. The energy transition has to be “fair” (1/2)

**Which patterns are perceived as fair?**

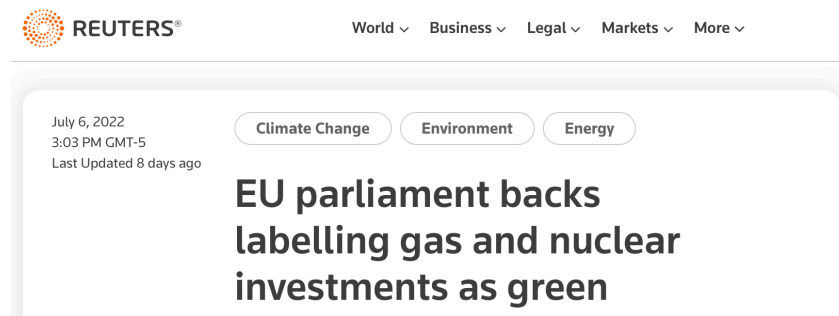
Justice Pattern	Core idea	Observed IAM trajectory	Examples
Aggregate Utilitarian	Overall consumption increased	All regions grow	
Prioritarian	Those worse off have gained most	Lower regions catch up	
Egalitarian	Everyone has the same	All regions converge to same point	
Sufficientarian	Everyone is above a certain threshold	Lower regions grow to floor	
Limitarian	Everyone is below a certain threshold	Higher regions reduce to ceiling	

# 4. Politicians fear high energy prices...and angry voters (1/3)





# 4. Politicians fear high energy prices...and angry voters (2/3)



## Common measures taken

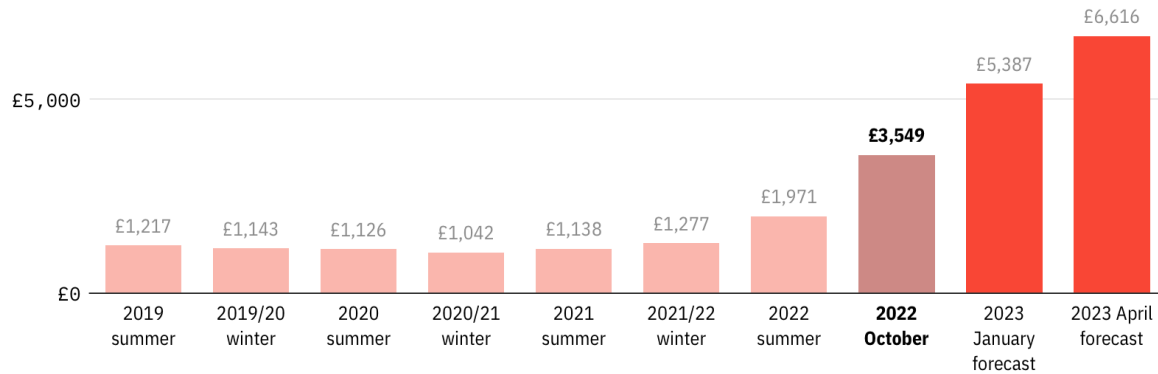
- Price Controls
- Taxes on energy companies
- Promote production/import substitution
- Increase emissions permits
- Subsidize thermal generators

# 4. Politicians fear high energy prices...and angry voters (2/3)



## Energy bills are forecast to rise to more than £5,300

Default tariff price cap for direct debit customers and forecast

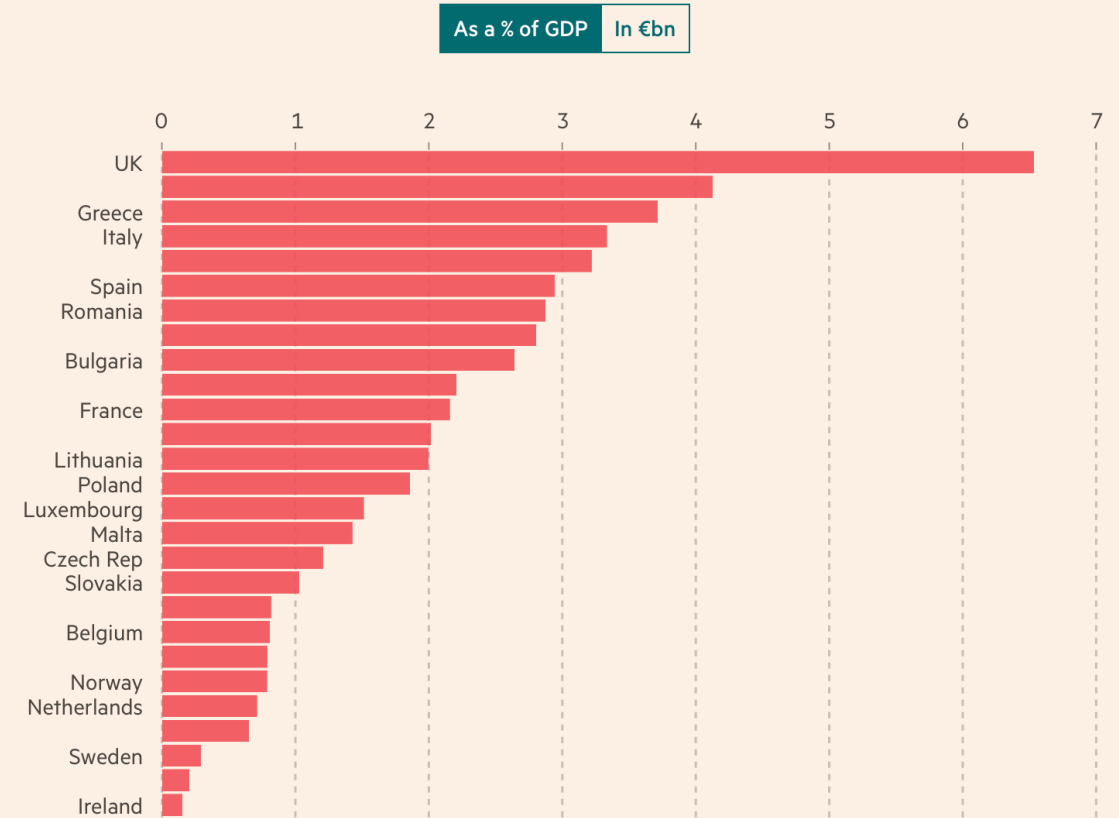


Source: Ofgem and Cornwall Insight

ENERGYMONITOR

## State support to shield households and businesses from the energy crisis

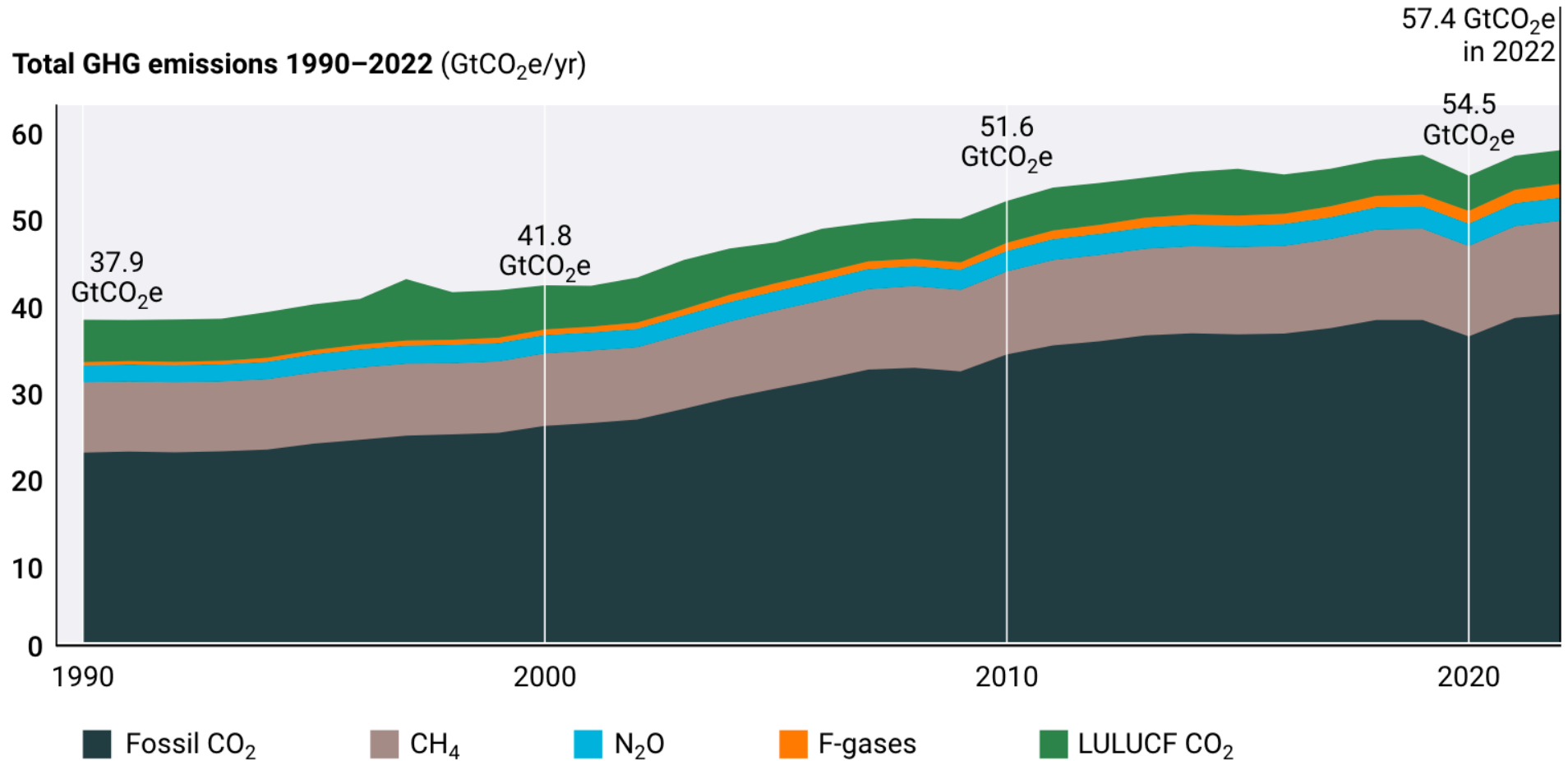
Allocated funding



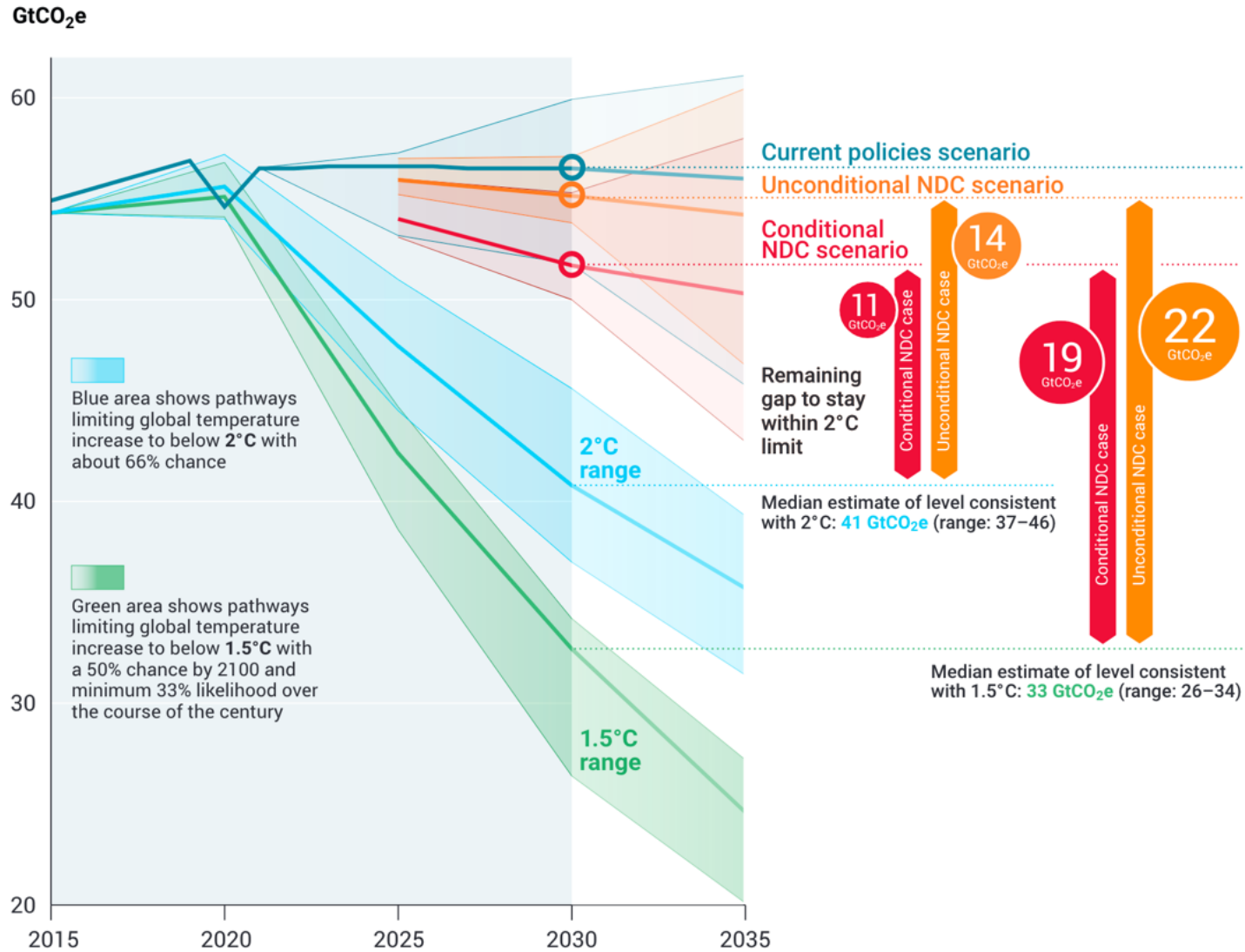
FINANCIAL TIMES

Source: Bruegel

# 5. We're not going in the right direction (1/4)

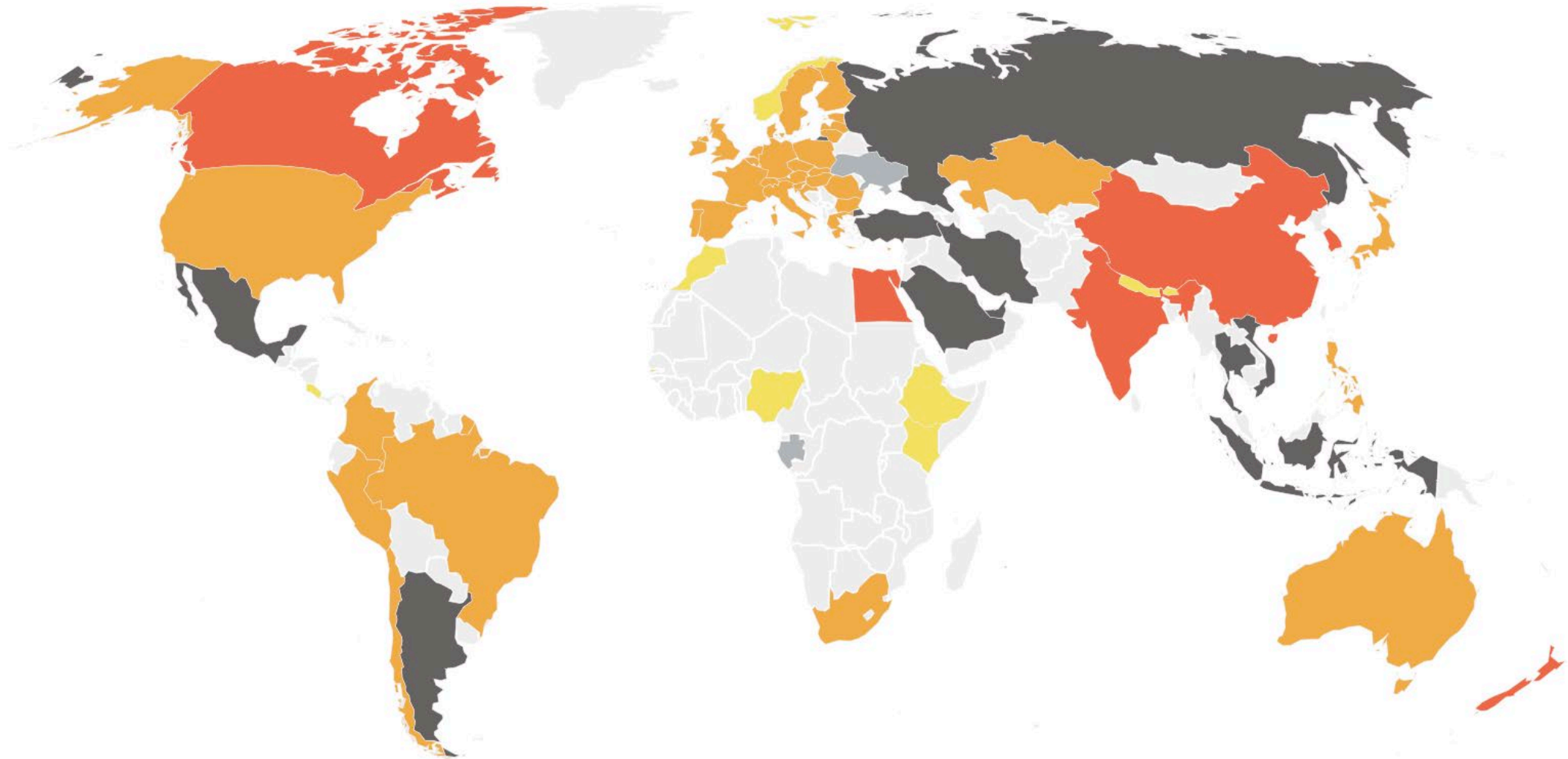


# 5. We're not going in the right direction (2/4)

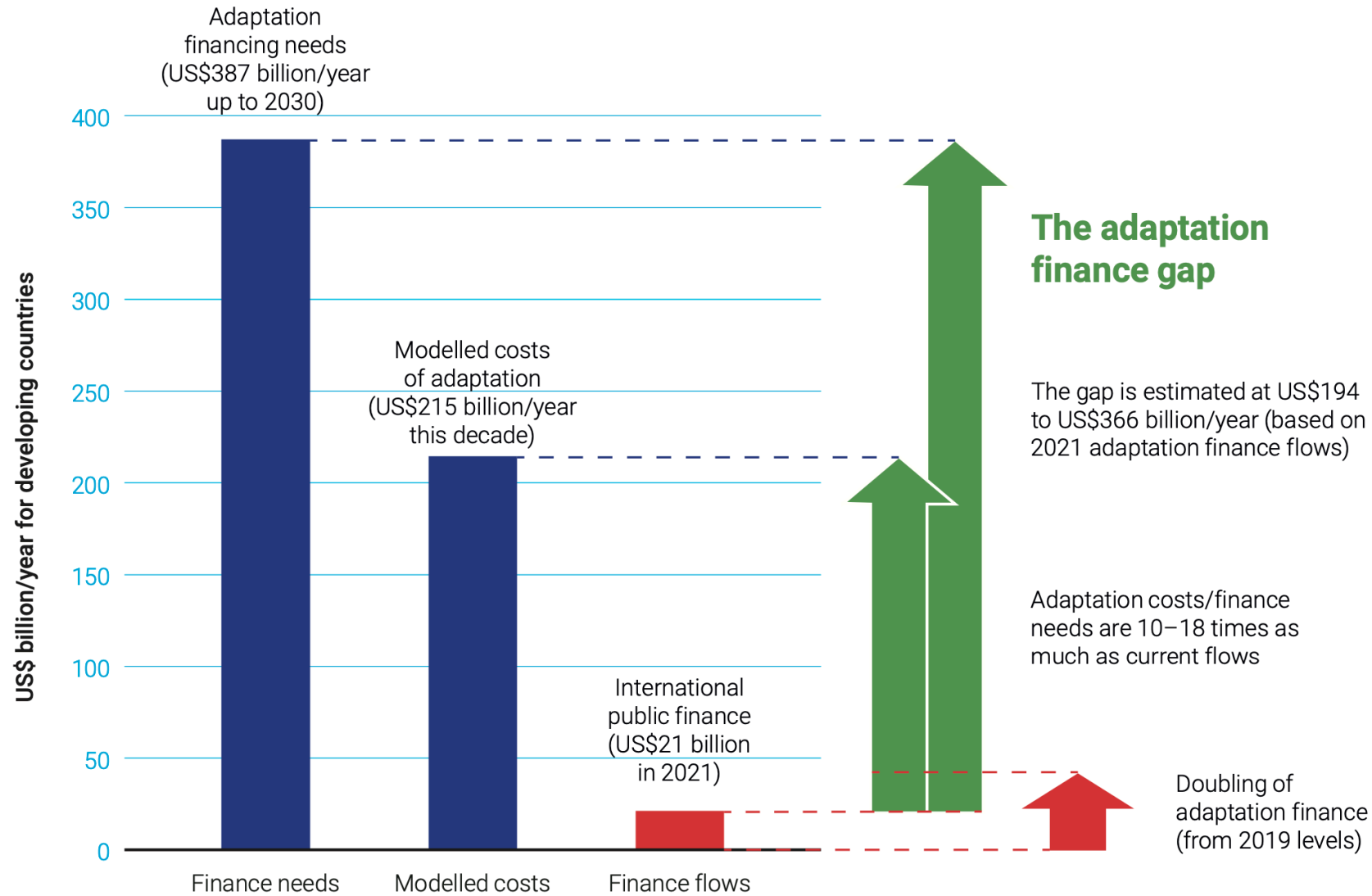


Fuente: UNEP Mitigation Gap Report 2023

# 5. We're not going in the right direction (3/4)



# 5. We're not going in the right direction (4/4)



Fuente: UNEP Adaptation Gap Report 2023

# These lessons point to urgent needs

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- We need to have an **honest and open conversation** about the **disconnect** in **ET**
- We need to start taking **adaptation seriously**
- We need to accept the **ET** has to be **tailor made**
- We need to push harder in **investing** and **subsidizing** key technologies

# Lawyers are going to be fundamental to the ET

Area	ET Challenge
<b>Regulatory Frameworks</b>	Ensure existing frameworks support the rapid deployment of clean technologies
<b>Market Structure and Competition</b>	Ensure barriers to entry in traditional energy markets do not hinder competition from new technologies
<b>Intellectual Property Rights</b>	Ensure that IP rights encourage innovation while making clean technologies accessible
<b>Environmental and Social Governance (ESG)</b>	Manage land disputes and protect community rights potentially threatened by the ET
<b>Investment Security</b>	Ensure the legal and regulatory stability required for investment—especially in developing countries



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