€ of charging simplicity vs diversity

Michel Bayings
e-mobility consulting?

• Started: January 2013
• Active in electric mobility market since 2008
• Focuss: embedding electric mobility & charge infrastructure in smart cities using renewable energy and storage
• Involved in many international EV related projects, like:
  • Dutch Formule E-team (to promote eMobility on national and international level regarding policy and regulations)
  • EV Box, GreenFlux, E ON
  • Secretary of EV branch org. eViolin
  • Developed: EV chargepoint management systems CiMS
  • Initiated and developed worlds first national roaming sytem CIR
  • Business development and setup Open Charge Alliance (responsible for OCPP/OSCP)
  • Design E-Clearing.net platform (roaming hub)
  • Project management OCPI protocol (indep. protocol for roaming)
  • Strategic product advisor Streetplug
  • EU H2020 Smart City proposal judgement, regarding Electric Mobility

8-2-2018 www.emobilityconsulting.com
The Goal

• Users must be able to see AND understand the cost of charging BEFORE they start charging.
• Users must be able to see the cost of the charging AFTER the charging in a way that it can be verified.
The Challenge 1

• In BeNeLux app 30 CPOs and MSPs involved and >380 municipalities
• International cooperation and agreements needed
• Complex value chain: cp-owner, energy supplier, CPO, MSP, hub, EV driver

• €/kWh vs €/minute + €/start, €/connected but not charging, €/monthly etc
### OPLAADPAAL: KESSLER PARK 28 RIJSWIJK

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<tr>
<th>Paalcode:</th>
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<tr>
<td>Adres:</td>
<td>Kessler Park 28</td>
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<tr>
<td>postcode:</td>
<td>2288 GS Rijswijk</td>
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<tr>
<td>website:</td>
<td><a href="http://www.e-laad.nl">http://www.e-laad.nl</a></td>
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#### Tarieven (incl. paalkosten, paskosten, BTW)

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8-2-2018
The Challenge 2

• Project IDO laad found > 10 different charge cost parameter combinations in NL!!
  • Even €/kWh is in 3 different ways: fixed rate, peak and off peak rate, smart rate
• All municipalities use different ways and rates of calculating parking-not charging
• VAT challenge with cross border charging
• Many countries, many rates:
  • NL: between €0,22/kWh and €0,35/kWh
  • GE: between €0,48/kWh and €0,60/kWh or between €3,50 and €6,00/h
  • BE: between €0,36/kWh and €0,39/kWh or between €1,50 and €8,00/h
But… We make make progress

• Agreed that MSP is responsible for informing EV driver about cost
• Agreed to use a common protocol (OCPI) for exchanging this data
• Working on international agreements – NL leading
• Working on making cost UNDERSTANDABLE
• Call for ALL partners (incl. municipalities!)
  • make cost understandable
  • NO different ways of connection rates per municipality
  • Put the EV driver first

If YOU don’t understand your own prices, don’t push it to EV drivers
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