Bonneagar Iompair Éireann
Transport Infrastructure Ireland

# NATIONAL ROADS AND GREENWAYS CONFERENCE 2023

*Thursday 28th and Friday 29th September 2023*

# Fuelling on Ten-T network EV Charging / Other Fuels

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*David Carroll, & Donal Minnock, TII*

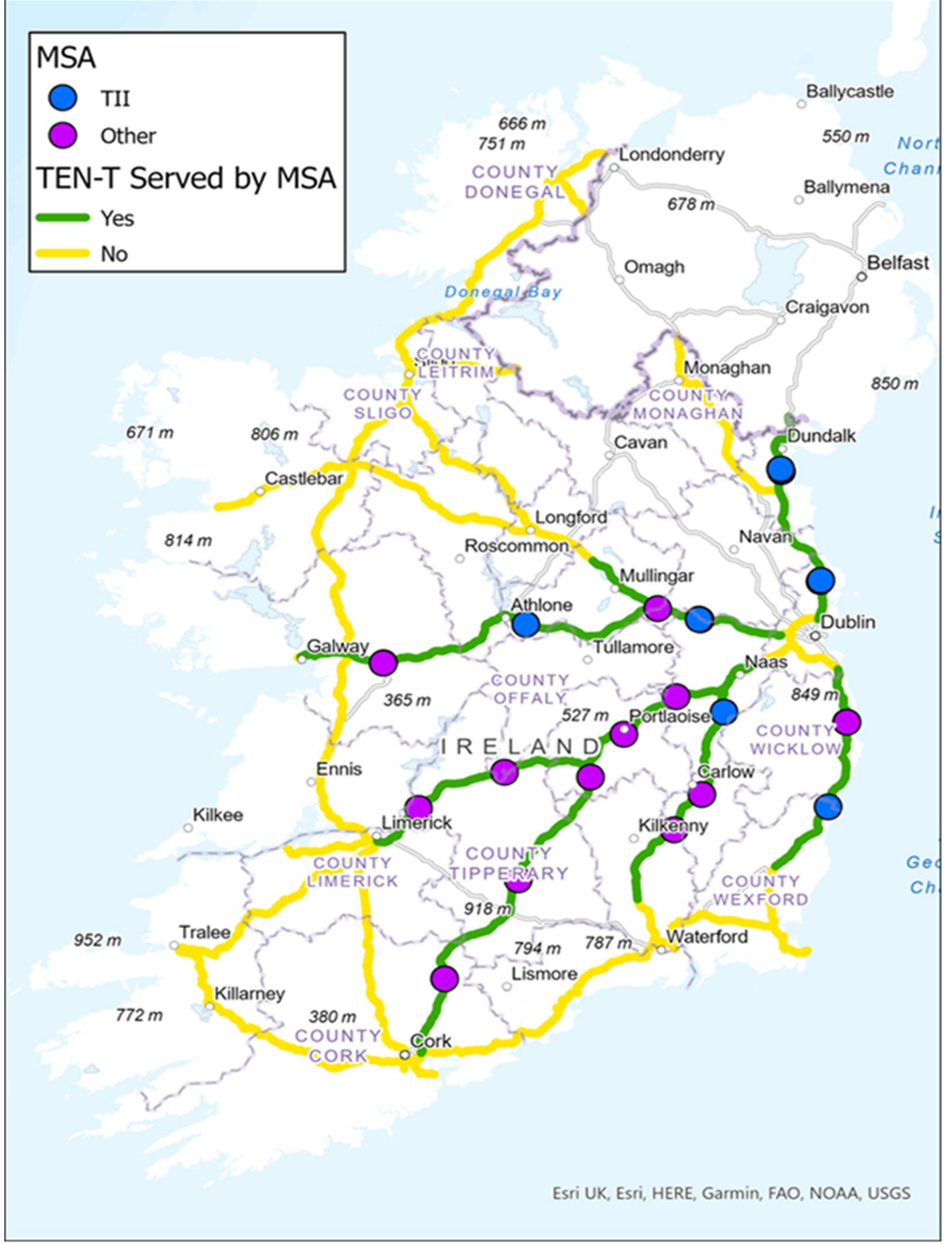
*Friday 29th September 2023*
*Session 5: Protection & Renewal*

# Why TII?

- **New Statutory Function:**
- Section 44 of the Roads Act and Road Traffic Act was enacted in July. TII now has a statutory function to provide a ***"Safe and Efficient"*** network of recharging and refuelling infrastructure.
- **EU Regulation**
- The Alternative Fuels Infrastructure Regulation **(AFIR)** has been adopted by the European Parliament
- CAP2023 identified TII as the body responsible for delivering the AFIR requirements on the TEN-T.
- **Government Policy**
- ZEVI has published the **National En-route EV Charging Network Plan (NEEVCNP)**.
- The plan sets out the goal to go beyond AFIR and provide EVCI on the whole NRN.
- The plan also identifies the Motorway Service Areas as key locations for EVCI.

# Where?

- In the short term our focus is on the TEN-T.
- Cars/LDV's – we are designing a competitive support scheme.
- ESB Networks are key.

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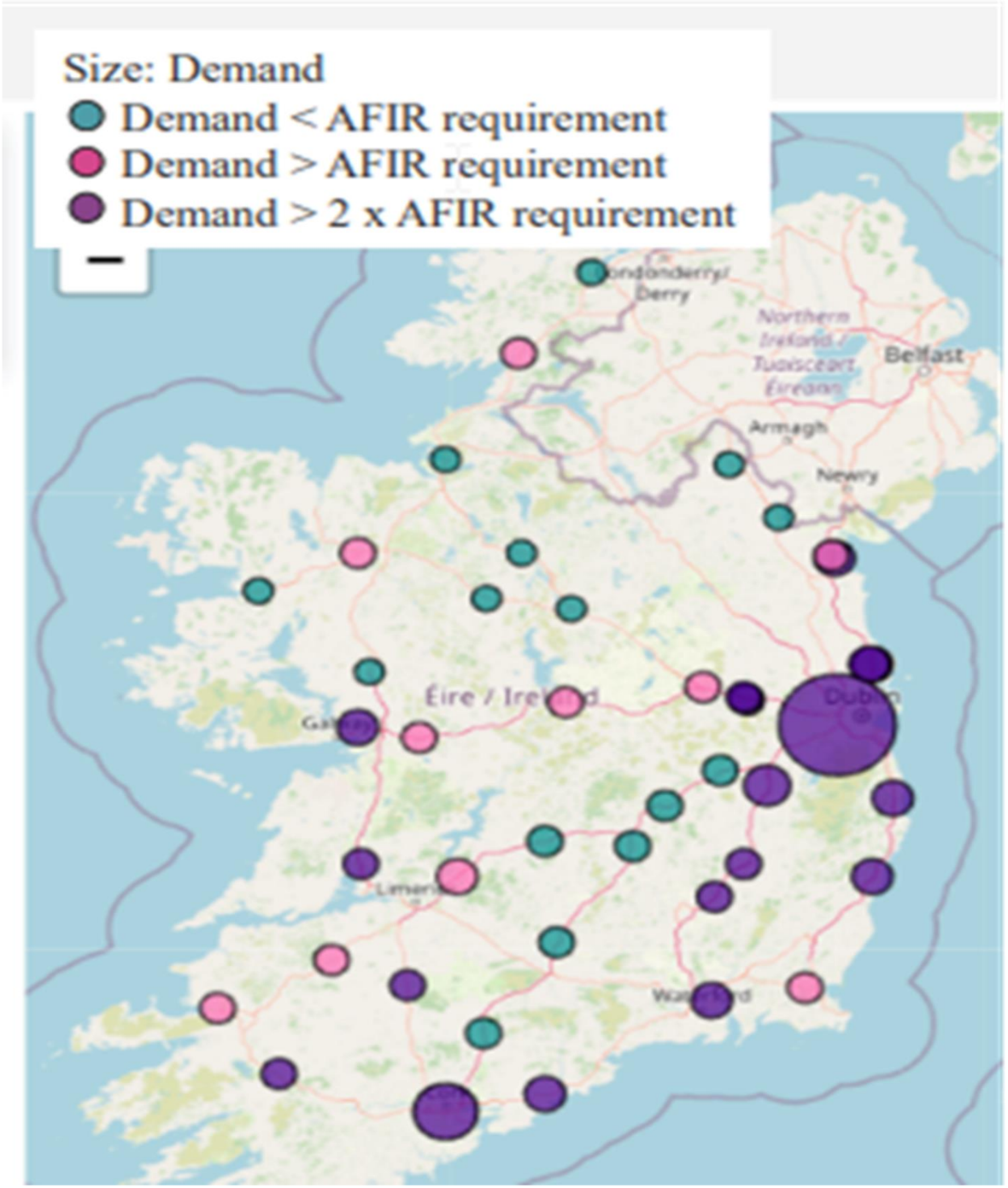
# Where?

- In the medium term en-route charging will need to be more widely available.
- Overall modelling indicated that AFIR is a minimum for cars/LDV's.

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# How much power is needed?

| Location | AFIR 2025 | Alternative 2 2025 | AFIR 2027 | AFIR 2030 | Alternative 2 2030 |
|---|---|---|---|---|---|
| **TEN-T Core** (Motorway) (Each Direction) | 400kW @ 60km | 600kW @ 60km | 600kW @ 60km | 600kW @ 60km | 1,800kW @ 60km |
| **TEN-T Comprehensive** (Motorway/Dual Carriageway) (Each Direction) | | 600kW @ 60km | (50%) 300kW @ 60km | 300kW @ 60km | 1,800KW @ 60km |
| **TEN-T Comprehensive** (Single Carriageway) (Each Direction) | | 300KW @ 60km | | | 600kW @ 60km |
| Primary and Secondary roads Non TEN-T | | 100kW @ 30km | | | 300kW @ 20km |

# Grid Capacity

- CAP2030 and AFIR place a considerable burden on ESB Networks:

| Year | BEV | PHEV | Total EVs | | Total Charge Point Capacity Required [kW] |
|---|---|---|---|---|---|
| **2022** | **35,104** | **32,392** | **67,496** | | |
| 2025 | 101,938 | 94,062 | 196,000 | | **207,769** |
| 2030 | 491,485 | 453,515 | 945,000 | | **1,001,743** |
| | | | **Total cumulative installed capacity to be added by 2030 (for AFIR Fleet requirement)** | | **1,000MW (or 1GW)** |

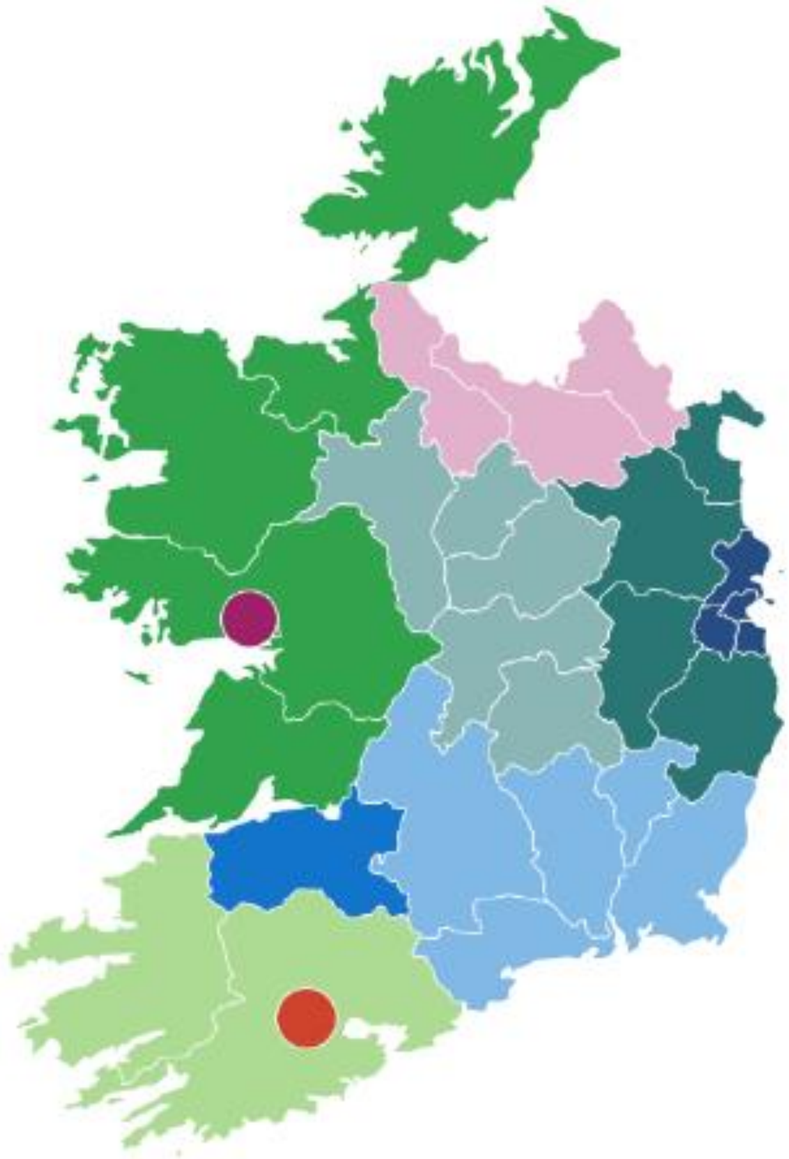
The target for the NRN is a significant portion of this:

| | LDV | HDV | Total in kW |
|---|---|---|---|
| **2025** | Assume Alt 2 (2025) 45,200 | Assume AFIR 2025 9,800 | 55,000 |
| **2030** | Assume Alt 2 (2030) 95,500 | Assume AFIR 2030 115,150 | 210,650 |
| | | **Total cumulative installed capacity to be added by 2030 (for AFIR Road Transport requirement, NRN)** | **266MW** |

*Currently there is just under 10MW of EVCI capacity on the NRN*

# Destination & Neighbourhood Charging

- En-route charging will only be 24% to 39% of public charging by 2030
- Most will be Destination or Neighbourhood Charging
- The plan for Destination & Neighbourhood Charging will be published in Q1 2024
- Regions for strategy development are a possibility:



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