

# **Sustainable and Resilient Supply Chains with Emerging Technologies**

**NAS Workshop Series February 2021**

## **Panel II: Emerging Issues, Opportunities, and Tradeoffs for Reducing Greenhouse Gas Emissions toward Sustainable Supply Chains**

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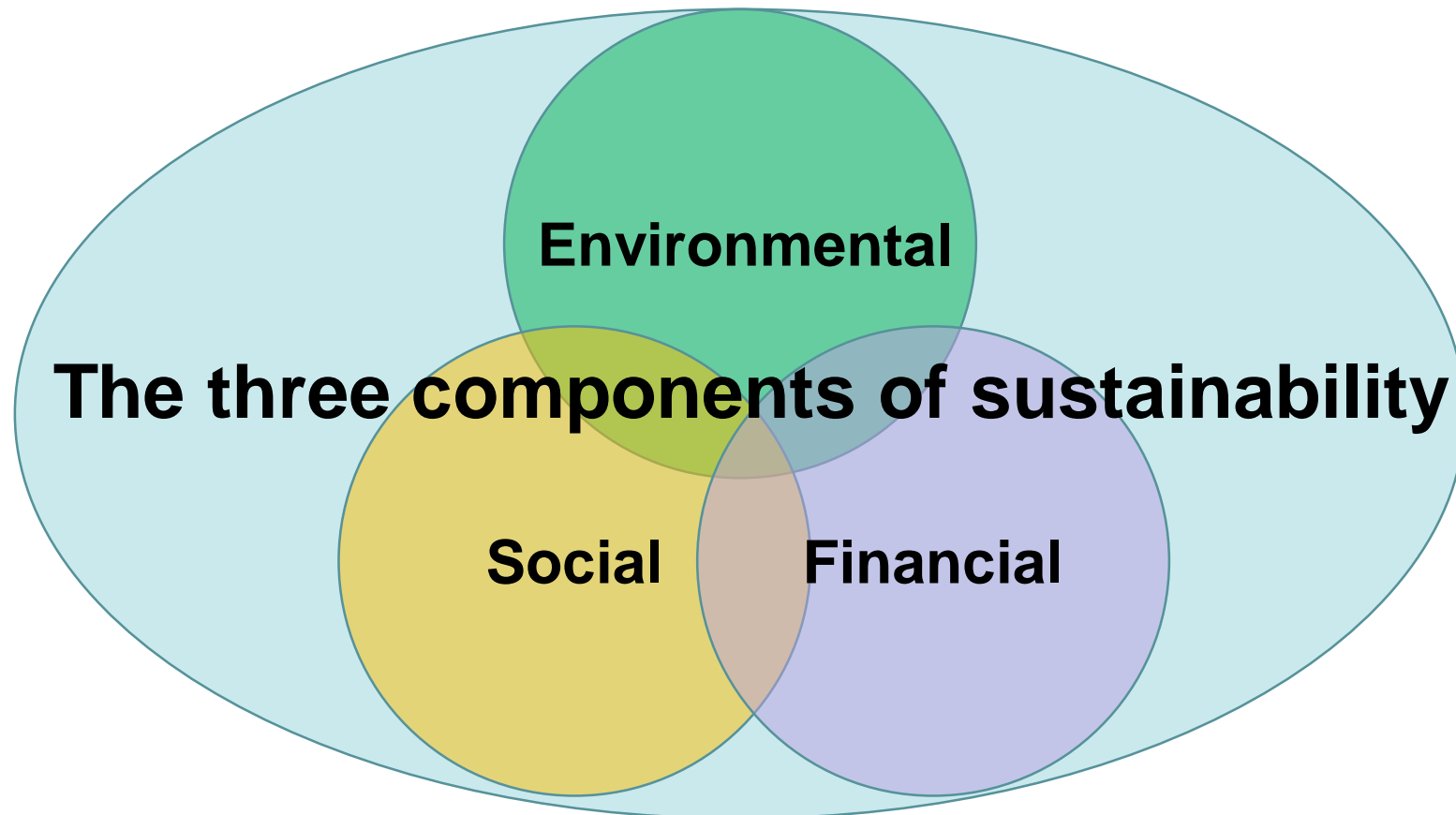
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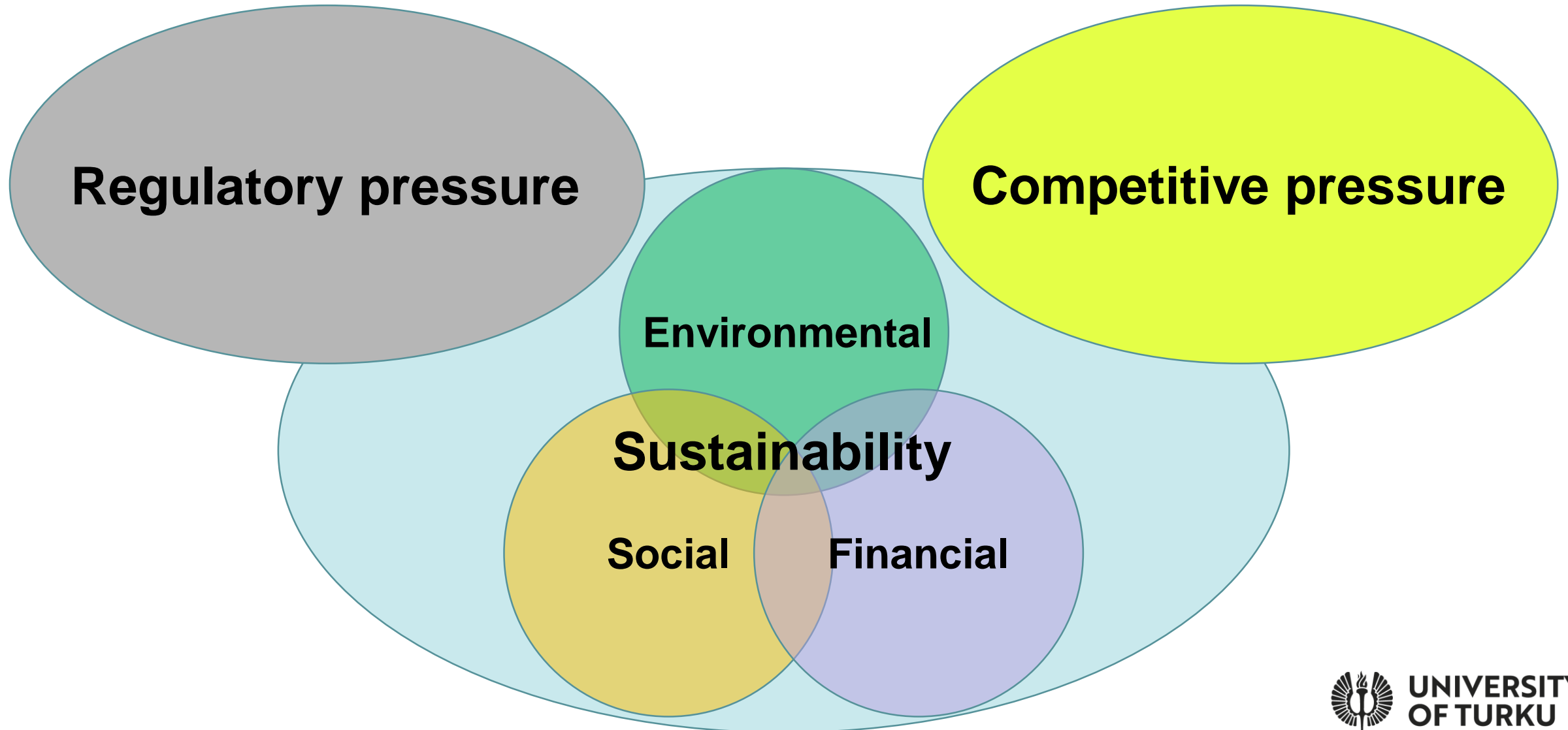


# The context of sustainable supply chains

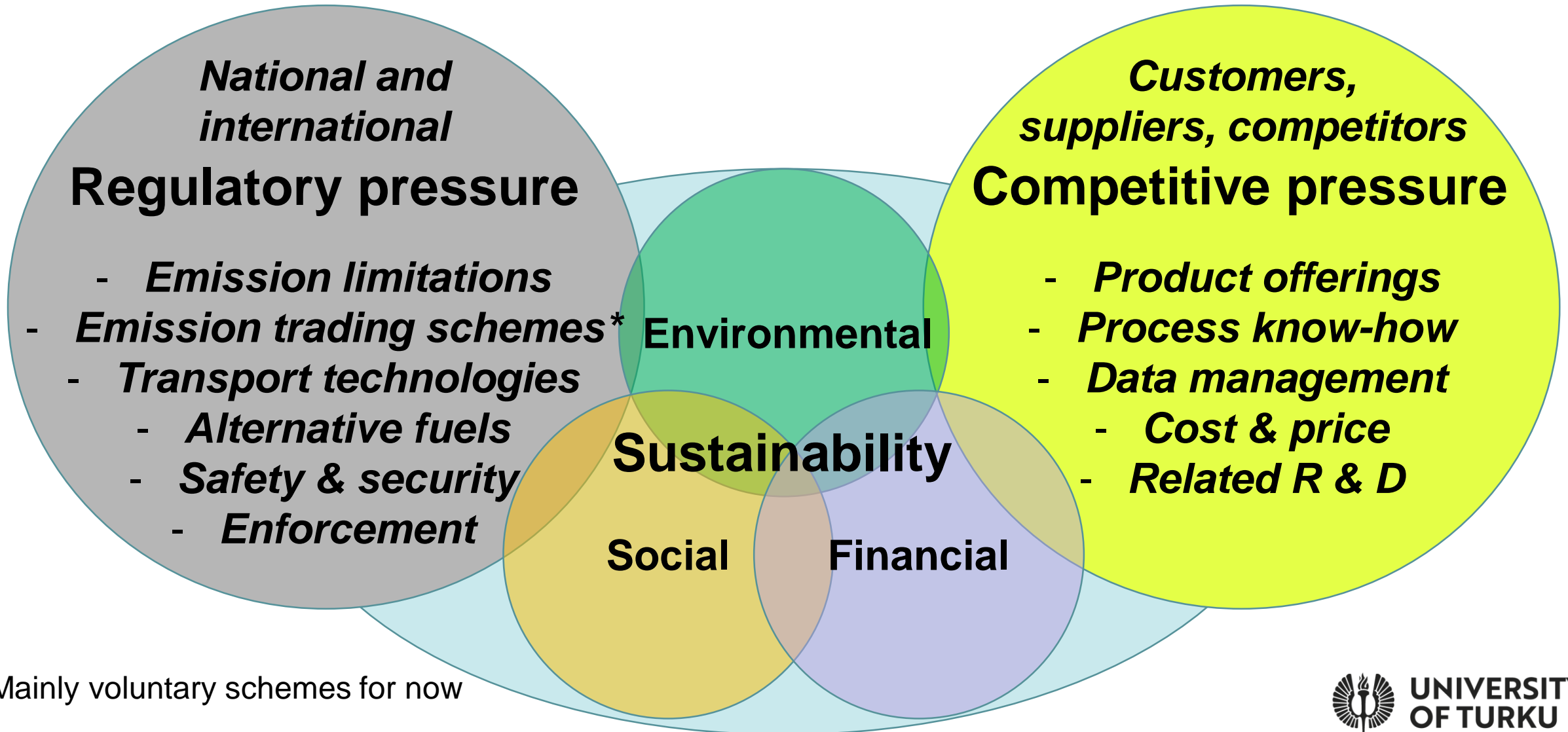
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# Two main forces impacting the sustainability of supply chains

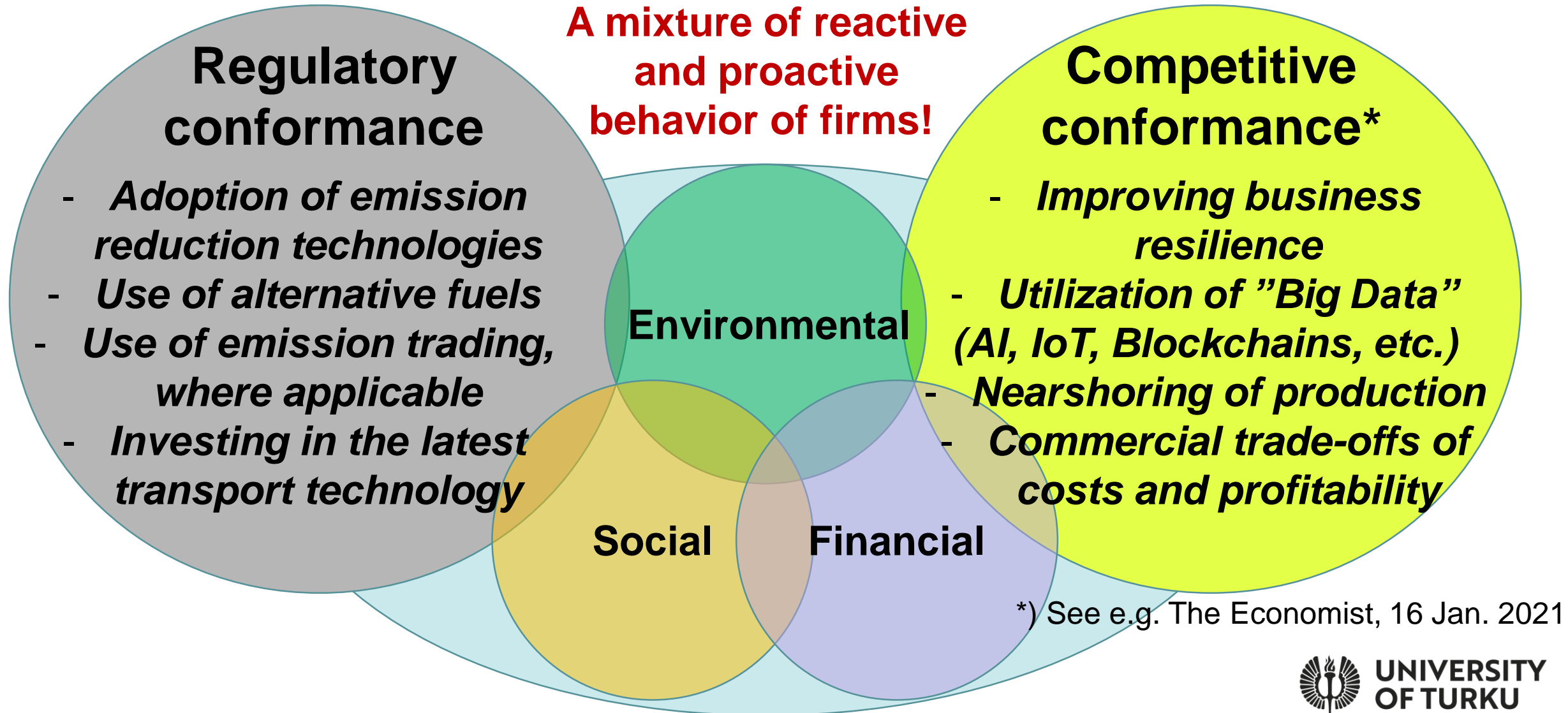


# Two main forces impacting the sustainability of supply chains



\*) Mainly voluntary schemes for now

# Technological and managerial approaches to improve supply chain sustainability 5



# Supply chains\* emit up to 15 % of global CO<sub>2</sub>

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- **All transport accounts for approx. 25 % of global CO<sub>2</sub> emissions**
- **Fuel combustion emits 33,500 Mtons of CO<sub>2</sub> in 2018 ([IEA 2020](#))**
  - Global road, rail, air and marine transport, incl. passenger and public transport
  - ~ 34 % from OECD countries, U.S. share of total ~ 15 %; China ~ 28 %
- **The share of freight transport of all fuel combustion emissions:**
  - **Trade-related international freight approx. 30 % ([ITF 2016](#))**
  - **Domestic freight globally approx. 20 %**
- **Other logistics-related emissions more difficult to estimate**
  - Warehousing, cargo handling equipment usage, electricity usage etc.

**\*) Transport, warehousing and cargo handling operations only**

# Selected global or international initiatives

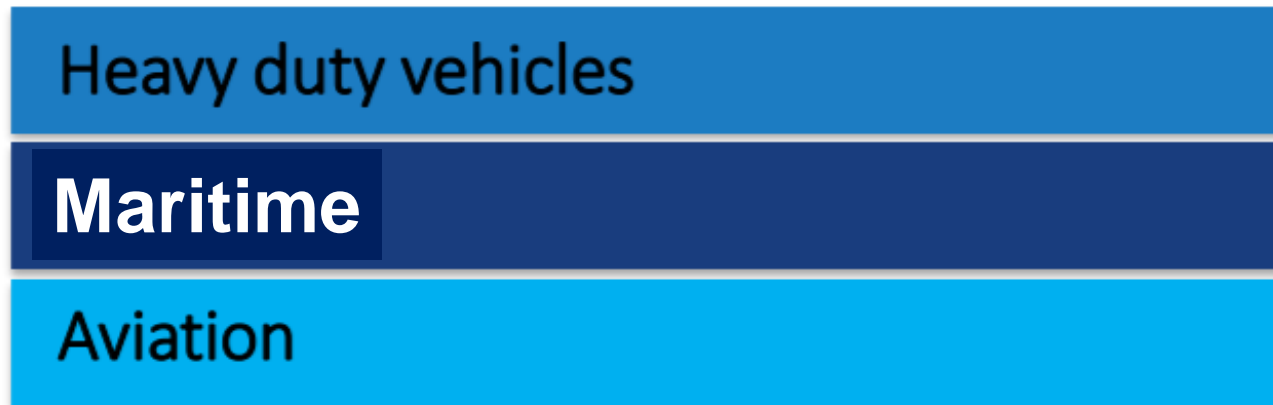
- On-going work in multilateral agencies
  - IMO ([Maritime](#)) and
  - ICAO ([Aviation](#))
- [International Transport Forum](#) at the OCED
  - [Decarbonizing Transport Initiative](#)
  - [Transport Climate Action](#) Directory

# Ex. of ITF's Decarbonizing Transport Initiative

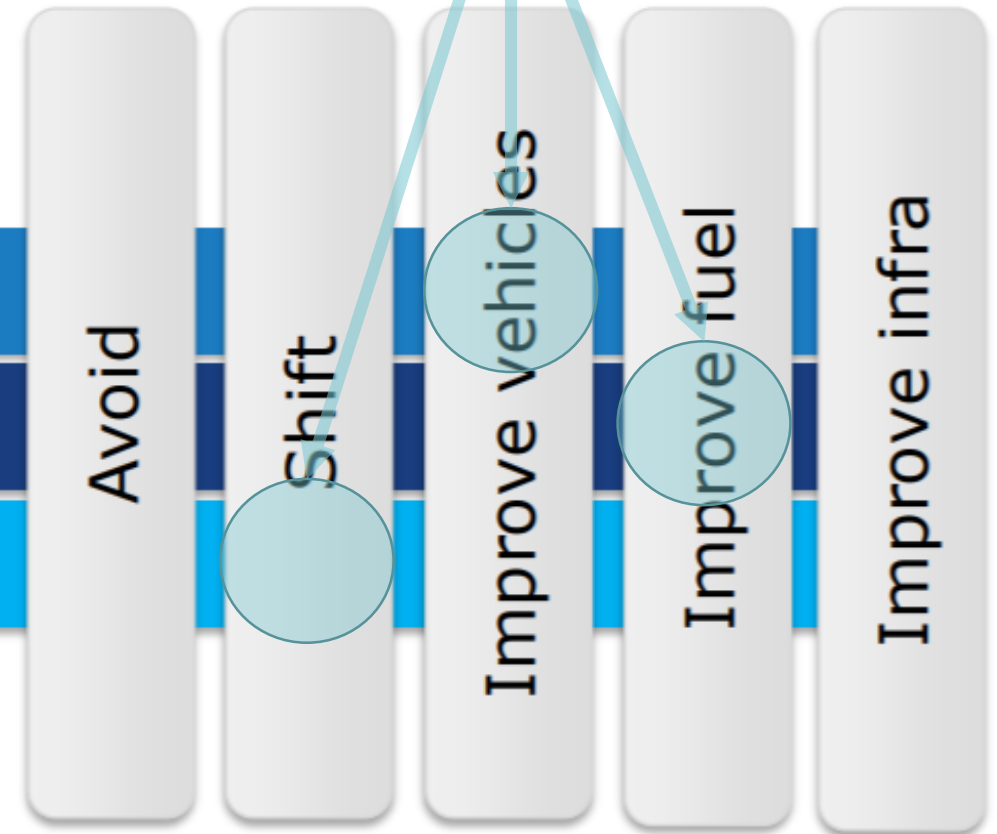
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Proposal to focus on “hard to abate” sectors



Tentative priority themes



ITF (2021) [Decarbonizing Transport Initiative](#)



# Thank you!



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