



# TRANSPORTATION ELECTRIFICATION : A NEW MARKET OPPORTUNITY





BUSINESS

Image Source: [JeepersMedia](#)

## Shell CEO says his next car will be electric



Mike Wehner [@MikeWehner](#)

July 28th, 2017 at 8:31 PM

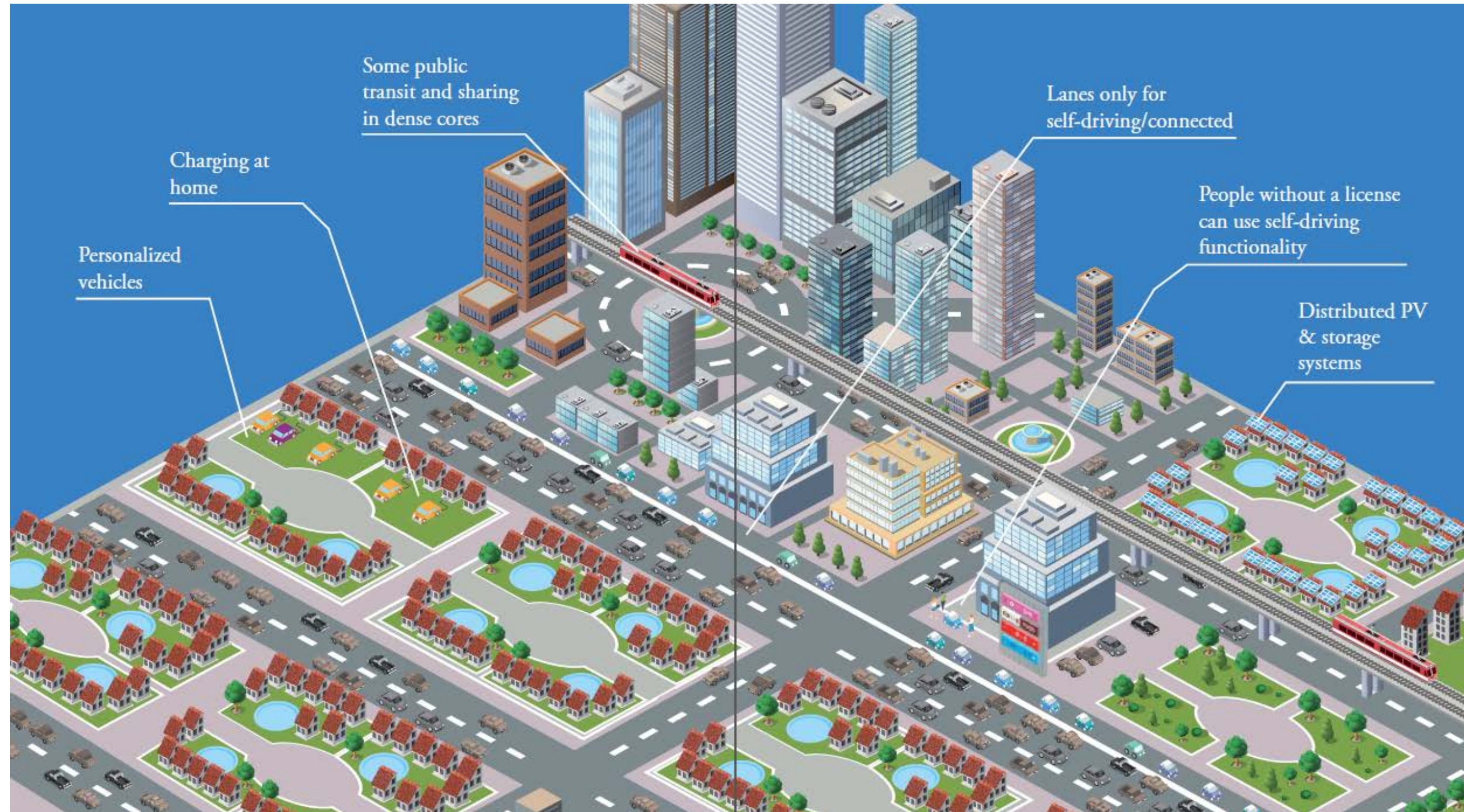
[Share](#)

[Tweet](#)

Electric vehicles are most certainly the future of the automotive industry — and you need only look at [the outlawing of gas-powered vehicles](#) for proof of that — but if you needed one more piece of proof to add to the pile, CEO of Royal Dutch Shell, Ben Van Beurden, has some news for you. Van Beurden, whose position atop Royal Dutch Shell makes him the shot caller for its wholly owned subsidiary Shell Oil, says he's ready to embrace the electric future, and [he's buying an electric vehicle](#) in September to prove it.

# MOBILITY IS CHANGING. COMPLETELY.

- The traditional model is not sustainable
- Population is increasing
- People are migrating towards urban centers
- There are traffic and air quality issues
- New models are developing



Source : An Integrated Perspective on the Future of Mobility, McKinsey & Company, Bloomberg New Energy Finance, October 2016

# NEW MODELS ARE DEVELOPING

- Car sharing
- Improved public transit
- Mobile applications (e-taxis)
- Autonomous cars



One constance: mobility will be electric



# ALL ELEMENTS IN PLACE FOR THE ERA OF ELECTRIC VEHICLES

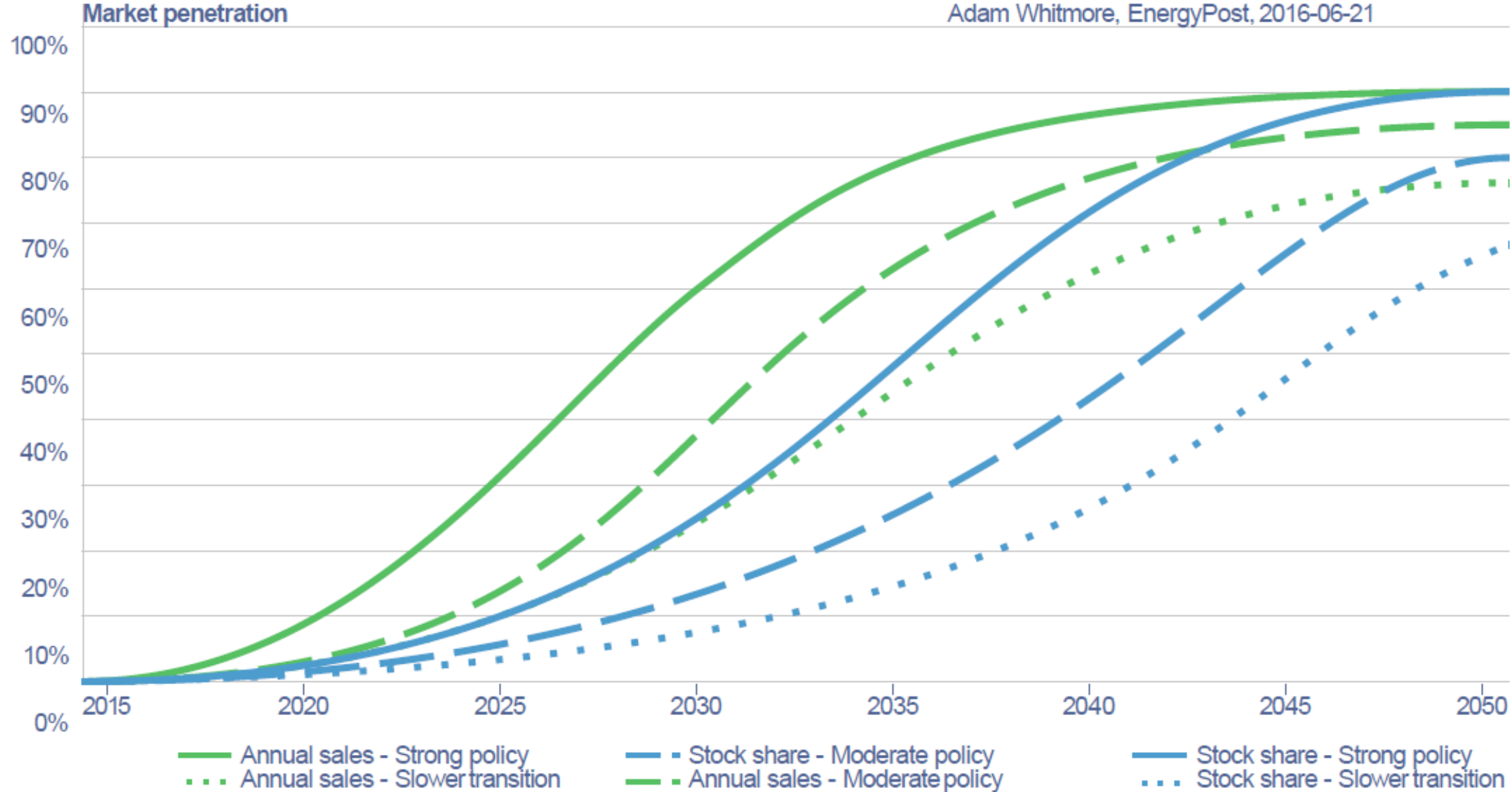
- Several countries set a Zero fossil fuel target : France, UK, Norway, Netherlands
- Governments around the world positioning for the abandon of thermal vehicles
- Price parity with ICE vehicles expected for 2022-2023
- Technological Innovations and Rapid Evolution
- Low battery prices
- Change in consumer behavior

# GLOBAL EV MARKET FORECAST : SUBSTANTIAL GROWTH

- Compound annual growth rate of 72.1% from 2011 to 2016 and now forecast to grow by 25.6% this year

## We have now entered the age of electric mobility

How fast could the market for electric vehicles grow?  
Adam Whitmore, EnergyPost, 2016-06-21





# CANADIAN PERSPECTIVE

## **Canadian EV Sales Q2 2017 Highlights**

- Approximately 37,000 EVs on the road (40 EV models now available in Canada)
- Percent of PEV sales is 0.7% on average for Canada (1.2% in Quebec and British Columbia and 0.7% in Ontario)
- Ontario sold more EVs than Quebec for the first time since 2013

## **Canadian ZEV Strategy – Ambitious goals and successful conditions**

- Predictable incentives (until price parity) and more infrastructure
- Awareness : a necessity now, to maximize impact from incentives, and infrastructure
- A balanced supply and demand policy is needed so that no demand for an EV should be constrained by a lack of availability or models
- Level of ambition to be part of the leaders in Transportation electrification



# HOW ELECTRIC VEHICLES CAN STABILIZE THE GRID

- As distributed energy storage (V2H), EVs can act as a backup power for renewable energy sources.
- Another possibility for EVs is to store the excess power capacity from large utility scale wind power plants during the night and then release it to the grid during the day (V2G).





IN CONCLUSION

**TRANSPORTATION  
ELECTRIFICATION  
THE OBVIOUS CHOICE**

Clean fuel

Cost savings

Existing infrastructure

A clear advantage for Québec's  
trade balance

Greater energy independence