ELECTRIC VEHICLES: REVOLUTIONIZING ENERGY

BLOOMBERG NEW ENERGY FINANCE SUMMIT 2011

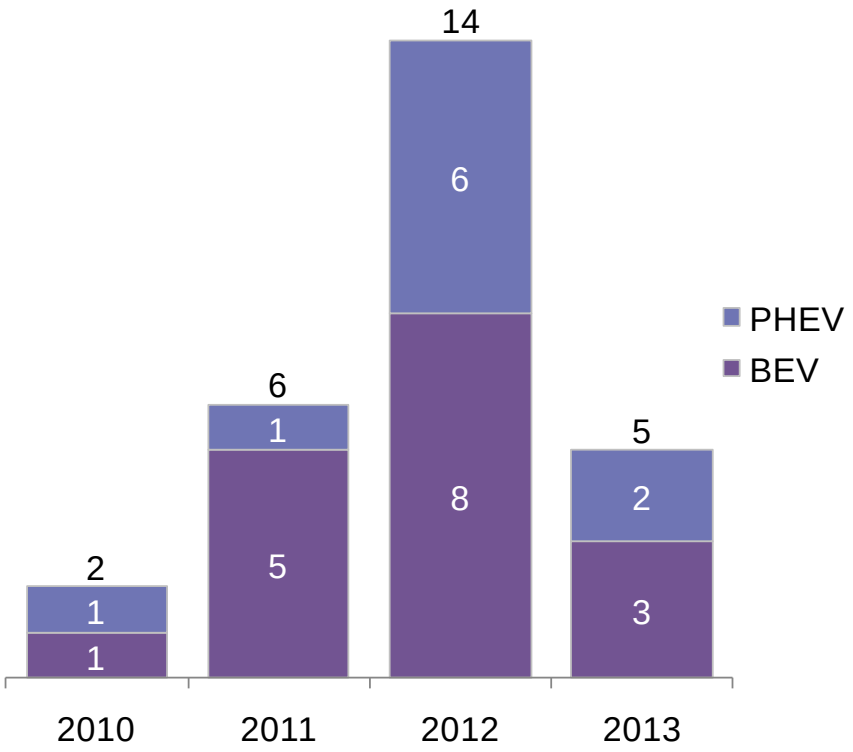
ALBERT CHEUNG

6 APRIL 2011

Bloomberg
NEW ENERGY FINANCE

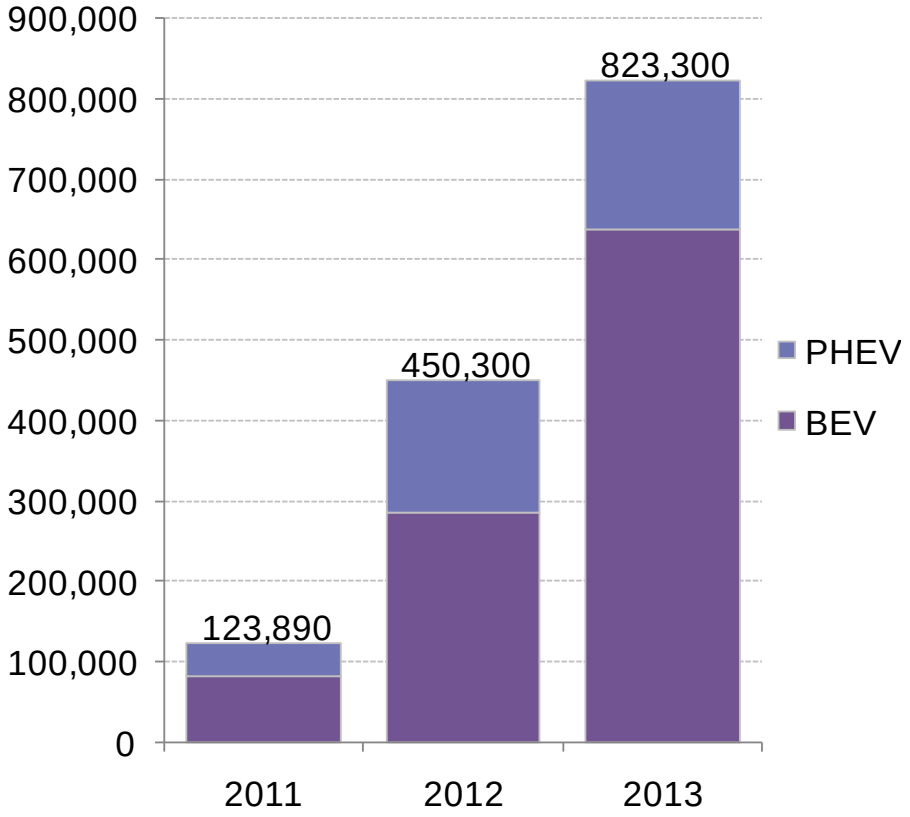
ELECTRIC VEHICLE LAUNCHES AND PRODUCTION

EV MODEL LAUNCHES BY MAJOR INTERNATIONAL MANUFACTURERS (NO. MODELS)



Source:: Company reports, Bloomberg New Energy Finance

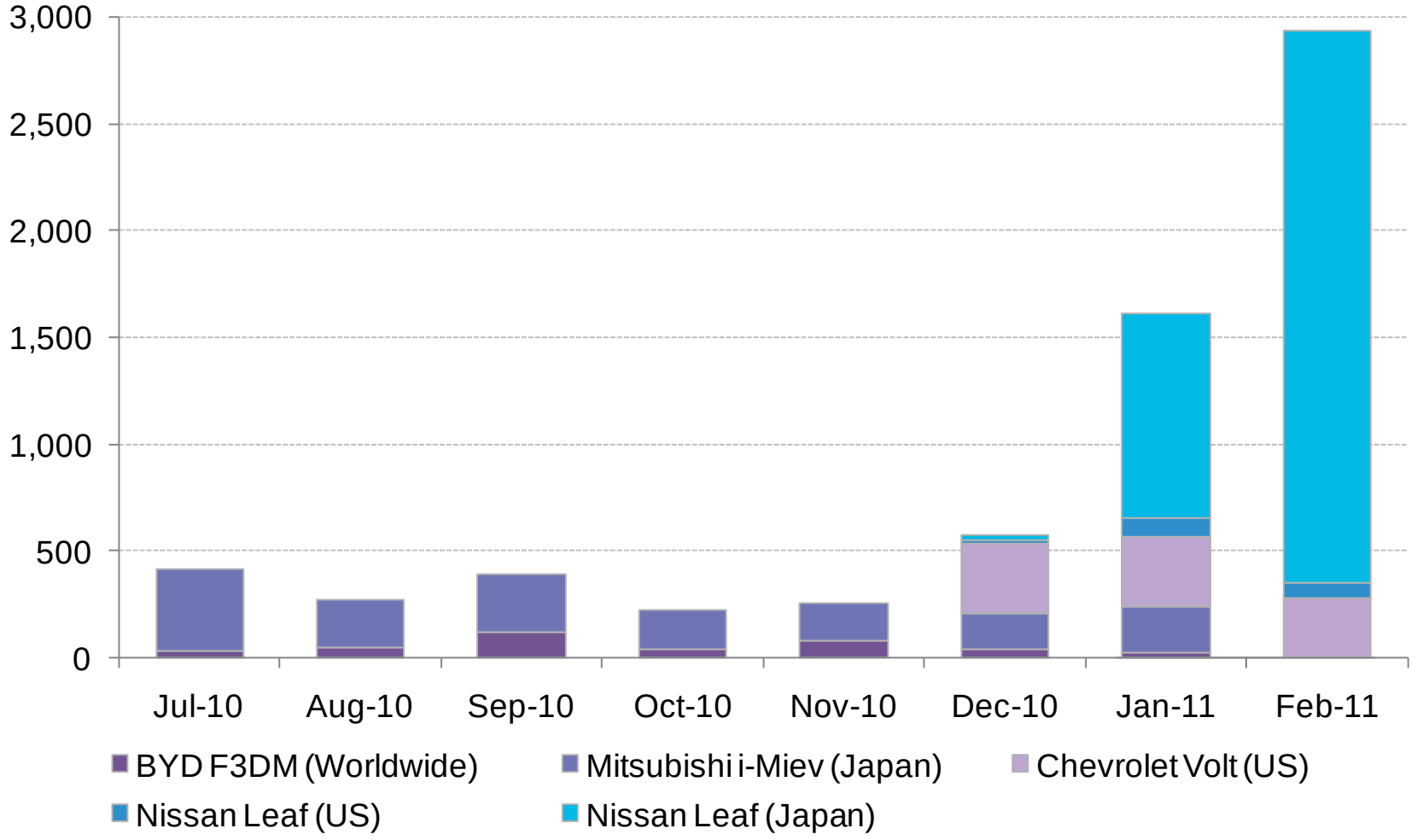
ANNOUNCED EV PRODUCTION CAPACITY OF INTERNATIONAL MANUFACTURERS (NO. OF VEHICLES)



Source: Company reports, Bloomberg New Energy Finance

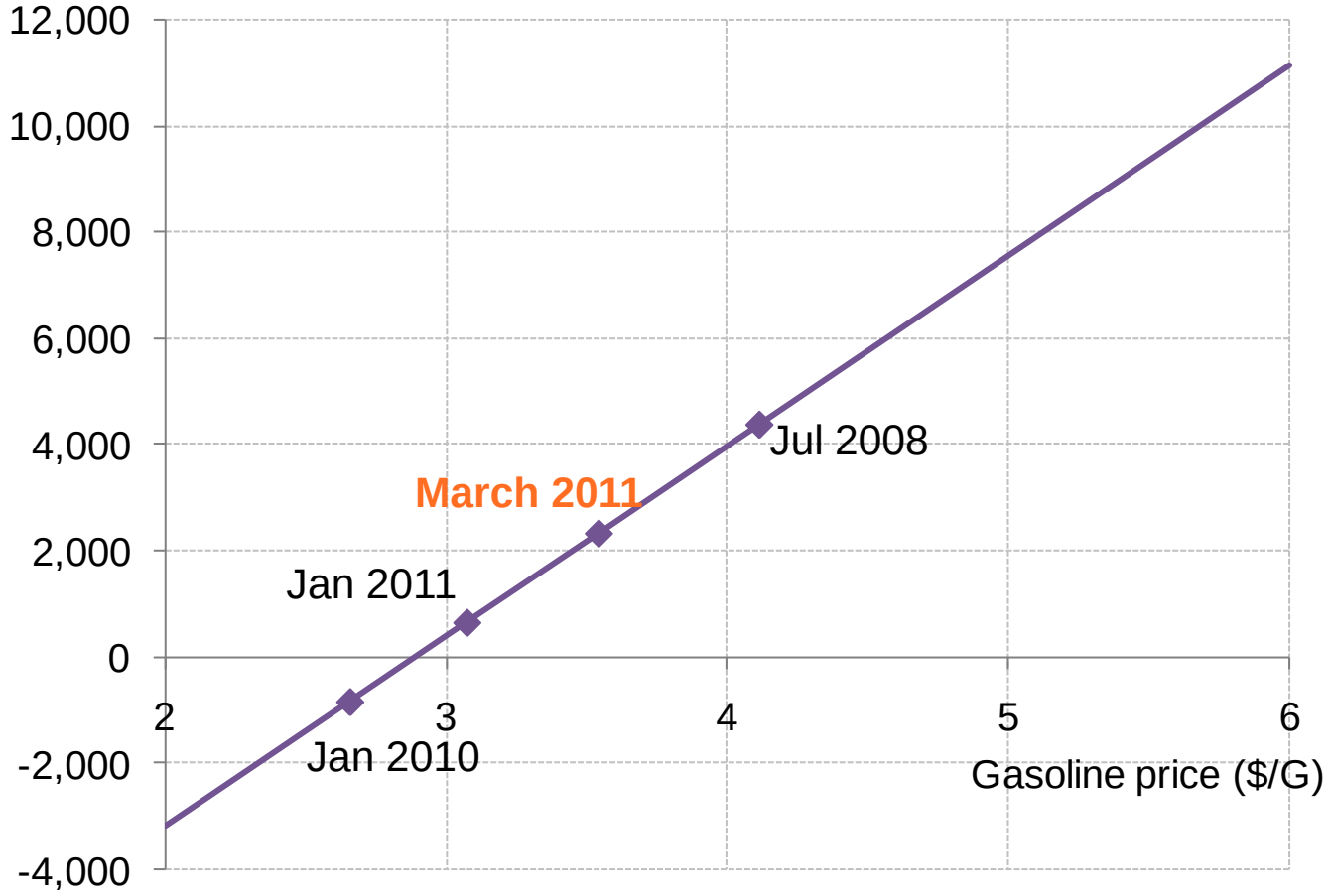
ELECTRIC VEHICLE SALES SO FAR

(NUMBER OF VEHICLES SOLD)



Source: Company reports, Bloomberg New Energy Finance.

NISSAN LEAF: LIFETIME SAVINGS VERSUS EQUIVALENT INTERNAL COMBUSTION ENGINE VEHICLE ($)

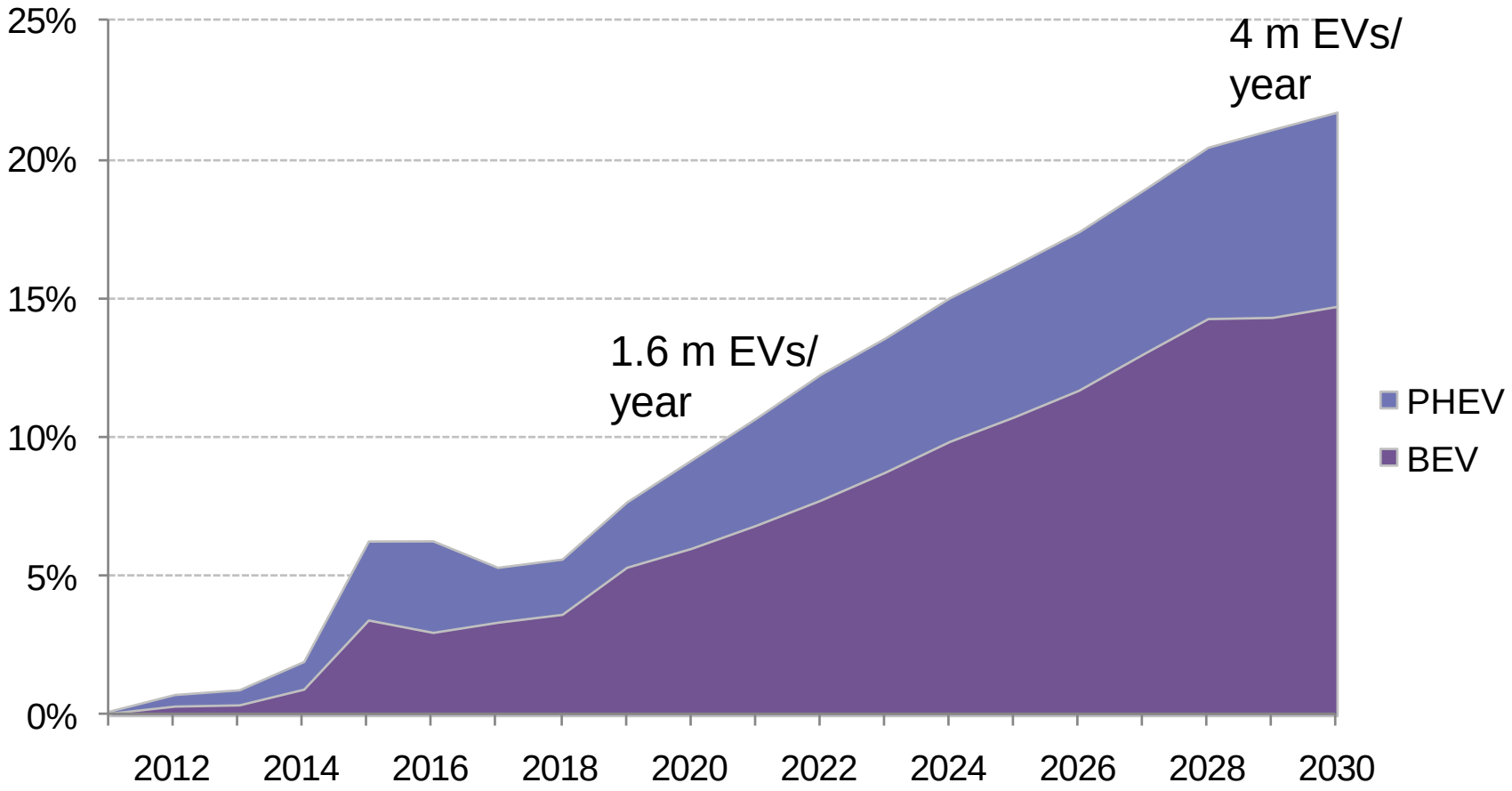


Note: 5% discount rate. Ownership cost includes $7500 federal subsidy, vehicle purchase, fuel/electricity, & tax

Source: AAA average gasoline prices, Bloomberg New Energy Finance

US ELECTRIC VEHICLE SALES PROJECTION 2011–30

(% LIGHT DUTY VEHICLE SALES)



Note: BEV = battery electric vehicle; PHEV = plug-in hybrid electric vehicle.

Source: Bloomberg New Energy Finance

REMAINING HURDLES IN THE RACE TO ELECTRIFICATION

SUPPLY CHAIN

- Robustness of supply chain
- Standardisation of equipment and protocols

BUSINESS MODELS

- High upfront costs remain a barrier – driven by battery cost
- Leasing options; car sharing schemes; options for second life of batteries
- Commercial customers – early adopters?

INFRASTRUCTURE

- High cost of public charging infrastructure
- Uncertain financing and revenue models

SMART GRID

- High charging demand during peak hours, especially with fast charging
- Short term: EV clusters can overload distribution circuits
- Long term: macro demand growth; demand response; V2G storage services

COPYRIGHT AND DISCLAIMER

This publication is the copyright of Bloomberg New Energy Finance. No portion of this document may be photocopied, reproduced, scanned into an electronic system or transmitted, forwarded or distributed in any way without prior consent of Bloomberg New Energy Finance.

The information contained in this publication is derived from carefully selected public sources we believe are reasonable. We do not guarantee its accuracy or completeness and nothing in this document shall be construed to be a representation of such a guarantee. Any opinions expressed reflect the current judgment of the author of the relevant article or features, and does not necessarily reflect the opinion of Bloomberg New Energy Finance. The opinions presented are subject to change without notice. Bloomberg New Energy Finance accepts no responsibility for any liability arising from use of this document or its contents. Bloomberg New Energy Finance does not consider itself to undertake Regulated Activities as defined in Section 22 of the Financial Services and Markets Act 2000 and is not registered with the Financial Services Authority of the UK.

ELECTRIC VEHICLES: REVOLUTIONISING ENERGY

ALBERT CHEUNG, ACHEUNG89@BLOOMBERG.NET

MARKETS

Renewable Energy
Carbon Markets
Energy Smart Technologies
Renewable Energy Certificates
Carbon Capture & Storage
Power
Water
Nuclear

SERVICES

Insight: research, analysis & forecasting
Industry Intelligence: data & analytics
News & Briefing: daily, weekly & monthly
Applied Research: custom research & data mining
Knowledge Services: Summit, Leadership Forums, Executive Briefings & workshops

Subscription-based news, data and analysis to support your decisions in clean energy, power and water and the carbon markets

info@bnef.com

Bloomberg NEW ENERGY FINANCE