

PEVs: The First Three Years
(of the post-modern electric-vehicle era)

U.S. Plug-in Electric Vehicle Sales Trends & Analysis
Dec 2010 — Nov 2013

Brett Williams, MPhil (cantab), PhD
EV & Alt. Fuel Program Director / Asst. Adj. Professor
bdw@ucla.edu

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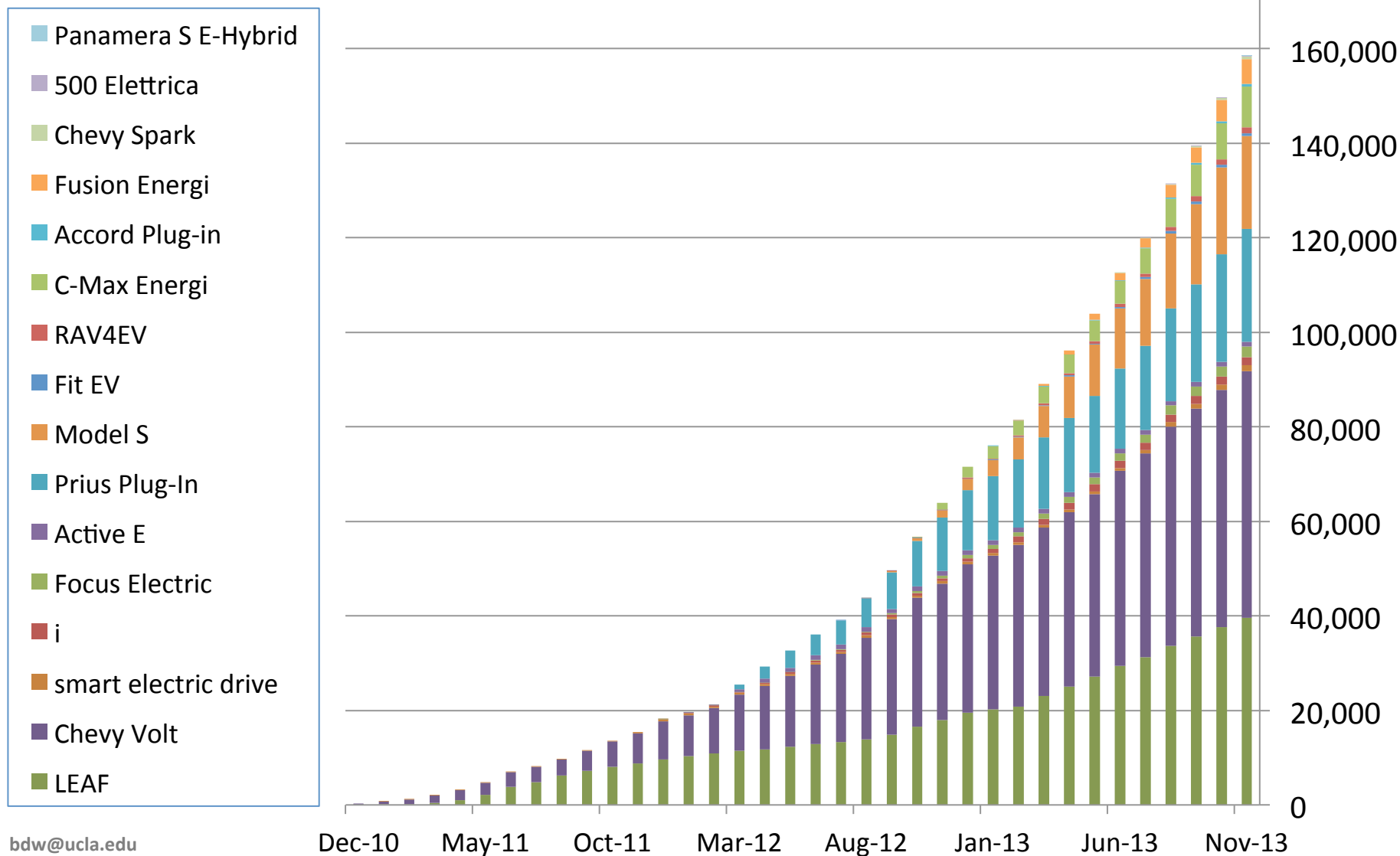
Outline: the First Three Years

- Where are with plug-in electric vehicles (PEVs)?
 - cumulative sales
- How is the rate of sales changing?
 - monthly sales
 - yearly totals
- How does PEV commercialization compare to gasoline hybrids?
- What do we mean by electric vehicle?: typology and acronyms
- How many of each type are on the market (in Nov. and in total)?
- Appendix: Further detail

Where are we with plug-in electric vehicles (PEVs)?

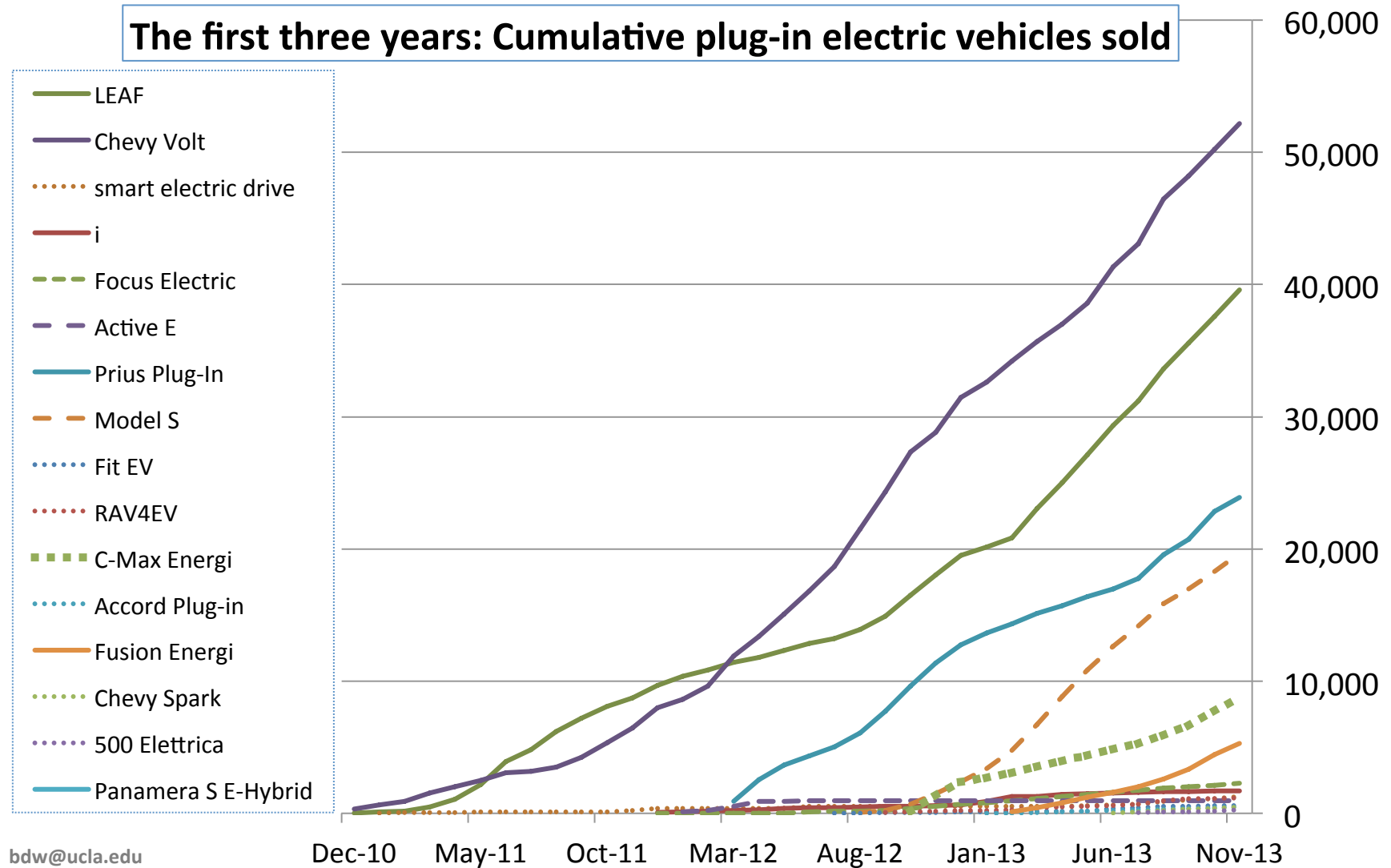
Cumulative U.S. sales

The first three years: Cumulative plug-in electric vehicles sold



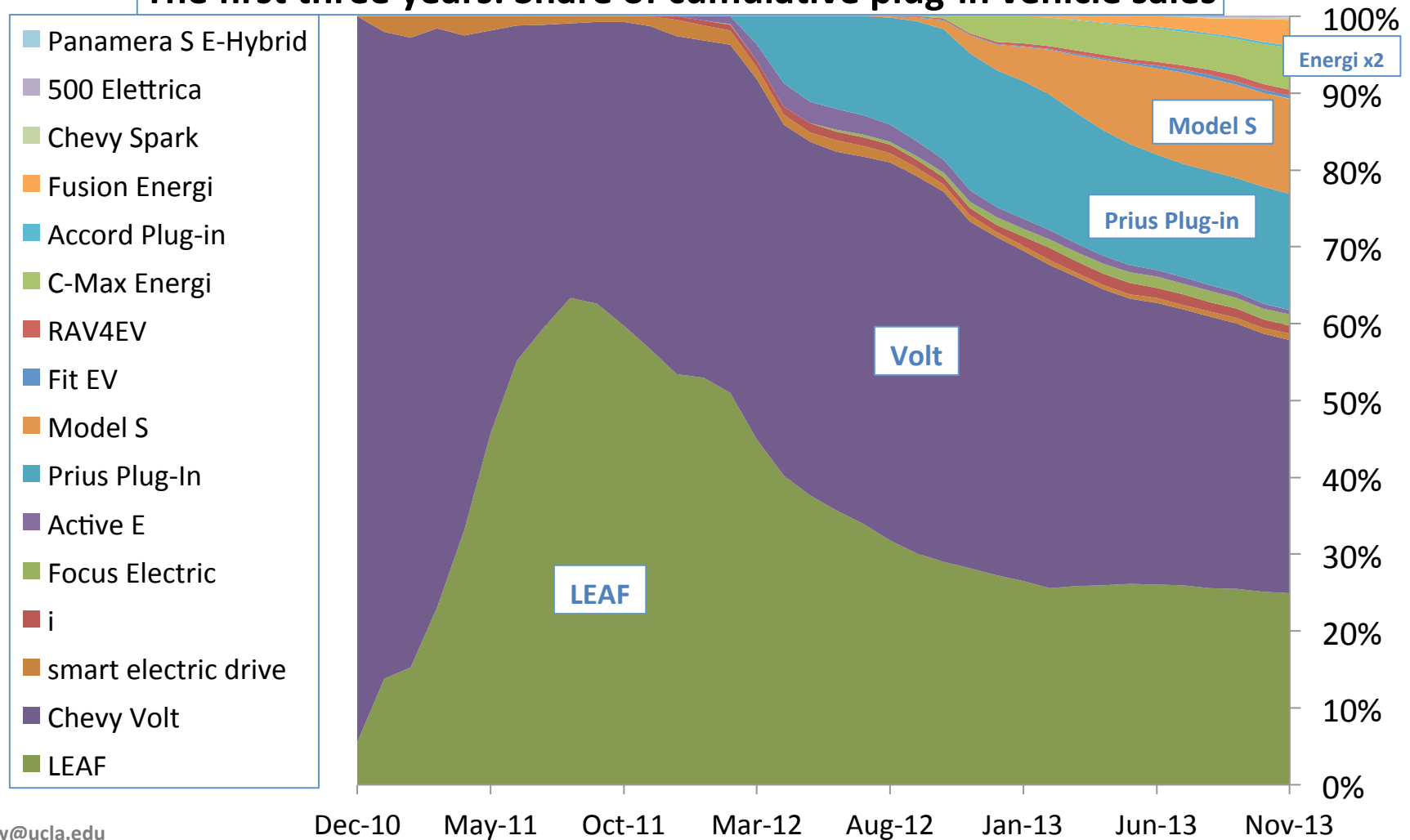
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by Individual model



Model market share

The first three years: Share of cumulative plug-in vehicle sales



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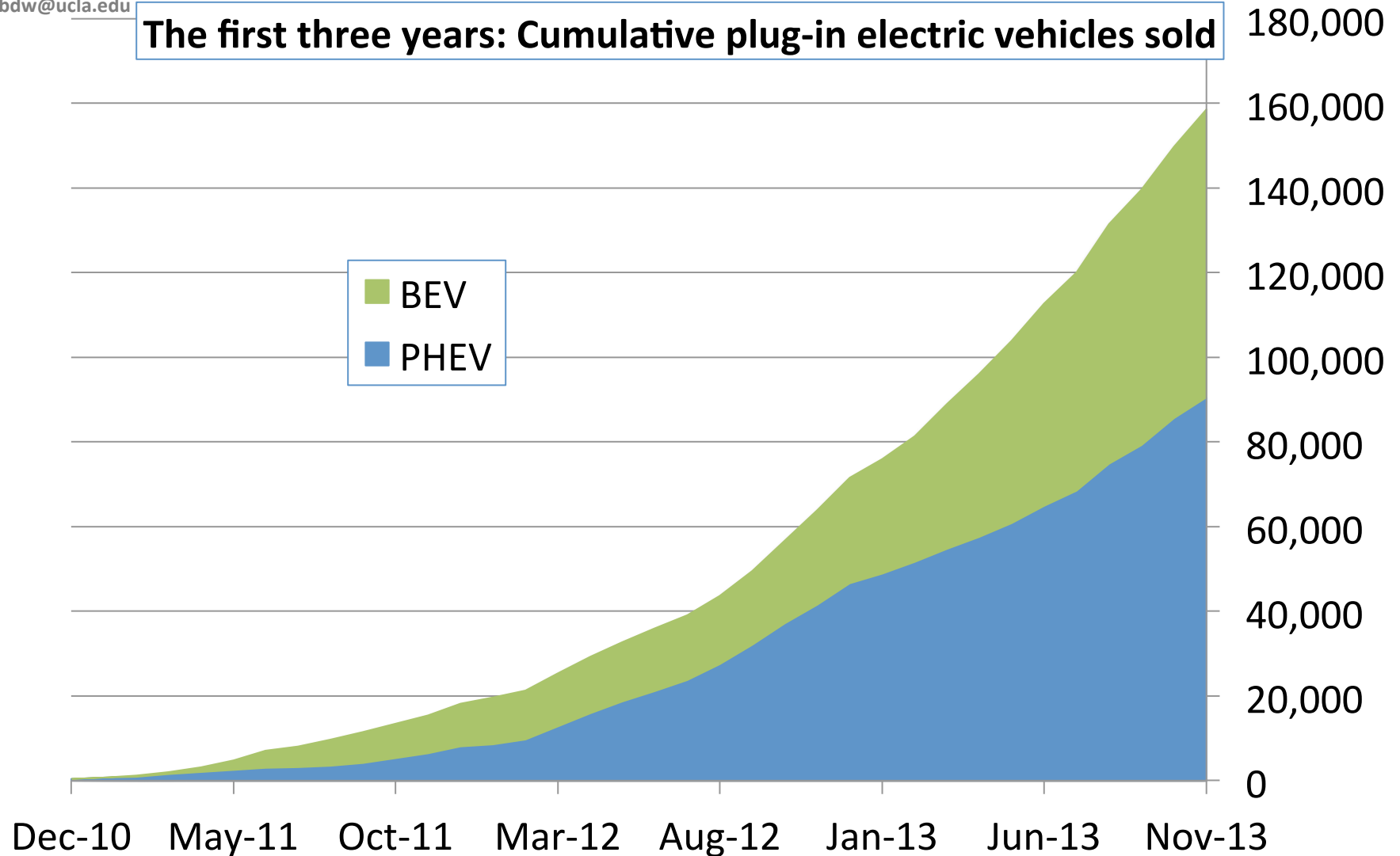
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by PEV type

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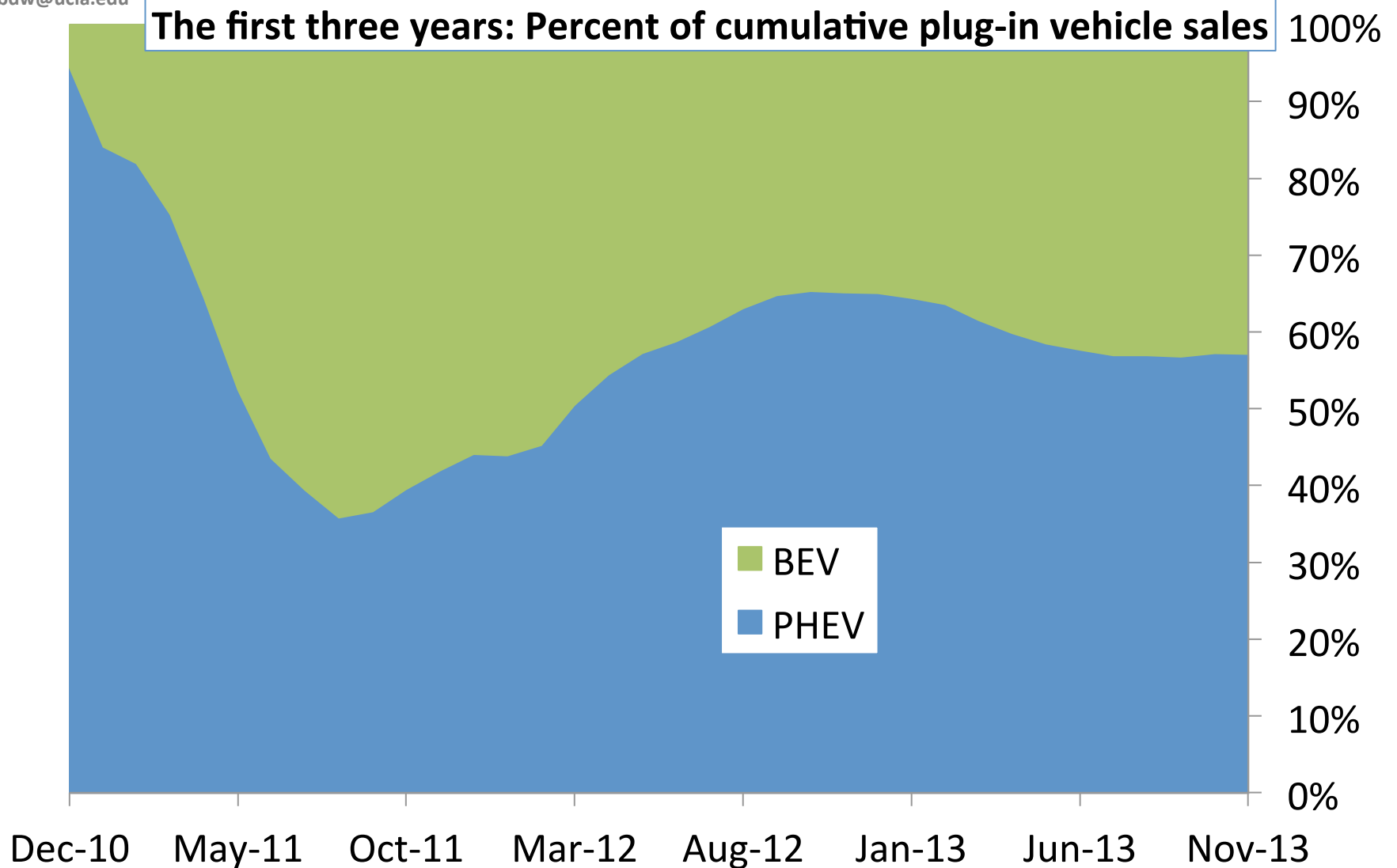
The first three years: Cumulative plug-in electric vehicles sold



Market share by type

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The first three years: Percent of cumulative plug-in vehicle sales



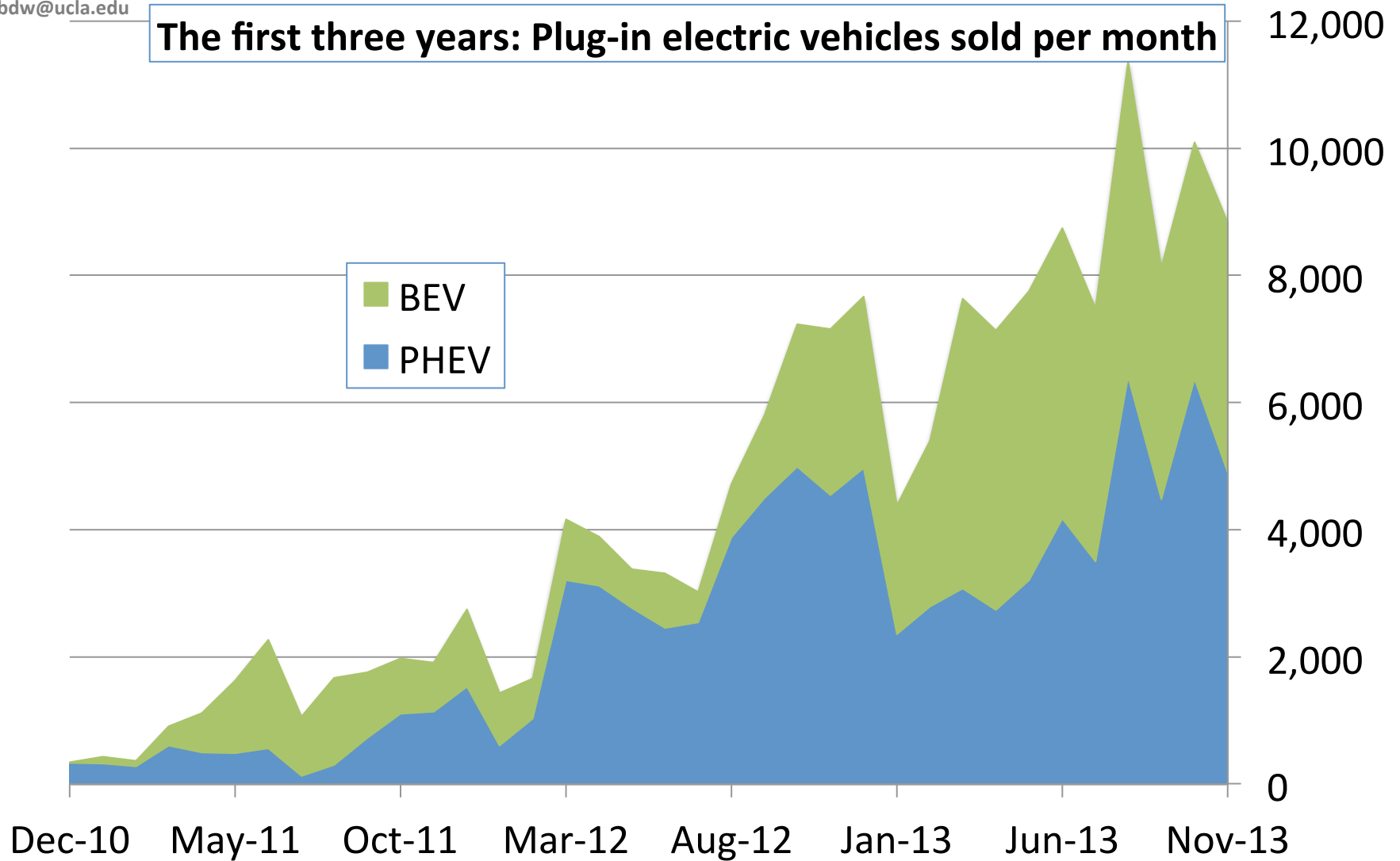
How is the rate changing over time?

Monthly U.S. PEV sales

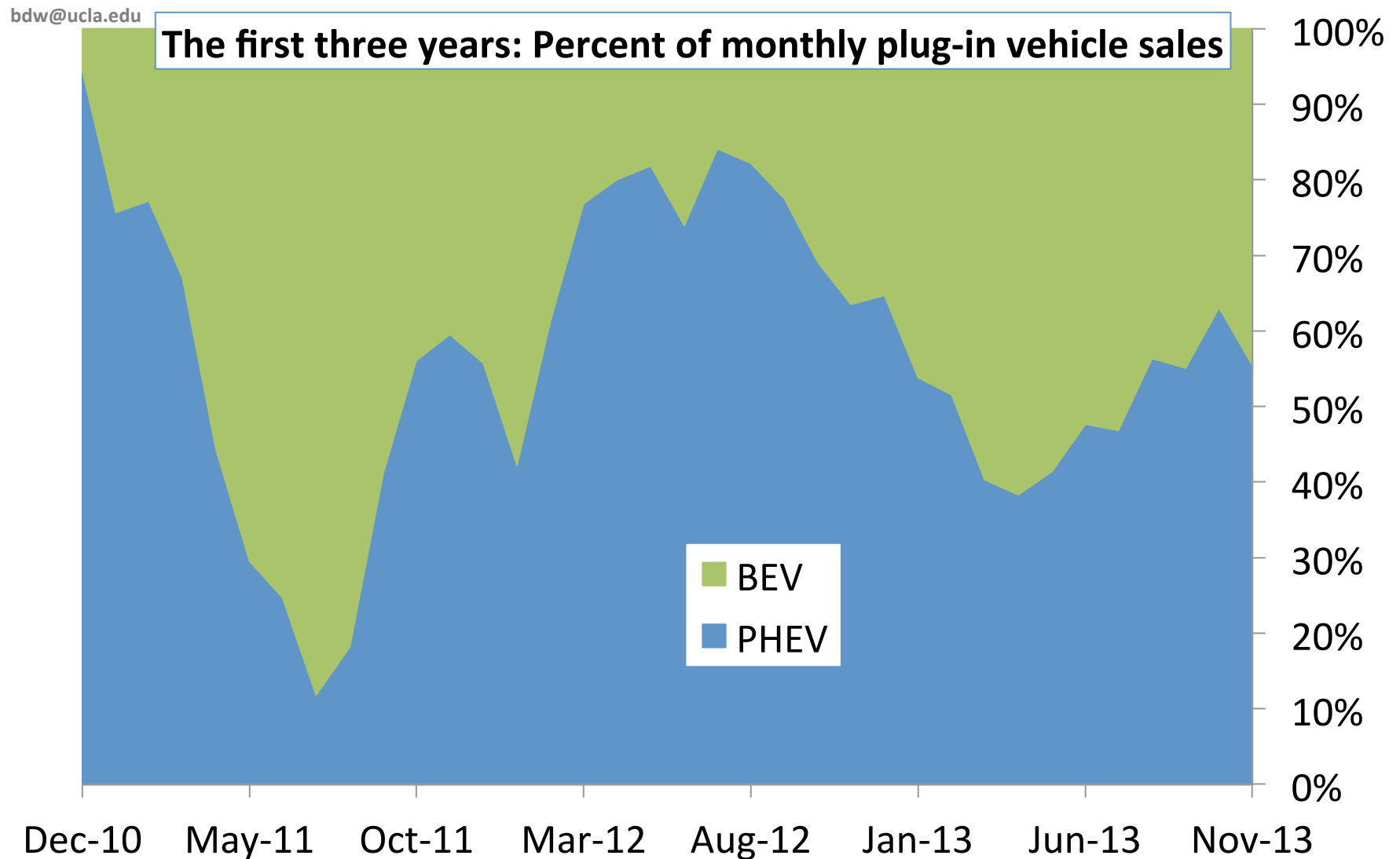
by PEV type

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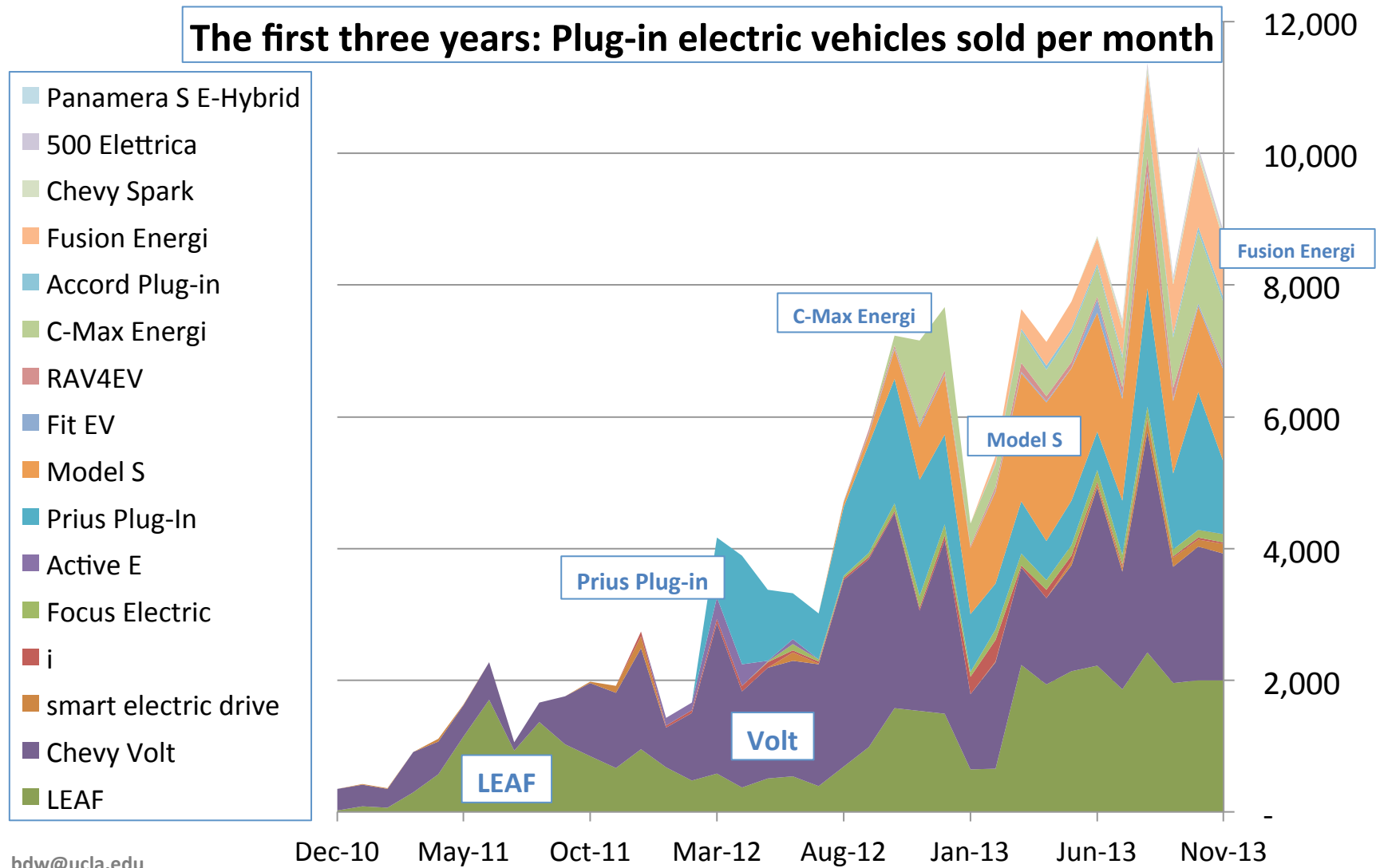
The first three years: Plug-in electric vehicles sold per month



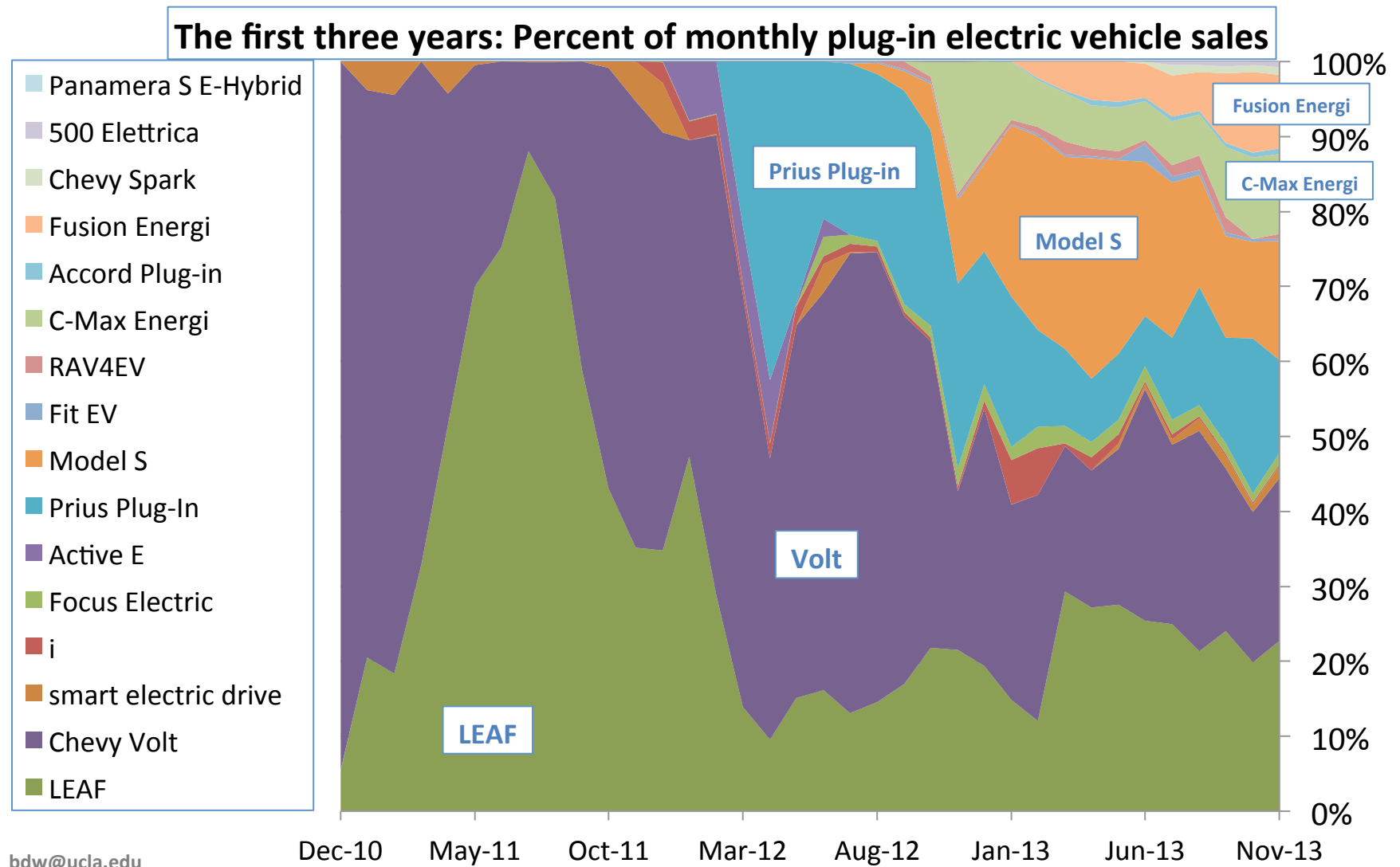
Monthly market share by type



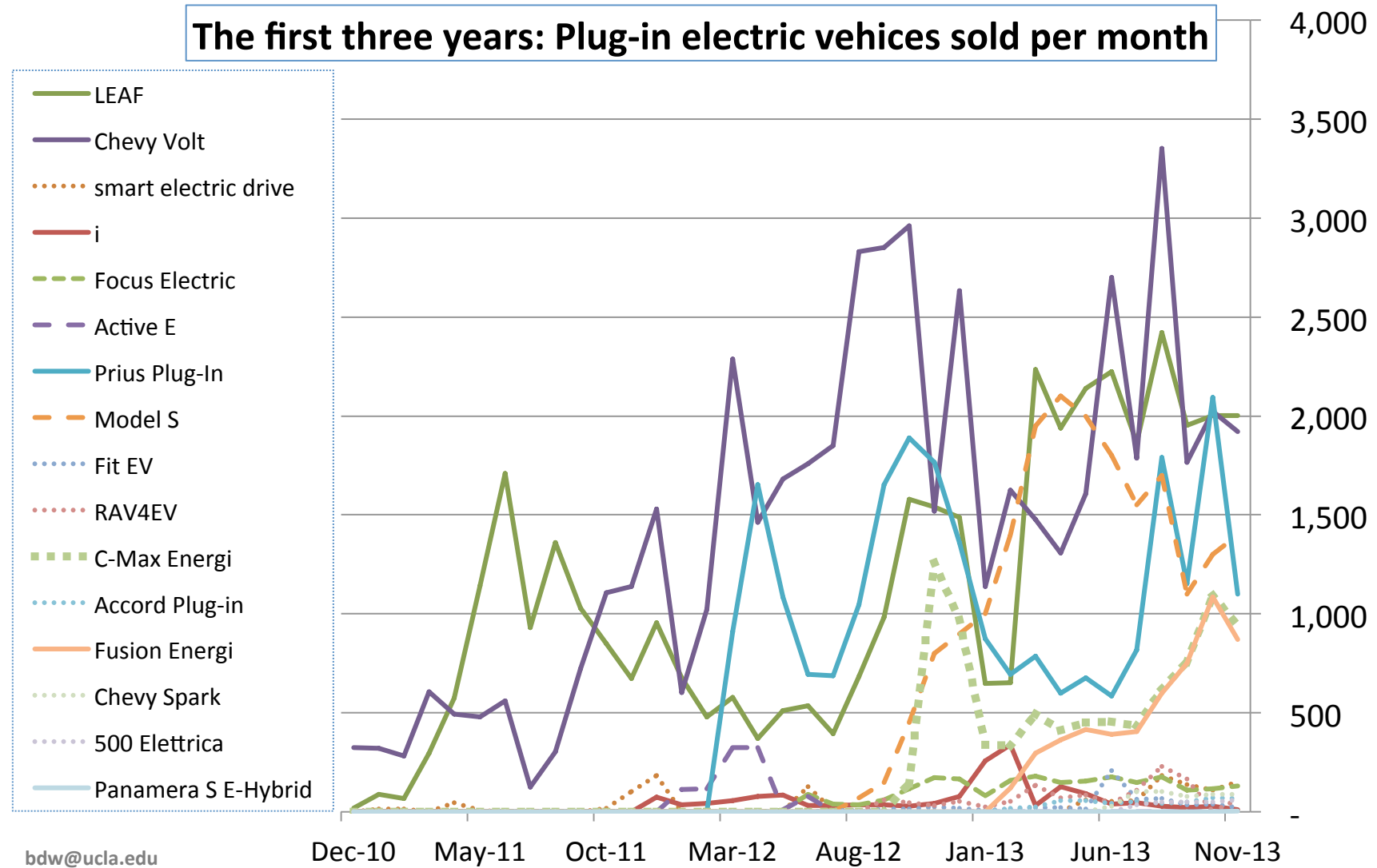
by Model



Monthly model market share



By Individual model

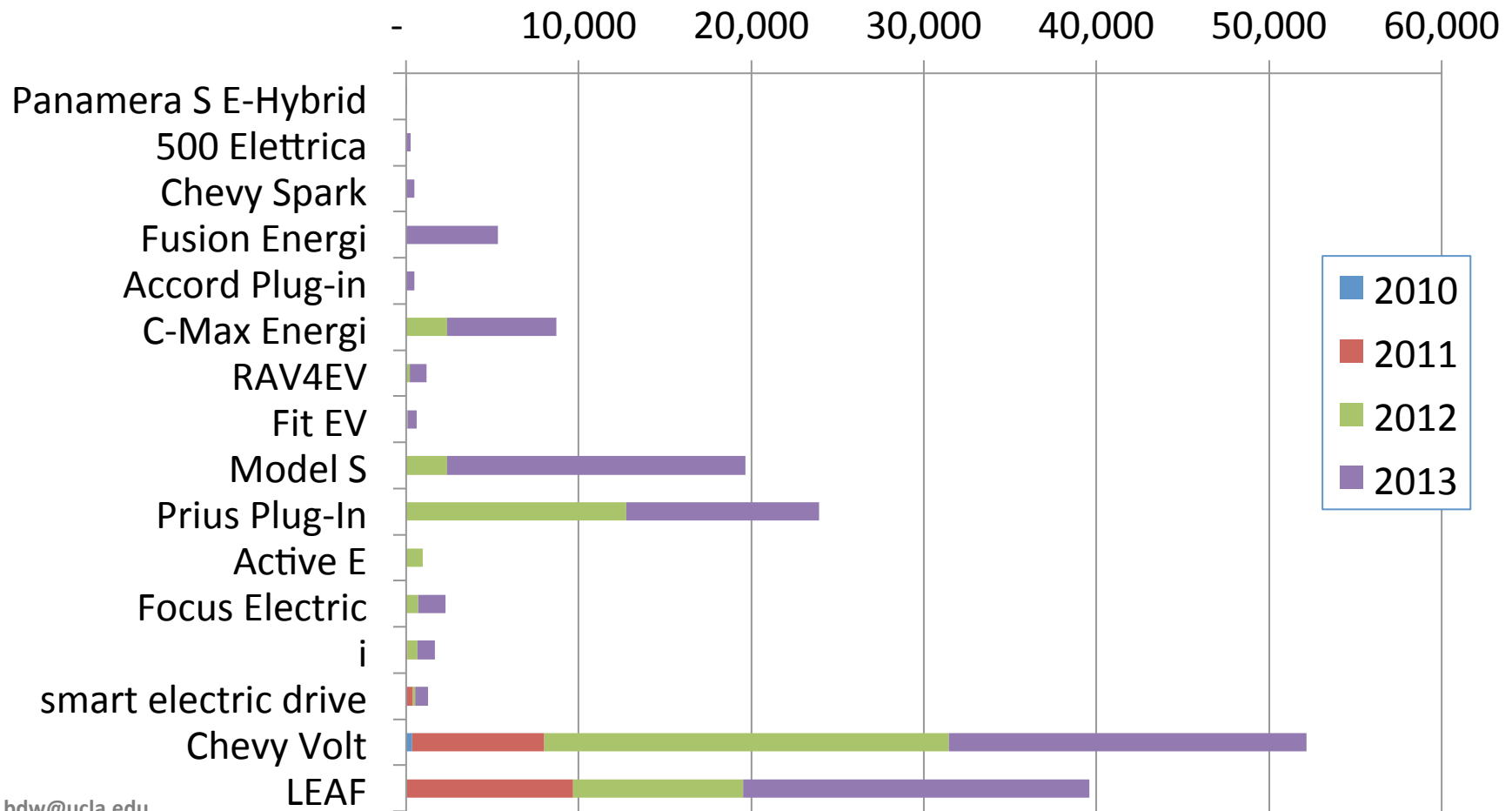


Cumulative changes

Yearly U.S. PEV sales totals

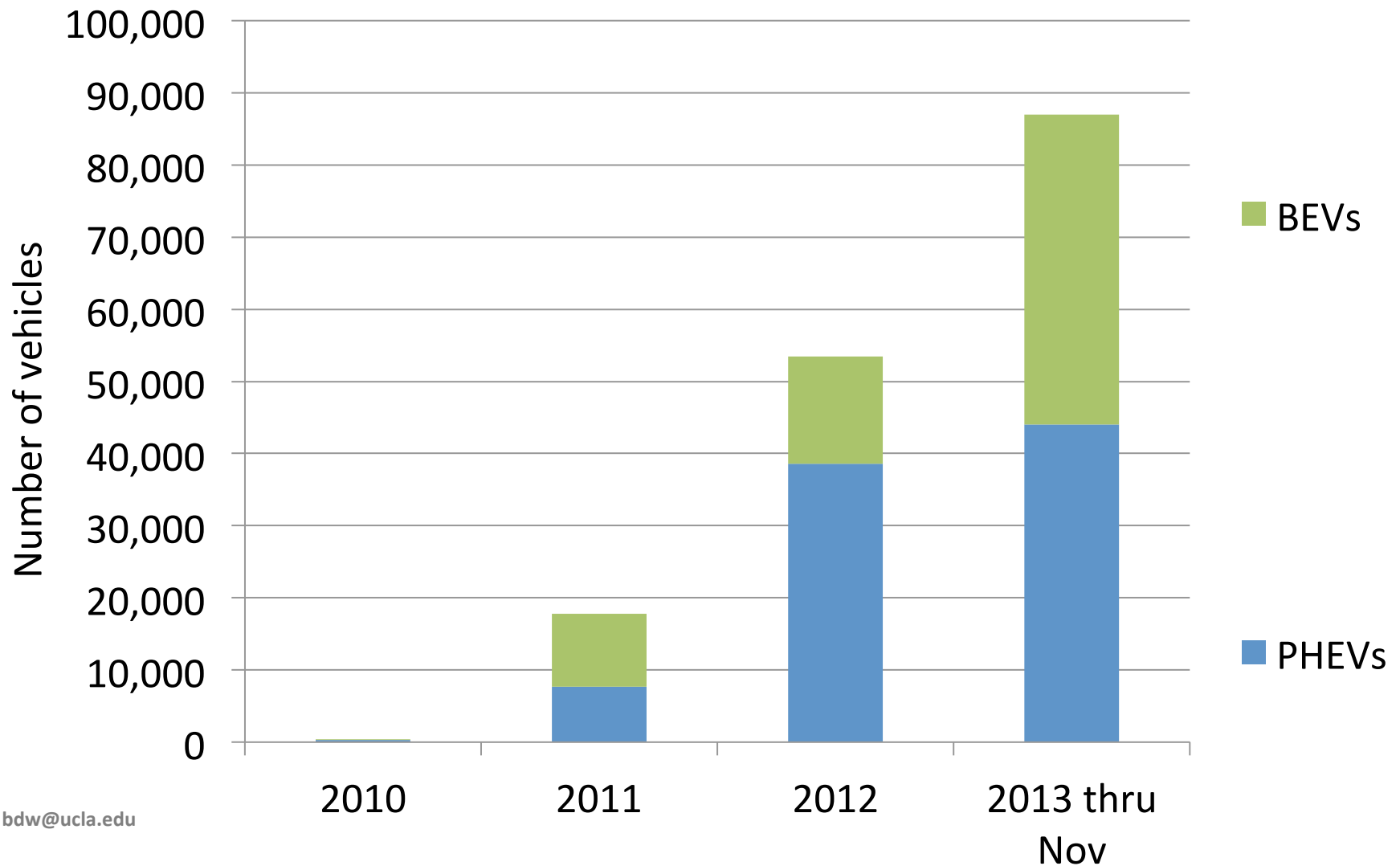
Yearly U.S. sales

Cumulative plug-in electric vehicle sales by model



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Yearly U.S. sales by PEV type

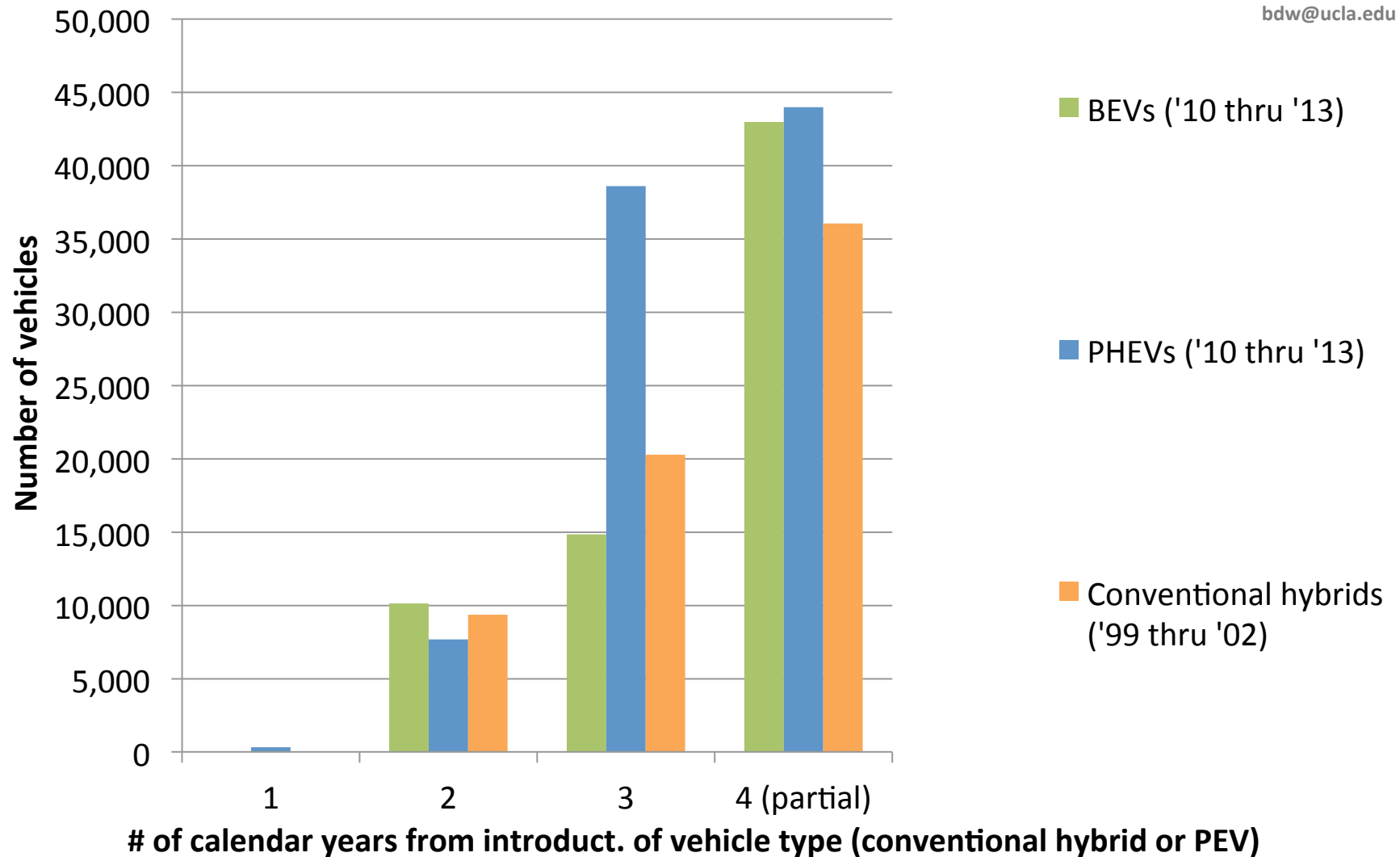


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How do PEVs compare to gasoline-only hybrids?

U.S. sales from introduction of vehicle type

U.S. sales by calendar year from introduction of EV type



What kinds of “electric vehicles” are on the market?

EV typology and acronym soup

“Electric vehicles”

(Williams 2013)

Electric-drive vehicles (EVs)

Hybrid electric vehicles (HEVs)

Electric-fuel vehicles or plug-in-electric vehicles (PEVs)

Plug-in hybrids (PHEVs)

Fuel-cell
electric
vehicles
(FCEVs)

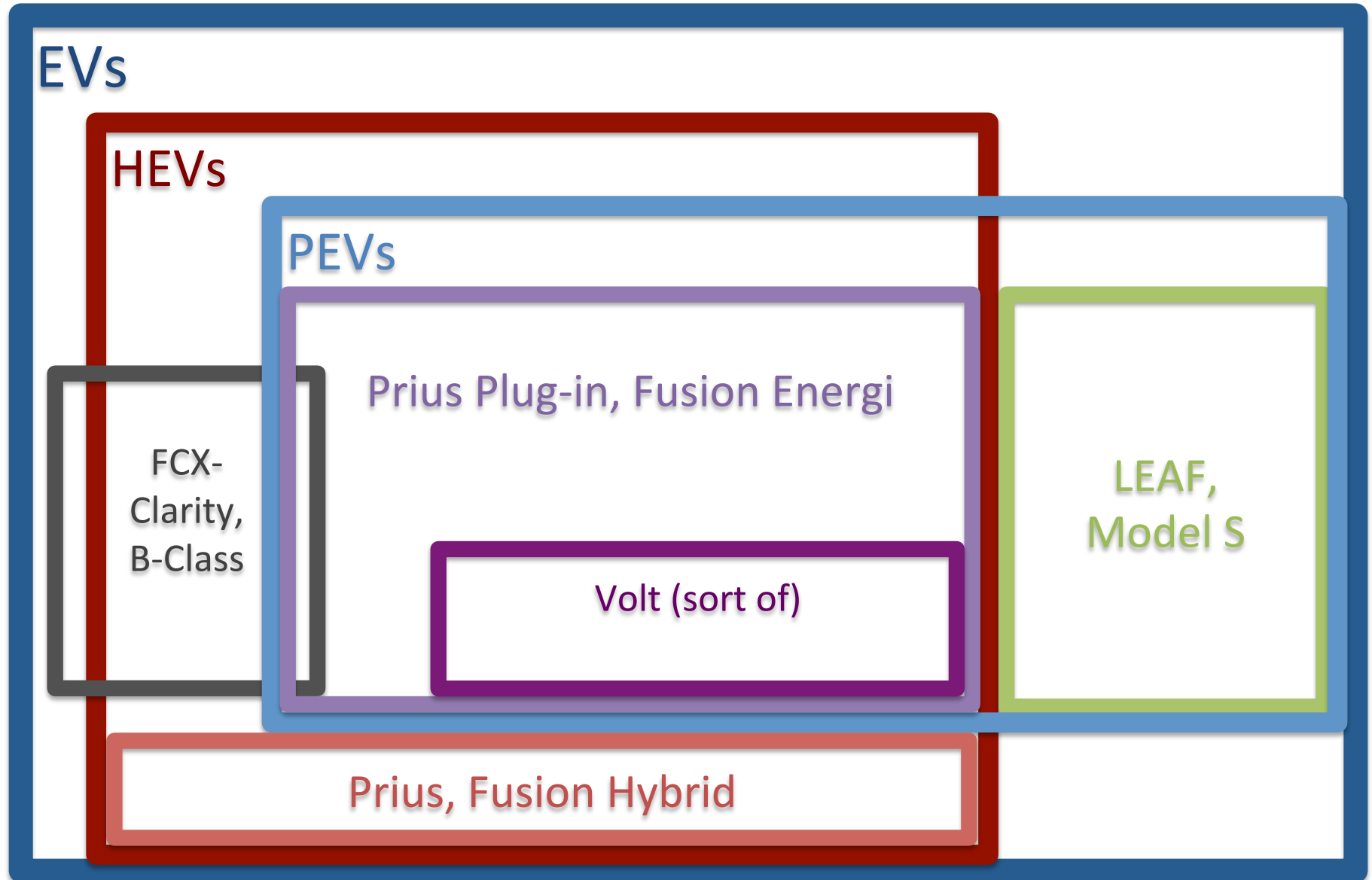
Range-extended electric
vehicles (EREVs)

All-battery
electric
vehicles
(BEVs)

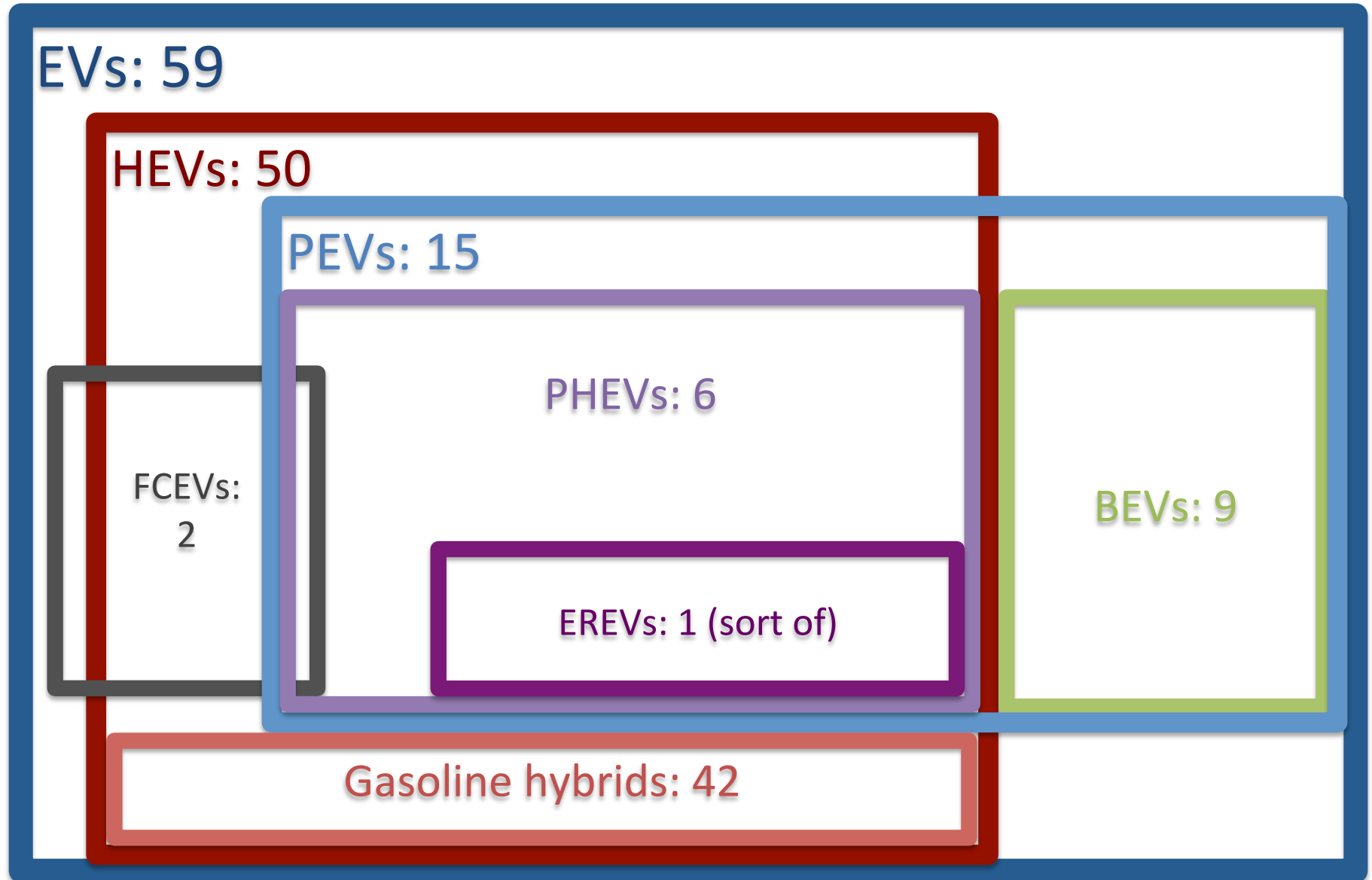
All-gasoline hybrids

EV light-duty examples

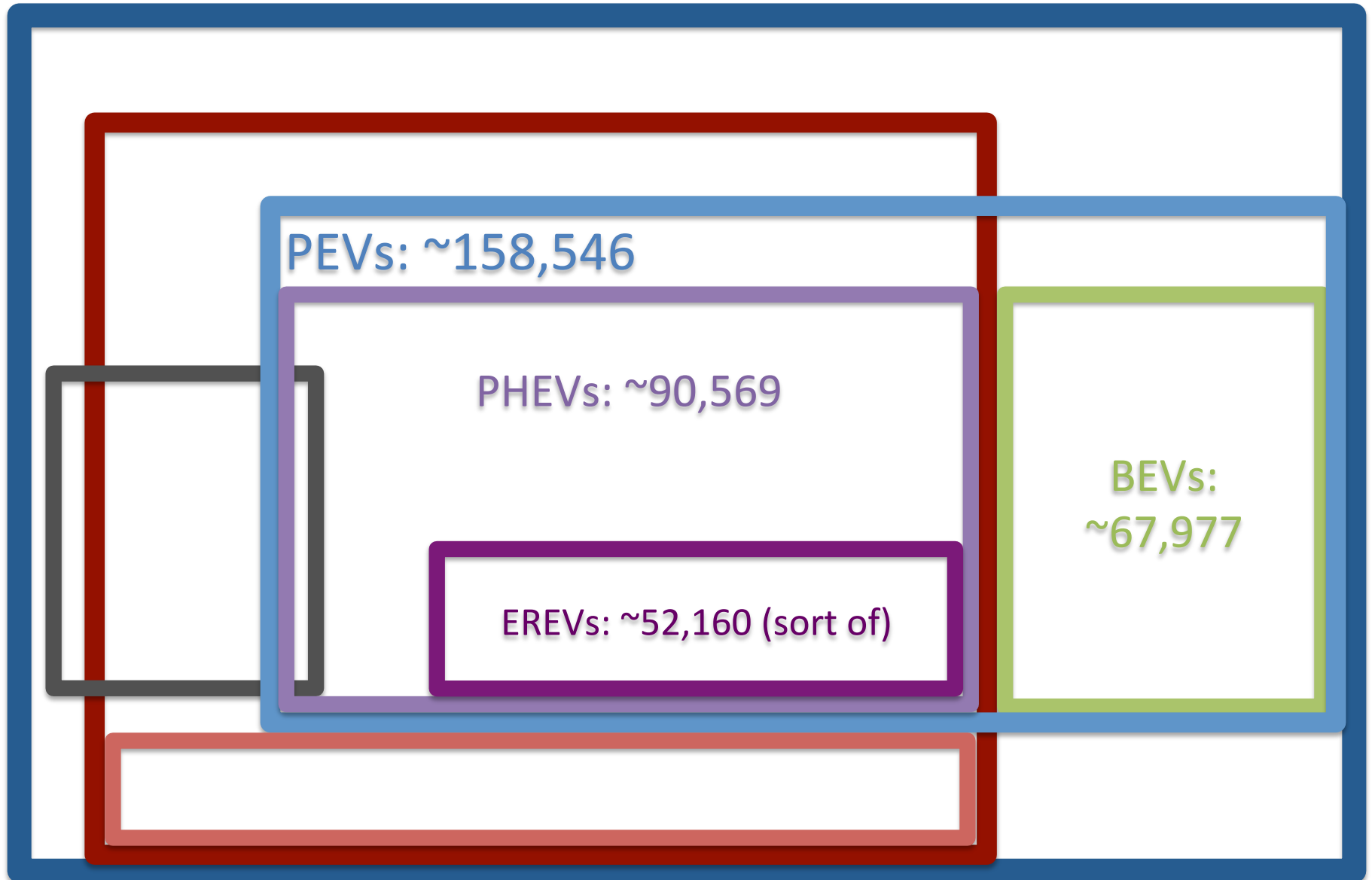
(Williams 2013)



of models on the market in Nov '13 (Williams 2013)



of U.S. vehicles sold thru Nov. 2013 (Williams 2013)



(Williams 2013)



Notes about these slides

- EV = electric-drive vehicle = HEVs + PEVs + FCEVs
 - HEVs = hybrid EVs (aka “hybrids”)
 - FCEVs = fuel-cell EVs
 - PEVs = plug-in electric vehicles (aka “plug-ins”) = BEVs + PHEVs
 - BEVs = all-battery EVs (aka “all-electric”)
 - PHEVs = plug-in hybrid EVs (aka “plug-in hybrids”)
- Figure legend order reflects sequence of vehicle introduction.
- No single source used contained a complete and/or accurate list of sales data, so multiple sources were compiled by the National Renewable Energy Laboratory (gasoline-only hybrid data) and UCLA Luskin Center (PEV data, most of which were compiled from monthly reports at hybridcars.com).
- Data for the Tesla Roadster, Cooper MINI-E, Th!nk City, Azure Transit Connect Electric, Fisker Karma, and Coda Sedan are not included.
- Tesla Model S sales are estimates and increasingly overestimate U.S. sales as the vehicle is marketed globally. Further, for simplification, it is assumed that all 2012 sales are the 85kWh model and 2013 sales are the 60kWh model.

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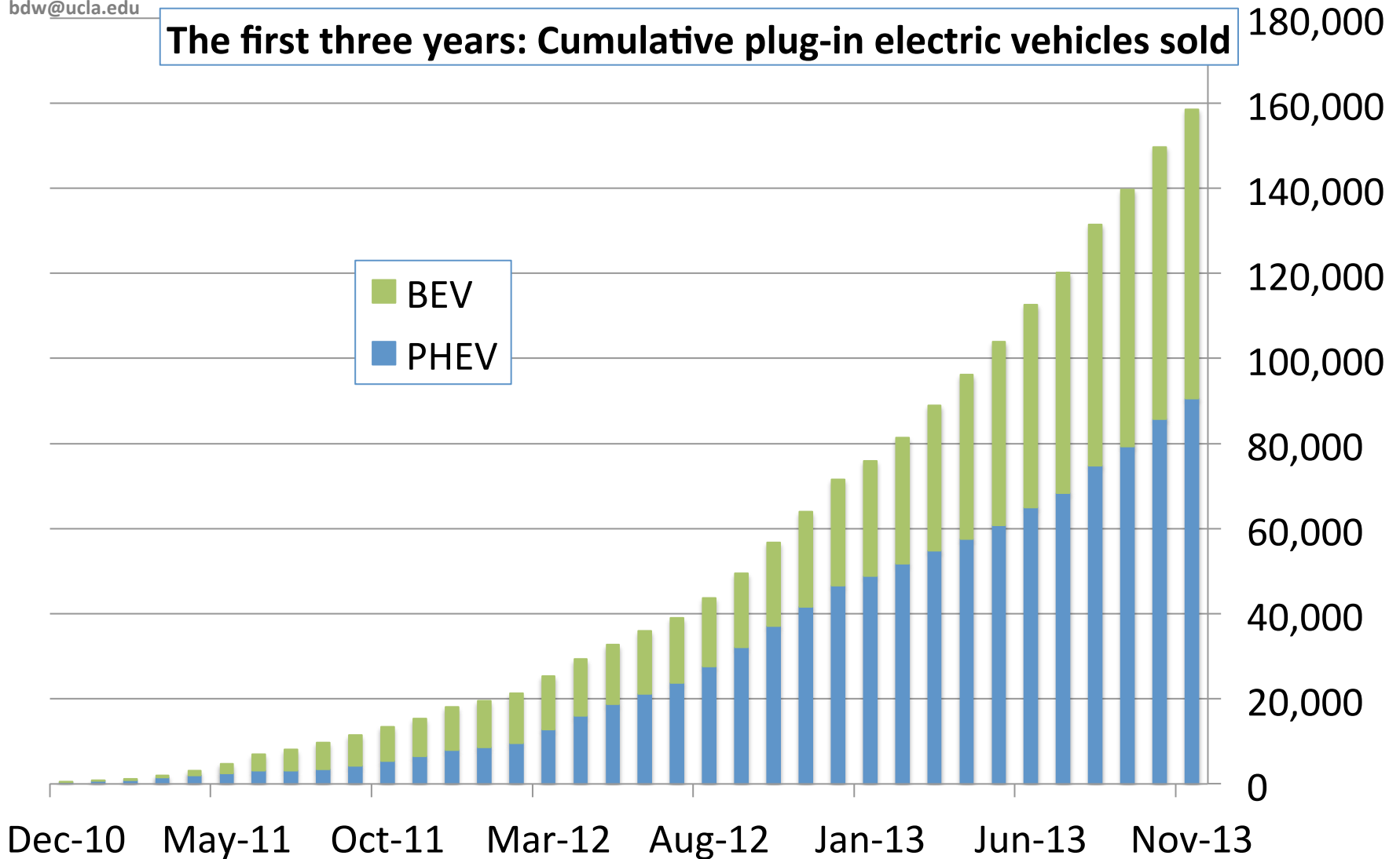
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Further detail

by Type

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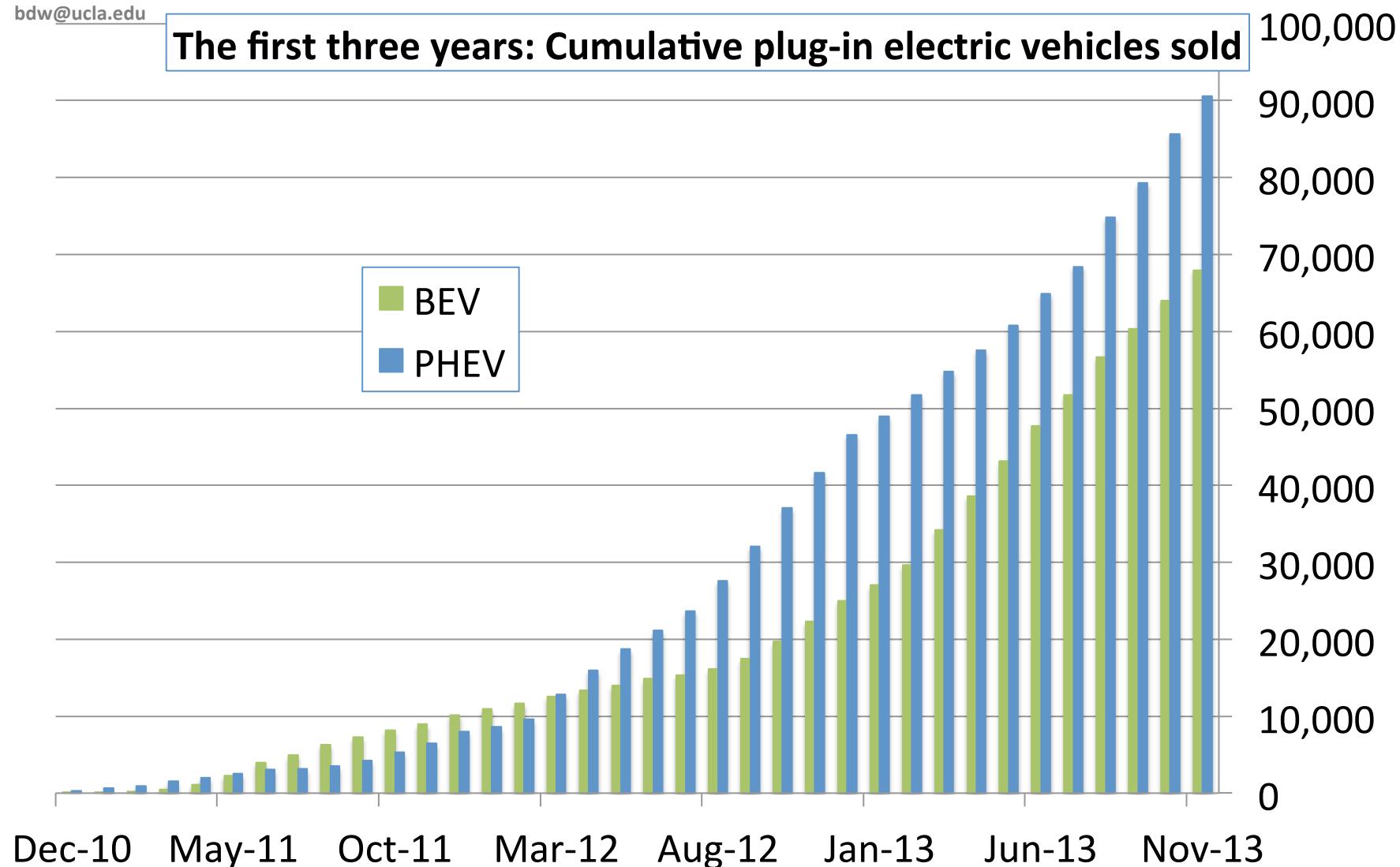
The first three years: Cumulative plug-in electric vehicles sold



by Individual PEV type

bdw@ucla.edu

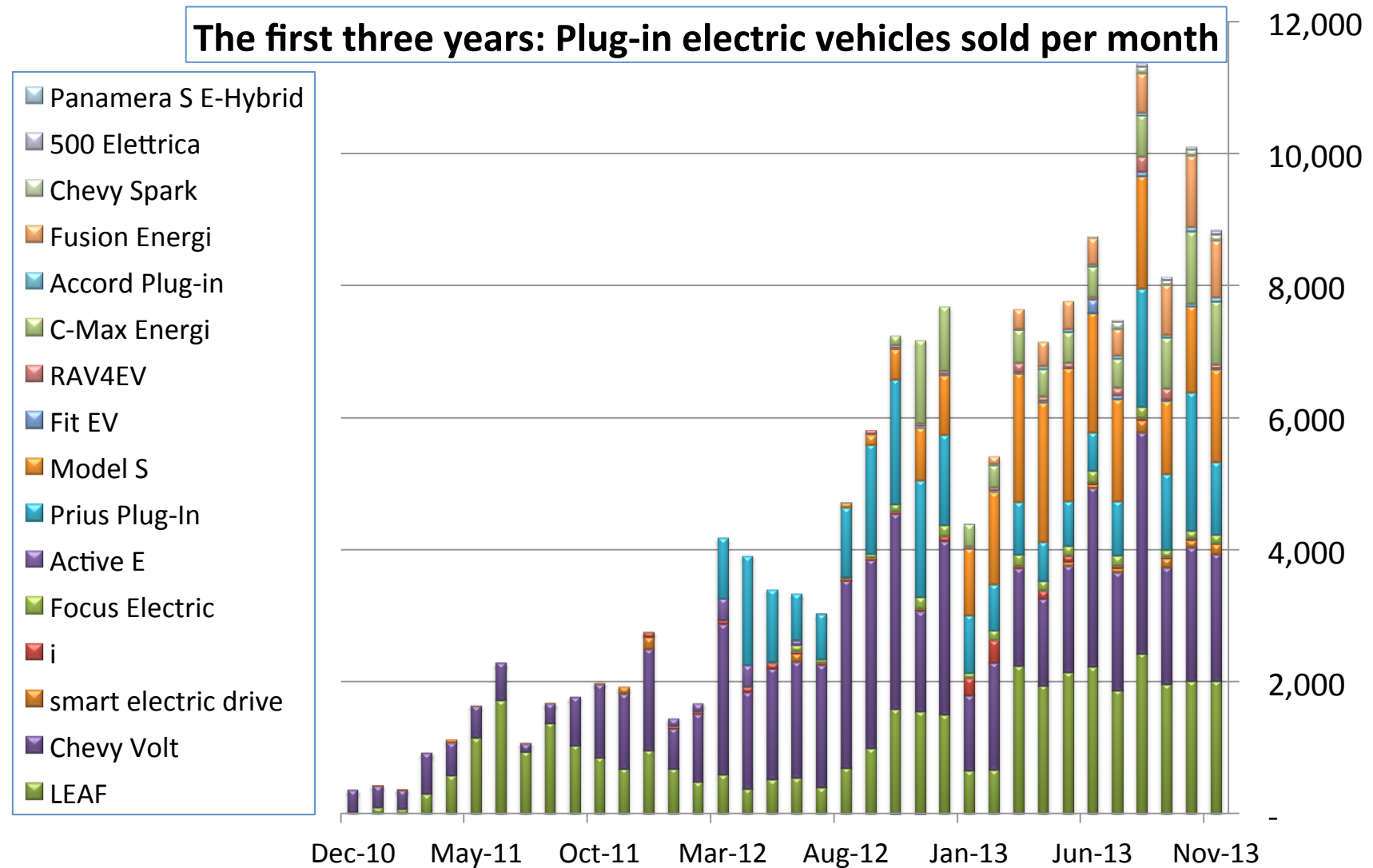
The first three years: Cumulative plug-in electric vehicles sold



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by PEV model



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by Individual model

