


DOCKETED

Docket Number:	17-IEPR-03
Project Title:	Electricity and Natural Gas Demand Forecast
TN #:	220516
Document Title:	Presentation - 2016 Electric Vehicle Geographic Forecast Methodology
Description:	8.3.17 Presentation by Scott Shepard of Navigant
Filer:	Raquel Kravitz
Organization:	Navigant
Submitter Role:	Public
Submission Date:	8/2/2017 12:58:15 PM
Docketed Date:	8/2/2017



2016 ELECTRIC VEHICLE GEOGRAPHIC FORECAST METHODOLOGY

NATIONAL SALES FORECAST AND
SUB-NATIONAL DISAGGREGATION
METHOD

Scott Shepard

AUGUST 3, 2017

NAVIGANT



AGENDA

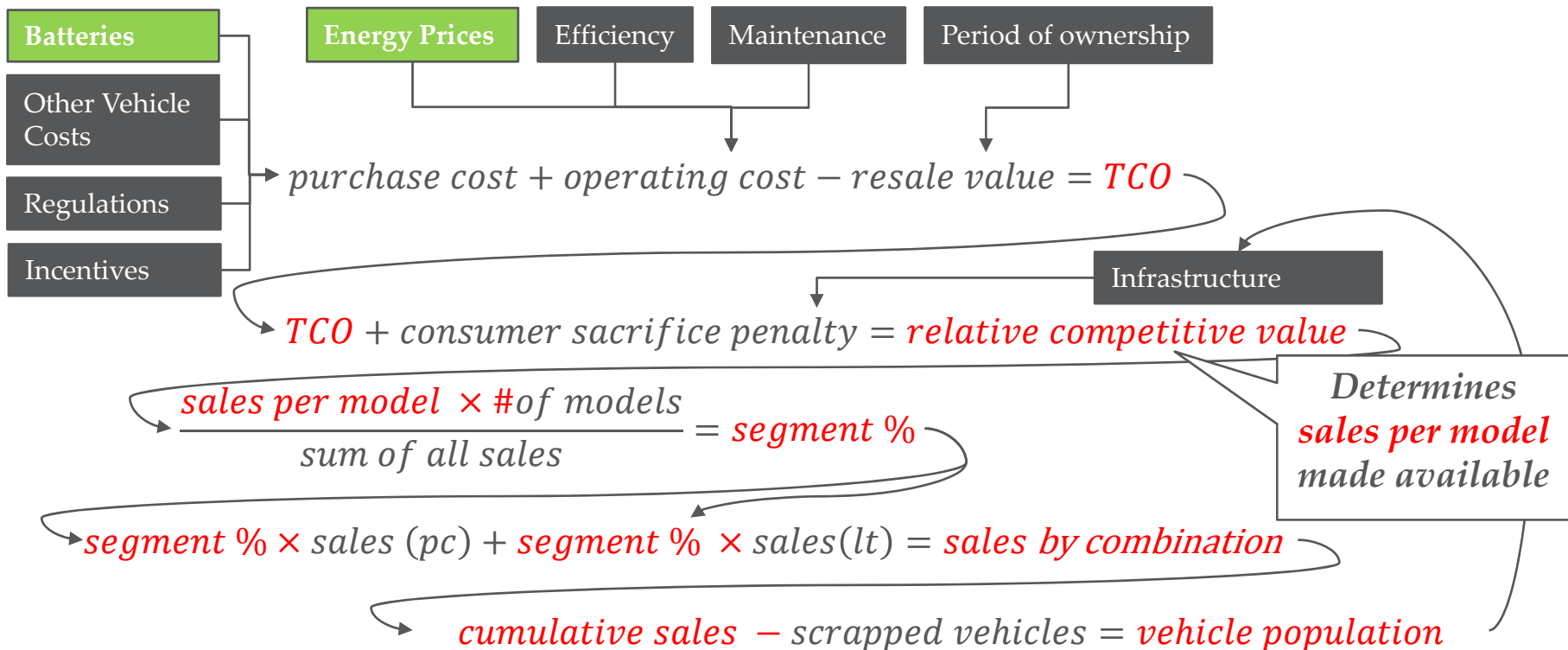
1. Technology Competition Model
2. State Disaggregation

TECHNOLOGY COMPETITION MODEL

12 POWERTRAIN-FUEL COMBINATIONS

IN TWO SEGMENTS: PASSENGER CAR (PC) AND LIGHT TRUCK (LT)

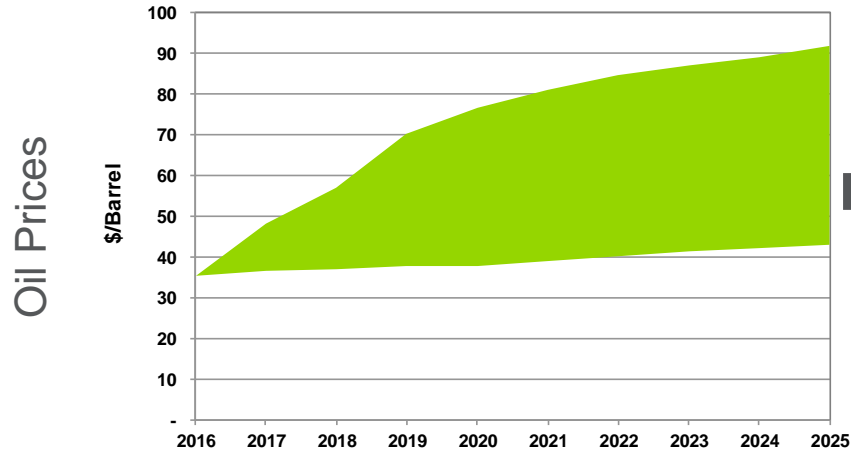
Powertrain	ICEV	SSV	HEV	PHEV	BEV	FCEV	NGV	PAGV
Fuel	Gasoline/Diesel				Electricity	Hydrogen	Natural Gas	Autogas



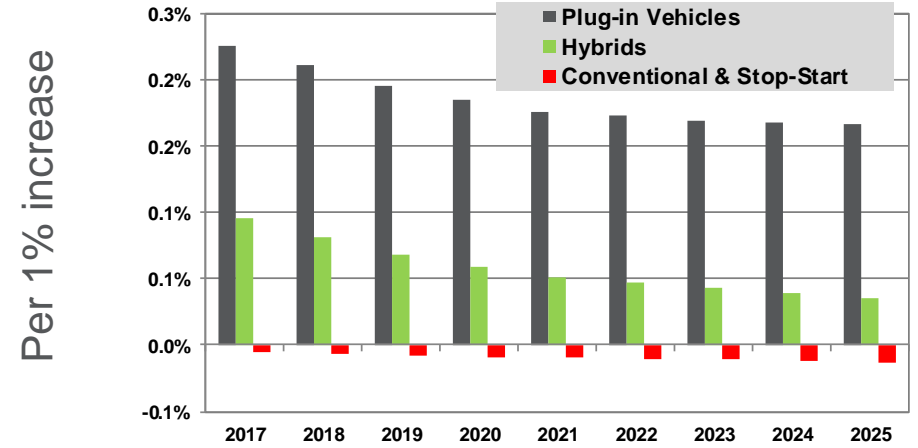
TECHNOLOGY COMPETITION MODEL

MAJOR UNCERTAINTY PARAMETERS AND SENSITIVITIES

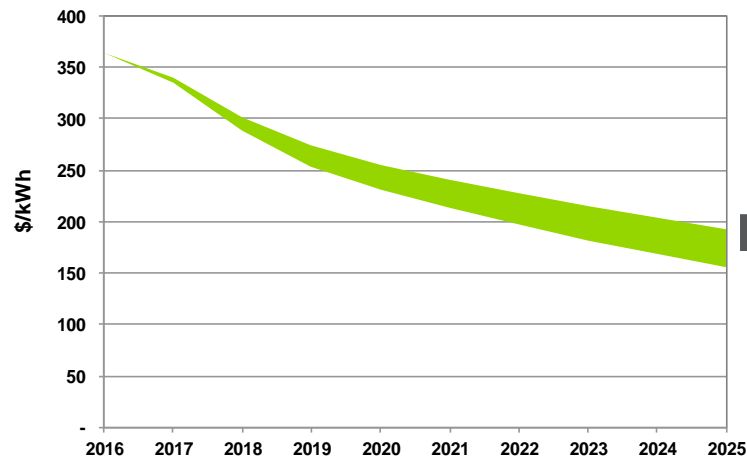
Range of Assumptions



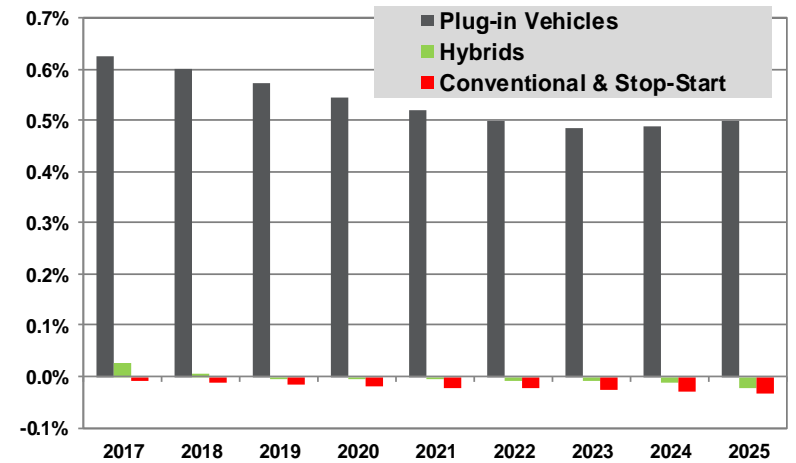
Sensitivity between conservative and aggressive



Battery Pack Prices



Per 1% decrease



TECHNOLOGY COMPETITION MODEL

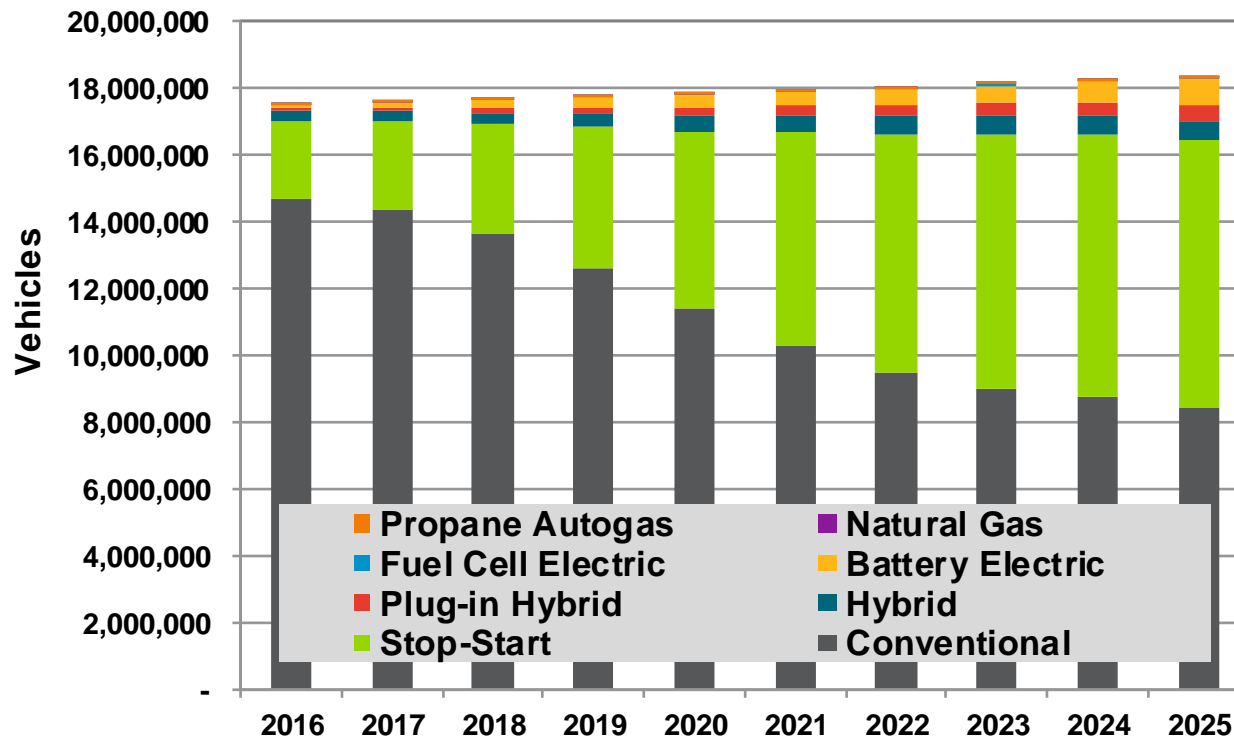
OTHER MAJOR UNCERTAINTY PARAMETERS

Parameter	Possible deviation from assumption	Impact of possible change	Sensitivity of possible change
Federal Tax Credits	Low	Total Cost of Ownership	High
Sub-National Stakeholder Interventions	High	Total Cost of Ownership	Low (at national level)
			High (where enacted)
Fuel Efficiency and Emissions Regulations	Medium	Total Cost of Ownership Vehicle Availability	High
Automaker Support and Vehicle Availability Timeline	High	Vehicle Availability	High
Automated Vehicle System Deployments	High	Overall market	Low

TECHNOLOGY COMPETITION MODEL

PLUG-IN VEHICLE SALES GROW FROM 160,000 IN 2016 TO OVER 1.24 MILLION BY 2025

Vehicle Sales by Powertrain, United States: 2016-2025



} Plug-in vehicles account for nearly 7% of 2025 market

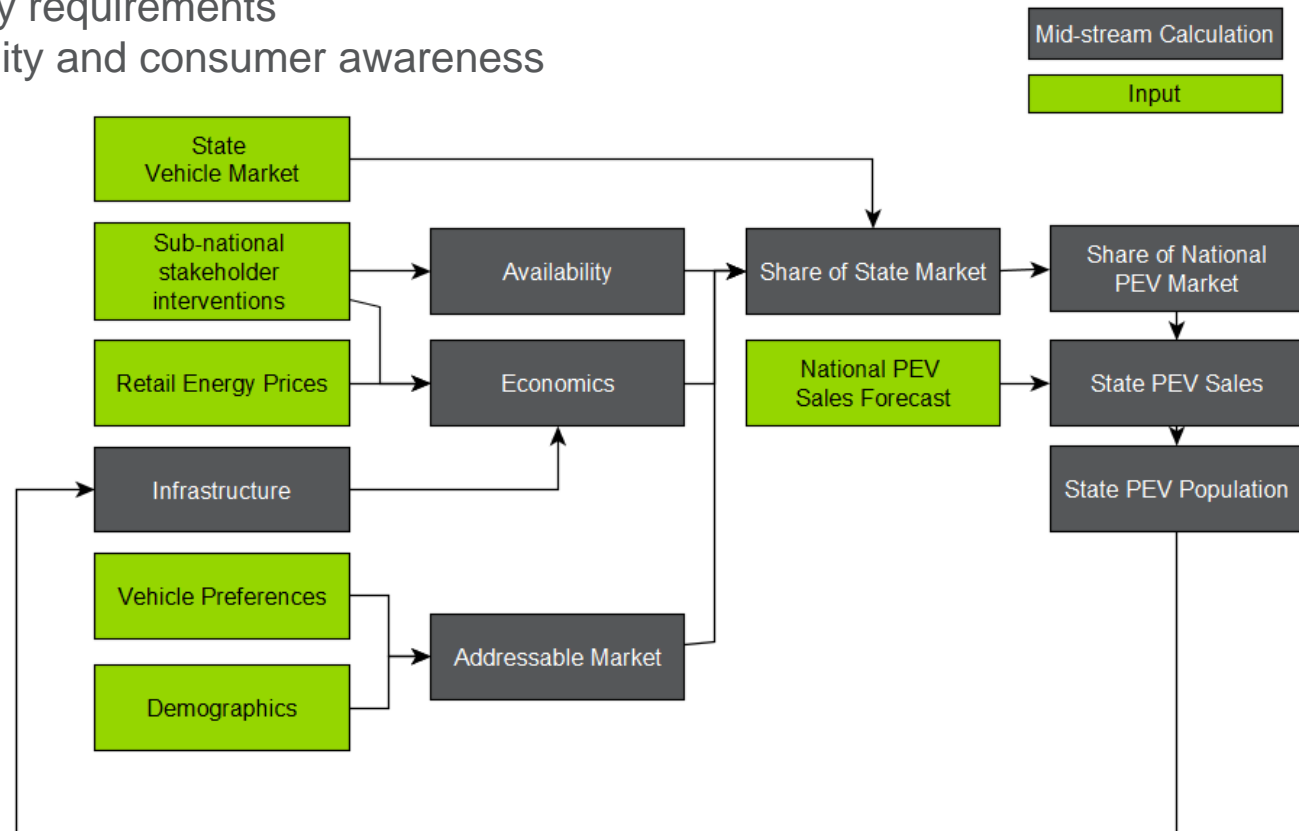
(Source: Navigant Research)

STATE LEVEL DISAGGREGATION

CONSUMER VEHICLE PREFERENCES AND DEMOGRAPHICS INTRODUCED

Attributes particular to California relative to other states:

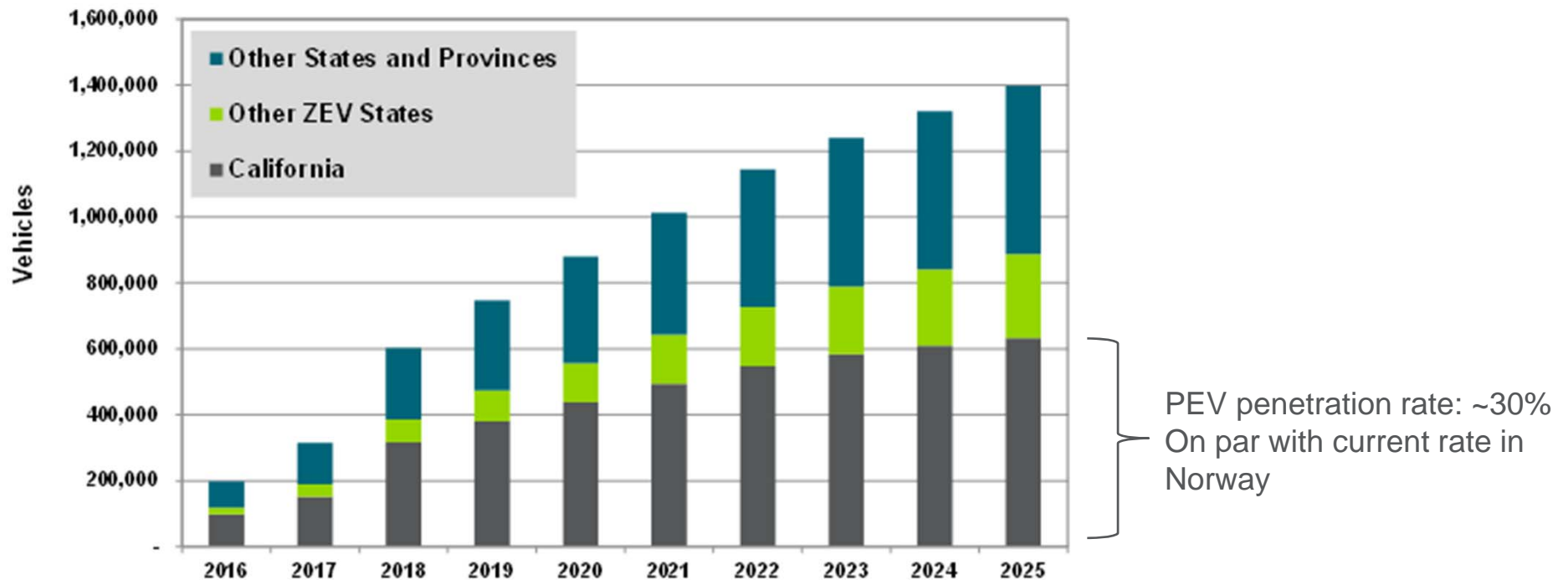
- Aggressive stakeholder interventions
- Low vehicle capability requirements
- High vehicle availability and consumer awareness



STATE LEVEL DISAGGREGATION

CALIFORNIA CONTINUES TO ACCOUNT FOR VAST MAJORITY OF THE NORTH AMERICAN MARKET

PEV Sales by Region, North America: 2016-2025



Q&A