



Electro-mobility: the regulatory view point

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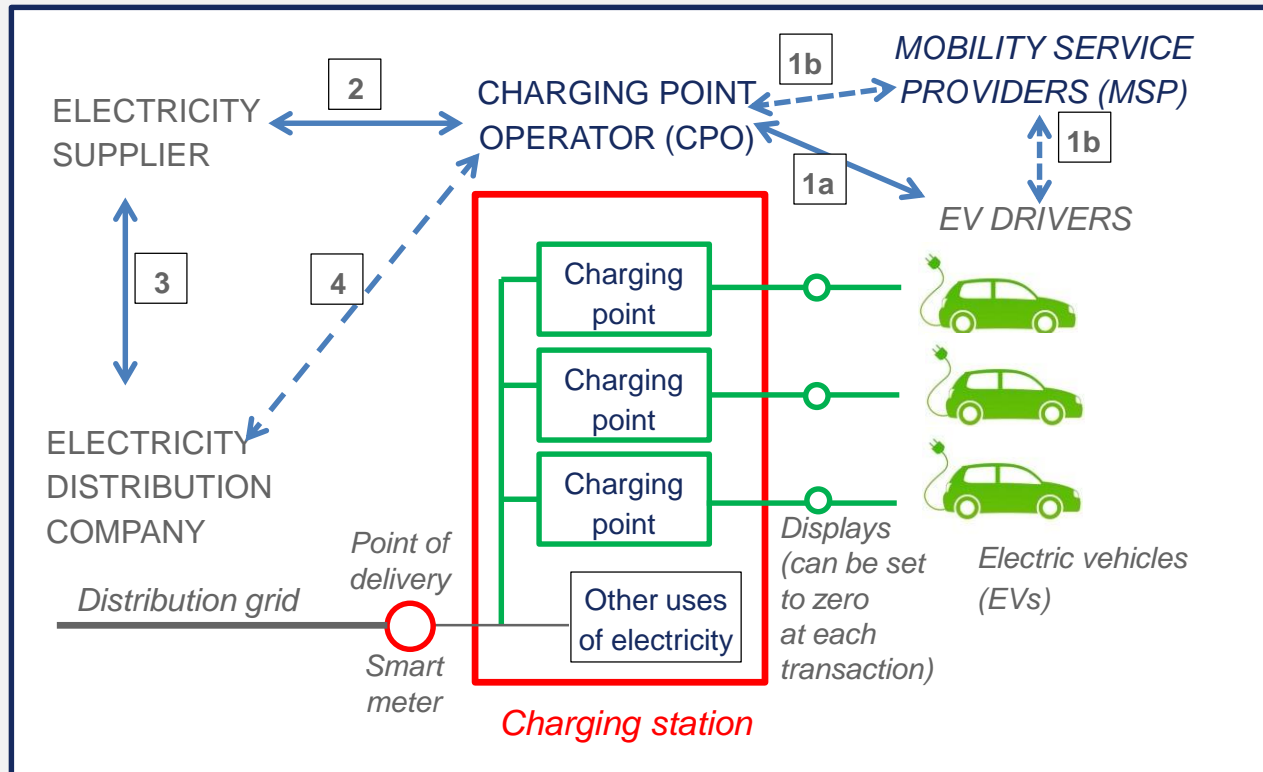
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Workshop e-Moticon

«Round Table 4: Strategy and Rules»

Milano, 26 marzo 2019

EV recharge (in public places): actors and relationships



CONTRACTUAL RELATIONSHIPS

- 1a. EV Driver – CPO (directly)
- 1b. EV Driver – CPO (intermediated by MSP)
2. CPO – Elect. Supplier
3. Elect. Supplier – DSO
4. DSO – CPO (only for connection)

- Electricity retail market and Mobility services market are fully distinct each other (and under separate regulatory jurisdictions)

BREAKDOWN of total cost of the EV recharge service

TOTAL COST of EV RECHARGE SERVICE (for the owner of the charging point)

ELECTRICITY SUPPLY

CHARGING INFRASTRUCTURE

Either **in public places**
(«charging pole»)
or **in private places**
(«wall box» at home)

REGULATED CHARGES AND TAXES

ELECTRICITY MARKET

**NETWORK
TARIFFS**

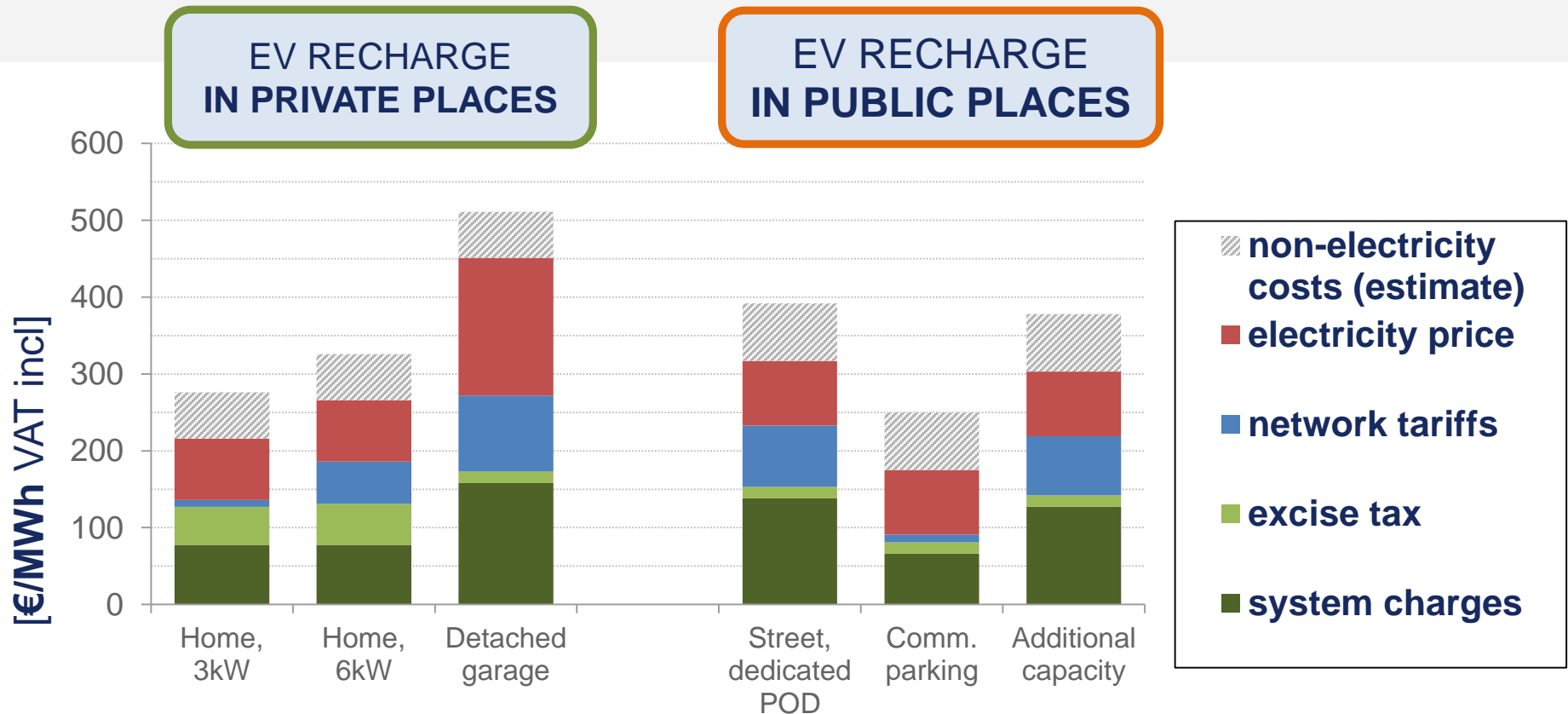
**SYSTEM
CHARGES**

**EXCISE
TAX**

**ELECTRICITY
PRICE**

Non-electricity costs
(estimation)

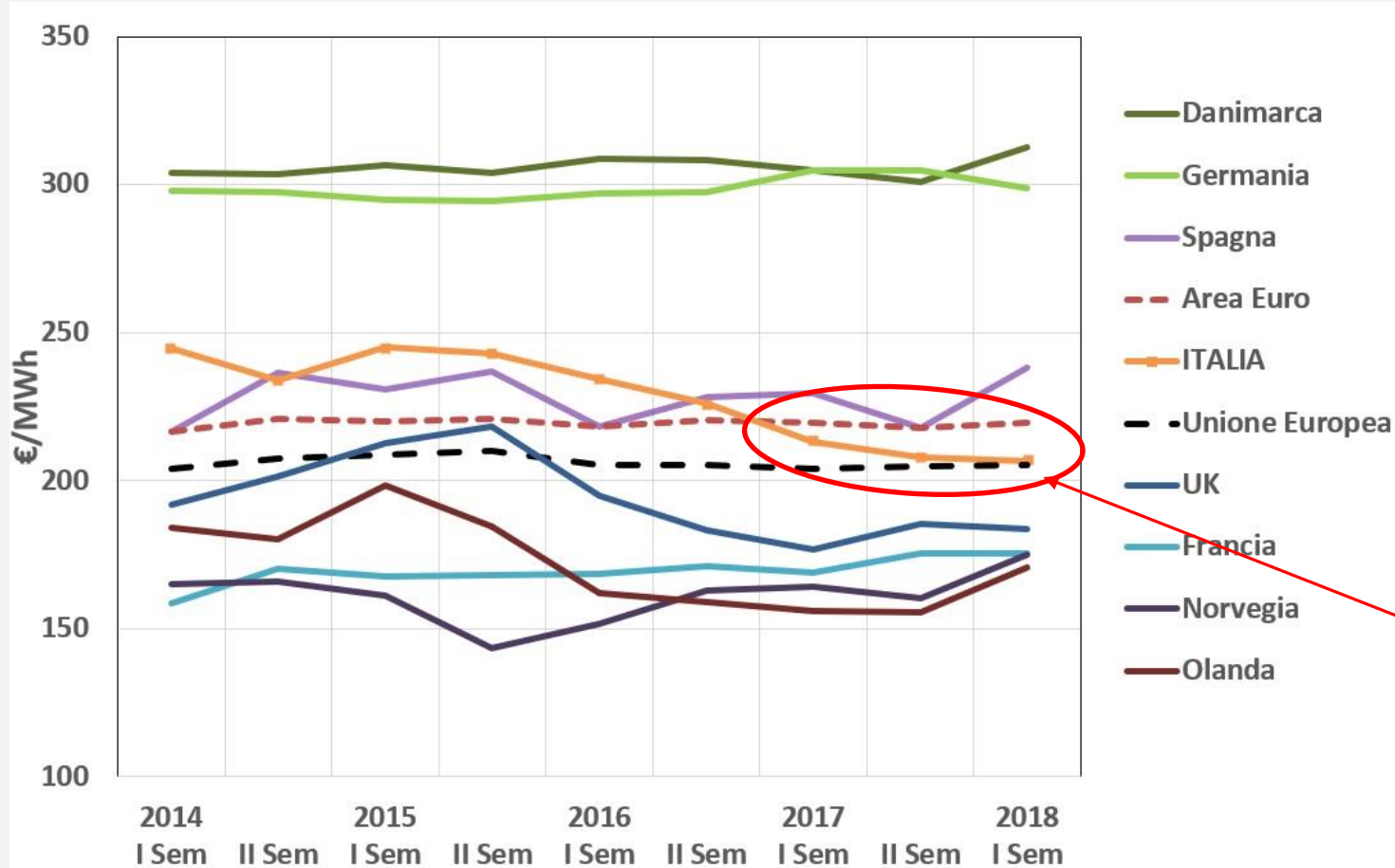
EV RECHARGE: some cases in both private and public places



ARERA elaborations. Full details: www.arera.it/allegati/elettricit/schede/TariffePrezziRicariche_st.pdf

EV RECHARGE AT HOME: electricity prices in Europe for HH

Andamento tra il 2014 e il 2018 dei prezzi medi in diversi paesi europei per la fornitura di energia elettrica a clienti domestici con consumi annui compresi tra 2500 e 5000 kWh/anno



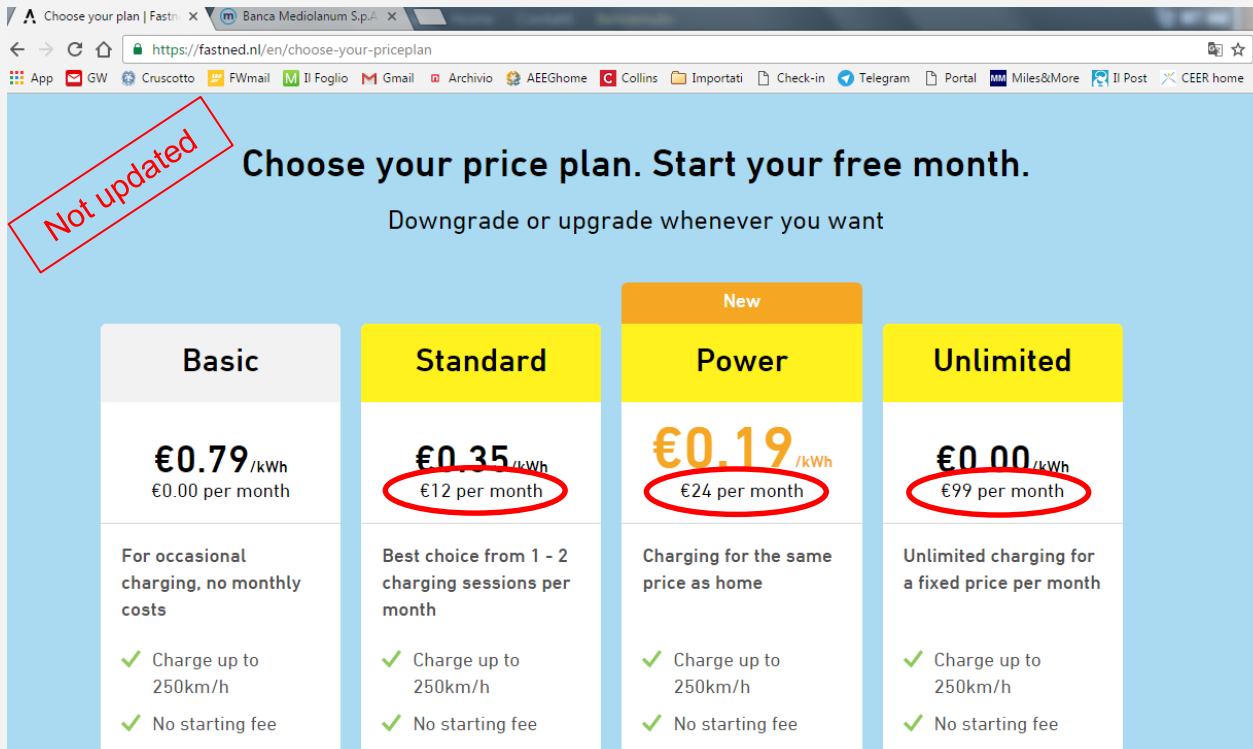
(source: Eurostat ;
1 €/MWh = 10 c€/kWh).

From 2017 average prices in Italy are lower than average prices in the Euro zone

EV recharge pricing: an example from The Netherlands

...prices charged by the operators of recharging points accessible to the public are reasonable, easily and clearly comparable, transparent and non-discriminatory

AFID, 4(10)



Choose your price plan. Start your free month.
Downgrade or upgrade whenever you want

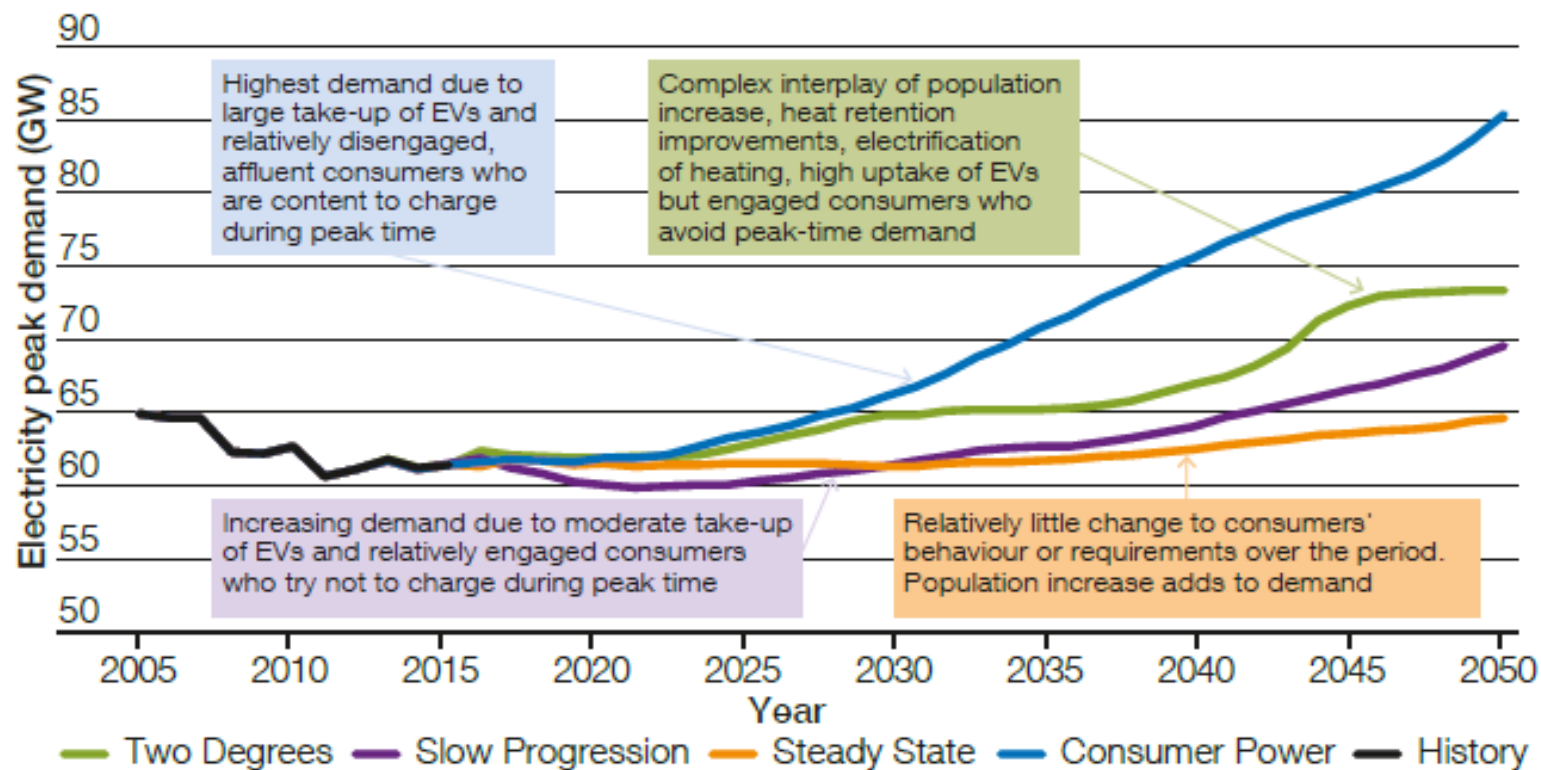
Basic	Standard	New Power	Unlimited
<p>€0.79 /kWh €0.00 per month</p> <p>For occasional charging, no monthly costs</p> <ul style="list-style-type: none"> ✓ Charge up to 250km/h ✓ No starting fee 	<p>€0.35 /kWh €12 per month</p> <p>Best choice from 1 - 2 charging sessions per month</p> <ul style="list-style-type: none"> ✓ Charge up to 250km/h ✓ No starting fee 	<p>€0.19 /kWh €24 per month</p> <p>Charging for the same price as home</p> <ul style="list-style-type: none"> ✓ Charge up to 250km/h ✓ No starting fee 	<p>€0.00 /kWh €99 per month</p> <p>Unlimited charging for a fixed price per month</p> <ul style="list-style-type: none"> ✓ Charge up to 250km/h ✓ No starting fee

€/MWh is a **too simple** approach:

1. **Fast** recharge cannot have the same price than **slow** recharge
2. In both cases, **smart charging** is the system need (time-of-use pricing)
3. Charging service does **not reflect only electricity** but also service quality (first: speed of charge)

Relevance of smart charging: a case from the UK

Figure 3.2
Electricity peak demand



Source National grid

<http://fes.nationalgrid.com/media/1253/final-fes-2017-updated-interactive-pdf-44-amended.pdf>



Thank you for your attention and questions

Dedicated webpage on the regulator's website
(in Italian only)

https://www.arera.it/it/elettricità/veicoli_ele.htm :



Ricarica veicoli elettrici: prime attività del regolatore (2011/12)

- **Prima consultazione pubblica** in Italia su questo tema
www.arera.it/allegati/docs/dc/10/037-10dco.pdf
- **Ricarica privata**: ammesso un secondo contatore per evitare effetti negativi della tariffa progressiva
www.arera.it/it/docs/10/056-10arg.htm
- **Progetti pilota ricarica pubblica**: su tre «modelli di business» (nel 2011, solo **ricarica «lenta»**, con parcheggio)
www.arera.it/it/docs/11/096-11arg.htm
- **Tariffa monomia** (senza quota fissa) per servizi di rete e oneri generali di sistema per punti BT dedicati (→ **BTVE**)
www.arera.it/it/docs/10/242-10arg.htm
- **Memorie e segnalazioni al Parlamento** (ruolo consultivo dell'Autorità di regolazione)
www.arera.it/it/docs/12/170-12.htm

Ricarica veicoli elettrici: ulteriori attività del regolatore (2015/19)

- **Ricarica pubblica**: dopo DAFI, non più modello «distributore»
www.arera.it/it/docs/15/005-15.htm
- **Ricarica privata**: sostanziale eliminazione tariffa progressiva che costituiva una barriera allo sviluppo della *e-mobility*
www.arera.it/allegati/docs/15/582-15air.pdf
- **Tariffa monomia** dei servizi di rete (senza quota fissa) per punti BT dedicati: confermata per il periodo 2016-19
www.arera.it/it/docs/15/654-15.htm
- **Collaborazione istituzionale** con Ministero delle infrastrutture e trasporti per predisposizione e aggiornamento PNIRE
- **Riforma della struttura degli oneri generali** per clienti non domestici (potenza come *driver* di allocazione degli oneri generali di sistema)
www.arera.it/it/docs/17/481-17.htm