

# Collaborative Action Points For the Auto Industry Sustainable Development

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Crude Oil  
(Oligopoly Market)

[Series 1: Crude Oil Within the Context of Oligopoly Market ]

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Automaker  
(Cyclical Company)

[Series 2: Exploring the US EV Industry Through  
the US Bicycle Sharing System ]

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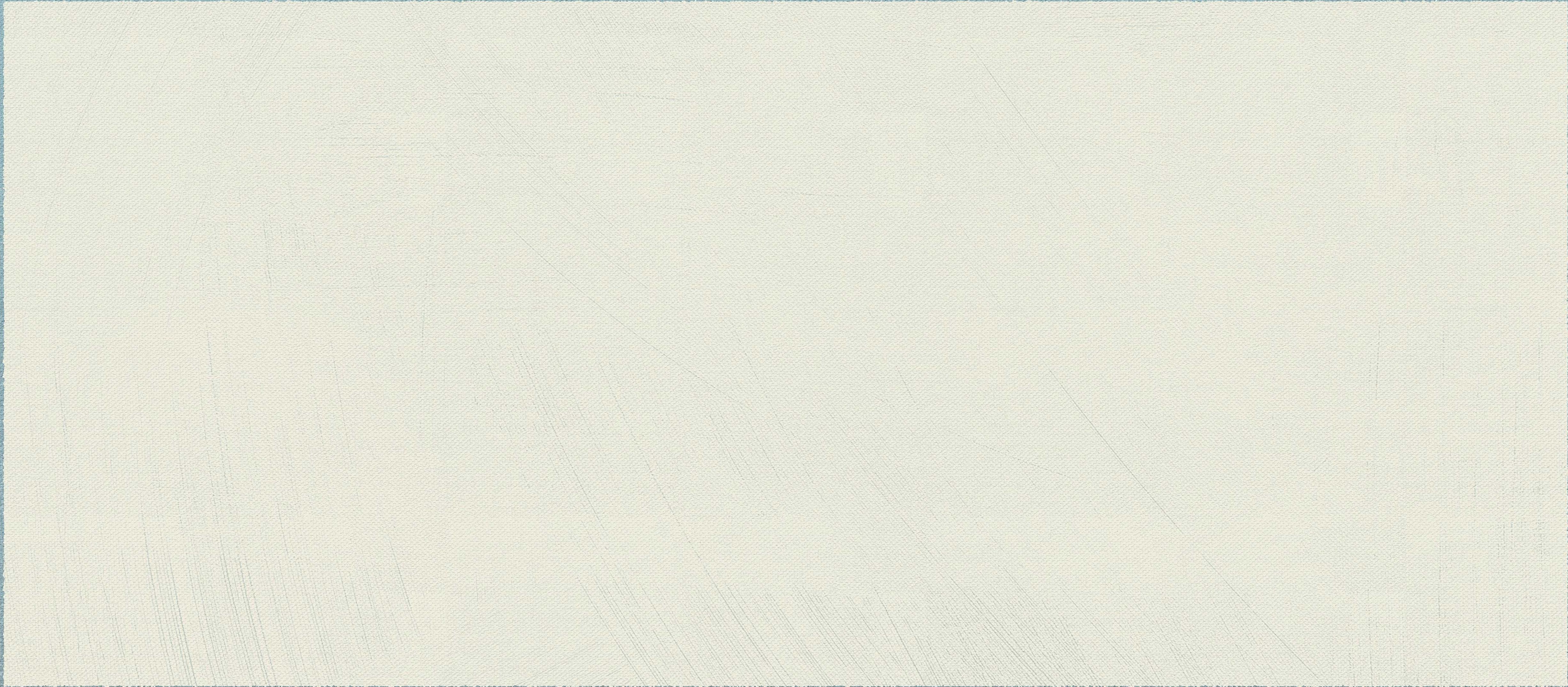
Climate Change  
(Global Issue)

[Series 3: Collaborative Action Points for the Auto Industry  
Sustainable Development ]

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**COLLABORATION**

# Key Findings

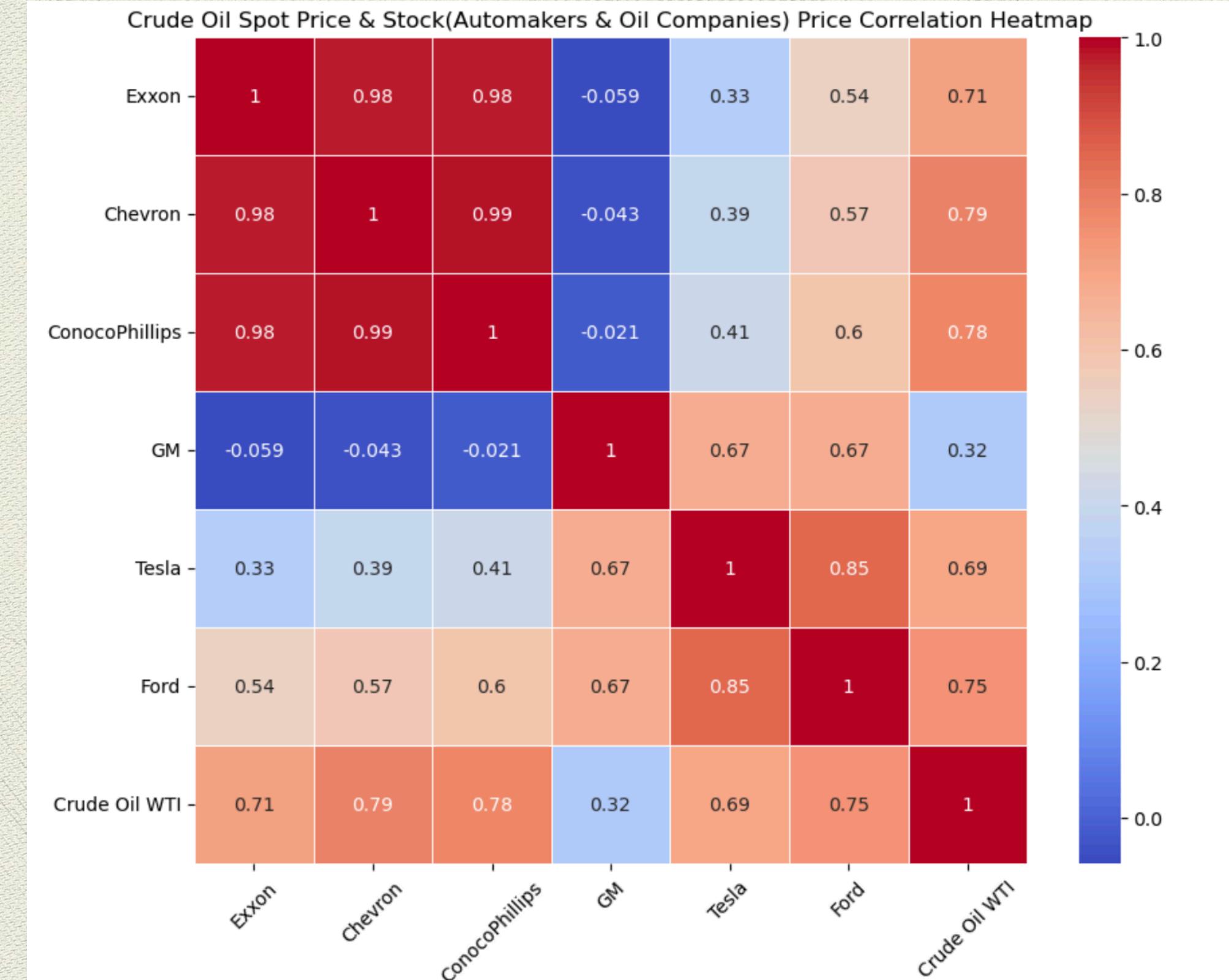


# Oil Companies

- “Artificial” tail risk should be avoided, given the heightened sensitivity between the stock oil prices and automakers.

## 1. Mitigating "Artificial" Tail Risk for The Better Economic Stability

- ◆ Adjusting oil supply amounts is recognized as suboptimal for addressing both short-term profitability concerns and long-term development challenges, including navigating the energy transition and managing stress from potential "stranded assets"
- ◆ The reliability of predicting oil prices is confirmed by a crude oil spot pricing model utilizing stable supply-side data, with an R-squared value exceeding 90%, indicating that more than 90% of the variability in weekly crude oil WTI prices can be accurately accounted for.



Source: Project Series 1 — Crude Oil Within the Context of Oligopoly Market (Link: [https://github.com/florenceX5/Crude\\_Oil\\_Finance\\_Project.git](https://github.com/florenceX5/Crude_Oil_Finance_Project.git))

# Oil Companies

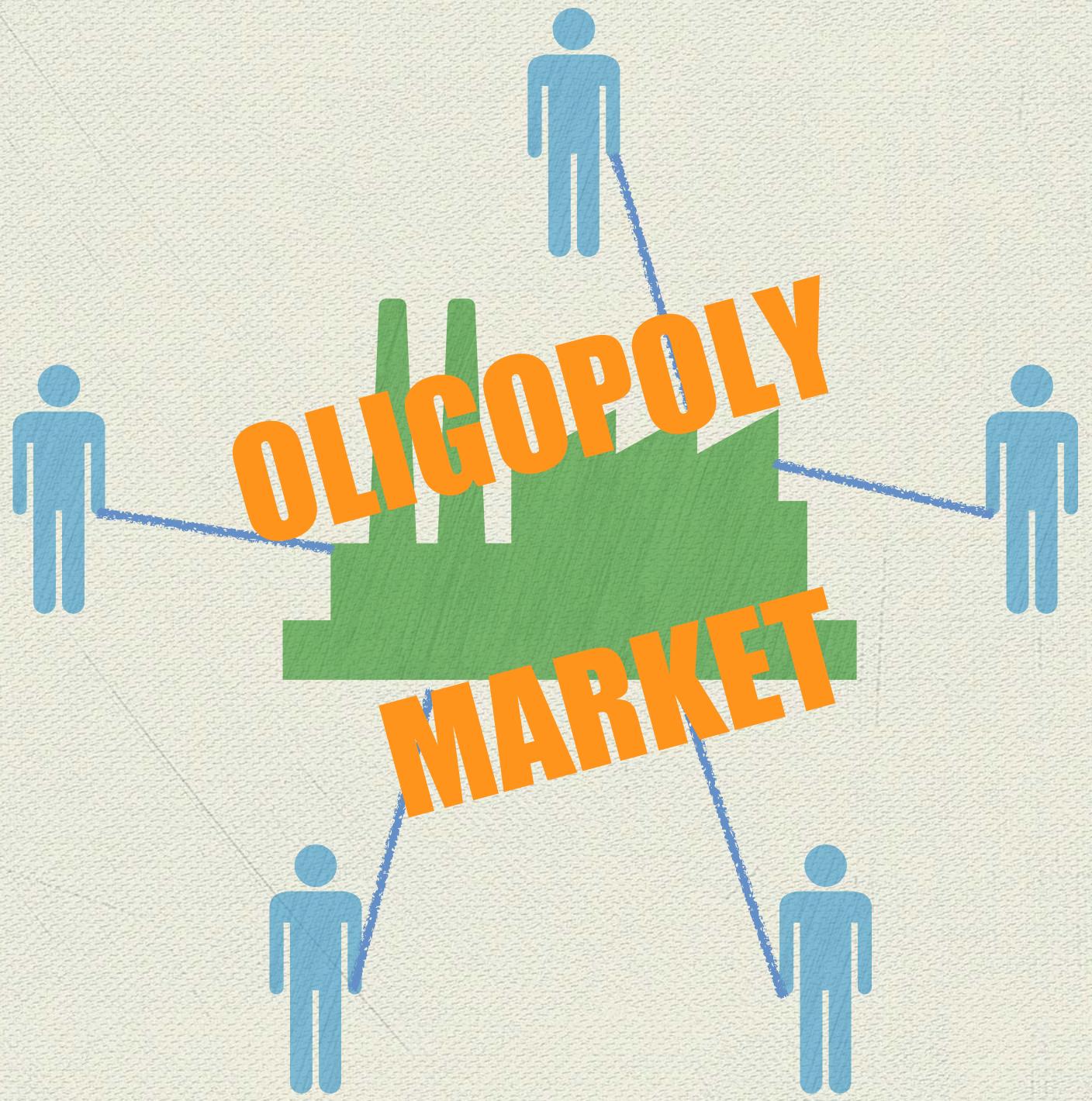
- The decline in short-term profitability should not be perceived as a loss, emphasizing the need for a more transparent schedule of oil production.

## 2. Redefining Short-term Profitability in the Context of the Energy Transition

- ◆ Rather than viewing the current decline in profits as a loss, it should be taken as strategic investments addressing the consequences of past actions impacting our environment and planning for a more sustainable future

## 3. Advocating Transparency in Oil Production Scheduling

- ◆ While a collusive pricing strategy remains characteristic of an oligopoly market, adapting to changes in the current climate, where energy types can be renewed, prompts a reconsideration of pricing strategies.



# Automakers



# Automakers

- Top vehicle companies should consider strategic alliances to collectively introduce hydrogen vehicles

## ◆ Different Types of Vehicles

	Gasoline Vehicle	Electric Vehicle (EV)	Hybrid Vehicle	Plug-in Hybrid Vehicle	Hydrogen Vehicle
Power Source	Internal Combustion Engines (ICE)	Batteries	ICE + Electric Motor (with no external plug-in)	ICE + Electric Motor (with external plug-in)	Hydrogen Fuel Cells
Refueling Speed	Fast	Slower than gasoline vehicles		Similar as gasoline vehicles	
Driving Length	Long	Limited compared to gasoline	Limited electric-only range; Overall similar to gasoline vehicles		Similar as gasoline vehicles
Environmental Impact	High tailpipe emission	Can be considered as clean energy	Low tailpipe emission depend on driving mode; electric-only mode produces zero tailpipe emissions efficient		Can be considered as clean energy
Battery Recycling	N/A	Potential environmental impact of battery disposal	Smaller batteries & less environmental impact of battery disposal compared to EV		Uncertain environmental impact on recycling fuel cell

# Data Sources & References

- ◆ Data Sources
  - ◆ The Wall Street Journal
- ◆ References
  - ◆ Coe, David T., Elhanan Helpman. 1995. "International R&D Spillovers." European Economic Review, vol. 39, no. 5 (May)