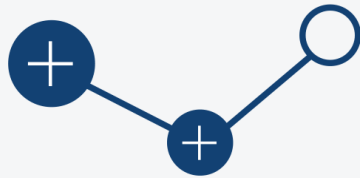


# Electricity Rate Design and Electrification

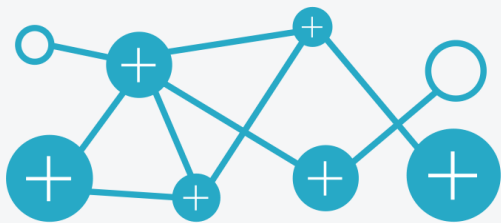
Ivey 5th Annual Workshop on the  
Economics of Electricity Policy and Markets  
October 20, 2021



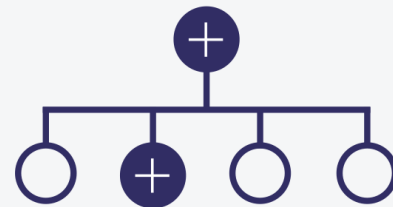
Connect  
**CUSTOMERS**



**PLAN**  
transmission

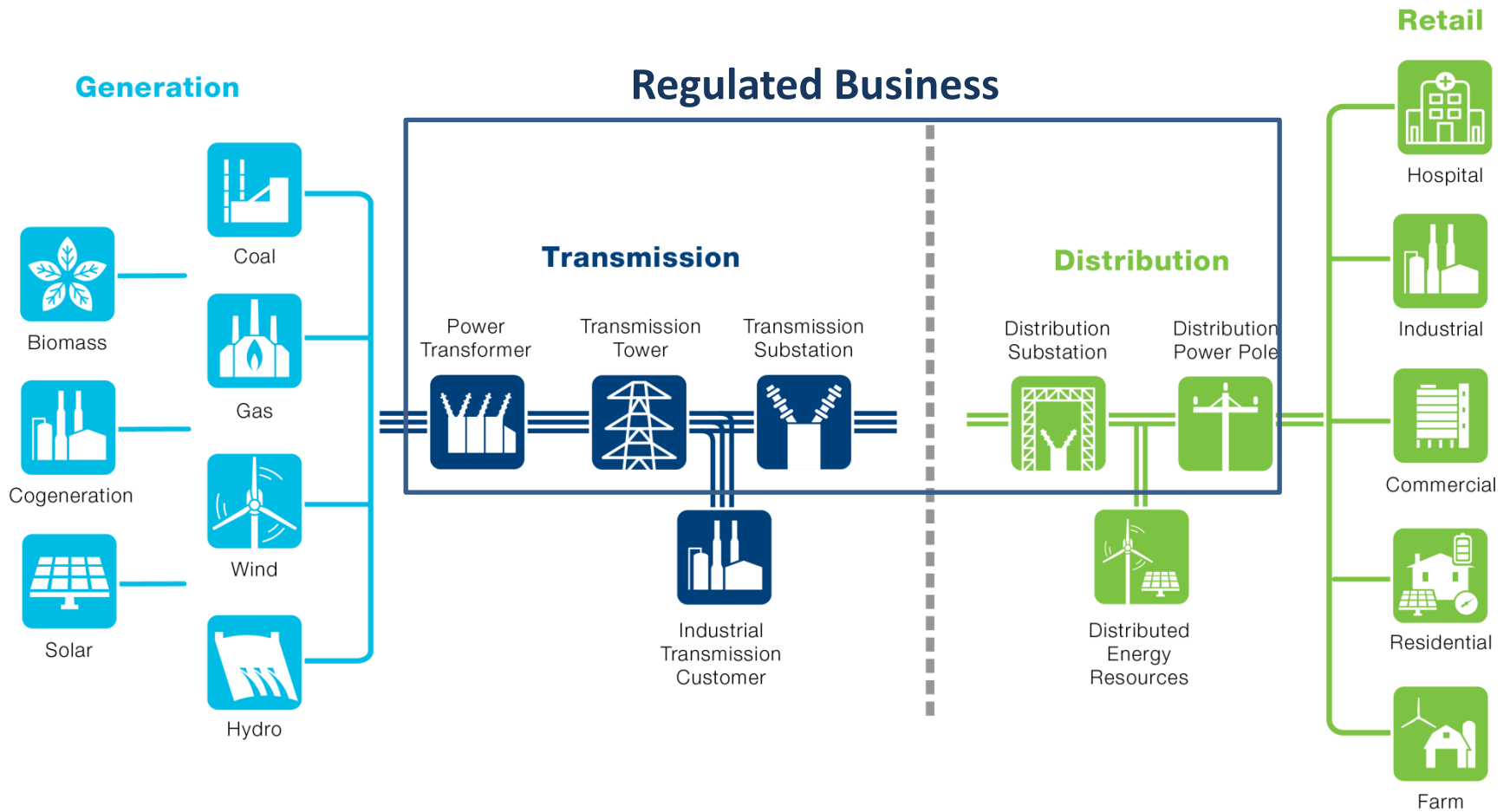


Operate the  
**GRID**



Plan and Operate the  
**MARKET**

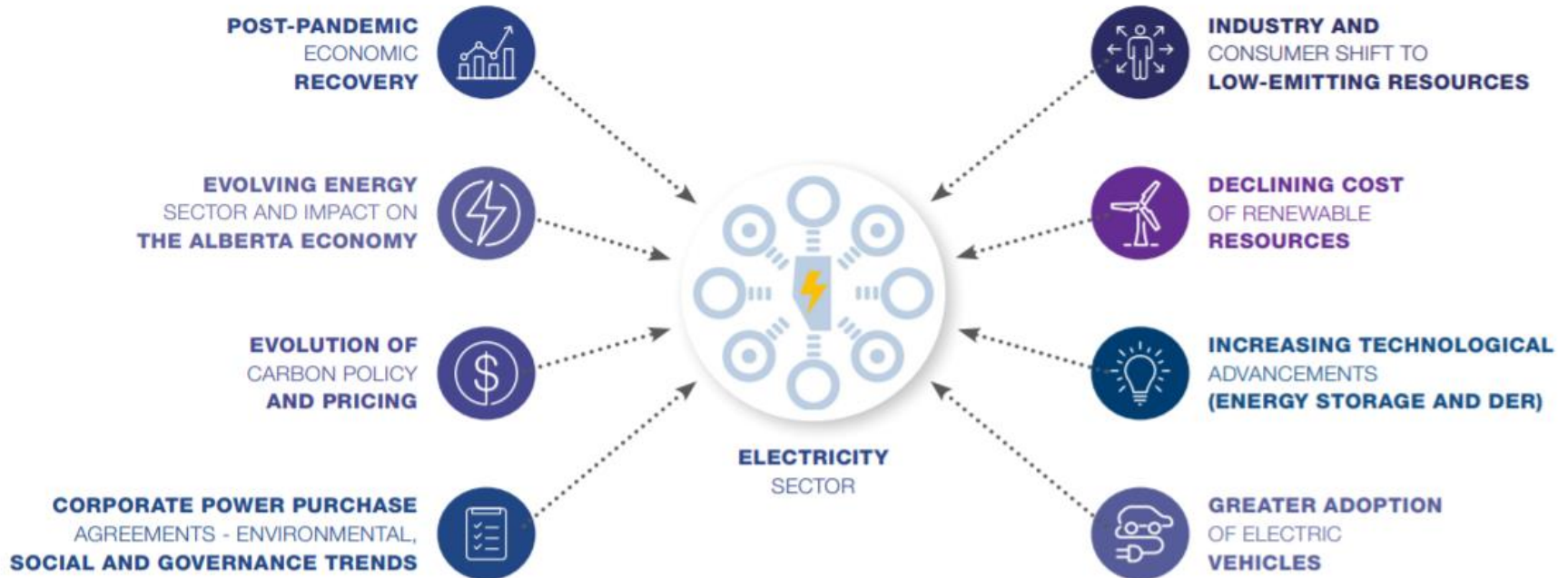
# How the Alberta System Works



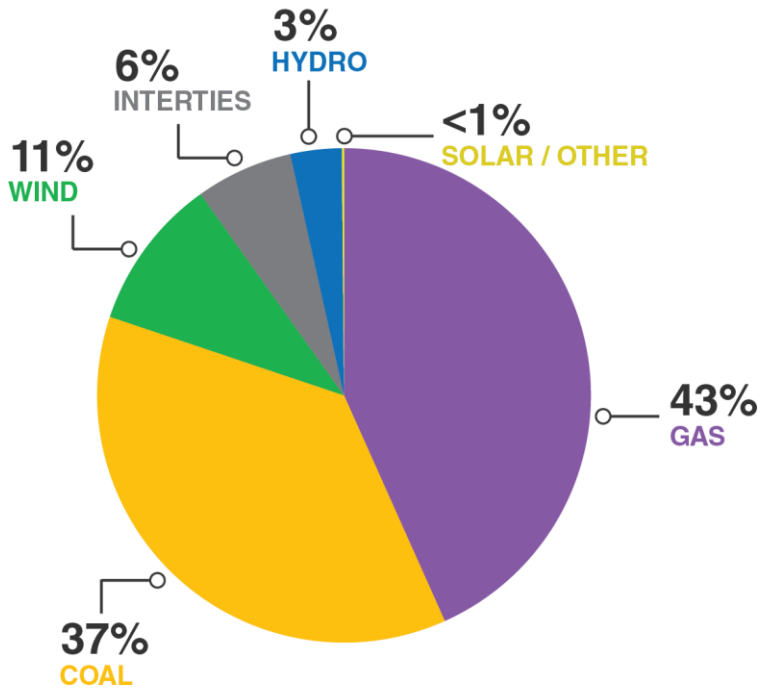
# Transformation Drivers

For more details refer to [aeso.ca/grid/forecasting](https://aeso.ca/grid/forecasting)

The electricity sector in Alberta is transforming in direct response to these key drivers:

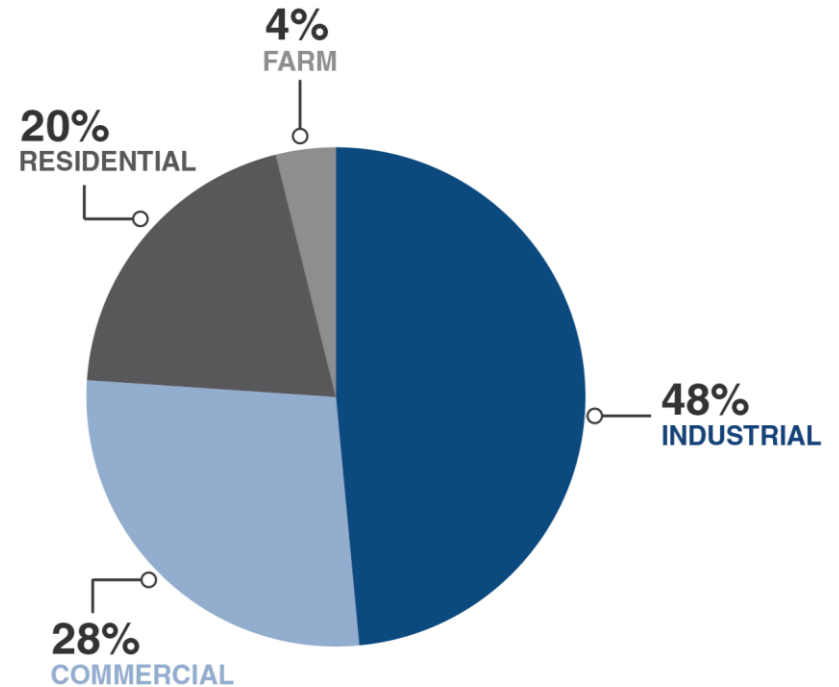


## Net-to-Grid Generation



Source: AESO 2020 Annual Market Statistics ([www.aeso.ca](http://www.aeso.ca))  
This data does not include electricity that is generated behind the fence.

## Power Use in Alberta

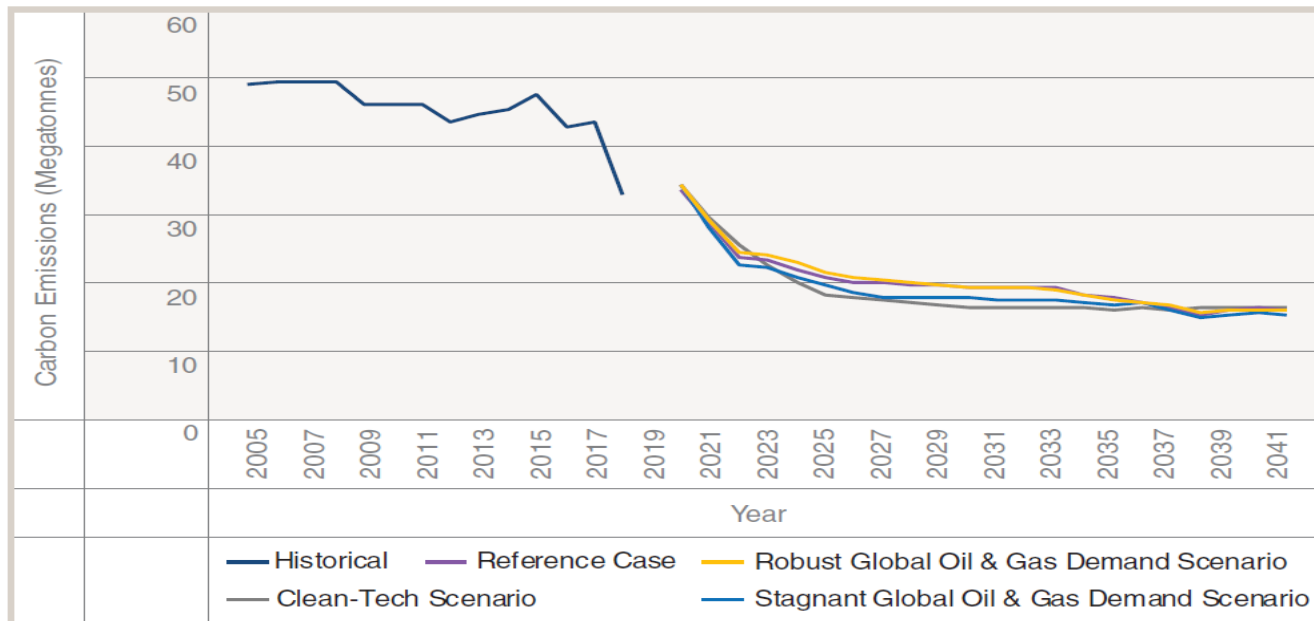


Source: Monthly Sales and Customers 2020.xlsx ([www.auc.ab.ca](http://www.auc.ab.ca))  
This data does not include electricity that is consumed behind the fence.

# Sectoral Carbon Emissions

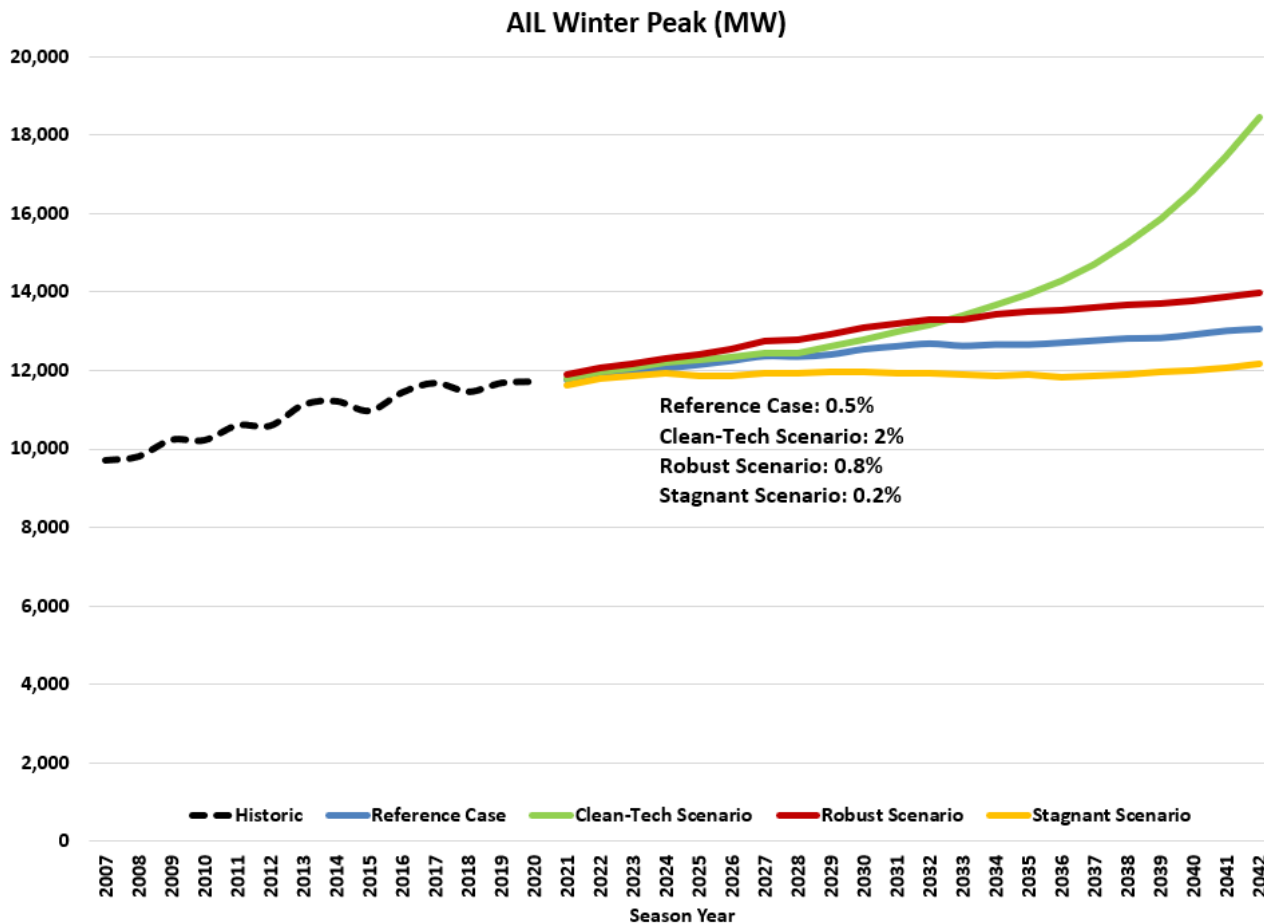
- Carbon price is expected to increase costs for fossil fuel generators, with the highest costs paid by the most emissions intensive technologies
- Highly-intensive technologies are anticipated to switch to natural gas fuel, thereby reducing the overall electricity sector emissions significantly
  - The Reference Case exhibits a 61 per cent reduction from 2005 levels by 2030, with \$50 per tonne carbon pricing
  - The Clean-Tech Scenario exhibits a 66 per cent reduction from 2005 levels by 2030, as carbon prices increase to \$170-per-tonne

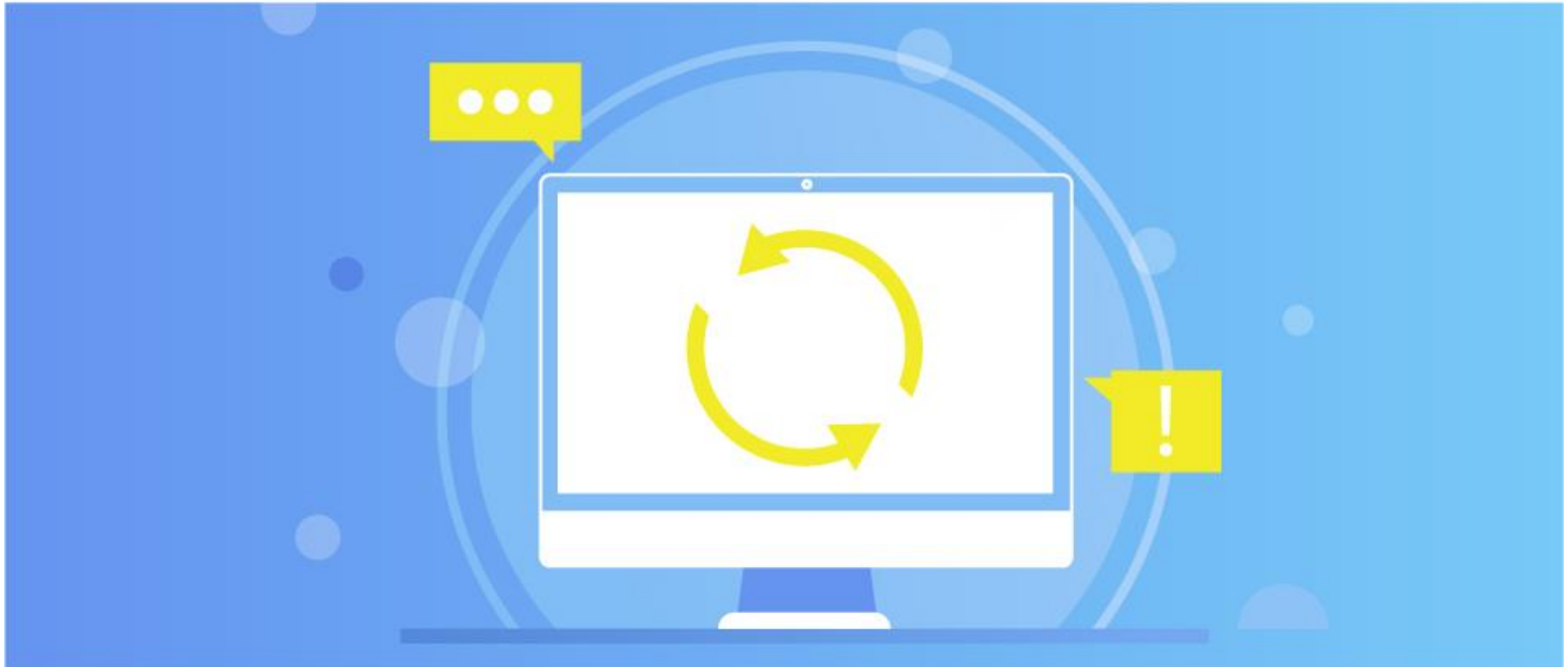
**Electricity Sector Emissions by Scenario**



# Load: Scenario Comparison

- The Reference Case is flanked by the Robust and Stagnant O&G Demand scenarios
- The Clean-Tech forecast illustrates the potential cumulative impact of EV load penetration in the 2030s





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**Thank you**