Financial markets and the S curve of EV demand

Presentation to the BIEE

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EV – a drop in the ocean

Source: BNEF
S curve technology adoption

Technology adoption by households in the United States

Technology adoption rates, measured as the percentage of households in the United States owning, or the adoption rates of, a particular technology. See the sources tab for definitions of household adoption, or adoption rates, by technology type.

Source: Comin and Hobijn (2004) and others

OurWorldInData.org/technology-adoption/ • CC BY-SA
Continued drivers of the S curve: Technology

Li-ion battery costs ($/KWh, global average)

$1000/KWh

Internal combustion engine equivalent price range $200/KWh

Source: BNEF
Necessity

MAP 9.1 Mean Annual Concentrations of Ambient PM$_{2.5}$ Pollution, 2015

Note: The map includes concentrations of natural windblown dust and sea salt. PM$_{2.5}$ = particulate matter with a diameter of less than 2.5 microns; WHO = World Health Organization.
Policy

Car price framework $000

Source: Carbon Tracker

EV need subsidy

Policymakers can tax the externality

Source: Carbon Tracker
The emerging market leapfrog

EV sales (000)

Source: IEA
So the S curve will continue

Source: BNEF
Meaning peak demand for ICE cars

Incremental demand for cars m

Source: BNEF
We have seen this before

US horses and cars (m)

Source: Nakinovic, Geels. For non-farm horses
The diffusion of innovation framework
For more information please visit:

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If you are interested in knowing more, please get in touch:
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