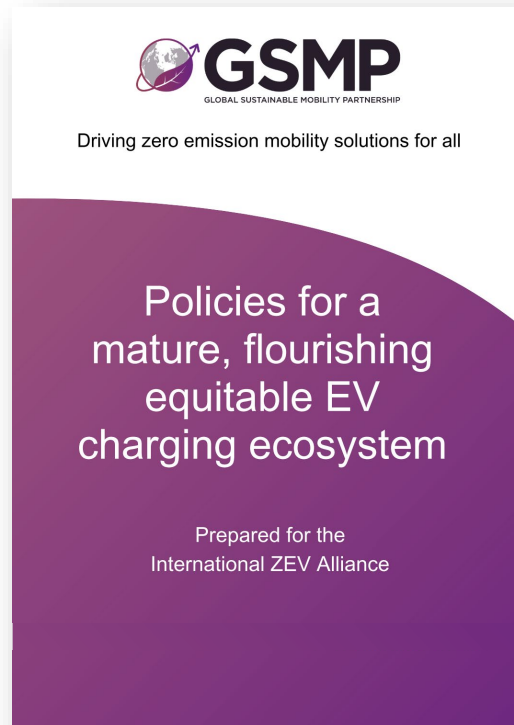


# GEF funded Global eMobility Programme

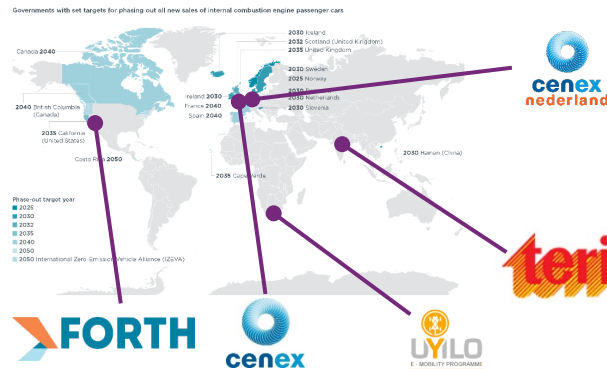
International Energy Agency Webinar – Wednesday 8 December 2021



Launched at COP26, Glasgow

# GSMP was commissioned by ICCT

- International Council on Clean Transportation
  - Secretariat for the International Zero-Emission Vehicle Alliance
- GSMP



## Scope:

- Provide an update on charging deployments and the development of users' needs;
- Describe how different types of chargers can serve the full ZEV market;
- Review charging needs and equity challenges in urban and rural areas;
- Analyse the financial viability of public charging in major markets; and
- Examine emerging solutions for commercial vehicles.

➤ The report recommends possible policies and best-practice for governments

# What maturity looks like to users

- The most mature EV charging ecosystems carefully match user segments with charging locations and serve them with appropriate charger types

- Charging locations are private or public

Location	Private		Public			
	Residential	Commercial	Roadside	Destination	Hub	Travel Corridor
Segment	Private vehicles	Fleets & staff	Private vehicles, high mileage local	Private vehicle, rural Long haul	Fleets & staff, high mileage local	Fleets & staff Rural Long haul

	Slow ⚡	Standard ⚡⚡	Fast ⚡⚡⚡	Rapid ⚡⚡⚡⚡	Ultra-Rapid ⚡⚡⚡⚡⚡
Location	Private residential Public roadside	Private residential Private commercial Public roadside	Private commercial Public destination	Private commercial Public destination Public hub	Public hub Public travel corridor

## Note for US readers:

- Slow = Level 1
- Standard & Fast = Level 2
- Rapid & Ultra-Rapid =DC Fast Charge

# Policies to ensure mature ecosystems flourish

Barrier:	Policy Targets:
Public charger (un)reliability	Must be guaranteed through technical and contractual means, and be visible to users to build up confidence in the network
Inter-operability	Protocols, payment, pricing structures and access must be harmonised within jurisdictions as well as allowing cross-border travel
Lack of coordinated policy	Best-practice must be shared between and across different government levels with clear national expectations for the roles of each party
Electricity network constraints	Significant work must be done to share data, deploy innovative storage technologies, build EV expertise in the network operators, mandate proactive investment to increase capacity, and fund upgrades
Poor business case	Targeted and more consistent funding must be made available to ensure a just and swift transition

- In countries where these are not currently present, these high-level points should be formulated into a policy agenda to underpin the flourishing of the charging ecosystem

# Equality or Equity?

- *Equality* and *Equity* are often used interchangeably but are distinct
- An equity-focused approach aims to ensure people receive what they need to be successful
- This means different responses to different situations



- An equity-focused approach may be more difficult in the short-term but will yield better opportunities and outcomes in the long-term

# How to flourish in an equitable manner?

## Headlines:

- Expanding access to electric mobility has significant social and environmental benefits
- Chargers have so-far tended to be deployed in more affluent areas
  - For example, cities where EVs are 10%+ of the market are the wealthiest: Palo Alto, Los Altos, Saratoga
- Without public intervention, historically underserved neighbourhoods run the risk of being further excluded

## Solutions:

- Community-based needs assessments
- Engaging the community in the development process
- Measure and analyse the results

### Goal #1 Increase Access to Mobility

1. Affordability
2. Accessibility
3. Efficiency
4. Reliability
5. Safety

### Goal #2 Reduce Air Pollution

6. Clean Air and Positive Health Benefits
7. Reduction in Greenhouse Gases
8. Reduction in Vehicle Miles Traveled

### Goal #3 Enhance Economic Opportunity

9. Connectivity to Places of Employment, Education, Services, & Recreation
10. Fair Labor Practices
11. Transportation-Related Employment Opportunities
12. Inclusive Local Business & Economic Activity

# uYilo Smart Grid EcoSystem for EV-Grid Inter-operability

Facility established in 2015:



- Solar energy **Generation**
- **Storage** through second-life EV battery in stationary application (multi-manufacturer)
- **Distribution** through multiple charger network (AC charge points, DC fast chargers)
- **Vehicle-to-Grid** Ancillary Services
- Multiple **Charge Point Operator** hosting
- Energy **Management** System (IEC 61850)





