

# Sustainable Transport programme

## Vehicle and Battery Technology Developments

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Head of Emerging Sectors

Eirgrid eMobility Day  
14<sup>th</sup> Oct 2019

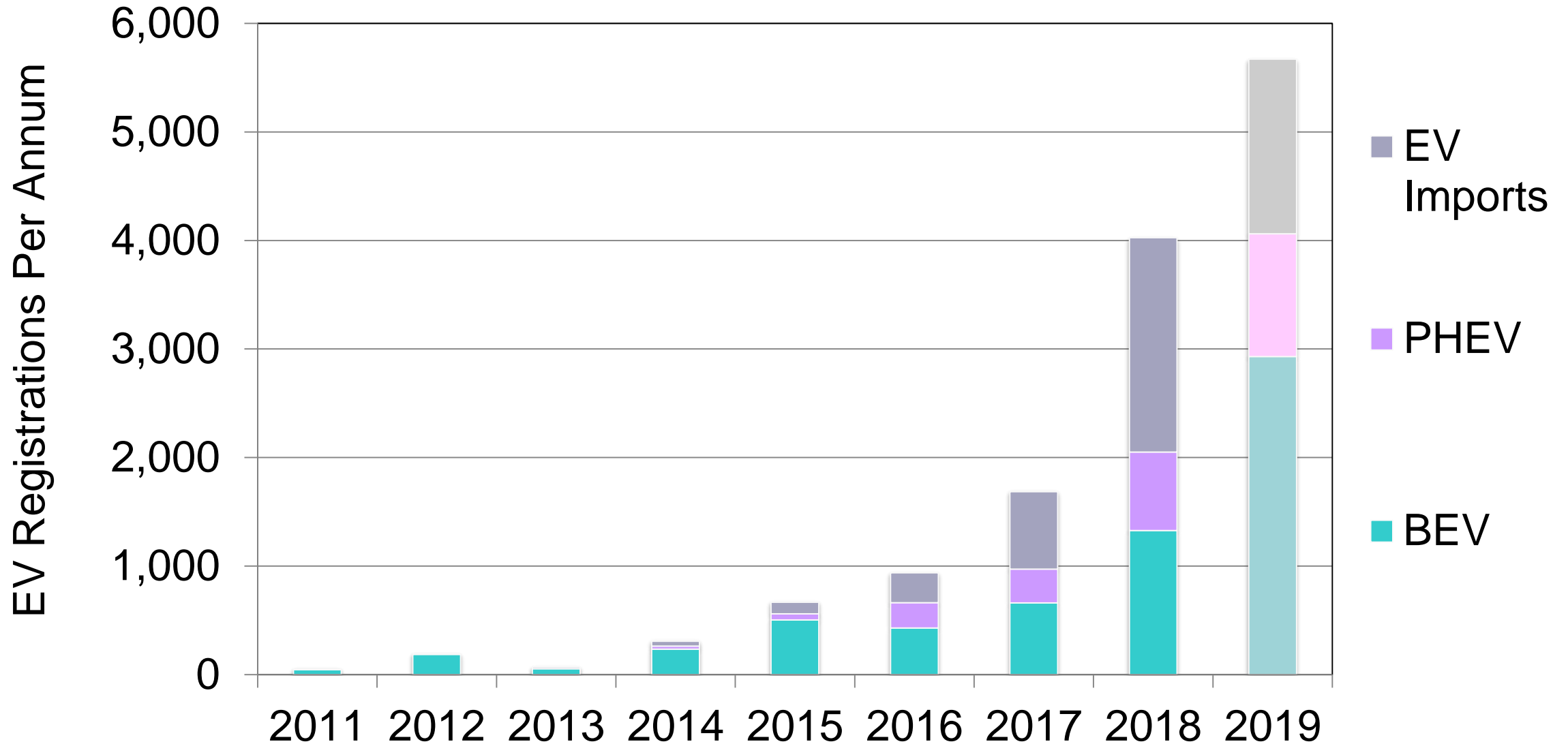


## **The EV Programme to date**

**Market progress and what's coming next?**

**What questions must be answered?**

# Number of EVs on Irish Roads is now +12,650



## SEAI Measures

- Grant for EV (up to €5k) + 5k vrt
- Grant for Domestic EV Chargers (€600)
- Grant for Local Authority – On street (€5k)
- Accelerated Capital Allowances
- [www.drivingelectric.ie](http://www.drivingelectric.ie)

## Non-SEAI Measures

- Taxi Grants (+7kEuro (NTA))
- Tolls (discounts for EVs)
- Benefit In Kind relief for BEVs only
- No BIK on electricity used for transport
- Climate action fund for fast chargers



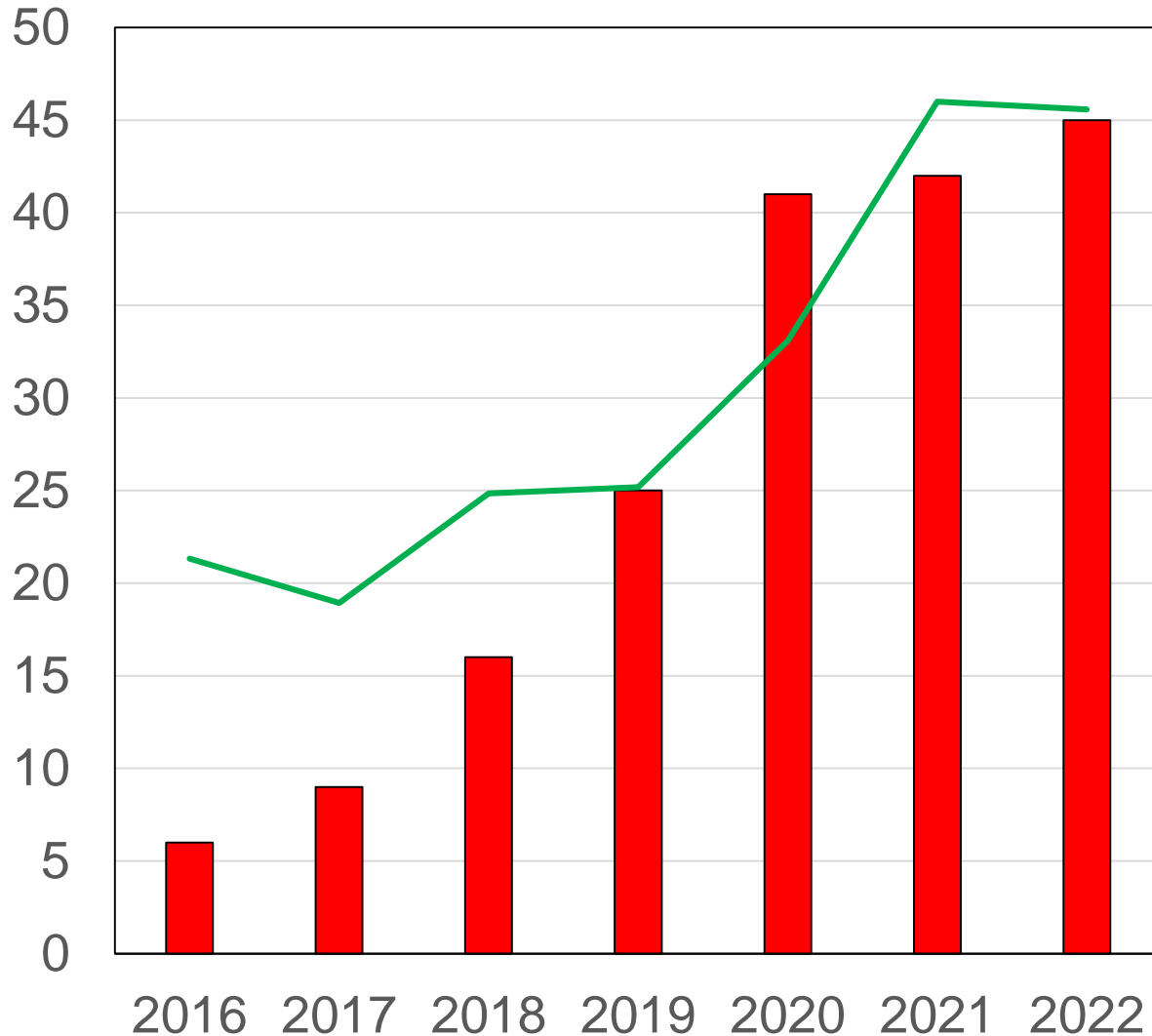
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# Number of BEV models planned & Range km (using new WLTP drive cycle)

Cumulative Number of BEV Models Available Now & Announced



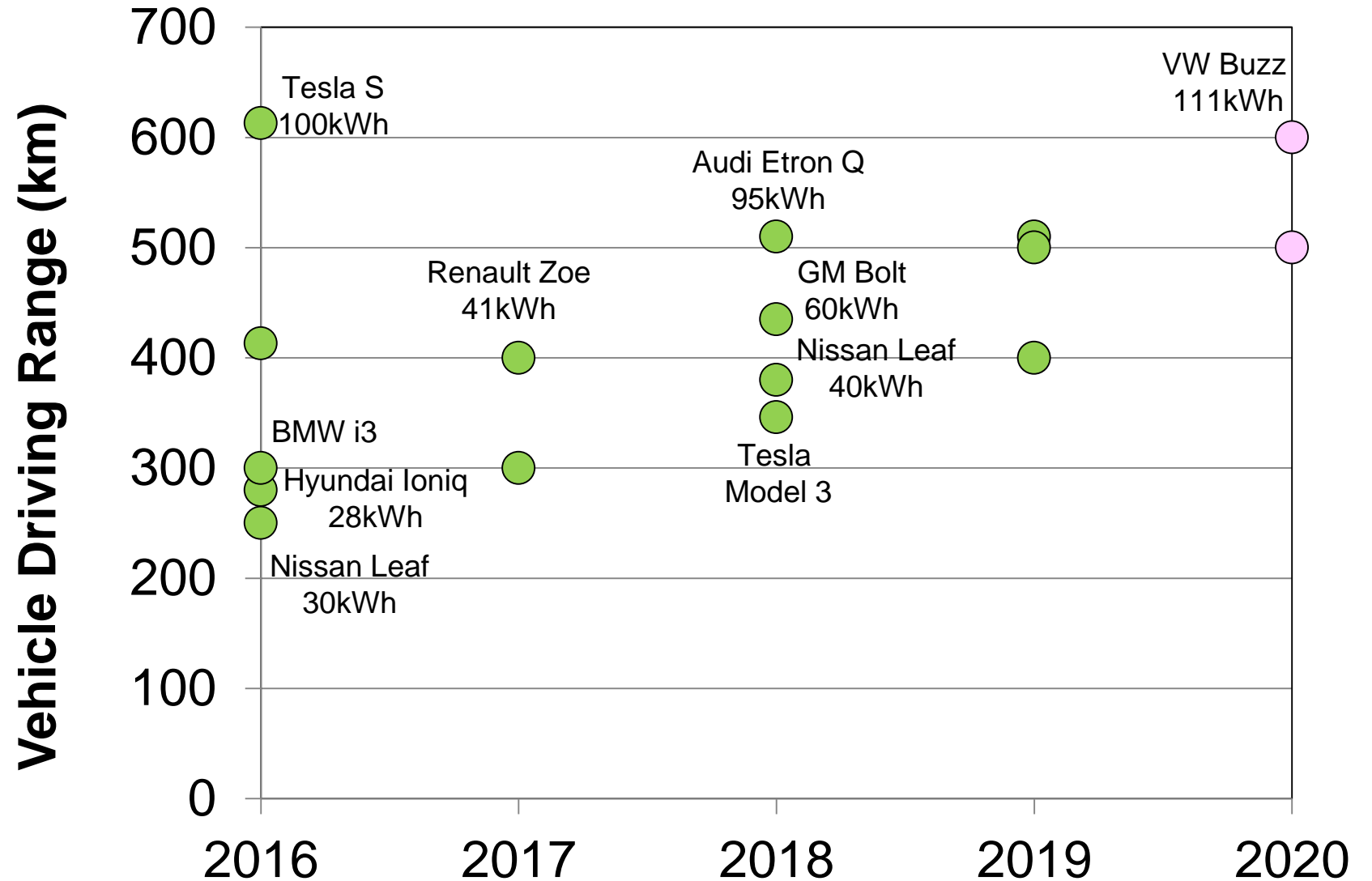
Av. km Electric Range-New Models

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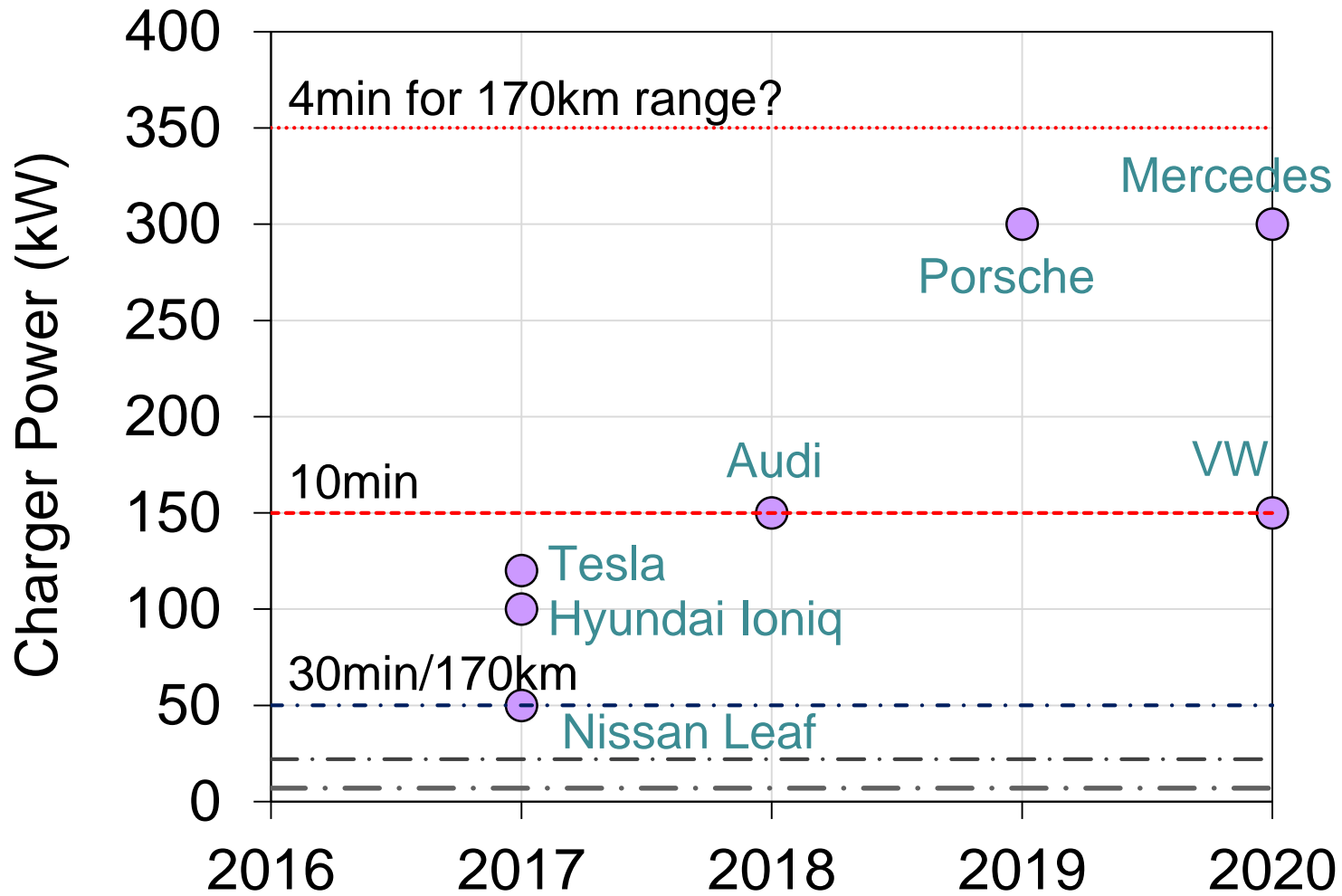


# Batteries Steadily Growing in Size

- Low Energy & Maintenance Costs
- Toxic gases from Combustion in cities eliminated
- Battery Life Increases with Size



# How Fast Will Cars be Charged?





- **Lidl**
  - “40 chargers at 20 stores”
- **EasyGo**
  - 184 chargers in Dublin area
- **Tesla**
  - 120kW units at 6 sites in Ireland
  - +45 “destination” chargers in ROI
- **Ionity**
  - 350kW units at 4 to 6 sites
  - Operational: Cashel & Gorey
- **ESB Ecars** (20mEuro investment)
  - 50kW -> **150kW**



- **E-Mobility**
  - Move towards electric drive trains
  - Personal mobility
  - Congestion Solution + Environment Soln
- **CONSIDER**
  - **E-Pedal Bikes:**
  - **E-Scooters**
  - **E-Motorbikes/Tricycles/Quadracycles/Scoot?**
    - Those which pay road tax = **SEAI Grant**
    - Exciting Quad/Tricycl opportunities
- **CITY TRENDS**
  - Mobility As A Service (MAAS)



# Commercial Vehicles & Urban Buses



Nissan Env200  
200km to 300km



Renault Kangoo ~200km



Mercedes eSprinter – 150km



LDV EV80 – 190km



Fuso ECanter 7.5t – +100km



Volvo – 19kWh battery

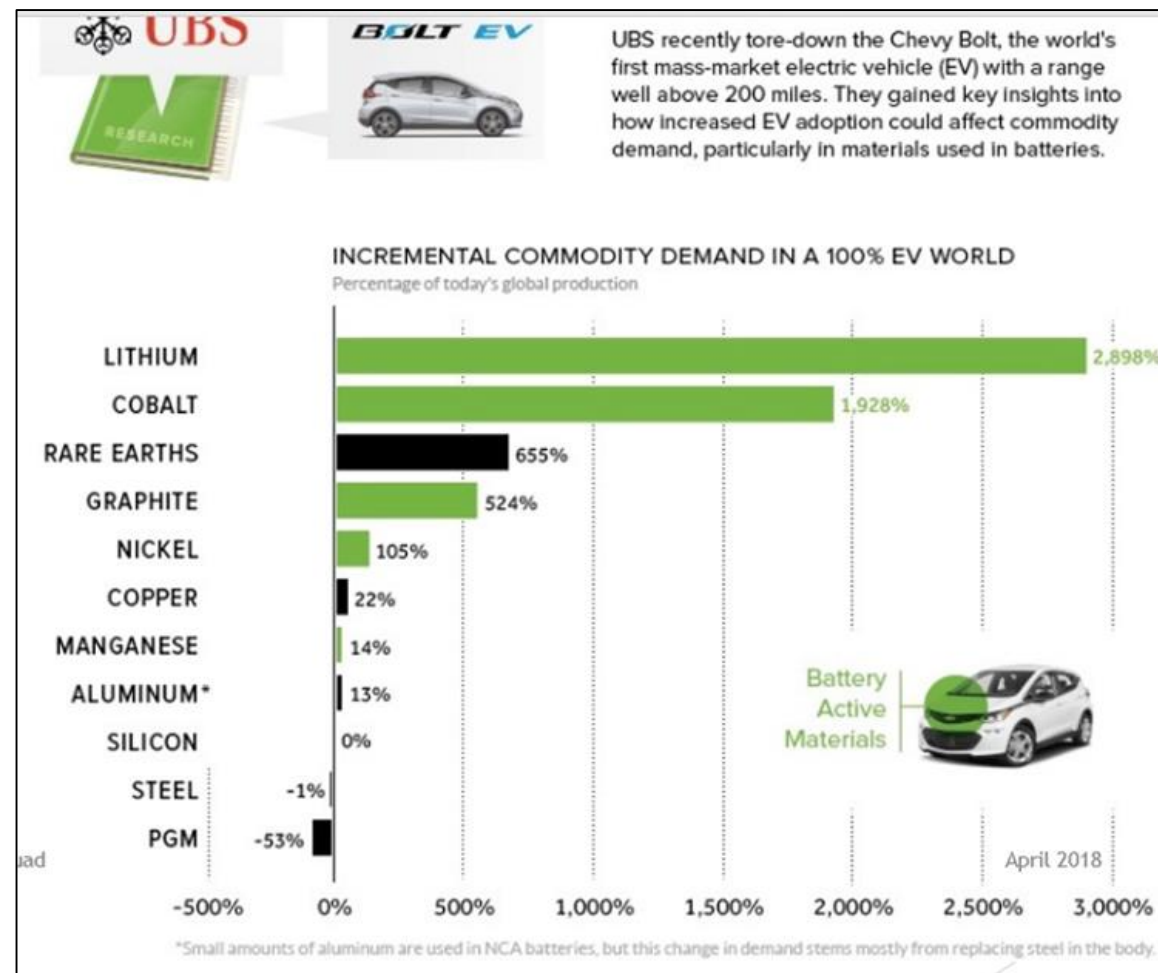
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- **How Much Grid Investm is justified?**
  - Irish Times: National grid may have to be “beefed up” for 1million EV
  - 1m x 7kW = +7GW power (peak power today is 6.5GW!)
- **Are EVs Really Sustainable?**
  - Cost, Emissions, Energy, RE content, Manufacture, Recycle?
- **Are there Material Supply or Ethical Constraints?**
- **Technology Demos**
  - V2G/V2X/Induction/Aggregation/Smart Control & Market Design



# Thank You

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