



Energiayhtiö osana kestävän liikkumisen ekosysteemiä

Aki Pesola
Fortum Innovation & Venturing
ITS Finland verkostopäivä 15.8.2019

IMATRAN VOIMA OSAKEYHTIÖ

Käyttöosasto

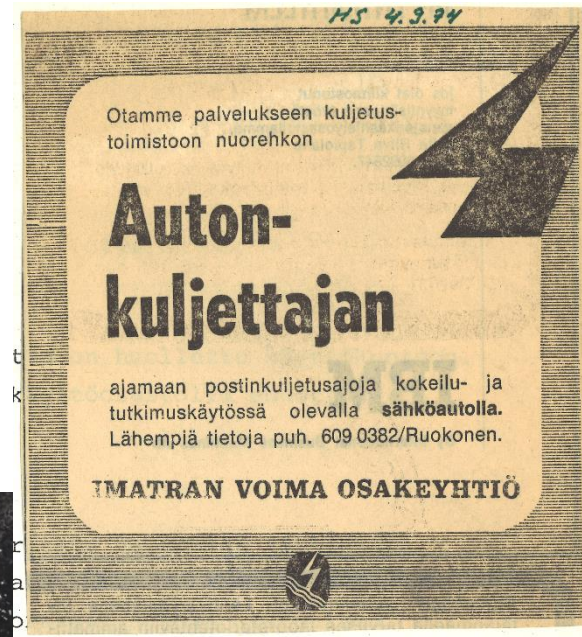
PM n:o 53/74/3.6.1974/Saurio, Toivonen/MSO

Sähköautojen käyttö

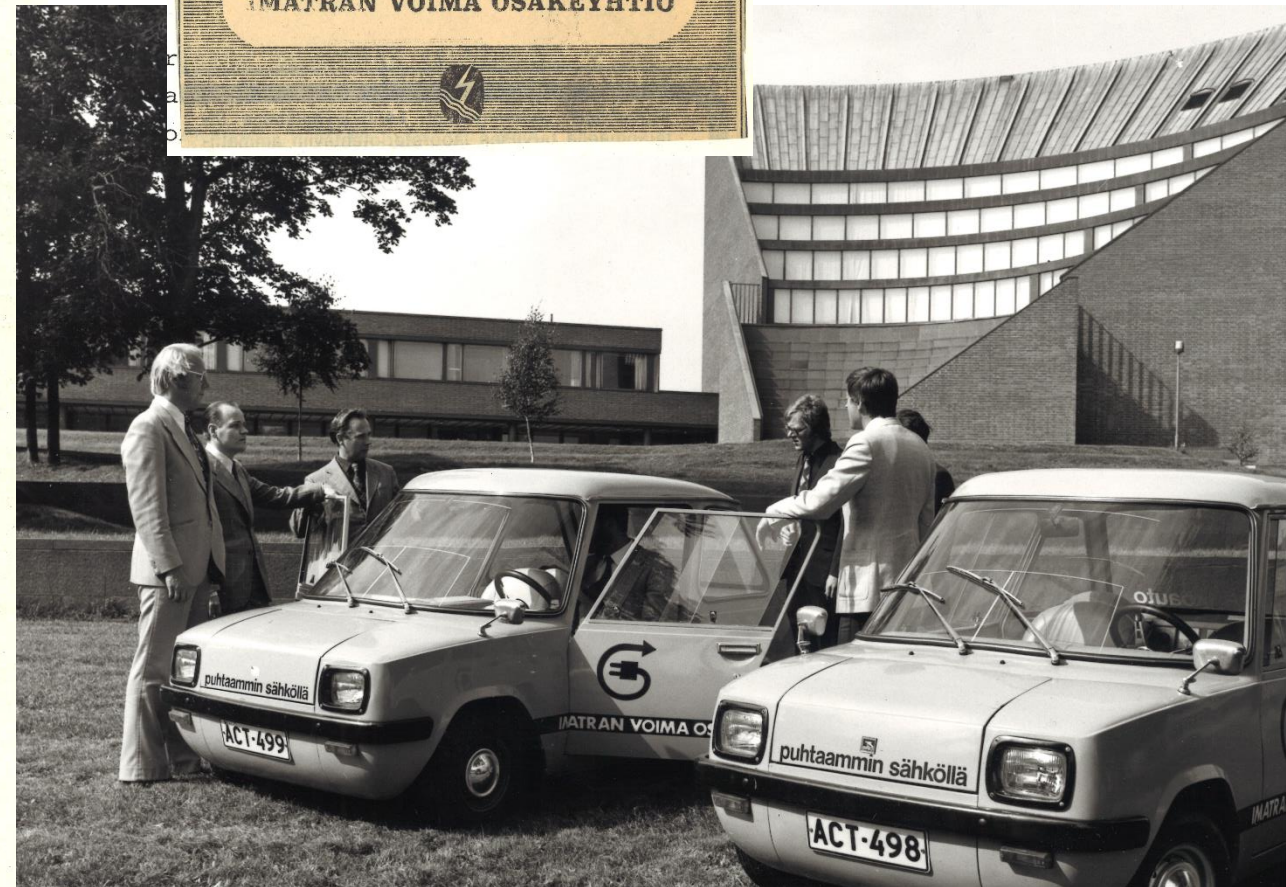
IVO:n tilaamat kaksi Enfield 8000 kaupunkisähköautoa ovat saapuneet 14.5.1974. Autojen rekisteröinti ja saattaminen Suomen viranomaisten vaatimaan kuntoon saattaa kestää jopa 2 kuukautta.

Toinen autoista sijoitettaneen IVO:n kuljetustoimiston alaisuudessa Helsingin lähiympäristön liikenteeseen. Toisen auton osalta IVO neuvottelee seuraavasta käyttöjärjestelystä Suomen Sähkölaitosyhdistys r.y.:n kanssa:

- Auto luovutetaan SLY:n käyttöön kokeilu- ja esittelytarkoitukseen erikseen sovittavaksi ajaksi.
- SLY vastaa ko. ajanjaksona kaikista auton käyttö-, huolto- ja ylläpitokustannuksista vakuutusmaksut mukaan lukien.
- Auto on SLY:n jäsensähkölaitoksien lainattavissa SLY:n vastuulla.
- Auton rekisteröinnin tapahtuessa odotettua lyhemmässä ajassa, auto voidaan luovuttaa SLY:n käyttöön jo tänä kesänä. Tällöin SLY:n tulee palauttaa auto IVO:lle mahdollisia kunnostustoimia varten viikkoa ennen seuraavia kesän -74 messuja: 13...16.6., 29.6...7.7. ja 2...11.8.
- Tarkemmin auton käytöstä sopii SLY:n sähkön käytön edistämisosasto sekä IVO:n myyntitoimisto.



1974



Sustainable mobility ecosystem for a cleaner world

Why?

What?



How?



Electric



Connected



Autonomous



Shared



Alternative fuels

Innovation & Venturing for a cleaner world



Build
new businesses



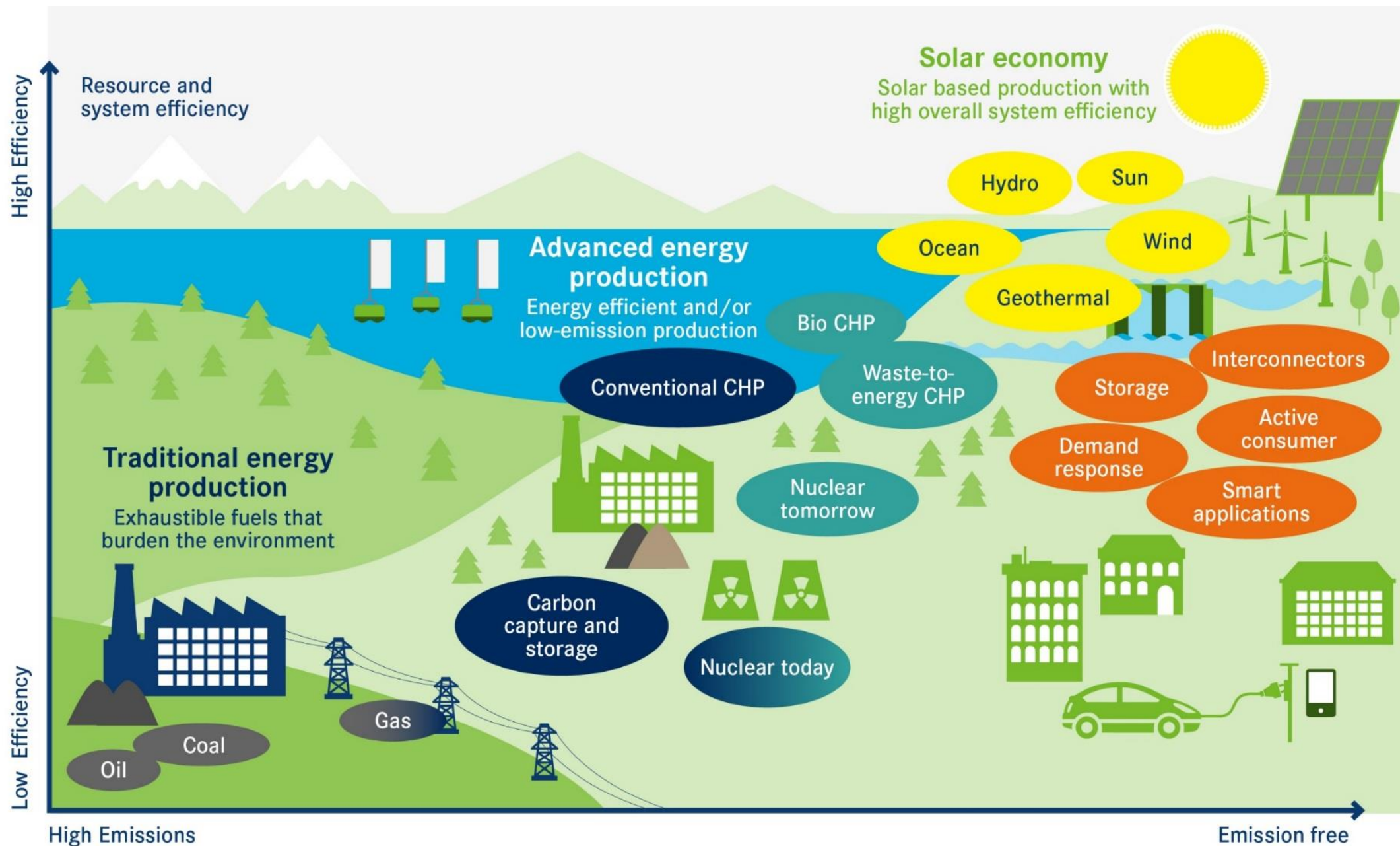
**Pilot
and invest**
in external
startups



**Incubate
and coach**
internal startups



Develop
existing businesses










Taking foothold in the value chains of transportation and mobility

Pop-up Charging Stations!

30 April 2019

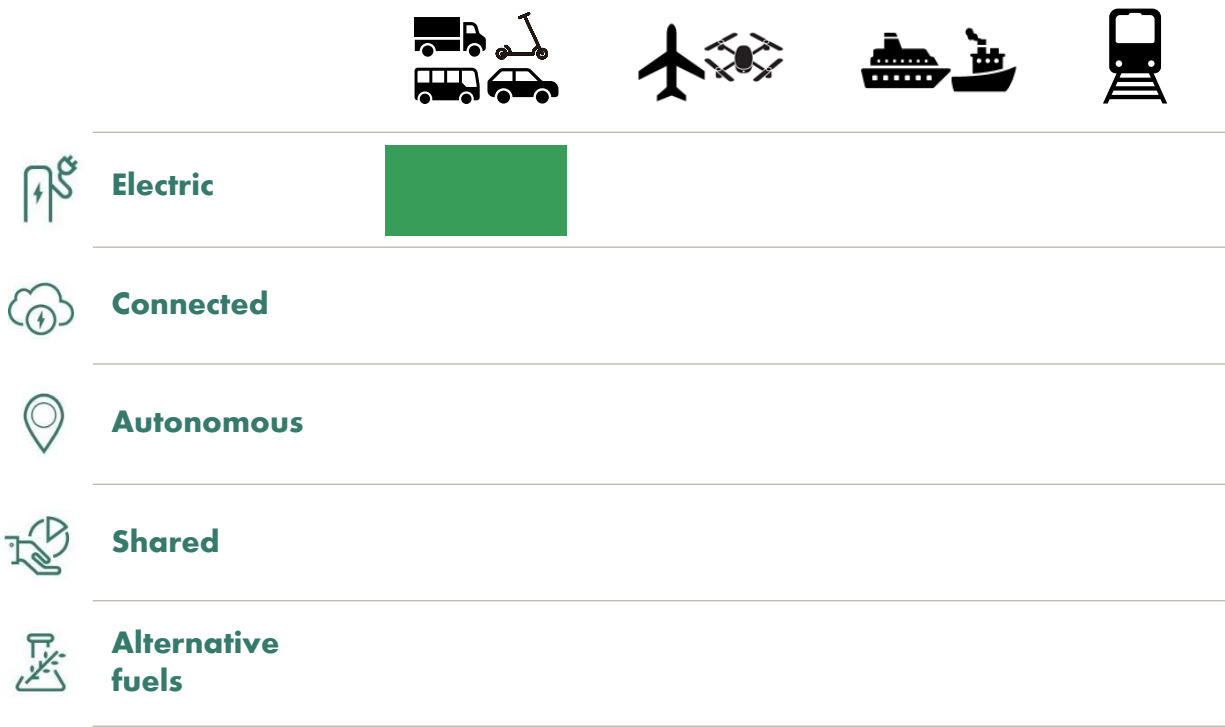
Fortum Charge & Drive has converted two containers that can be transported and used as pop-up charging stations!

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 Electric	
 Connected	
 Autonomous	
 Shared	
 Alternative fuels	



Taking foothold in the value chains of transportation and mobility



Pop-up Charging Stations!

30 April 2019










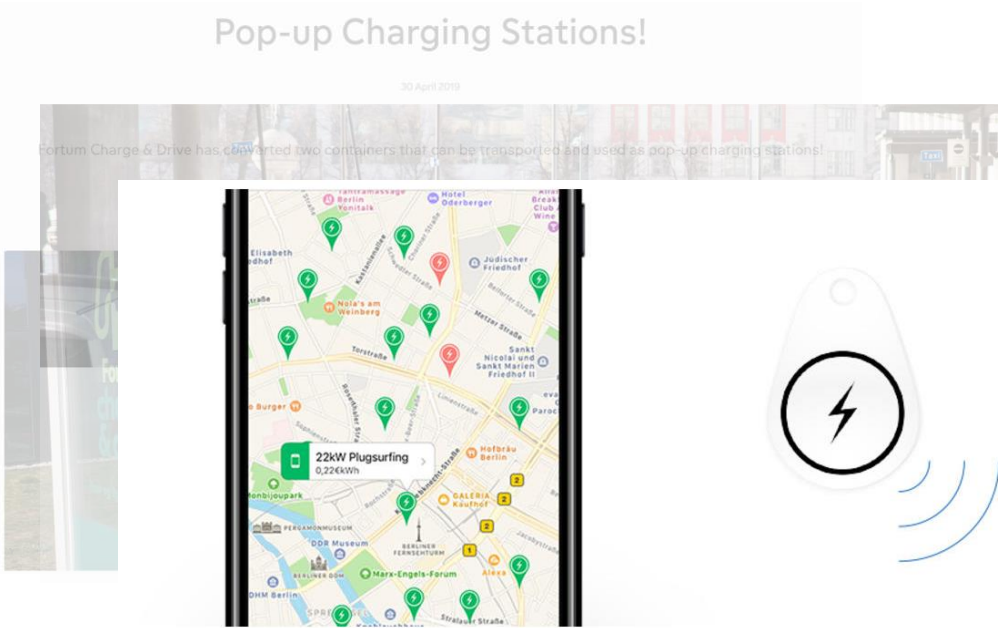
FORTUM CORPORATION PRESS RELEASE 21 March 2019

Clean-energy company Fortum is in cooperation with the City of Oslo and the American company Momentum Dynamics to build a wireless fast-charging infrastructure for taxis in the Norwegian capital.

The project aims to install wireless charging using induction technology.

Taking foothold in the value chains of transportation and mobility

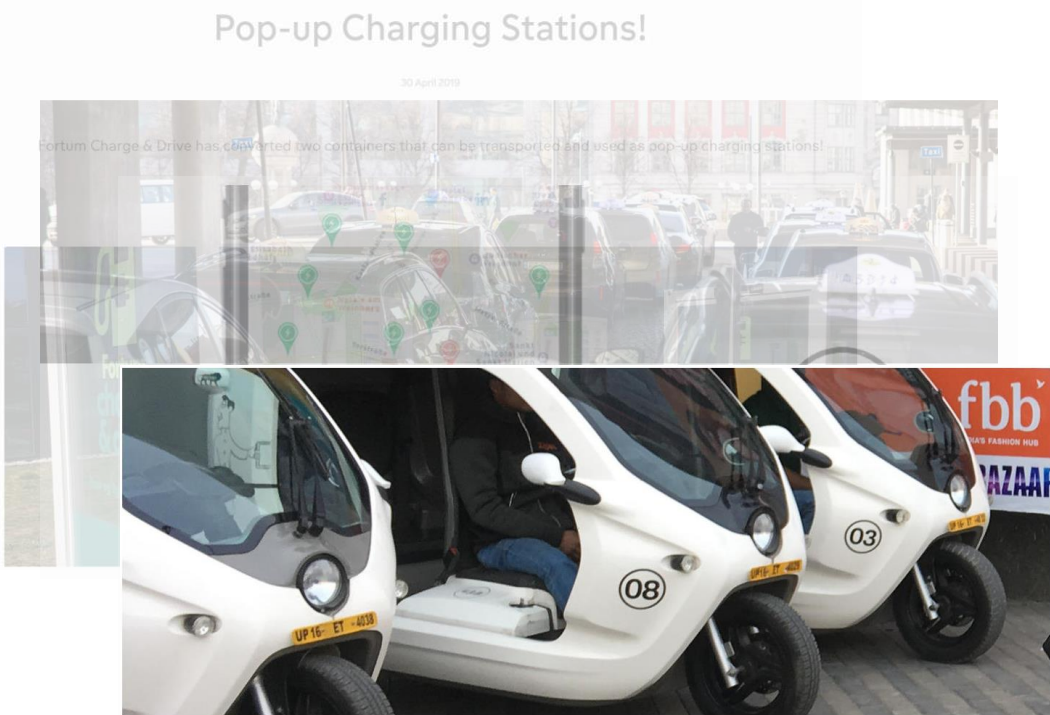
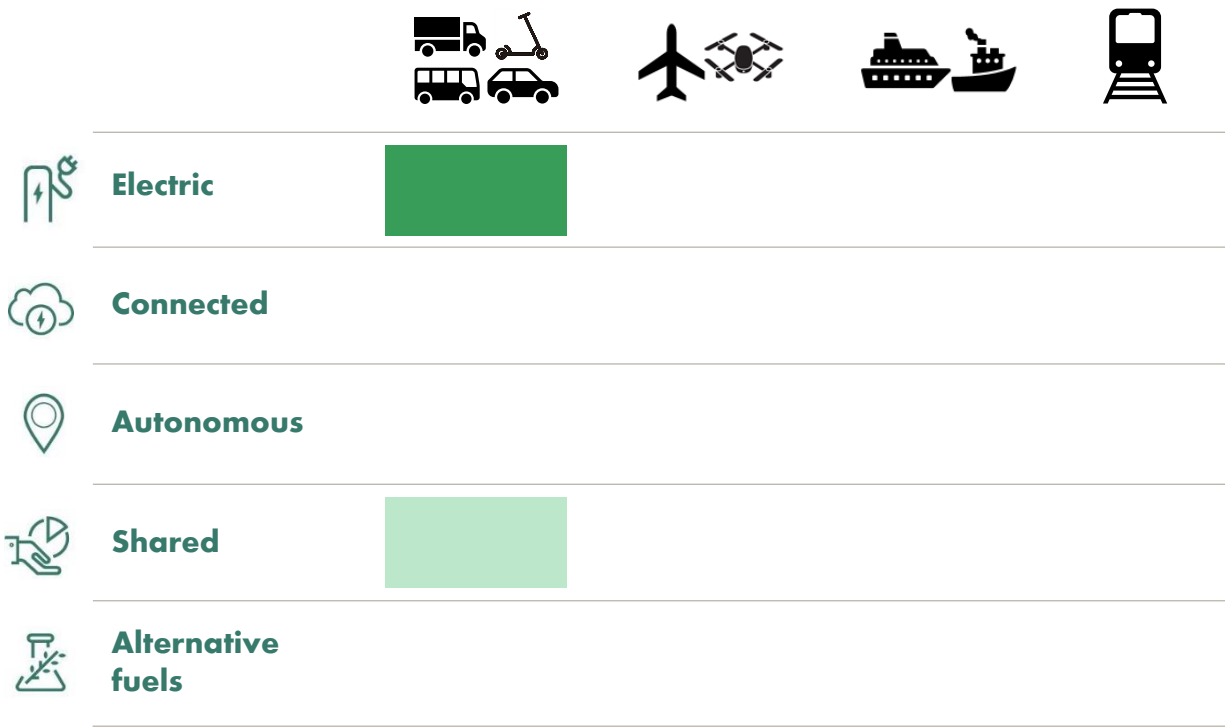
	
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FORTUM CORPORATION PRESS RELEASE 6 March 2018

Fortum Charge & Drive and Plugsurfing have joined forces to provide services for electric vehicle drivers. In striving for the perfect, scalable customer experience, Fortum has acquired full ownership of Plugsurfing GmbH. Parties have agreed not to disclose the contract value.

Taking foothold in the value chains of transportation and mobility



Pop-up Charging Stations!












30 April 2019

Fortum Charge & Drive has converted two containers that can be transported and used as pop-up charging stations!

FORTUM CORPORATION ONLINE NEWS 30 May 2018

Fortum has signed an agreement with Swedish light electric vehicles manufacturer Clean Motion to jointly develop a battery swap system tailored specially for light electric vehicles. The primary target market for the initiative are the major taxi companies in India and other organizations with large fleets of vehicles that are in need of high uptime in their operations.

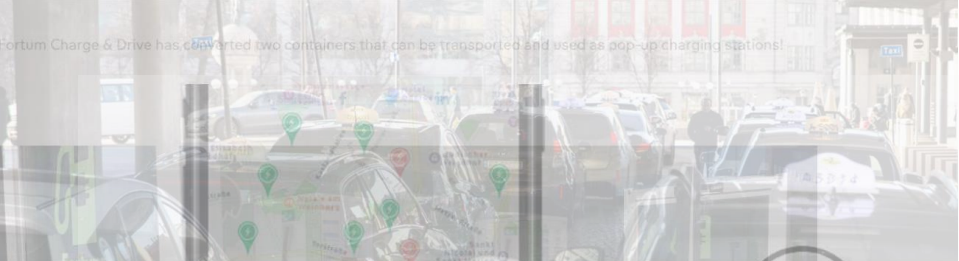
Taking foothold in the value chains of transportation and mobility

				
 Electric				
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Pop-up Charging Stations!

30 April 2019

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FORTUM CORPORATION PRESS RELEASE 21 March 2019










Public technology demonstrations

We are planning to conduct a number of remote and autonomous mobility pilots to explore the potential opportunities and challenges in this landscape with our project members at Technical Research Centre of Finland (VTT) and Fleetonomy.AI Oy.

First of these remote-driving demonstrations was organised in Helsinki on June 27. We believe that our demonstration was one of the first tests on the public road in Finland.



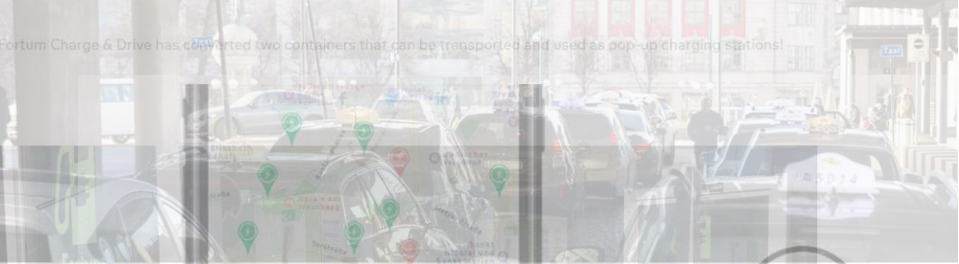
Taking foothold in the value chains of transportation and mobility

	   
 Electric	<div></div> <div></div>
 Connected	<div></div> <div></div>
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 Shared	<div></div> <div></div>
 Alternative fuels	

Pop-up Charging Stations!

30 April 2019

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Public technology demonstrations

FORTUM CORPORATION PRESS RELEASE 21 March 2019

Clean Air 2019, ensuring 100% electric power in the City of Oslo


QTE AD We are planning to conduct a number of remote air traffic control flights to explore the potential opportunities and challenges in this landscape with our project members at Technical Research Centre of

Electric airplane flies best just before sunset










Jackie Lawrecki - 31 July 2019

Fortum participated in the development of electric aviation and in the first e-plane flight in Poland.

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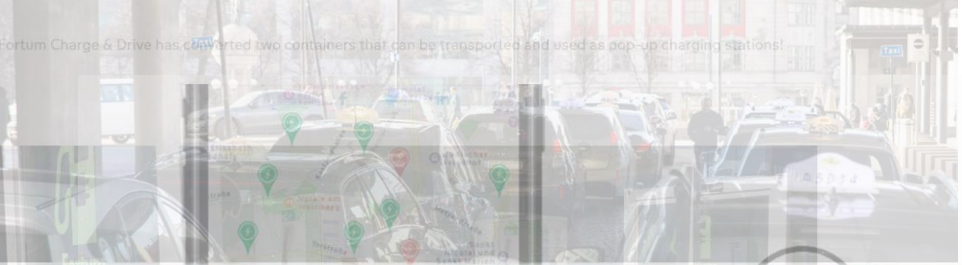
Taking foothold in the value chains of transportation and mobility

				
 Electric			?	?
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Pop-up Charging Stations!

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FORTUM CORPORATION PRESS RELEASE 21 March 2019

Public technology demonstrations

Clean Air 2019, ensuring 100% low-emission transport in the City of Oslo and

CITE 2019 We are planning to conduct a number of remote and autonomous mobility tests to explore the potential opportunities and challenges in this field, and we will have our project members at Technical Research Centre of Norway (TRC) and the Norwegian Institute of Transport Research (TØI) to discuss the results.



FORTUM CORPORATION PRESS RELEASE 25 March 2019

Electrification will rapidly increase the need for batteries. A new solution by Nordic clean energy company Fortum makes over 80% of the electric vehicle (EV) battery recyclable, returns the scarce metals back into circulation and resolves the sustainability gap by reducing the need to mine cobalt, nickel, and other scarce metals.

Taking foothold in the value chains of transportation and mobility





for a cleaner world

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Extras

Fortum in brief

Our core

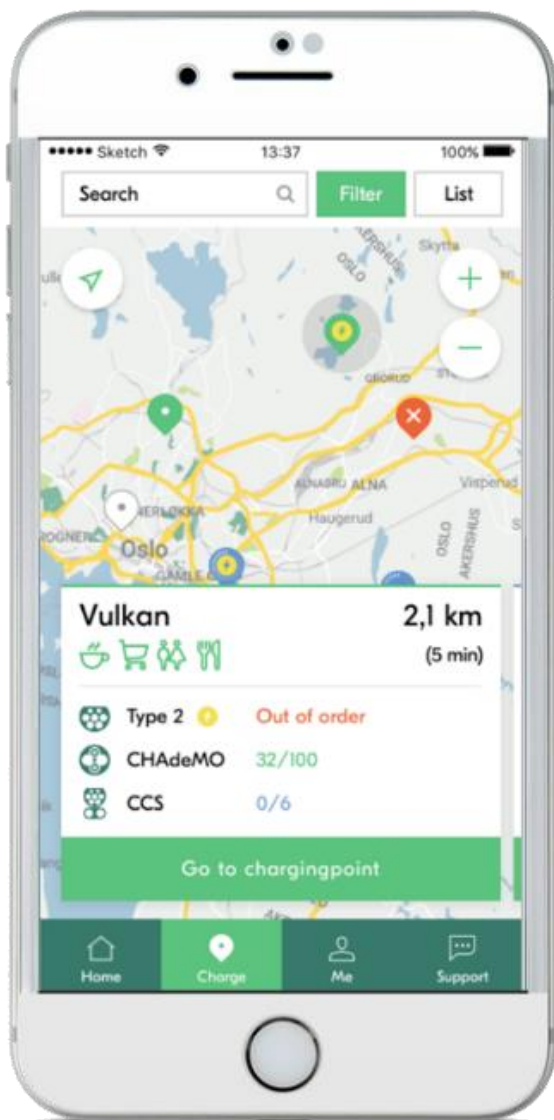
Hydro and nuclear
Combined heat and
power production
Circular economy
Energy-related
products and expert
services

We are the largest
electricity retailer in
the Nordics and one of
the leading heat
producers globally.
We have
2.5 million
customers.

96% of our
electricity
production is CO₂
free in Europe,
57% in all
operations

8,300
professionals
in the Nordics,
the Baltics,
Russia, Poland
and India

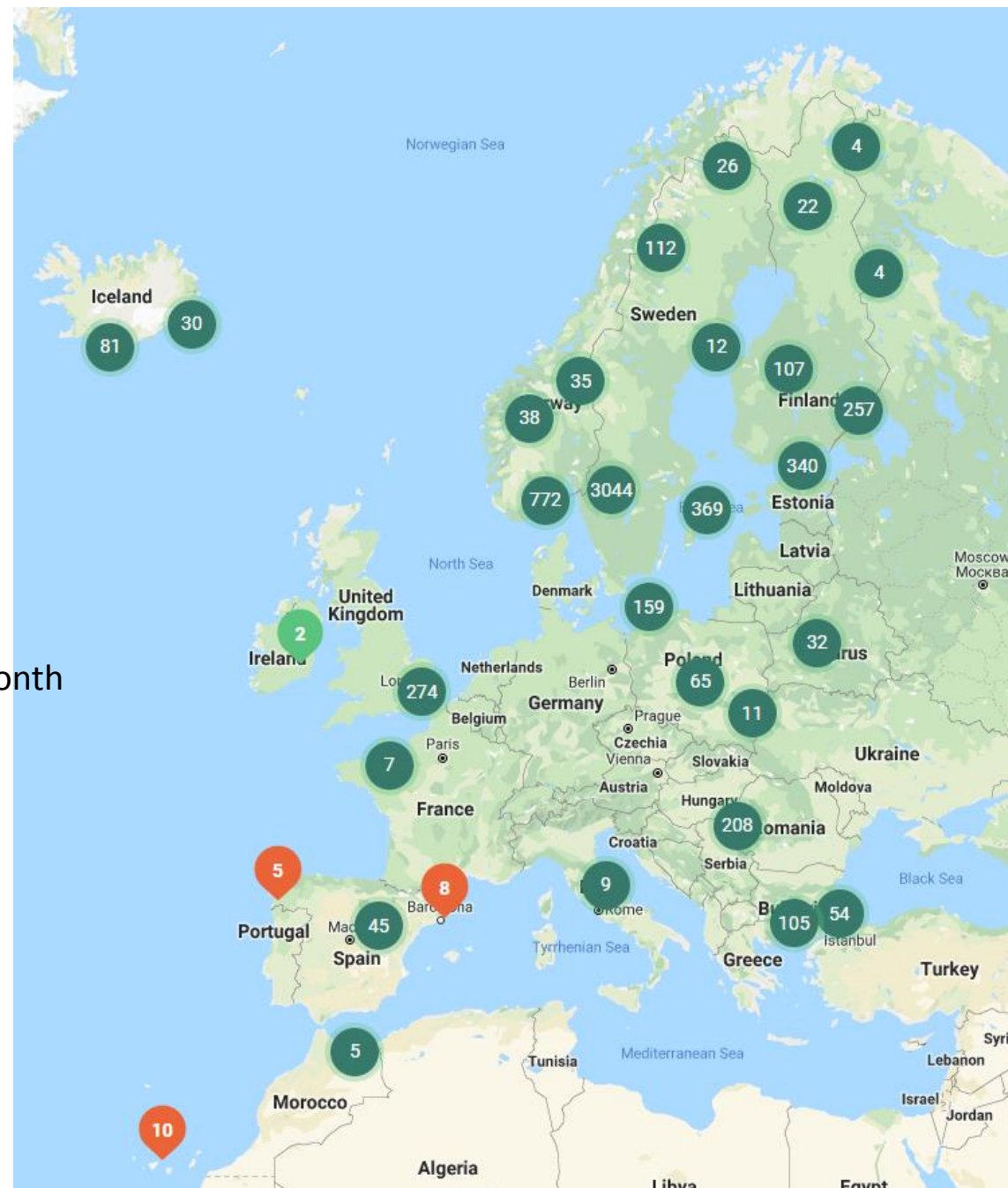
2/3 of our
power
production is
**hydro and
nuclear**



4000+ charging points

80 000+ registered users

90 000+ paid transactions per month





110k+

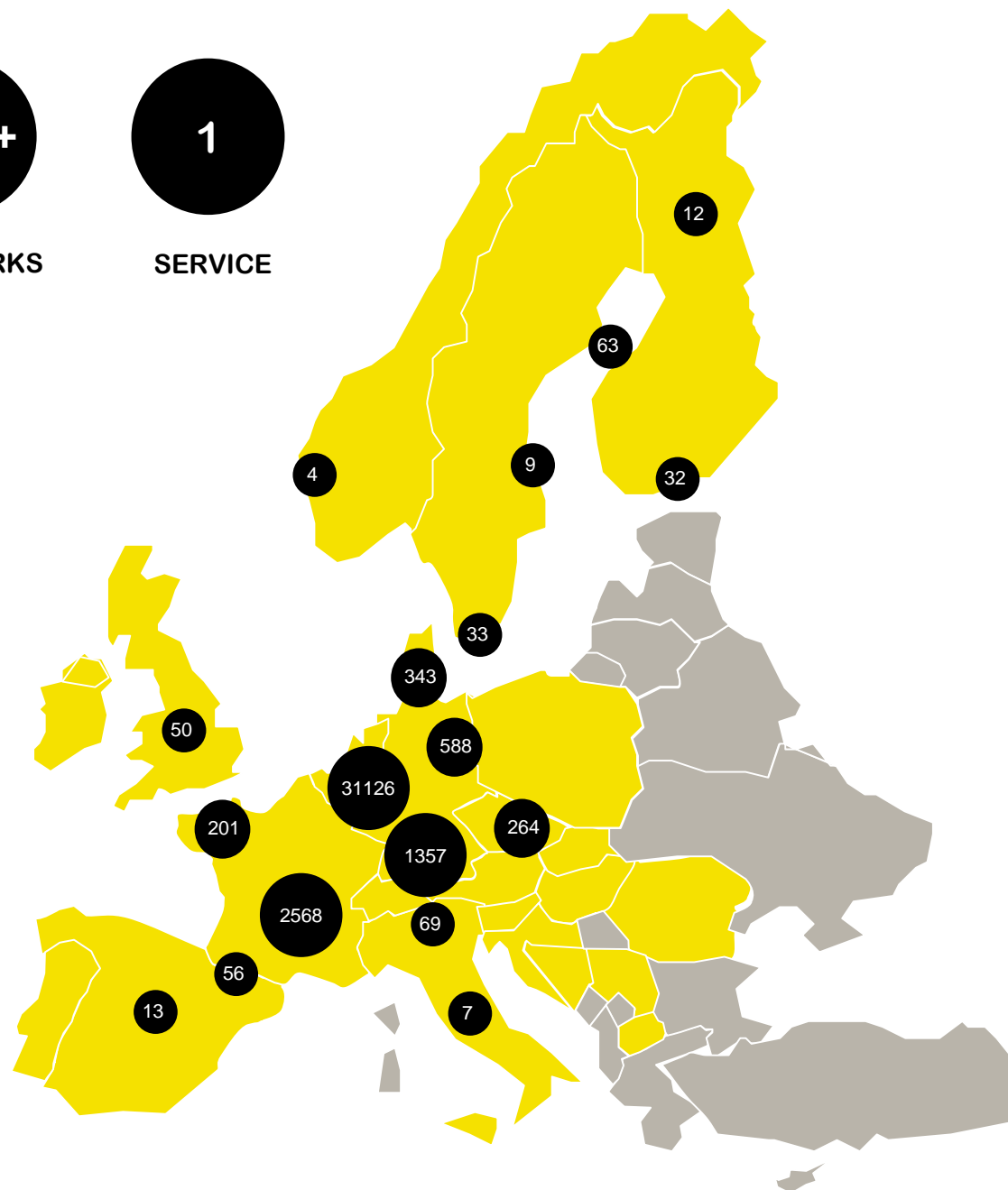
CHARGING
POINTS

200+

NETWORKS

1

SERVICE



Five global megatrends. Valo Ventures invests in startups where digital technologies meets megatrends central to Fortum's strategy.



Empowered
Consumers



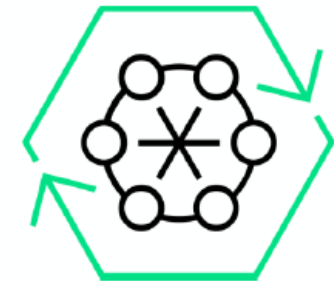
Urbanization



Autonomy &
Mobility



Climate
Change



Circular
Economy