

EV & PHV Town Symposium

5 June, 2013

Tokyo, Japan

Electric Vehicles Initiative (EVI) and the Global EV Outlook

Tali Trigg

International Energy Agency

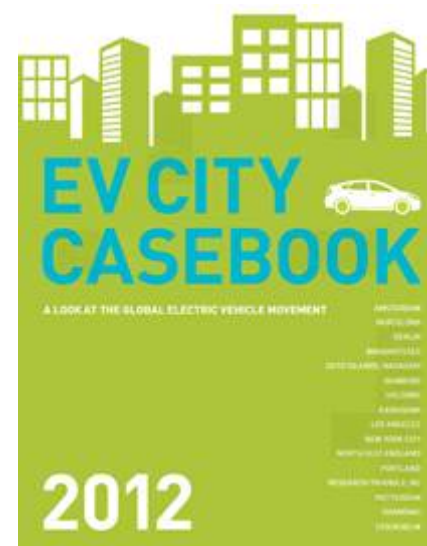


Electric Vehicles Initiative

- Announced at Clean Energy Ministerial, in Washington DC, July 2010
 - Kick-off meeting was held in Paris 29 Sept/1 Oct. 2010
- 8 -> 15 countries: China, Denmark, Finland, France, Germany, India, Italy, Japan, Netherlands, Portugal, South Africa, Spain, Sweden, United Kingdom, United States
 - Together these countries account for 63% of world's vehicle demand, and 83% of projected EV sales in 2010-2020
 - International Energy Agency serves in a facilitator role
- Three primary objectives:
 - Common data collection/analysis efforts
 - Greater RD&D collaboration
 - City forum that links cities within EVI countries
- Recent Events:
 - EVI public/private sector roundtable in Stuttgart, 19 October 2012
 - Clean vehicle public/private roundtable at CEM4 in New Delhi, 17 April 2013
- Upcoming Event:
 - EVI public/private sector infrastructure meetings in Tokyo, June 3-7 2013



EV City Casebook



- Details policies, incentives, programs, and customer behaviors in 16 cities and regions across 9 countries and 3 continents, capturing nearly 30% of existing EVs.
- Presented to ministers at 3rd Clean Energy Ministerial
- Translated into Chinese
- Download at www.bit.ly/EVCityCasebook



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GLOBAL EV OUTLOOK

Understanding the Electric Vehicle Landscape to 2020

April 2013



GLOBAL EV OUTLOOK

April 2013

Understanding the Electric Vehicle Landscape to 2020

- ✓ **The *Global EV Outlook (GEO)*** is the collective effort of two years of primary data gathering and analysis by EVI's 15 member governments and the IEA.
- ✓ EVI countries represent a reliable bellwether for global EV progress.
- ✓ EVI countries accounted for more than 90% of world EV stock at the end of 2012.
- ✓ Members include 8 of the 10 largest auto markets in the world and are projected to account for 83 % of EV sales between now and 2020.



GLOBAL EV OUTLOOK

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Understanding the Electric Vehicle Landscape to 2020

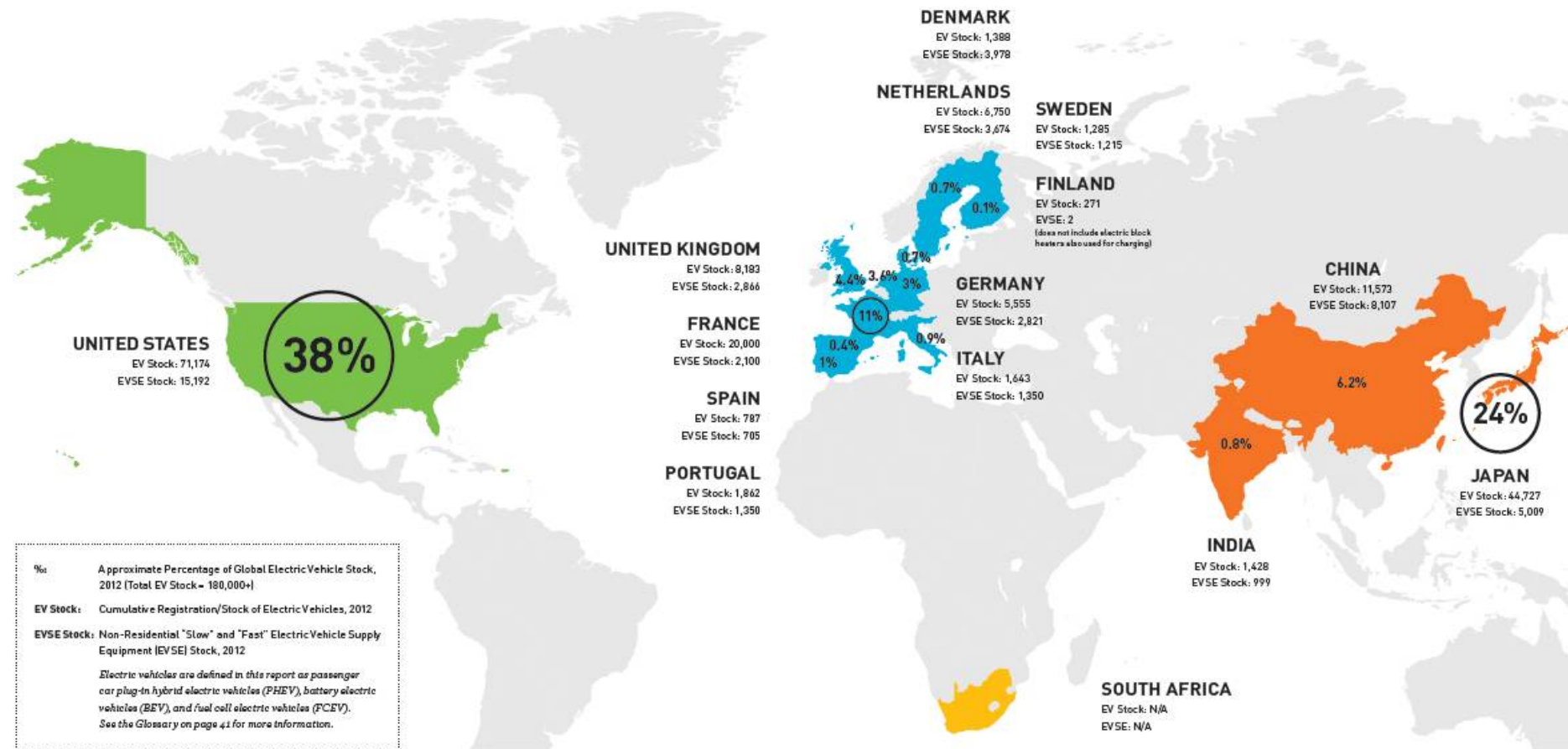
GEO's Findings...

- ✓ The GEO finds that global EV sales more than doubled between 2011 and 2012, exceeding the **100,000 sales** milestone, and that world EV stock stood at above **180,000** at the end of 2012.
- ✓ However, this still represents only **0.02%** of total passenger car stock, underscoring the distance EVs still have to go.



ELECTRIC VEHICLES INITIATIVE (EVI)

EVI MEMBER COUNTRIES HELD OVER 90% OF WORLD ELECTRIC VEHICLE (EV) STOCK IN 2012



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CLEAN ENERGY MINISTRIAL

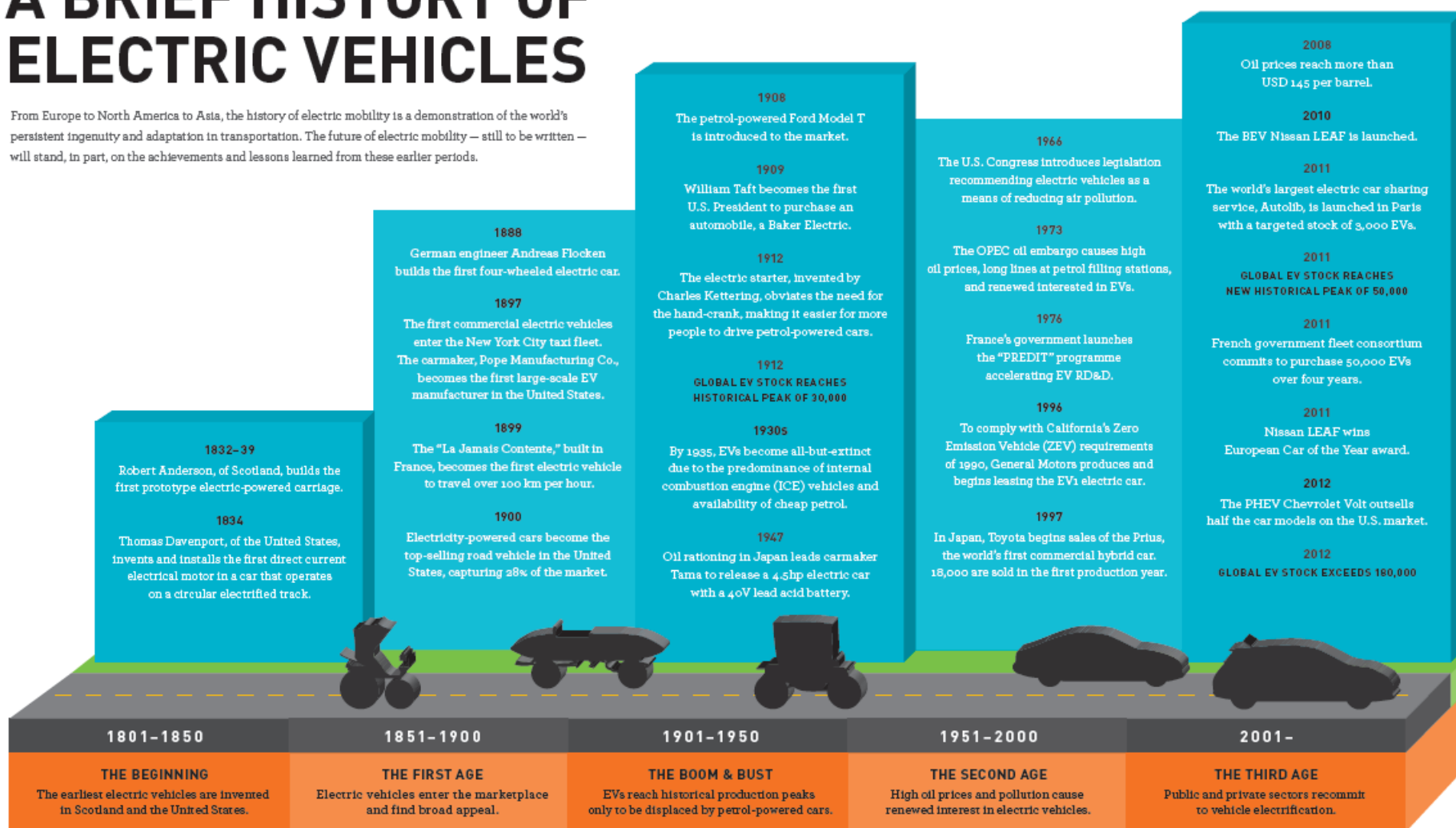
Electric Vehicles Initiative

International Energy Agency



A BRIEF HISTORY OF ELECTRIC VEHICLES

From Europe to North America to Asia, the history of electric mobility is a demonstration of the world's persistent ingenuity and adaptation in transportation. The future of electric mobility – still to be written – will stand, in part, on the achievements and lessons learned from these earlier periods.



Sources: Curtis D. Anderson and Judy Anderson, *Electric and Hybrid Cars: A History*, McFarland and Company, 2012; burnsenergyjournal.com/pbs.org/shows/23/4/electric-car-timeline.
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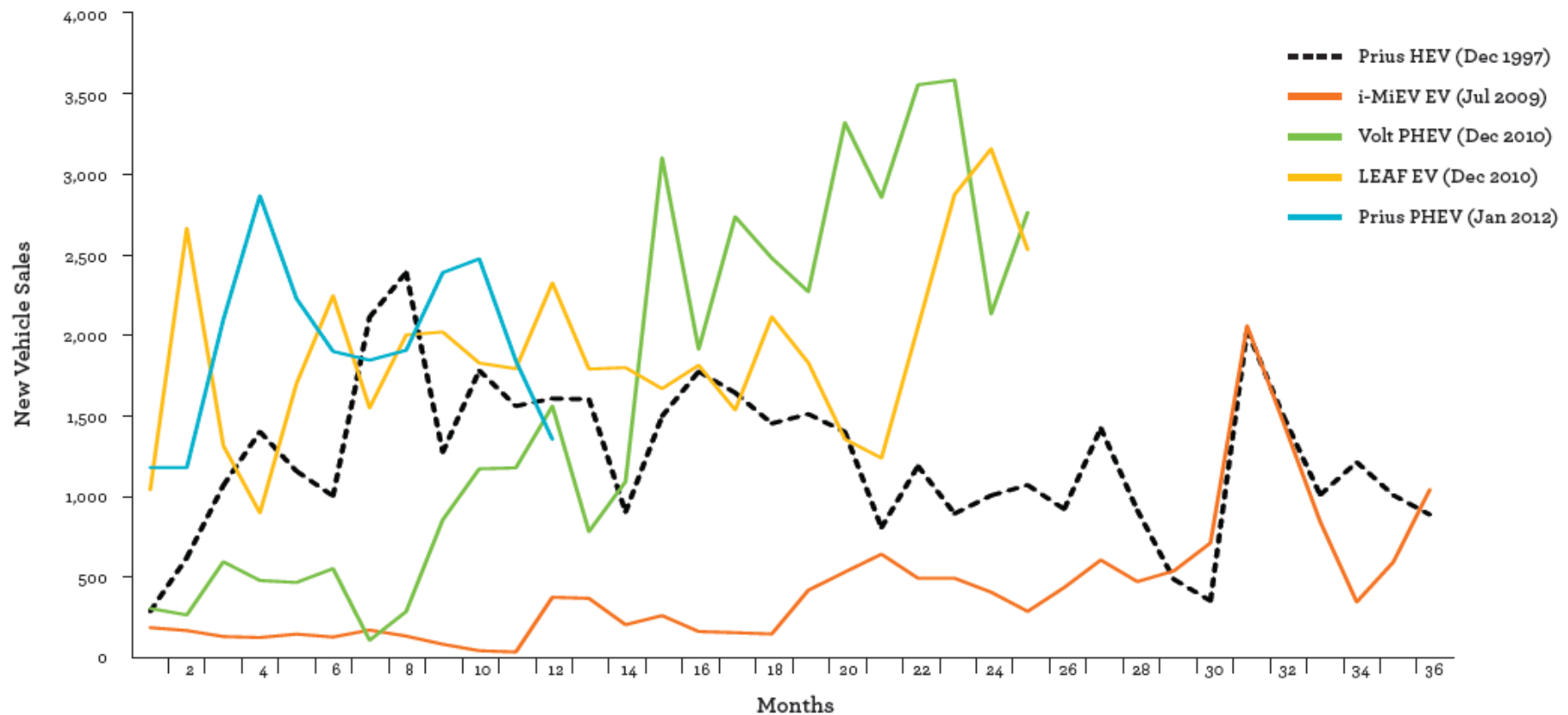
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Sales Since Market Introduction

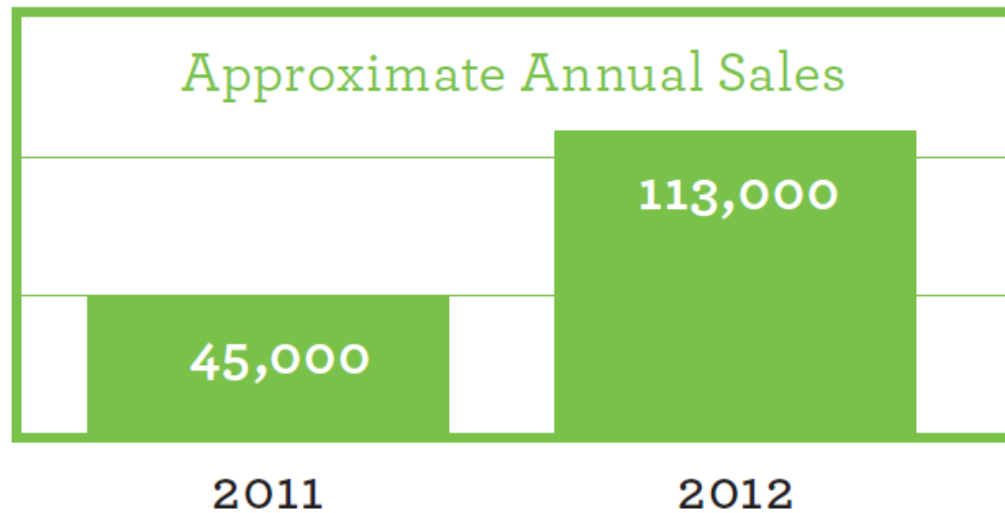
(updated through December 2012).

Source: EVI, MarkLines Database, Nissan, Toyota, hybridcars.com. Note: Date indicates when model was first released. Different models were released at different times in various locations, but this graph is an attempt to approximate worldwide market deployment. All types of a model have been included, e.g. the Opel Ampera counts as sales under the Volt PHEV category.



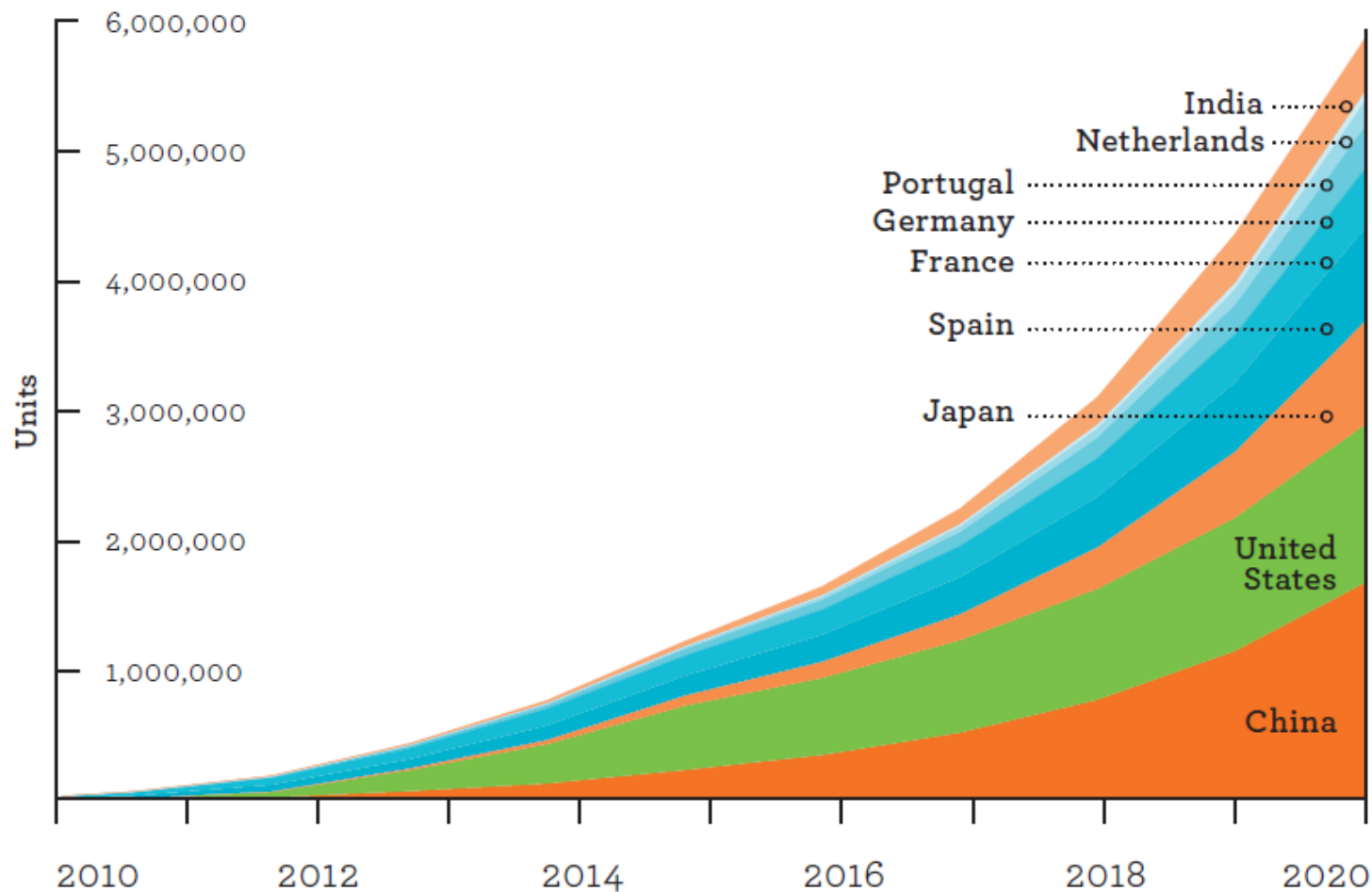
Progress in Sales and Battery Cost Reductions

Source: EVI.



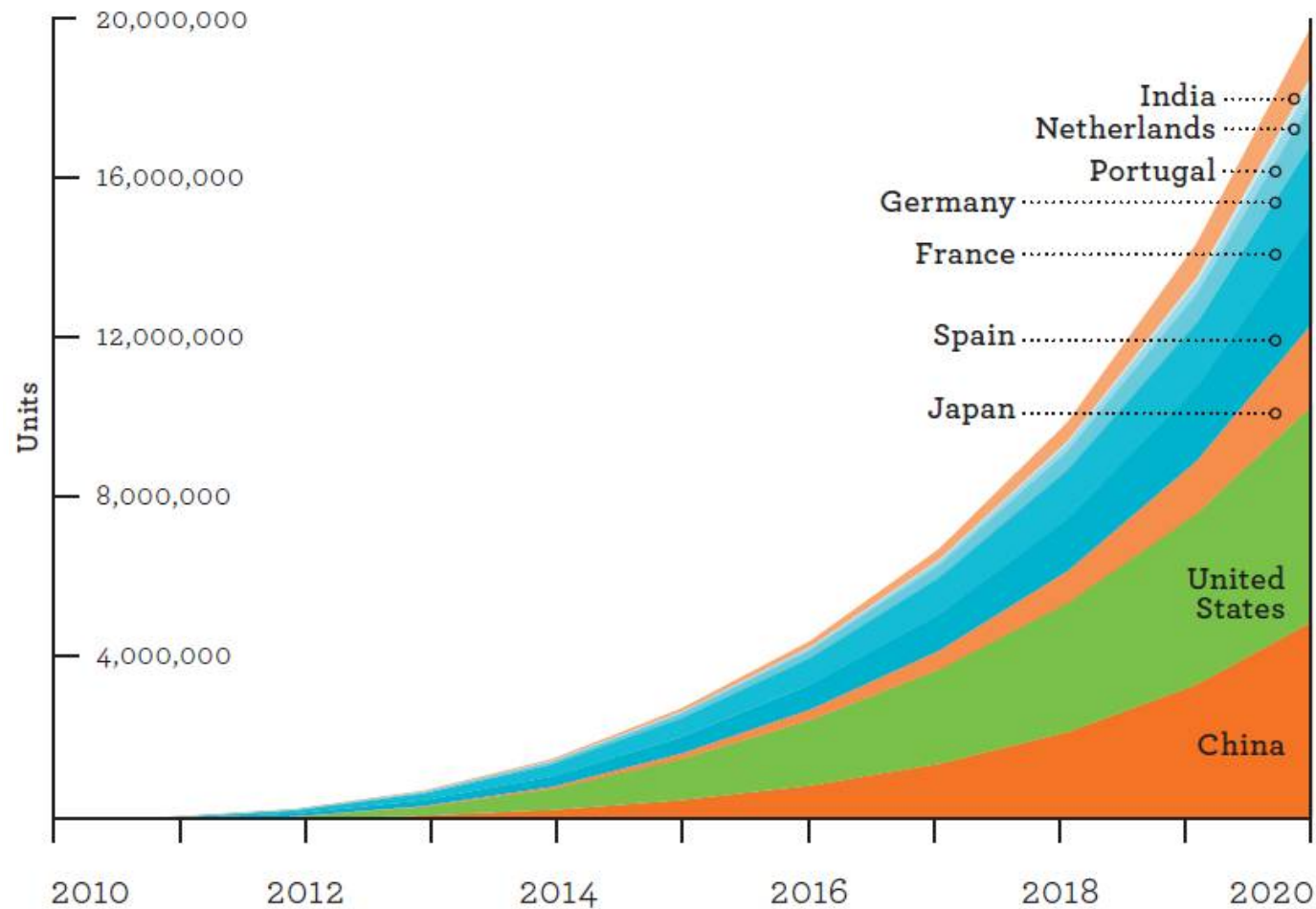
National PHEV/EV Sales Targets of EVI Members

Source: EVI.



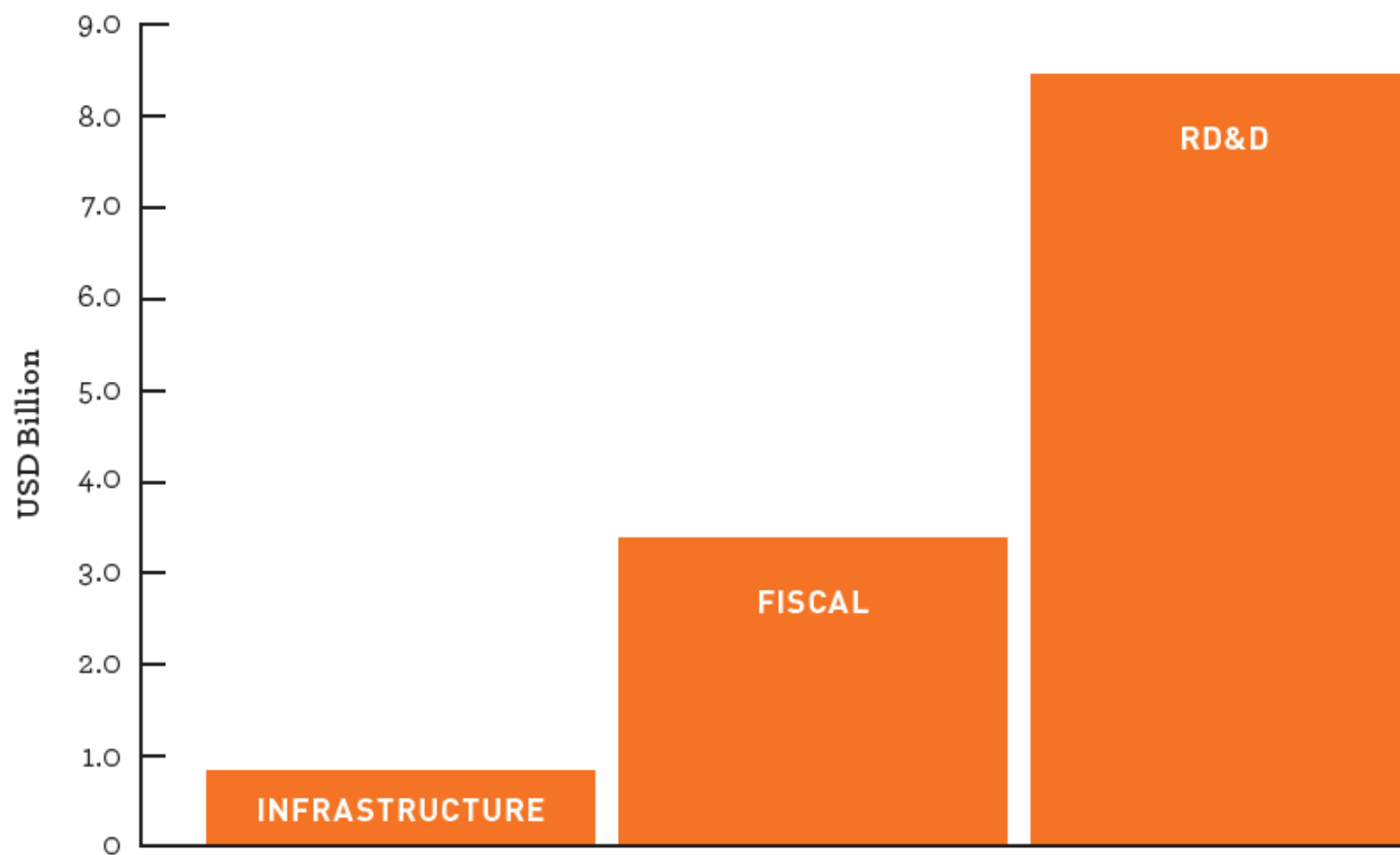
National PHEV/EV Stock Targets of EVI Members

Source: EVI.



EV Spending by EVI Countries, 2008-2012 [by category]

Source: EVI.



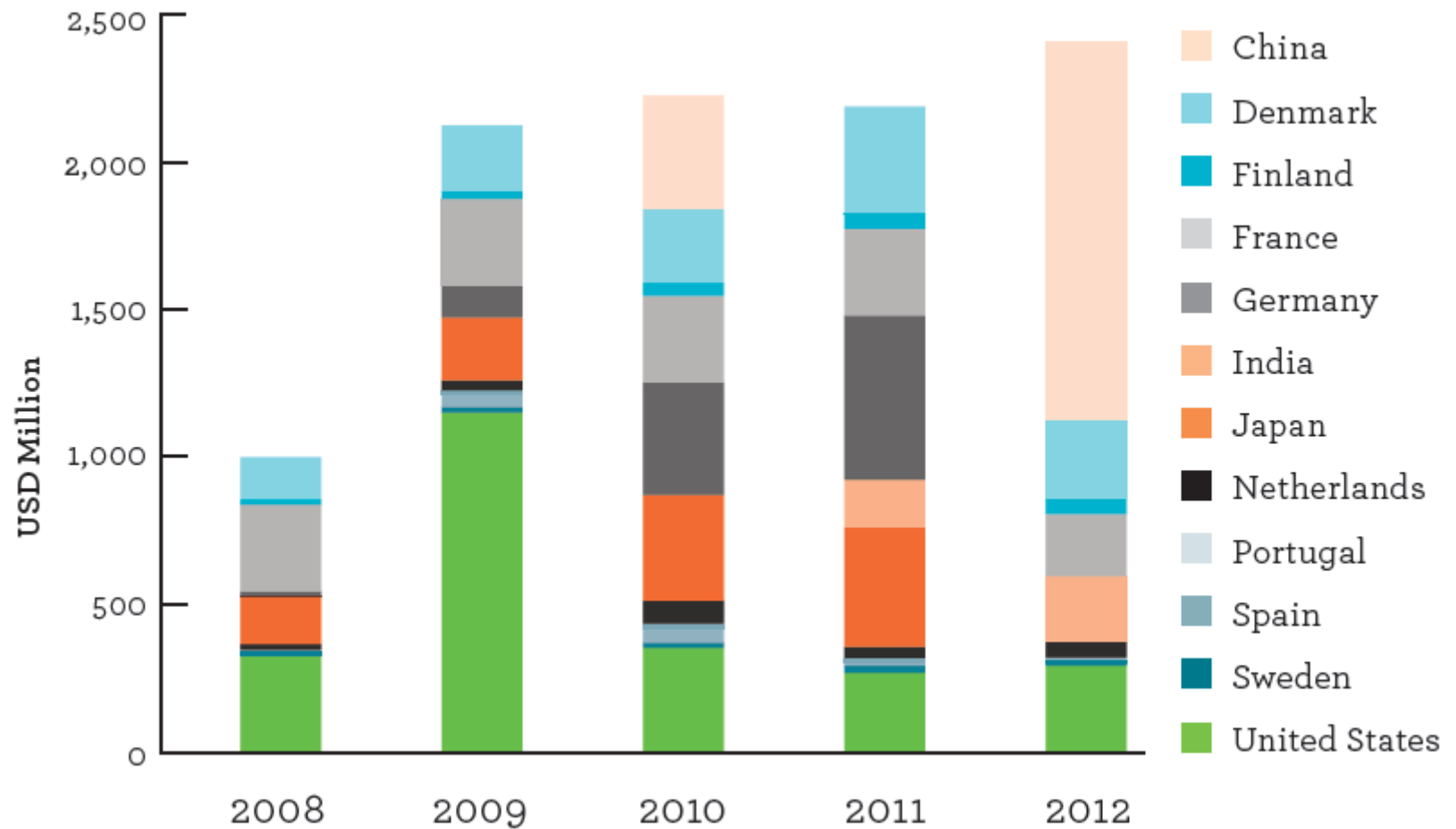
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RD&D Spending by EVI Countries

Source: EVI.

Note: Missing countries indicate incomplete data.

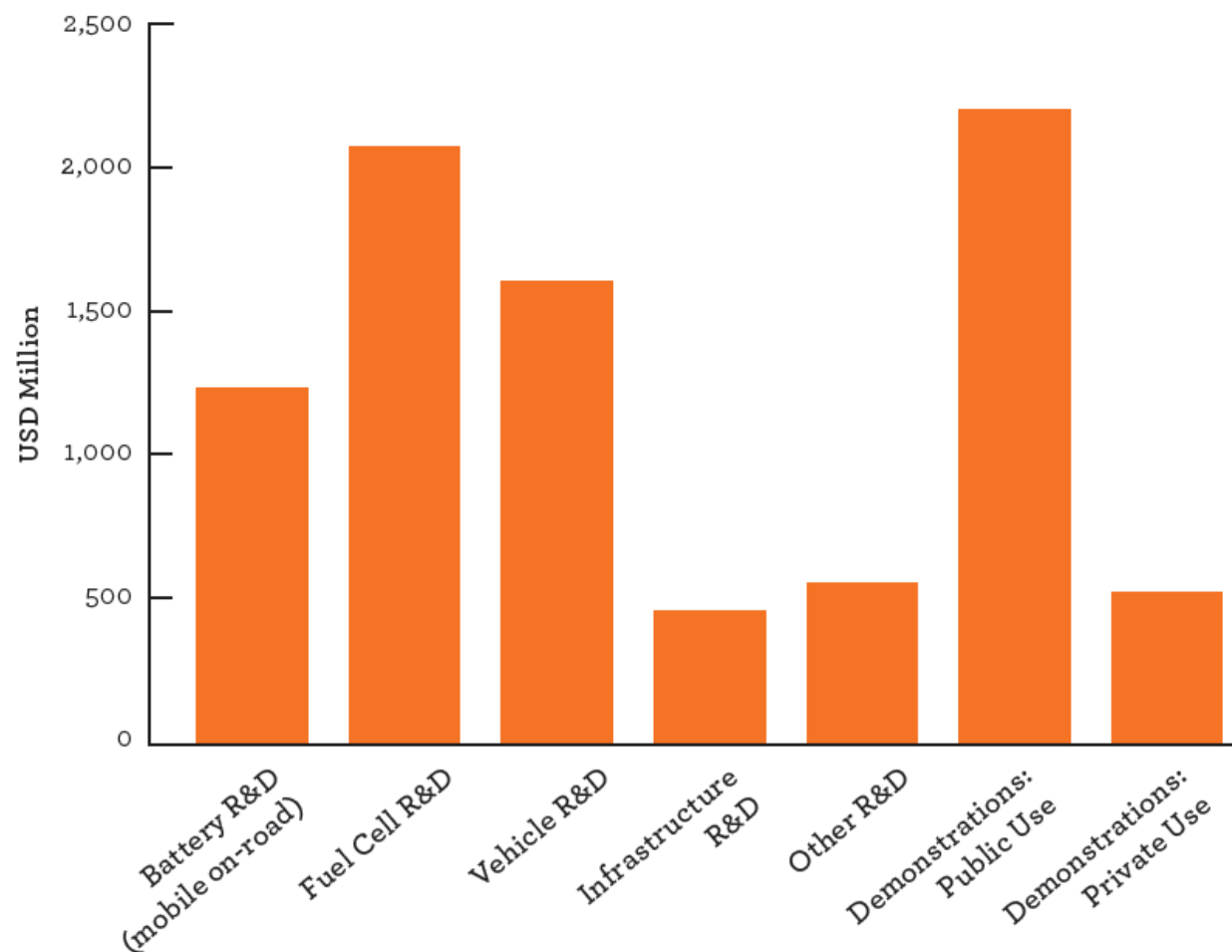


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Breakdown of RD&D Spending by EVI Countries 2008-2012 [by category]

Source: EVI.



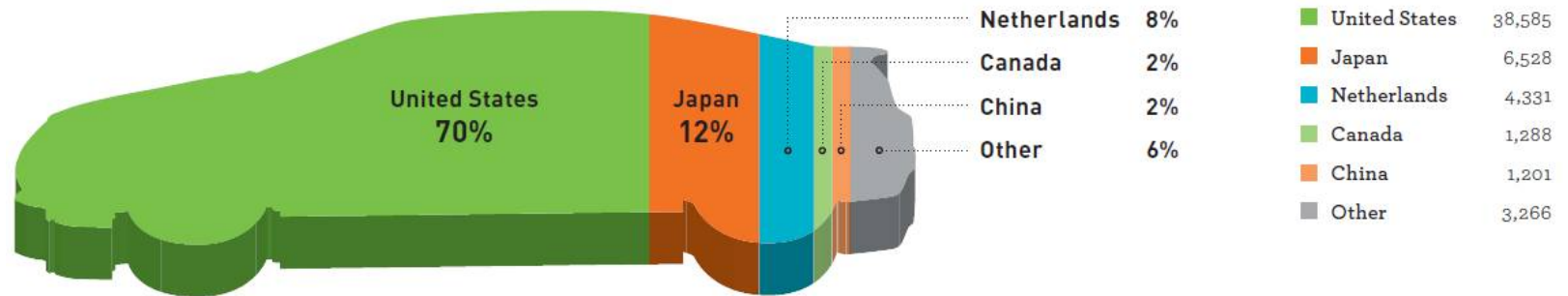
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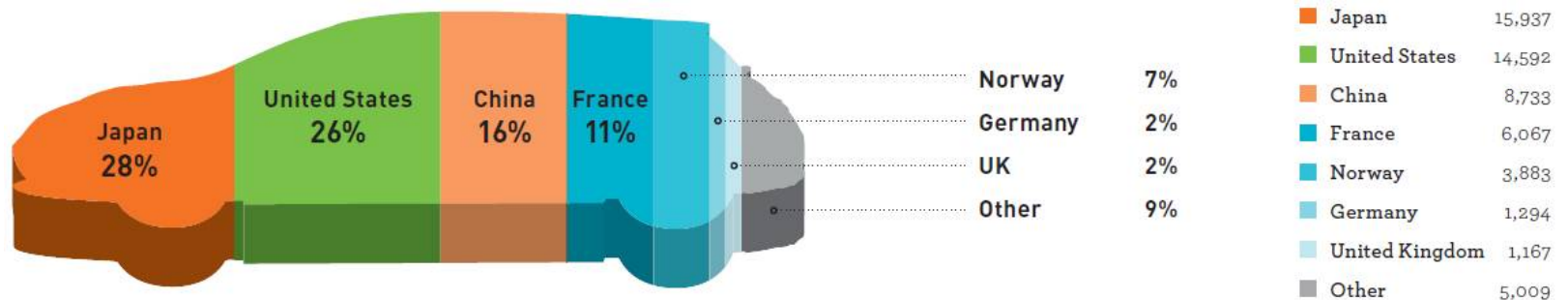
2012 World Sales, by Country

Source: EVI, MarkLines Database.

PHEV Sales

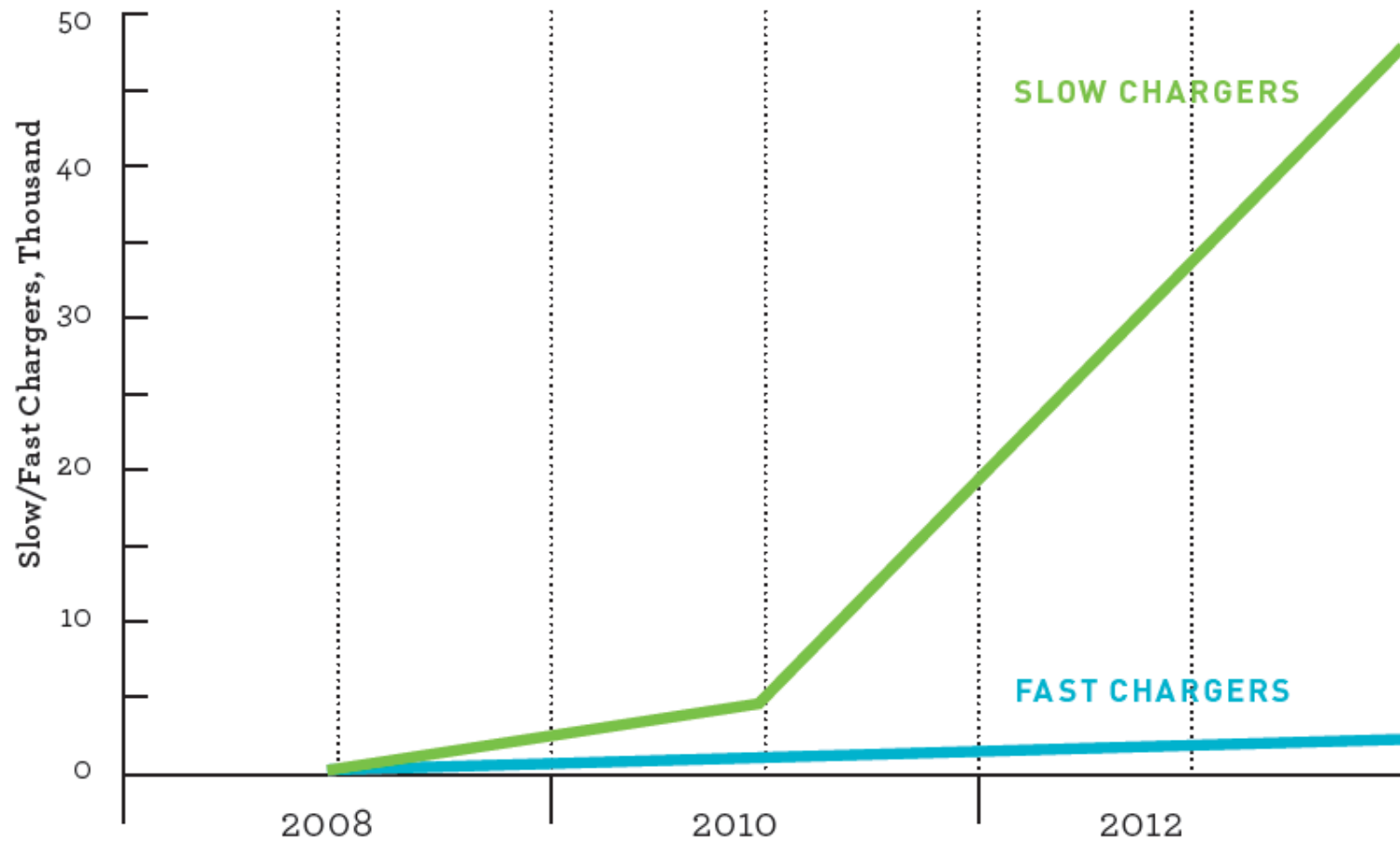


BEV Sales



Non-Residential EVSE Growth in EVI Countries

Source: EVI.

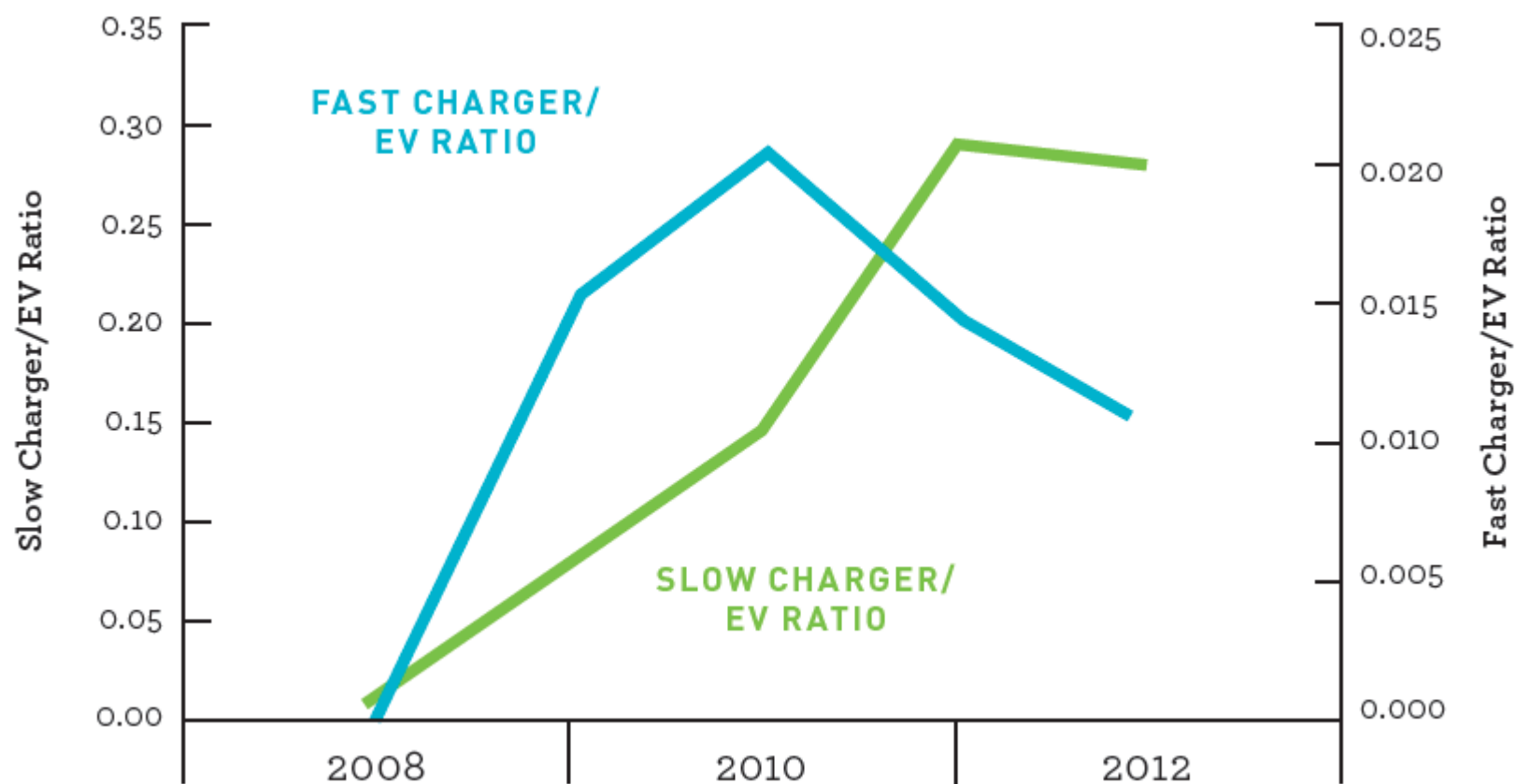


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Non-Residential EVSE/EV Ratio

[EVI Countries]

Source: EVI.

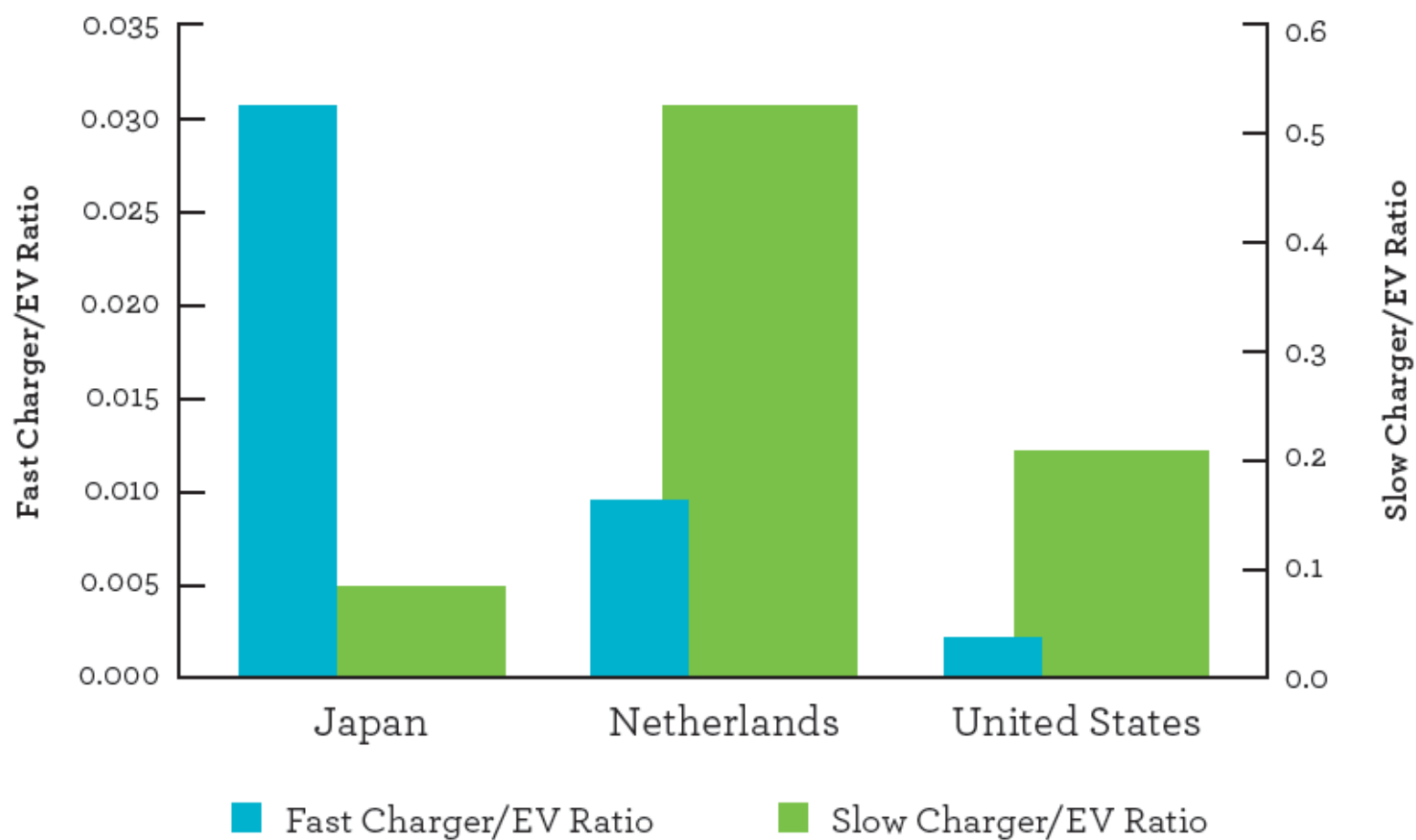


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Different EVSE Deployment Profiles, 2012

Source: EVI.



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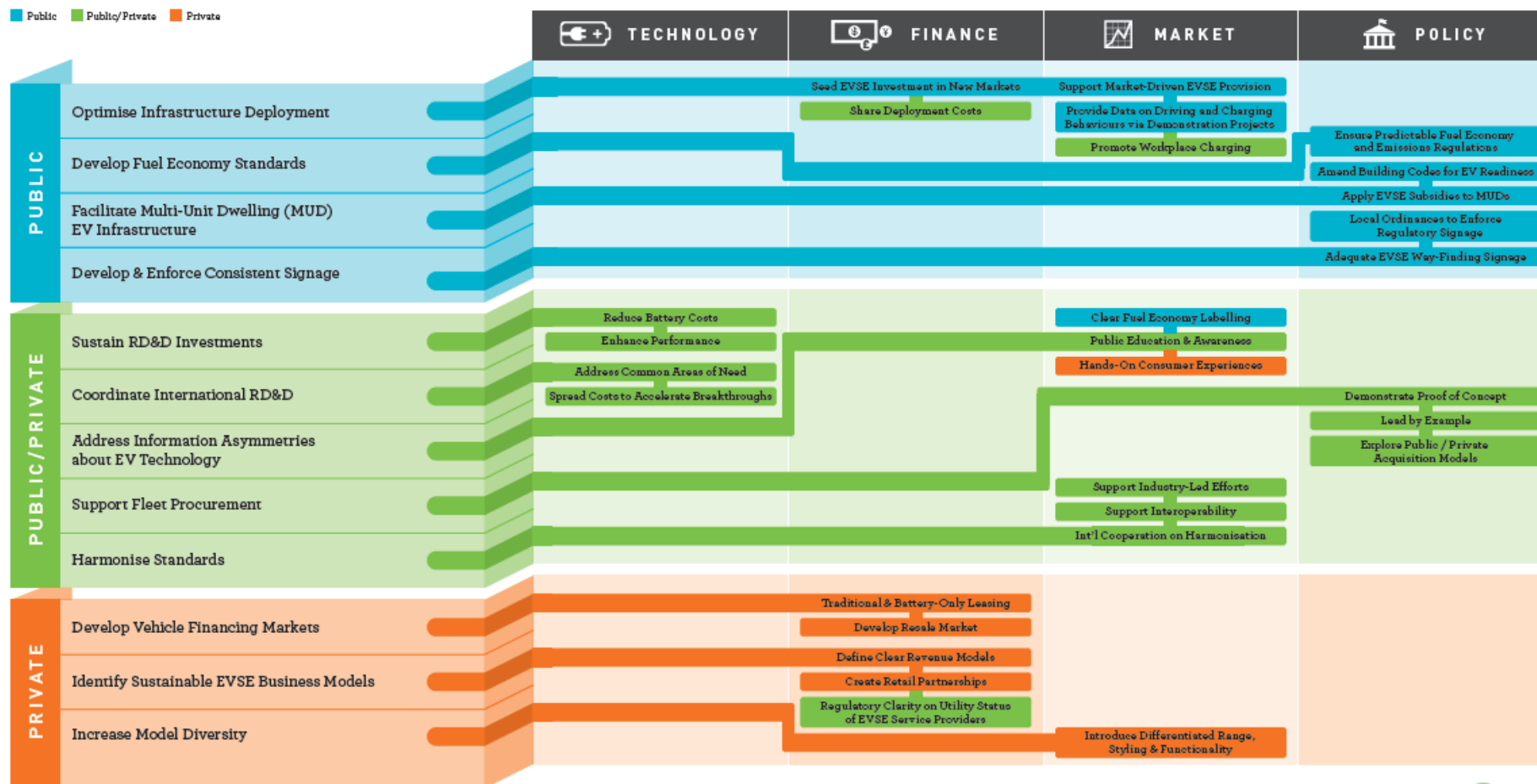
Challenges and Opportunities

- ✓ Significant technological, financial, market, and policy challenges remain.
- ✓ Will require a broad and coordinated effort among all relevant public and private stakeholders in order to address them.
- ✓ The GEO presents an **Opportunity Matrix** that outlines several opportunities for governments and industry to assist in the move toward the 20 million by 2020 goal.
- ✓ Identifies which sectors are best suited to take the lead in the areas of technology, finance, market, and policy.



OPPORTUNITY MATRIX: PATHWAYS TO 2020

There are several actions that can help the world put at least 20 million electric vehicles on the road by 2020. Stakeholders will play different roles. Every action does not have to happen in every country, and no one country or sector can do everything on its own. The Electric Vehicles Initiative (EVI) will continue to facilitate coordination and communication to address the challenges of vehicle electrification, and align priorities among the key EV stakeholders worldwide. This Opportunity Matrix identifies which sectors are best suited to take the lead in the four areas of need: 1) technology, 2) finance, 3) market, and 4) policy. More importantly, it also identifies opportunities for the public and private sectors to work together.



Sources: Curtis D. Anderson and Judy Anderson, *Electric and Hybrid Cars & History*, McFarland and Company 2012; burnsenergyjournal.com/pba.org/show/show/223/electric-as-timeline.
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Questions?



Thank you! / Arigato gozaimasu!
Tali.Trigg@iea.org

For more information, please visit:
**[www.iea.org/topics/transport/
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and
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