Sustainable Transport programme

Vehicle and Battery Technology Developments

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Eirgrid eMobility Day
14th 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

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
The EV Programme to date

Market progress and what’s coming next?

What questions must be answered?
Number of **BEV** models planned & Range km (using new WLTP drive cycle)
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?

- **Nissan Leaf**: 30min/170km
- **Hyundai Ioniq**: 30min/170km
- **Tesla**: 10min
- **Audi**: 10min
- **Porsche**: 4min for 170km range
- **VW**: 4min for 170km range
- **Mercedes**: 4min for 170km range
Charging Infrastructure Developments

• **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/Tricycle opportunities

**CITY TRENDS**

- Mobility As A Service (MAAS)
Commercial Vehicles & Urban Buses

- **Nissan Env200**: 200km to 300km
- **Mercedes eSprinter**: 150km
- **Fuso ECanter 7.5t**: +100km
- **Renault Kangoo**: ~200km
- **LDV EV80**: 190km
- **Volvo**: 19kWh battery
The EV Programme to date

Market progress and what’s coming next?

What questions must be answered?
Ongoing research required

- **How Much Grid Investm is justified?**
  - Irish Times: National grid may have to be “beefed up” for 1million EV
  - $1m \times 7\text{kW} = +7\text{GW}$ 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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