

# Plug-in electric vehicles: future market conditions and adoption rates



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*For*

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*By*

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# Conditions affecting plug-in electric vehicle sales

- Policy
- Reduction in incremental electric vehicle costs
- Competition from improving incumbent technologies and other alternative propulsion technology
- Consumer sentiment
  - Range anxiety and recharging availability/time
  - Model availability
- Autonomous vehicles?

## Countries with current electric vehicle policies

### Electric vehicle purchase incentives

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- China
- Denmark
- France
- India
- Italy
- Japan
- Norway
- South Korea
- Spain
- Sweden
- United Kingdom
- United States

### EV use and ownership incentives

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- China
- France
- Germany
- Italy
- Japan
- Norway
- South Korea
- Spain
- Sweden
- United Kingdom

### Waivers on access restrictions

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- Norway
- Spain

Source: IEA Global EV Outlook 2016

# Proposed ICE bans

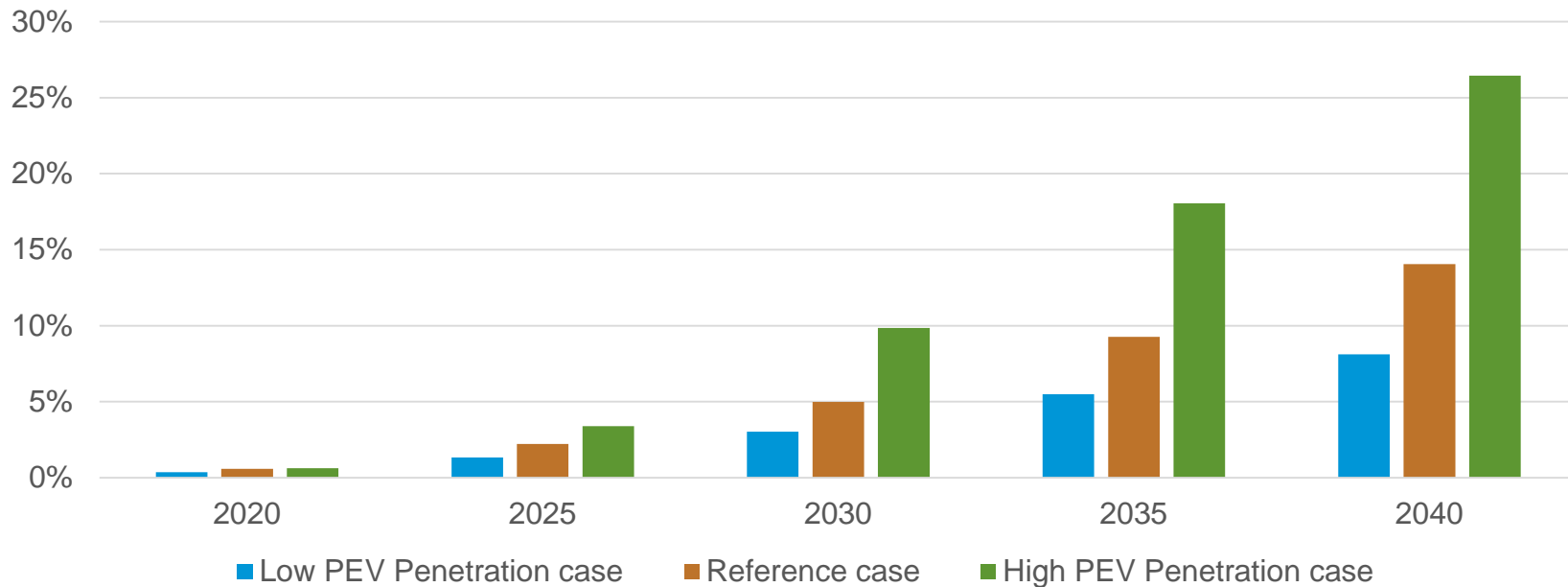
- France
- India
- Norway
- United Kingdom

## Plug-in electric vehicle scenarios

- Purpose – examine affects different levels of PEV adoption could have on energy consumption
- Low PEV Penetration case – nearly half the stock of PEVs in 2040
- High PEV Penetration case – nearly double the stock of PEVs in 2040

# Adoption of plug-in electric light-duty vehicles in the Reference case and two side cases

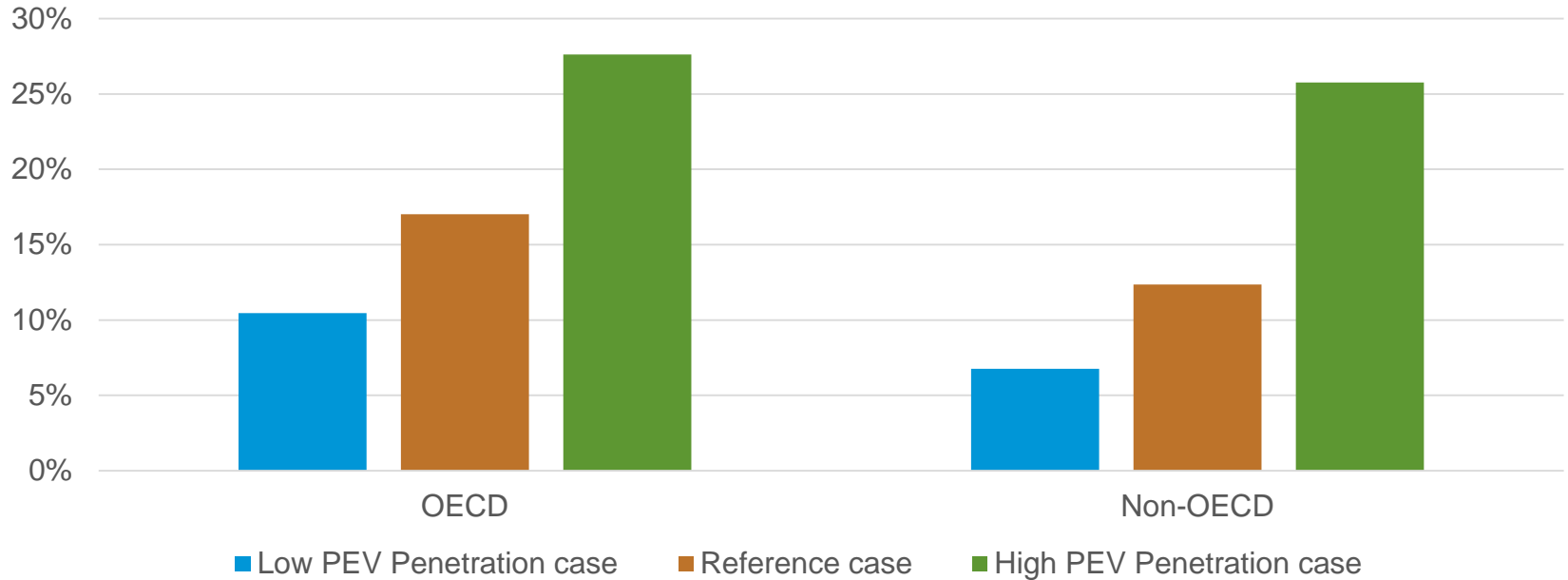
Plug-in electric light-duty vehicle stock percent



Source: EIA, International Transportation Energy Demand Determinates (ITEDD-2017) model estimates

# OECD has higher percentage of PEV stock in all three scenarios in 2040

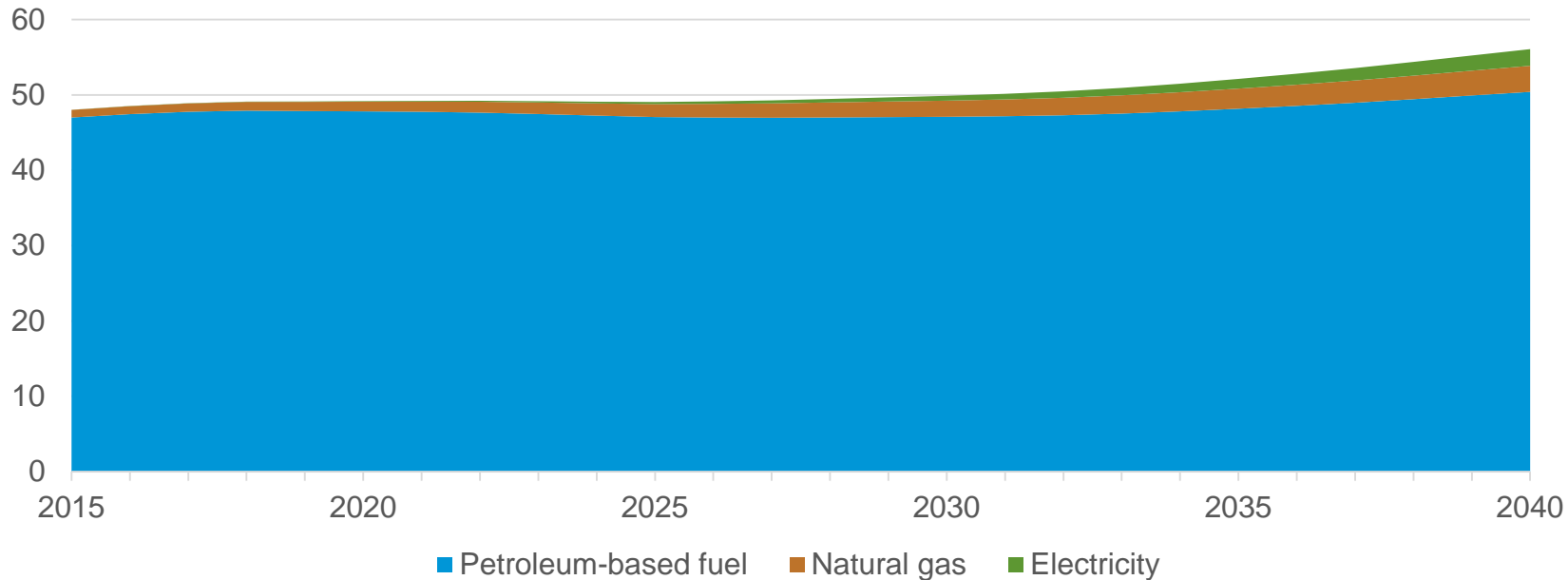
Plug-in electric light-duty vehicle stock percent



Source: EIA, International Transportation Energy Demand Determinates (ITEDD-2017) model estimates

# Petroleum-based fuel share for LDVs decreases from 98% in 2015 to 90% in 2040 in the Reference case

Light-duty vehicle energy consumption  
quadrillion Btu

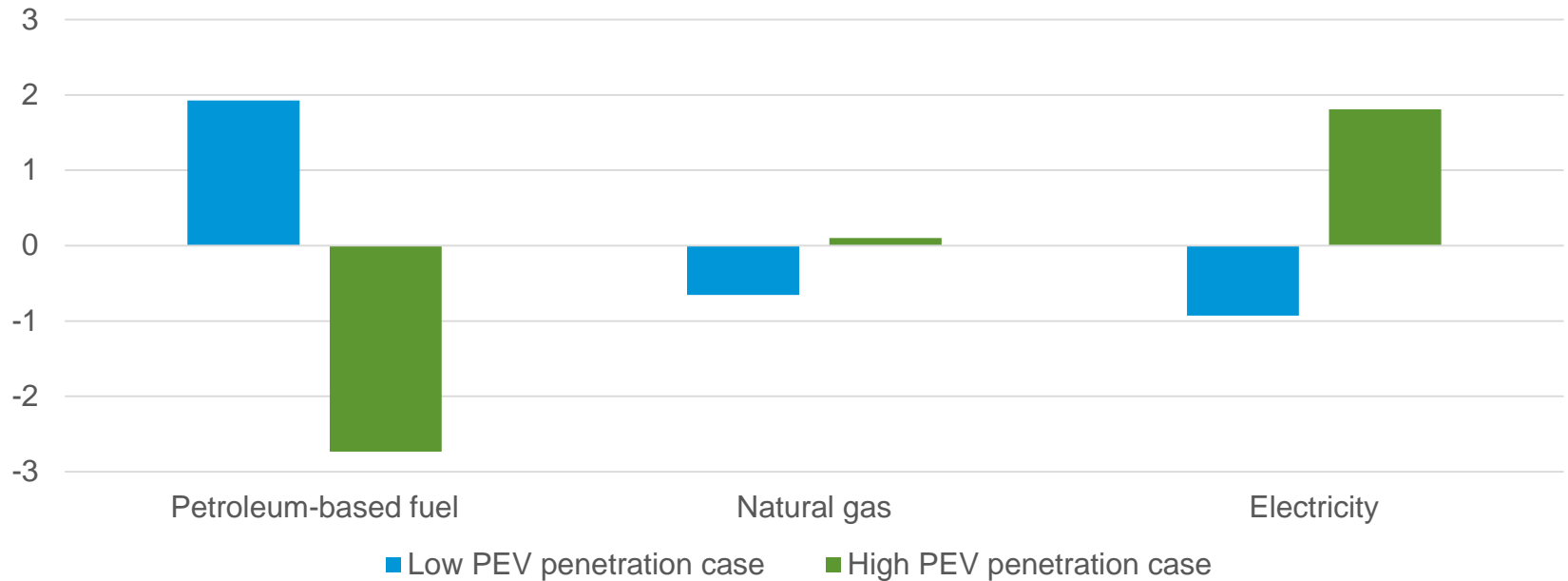


Source: EIA, *International Transportation Energy Demand Determinates (ITEDD-2017)* model estimates



# Difference in petroleum-based fuel consumption is larger than difference in NG or electricity fuel consumption between Reference and side cases in 2040

Difference in light-duty vehicle energy consumption  
quadrillion Btu



Source: EIA, International Transportation Energy Demand Determinates (ITEDD-2017) model estimates

# Thank you

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International Energy Outlook | [www.eia.gov/outlooks/ieo](http://www.eia.gov/outlooks/ieo)

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