



# INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION



# Evaluating the top electric vehicle markets in the world

Dale Hall

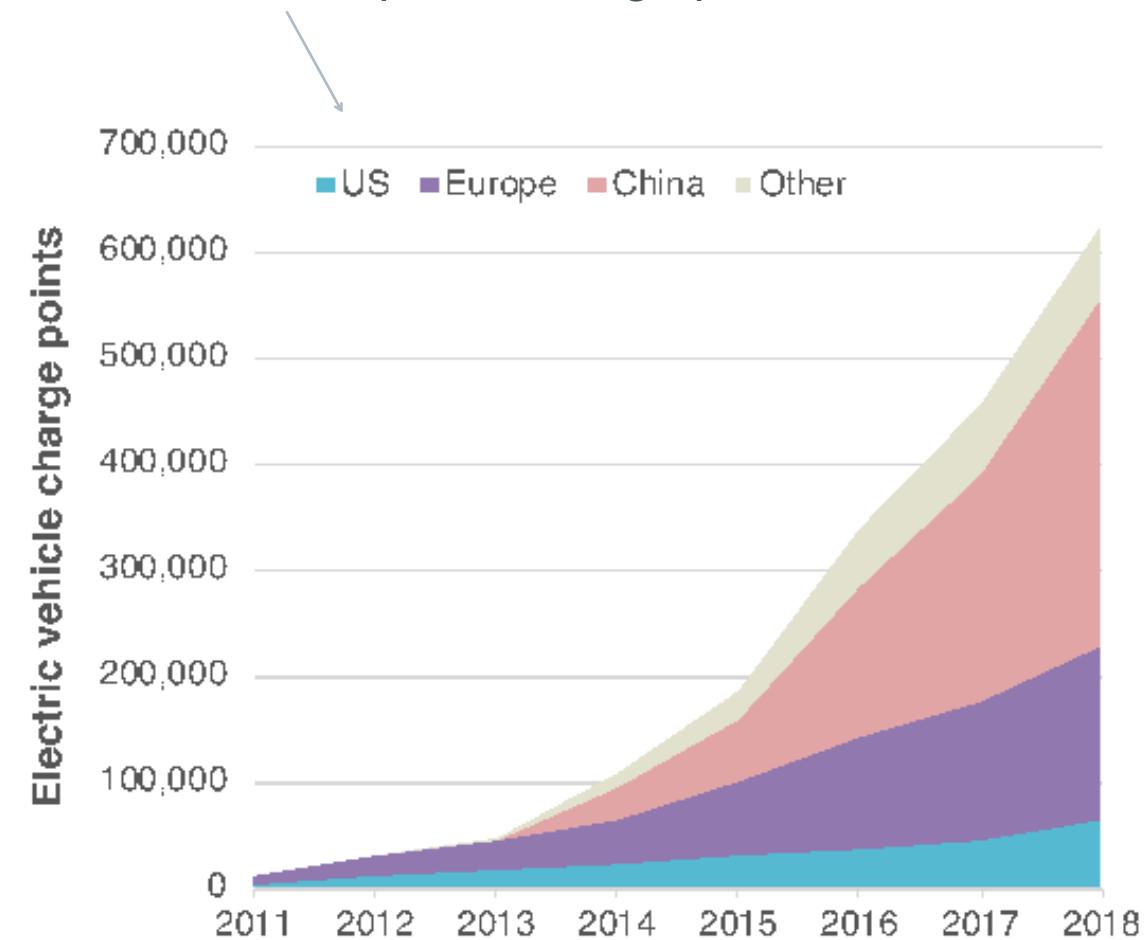
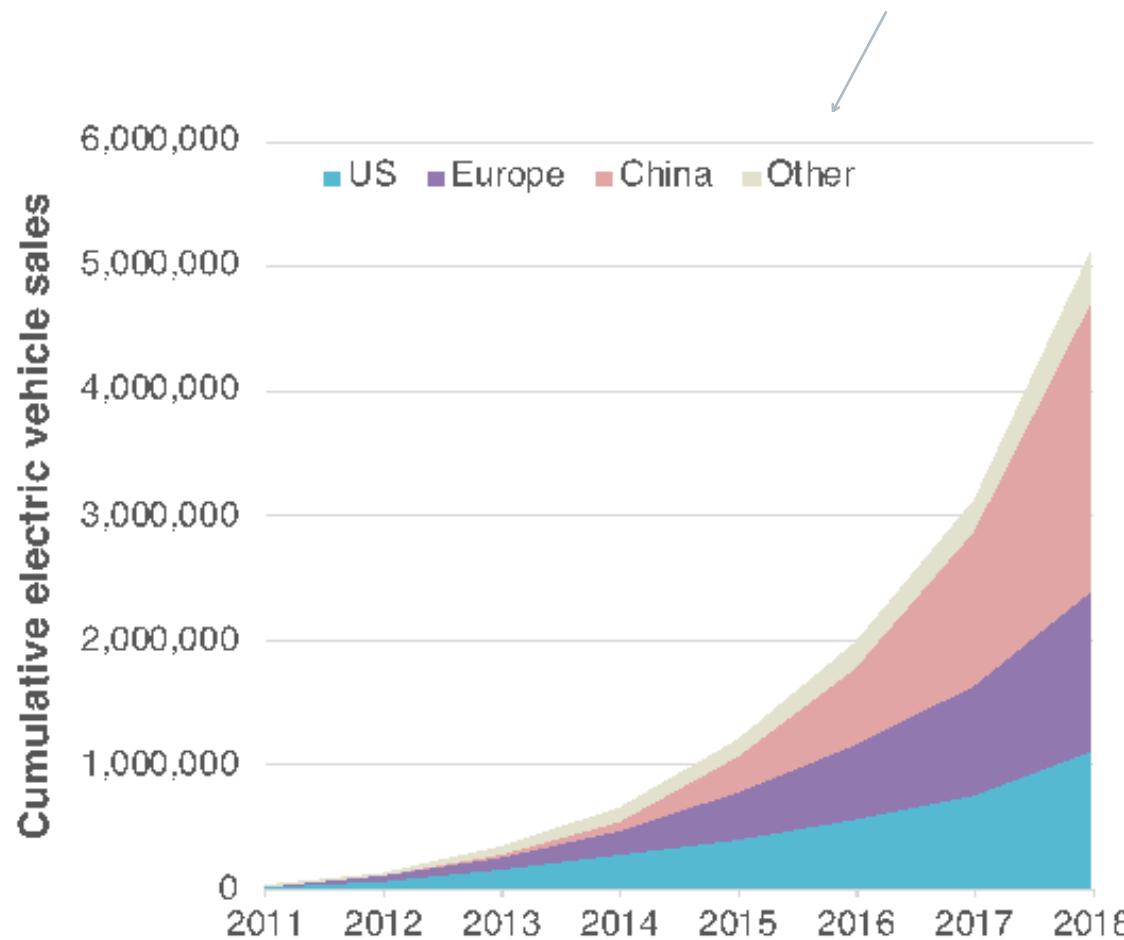
Researcher, International Council on Clean Transportation

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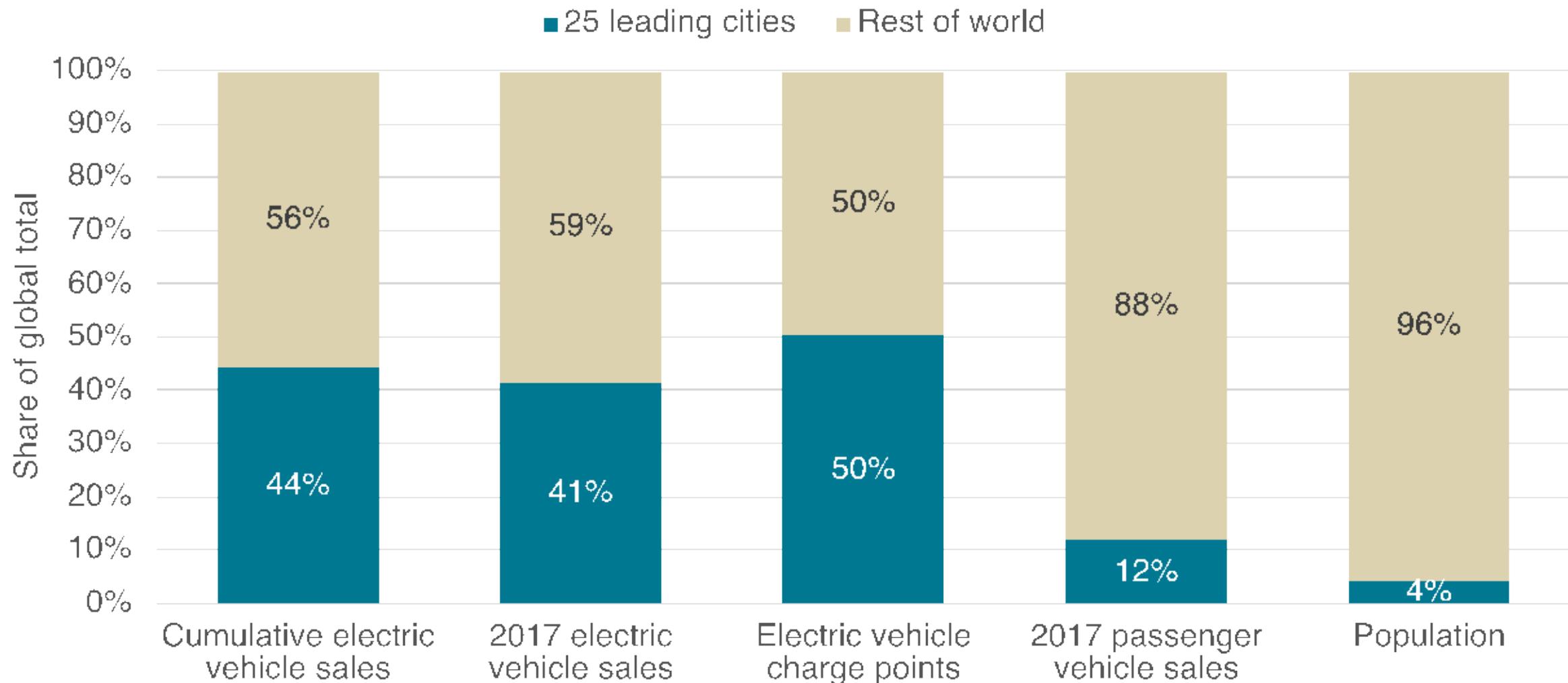
May 22, 2019

# Electric vehicles are growing worldwide, but are concentrated in 3 markets

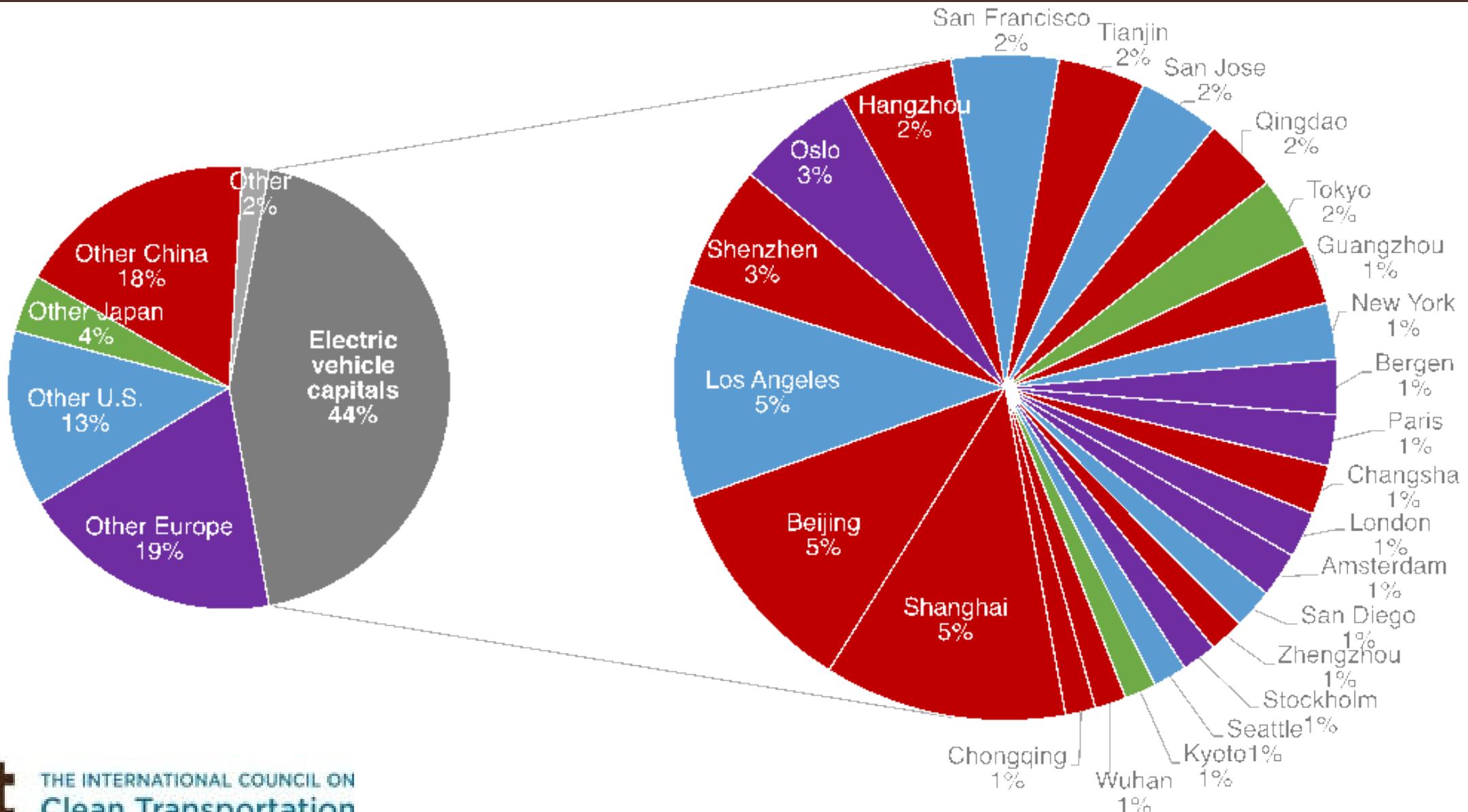
- At end of 2018: About 5 million electric cars and 600,000 public charge points



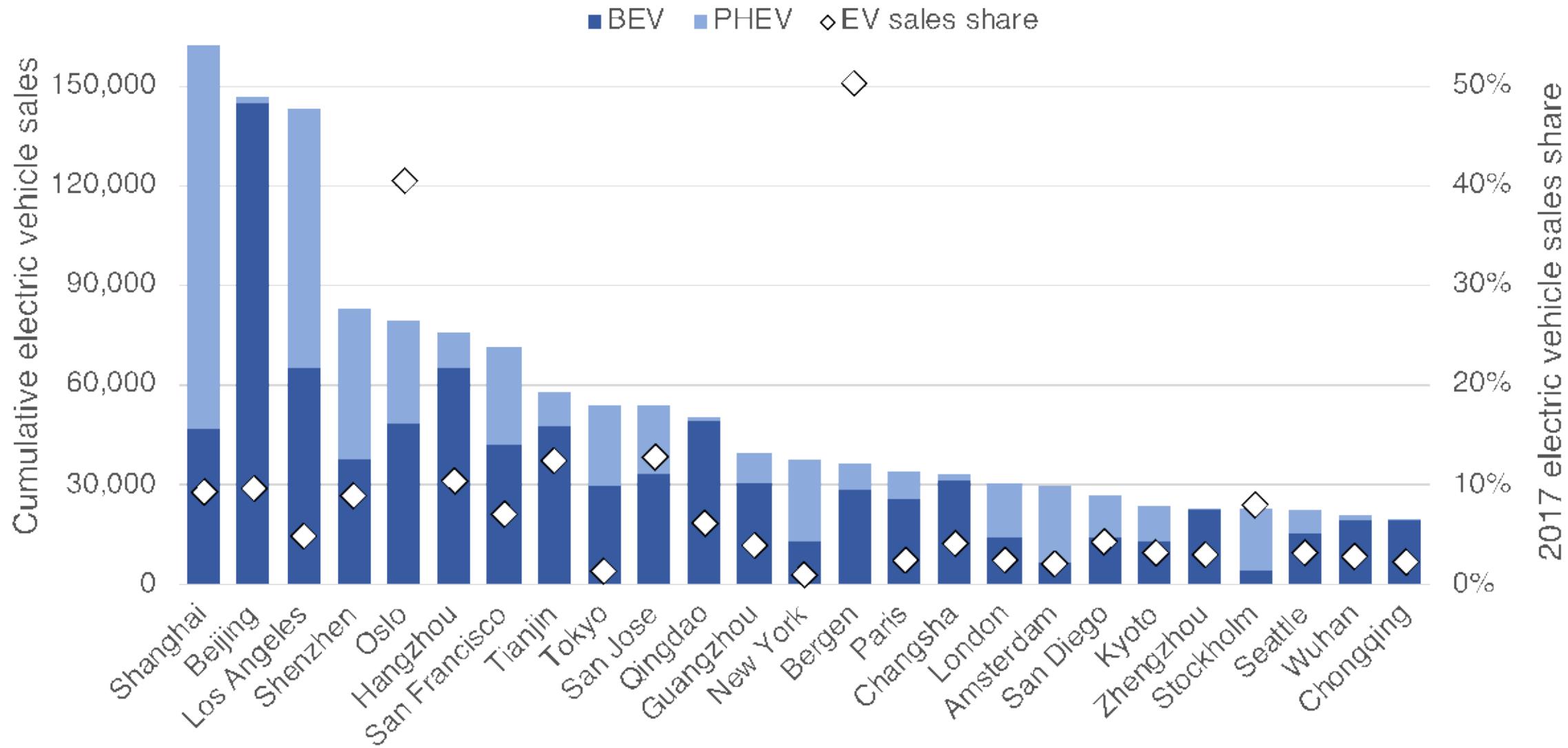
## 25 metropolitan areas contain 44% of the world's electric vehicles



# Electric vehicle “capitals” span three continents, concentrated in China



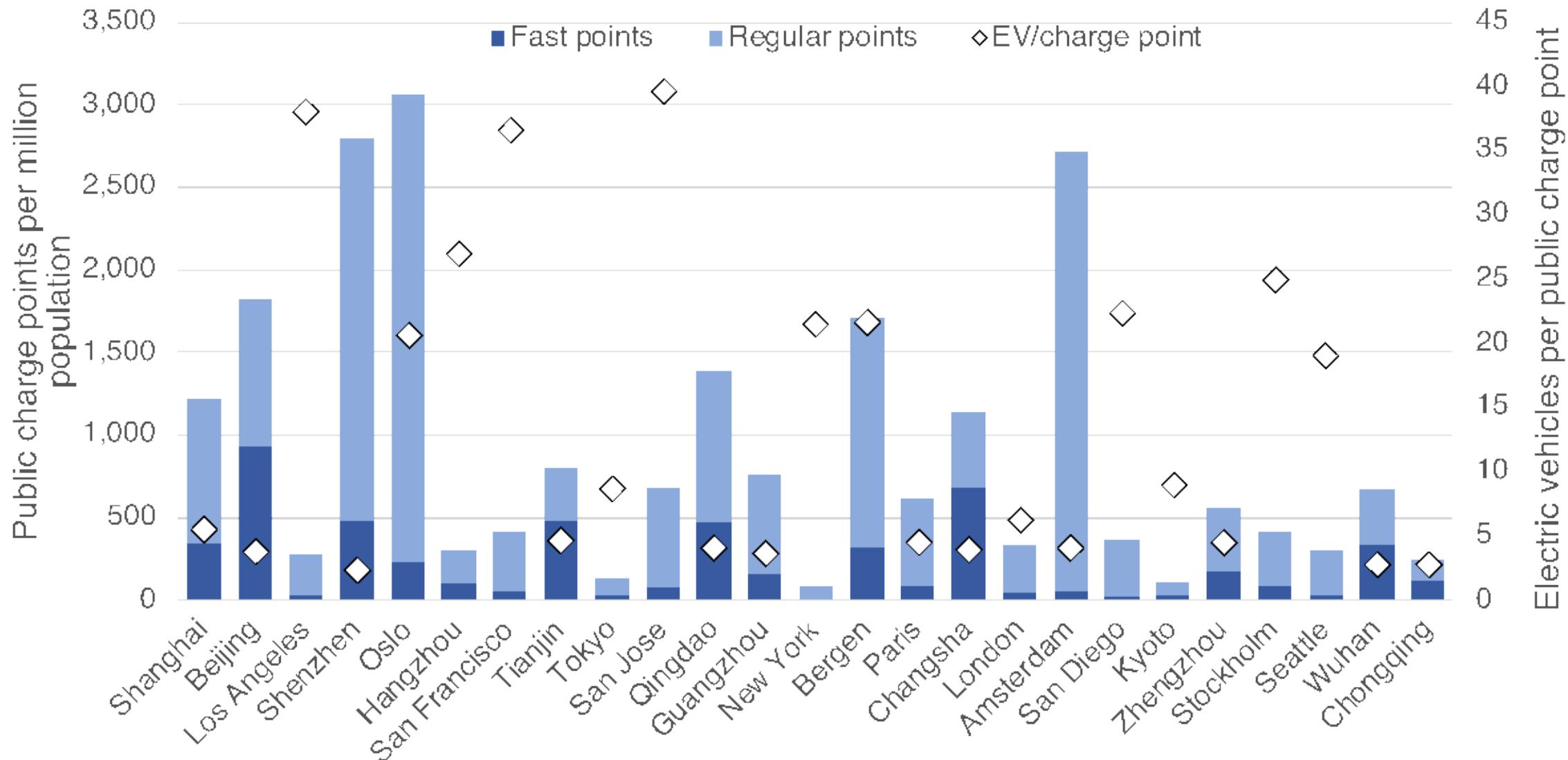
# Cities lead in electric vehicle volume, sales share



## Many policies to accelerate uptake

PROGRAM	LEADING CITY	OTHER EXAMPLES
Purchase incentives	Zhengzhou	Beijing, Shanghai, Shenzhen, Guangzhou, Hangzhou, Tokyo
Preferential registration	Shanghai	Beijing, Tianjin, Shenzhen, Guangzhou, Hangzhou
Parking benefits	San Jose	Amsterdam, Bergen, Paris, Shenzhen, Tianjin, Oslo
Toll exemptions	Oslo	Bergen, New York, San Francisco, Chongqing, Wuhan
Lane access	Bergen	Los Angeles, Oslo, San Francisco, San Jose, San Diego
Consumer awareness	Shanghai	Amsterdam, Beijing, Los Angeles
Planned zero-emission zones	London	Los Angeles, Oslo, Paris, Seattle

# Cities show diverging charging infrastructure situations



# Cities are supporting infrastructure growth in many ways

PROGRAM	LEADING CITY	OTHER EXAMPLES
<b>City charging strategy</b>	Beijing	New York, Oslo, Shenzhen, Shanghai, Tianjin, Guangzhou, Zhengzhou, Qingdao, Chongqing, Wuhan, Hangzhou, Changsha, London, Seattle, Tokyo
<b>On-demand public charging</b>	Amsterdam	
<b>Charging infrastructure incentives</b>	Tokyo	Oslo, Paris, Beijing, Shanghai, Shenzhen, Guangzhou, Tianjin, Hangzhou, Zhengzhou, Qingdao, Wuhan, Chongqing, Changsha
<b>Building and parking requirements</b>	Beijing	Qingdao, London, Shanghai, Tianjin, Chongqing, Guangzhou, Los Angeles, San Francisco, San Jose, Shenzhen, Zhengzhou, Oslo
<b>Electric utility partnerships</b>	Guangzhou	Amsterdam, Los Angeles, New York, Beijing, Shanghai, Shenzhen, Tianjin, Hangzhou

# Electric vehicles are integrated into new mobility strategies

PROGRAM	LEADING CITY	OTHER EXAMPLES
Taxis	Shenzhen	Amsterdam, London, Oslo, Beijing, Tianjin, Guangzhou
Electric ride-hailing	London	San Francisco, San Diego, Seattle, Shenzhen
Electric autonomous testing	San Francisco	Beijing, Shanghai, Chongqing, Tokyo
City fleet	Stockholm	New York, Seattle, Beijing, Shenzhen, Zhengzhou, Shanghai, Tianjin, Oslo
Buses	Shenzhen	Guangzhou, Tianjin, Changsha, Zhengzhou, Amsterdam
Car-sharing fleet	Shanghai	Chongqing, Shenzhen, Beijing, Hangzhou, Guangzhou, Zhengzhou, Oslo, Amsterdam, Los Angeles

## Leading cities provide a blueprint for others

- Charging infrastructure patterns provide targets within markets
- Successful policies can be replicated (with fewer mistakes):
  - Amsterdam's charging program → Rotterdam, Utrecht
  - Beijing and Shanghai's license privileges → Tier 1 & 2 cities across China
  - San Francisco's building codes → State of California, dozens of other U.S. cities
- Leadership from cities enables ambition at state and national levels

**Thank you for attending.**

**Full report available at:**

[www.theicct.org/publications/ev-capitals-of-the-world-2018](http://www.theicct.org/publications/ev-capitals-of-the-world-2018)

## **Contact**

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## **Acknowledgements**

Thank you to my co-authors Hongyang Cui and Nic Lutsey