

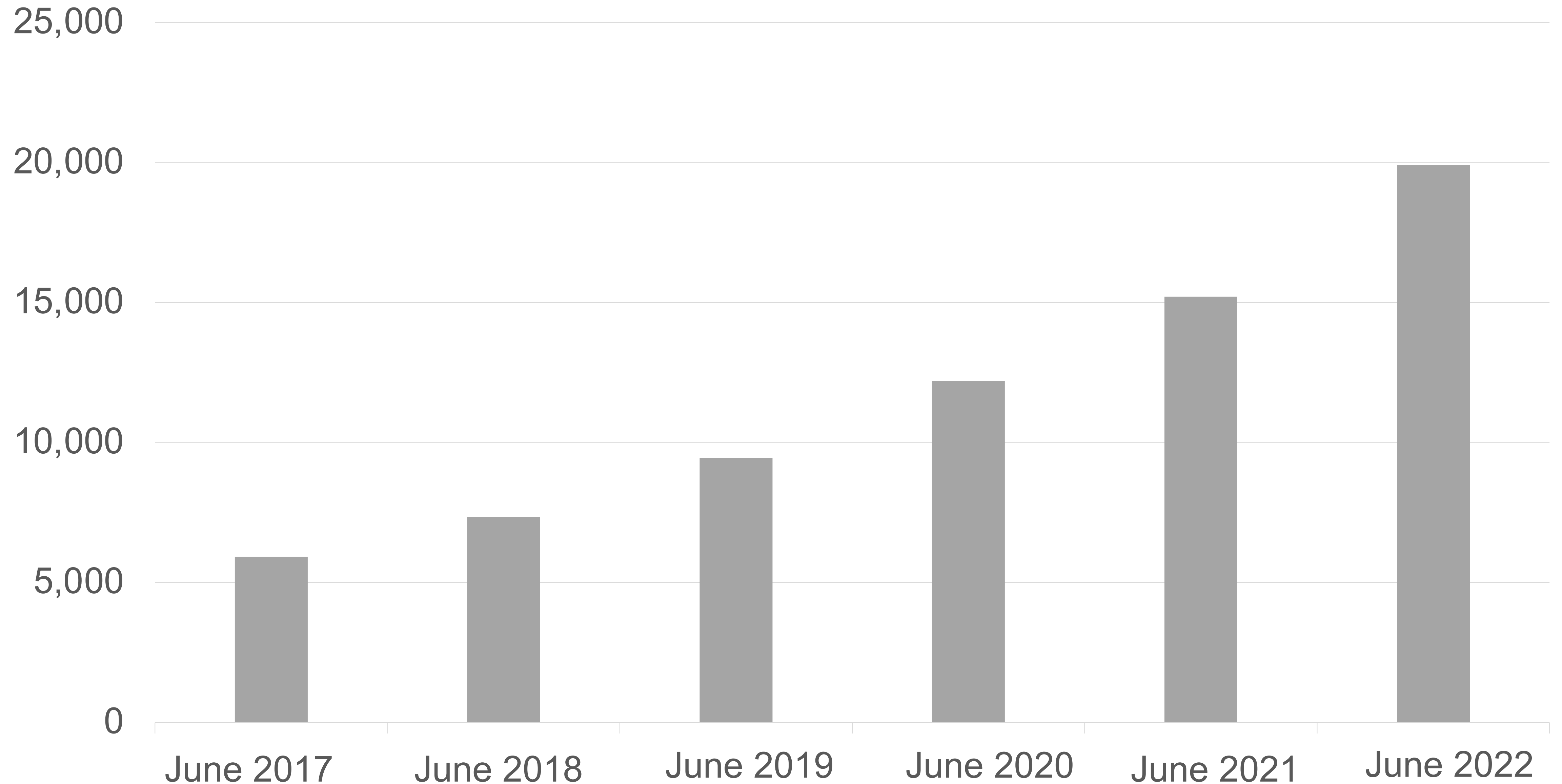
Electric Cars

for the environment,
pocketbook,
planet.



Noel Morin – Big Island EV Association and Hawaii EV Association
Rob Weltman – Maui Nui EV Association and Hawaii EV Association

Registered EVs in Hawaii



| | July 2021 | July 2022 | |
|----------------------|-----------|-----------|------|
| Oahu | 12,196 | 15,734 | +29% |
| Maui | 1,812 | 2,365 | +31% |
| Hawaii Island | 1,081 | 1,522 | +41% |
| Kauai | 462 | 619 | +34% |

County-Level Adoption

Factors Impacting Adoption

- **Cost Savings** (fueling and maintenance - >\$4600 savings over lifetime)
- **Affordability** – new and used long-range EVs are within reach of everyone.
- **Utility** – wide range of makes and models, including trucks and commercial vehicles
- **Tax Incentives** – credits and point-of-sale rebates for new and used (IRA 2022)



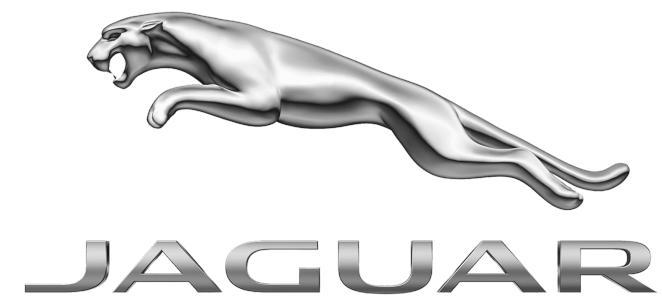
Global bans on gas cars are coming...

| <u>Country/State</u> | <u>Starting</u> |
|----------------------|-----------------|
| Norway | 2025 |
| Denmark | 2030 |
| Iceland | 2030 |
| Ireland | 2030 |
| Israel | 2030 |
| Netherlands | 2030 |
| Slovenia | 2030 |
| Sweden | 2030 |
| Scotland | 2032 |
| Britain | 2035 |

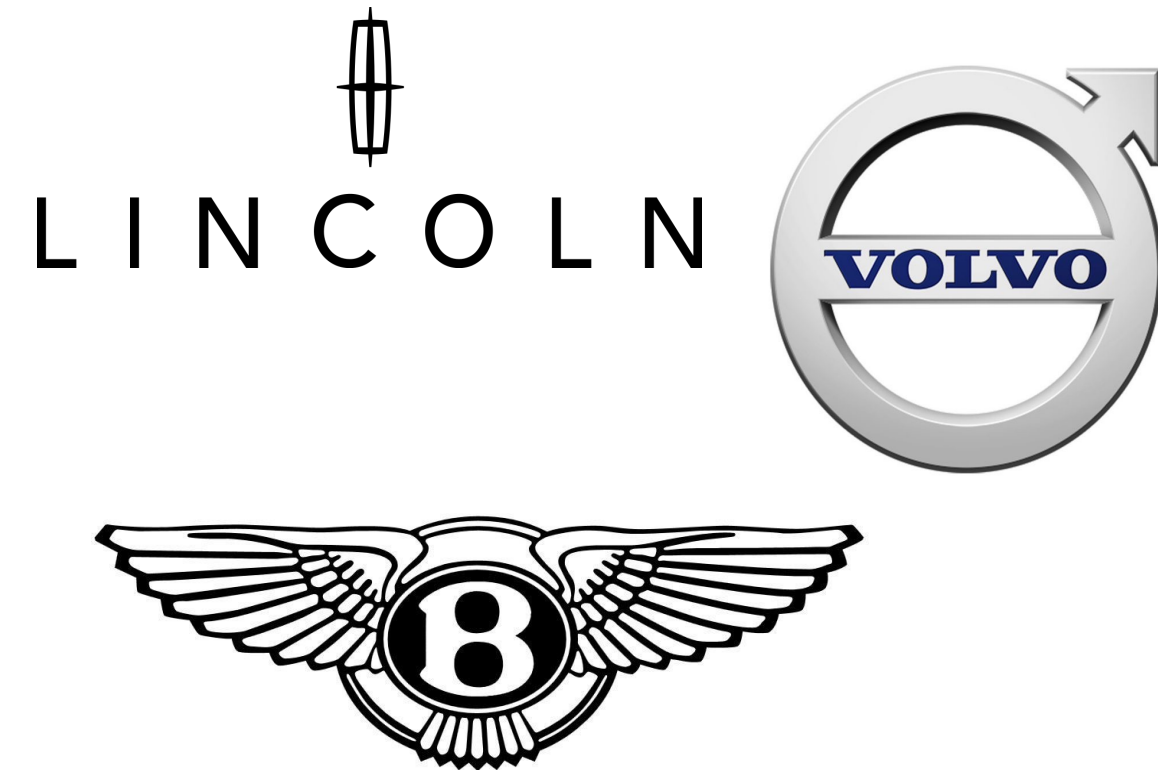
| <u>Country/State</u> | <u>Starting</u> |
|----------------------|-----------------|
| California | 2035 |
| China | 2035 |
| Canada | 2040 |
| France | 2040 |
| Sri Lanka | 2040 |
| Taiwan | 2040 |
| Singapore | 2040 |
| Costa Rica | 2050 |
| Germany | 2050 |

Biden executive order – 50% of new cars must be zero-emission by 2030

Manufacturers are responding



100% EV by 2025



100% EV by 2030



100% EV by 2035



100% EV by 2040



100% EV by early 2030s
Carbon Neutral by 2050



Carbon Neutral by 2045



Carbon Neutral by 2050



70% Electrified
by 2030

“Fueling” Electric Cars



Types of Charging Stations

LEVEL 1 STANDARD OUTLET

- Plug into a standard 120V wall outlet
- Connector provided with every EV
- Great for overnight or workplace charging
- Ideal for typical commutes (up to 40 miles)



40 miles
overnight

LEVEL 2 240 VOLT OUTLET

- Faster charging for longer drives
- Provides a full charge for most EVs in:



100% Electric

4-8 hours

empty to full
charge



Electric & Gas

1-2 hours

empty to full
charge



25 miles
per hour of
charging

DC FAST CHARGE

- Much faster charging at public locations
- 3 different connectors depending on vehicle:



0 to 80%
30-40 minutes

Home Charging

80+% of charging can take place with a home charger.

But... not feasible for most renters, condo and apartment residents, and visitors.



The Hawaii DOT says (July 2022)

- According to the State of Hawai'i Department of Business, Economic Development and Tourism Monthly Energy Trends report for June 2022, there are 1,055,356 registered passenger vehicles in the state and 19,914 of those vehicles are electric.
- Compared to June 2021, the number of registered electric vehicles has increased by 4,700 or **30.9 percent**.
- In 2018, Hawaiian Electric Company projected in its Electrification of Transportation Strategic Roadmap that by 2045, **55 percent** of personal light-duty vehicles operated in Hawai'i will be electric.
- A minimum of **2,200** public charging ports are needed to meet the demand for charging.
- Today, Hawai'i has just **805** ports.

The West Maui Community Plan (2022) says:

“2.2.4

Require all new large commercial and market-rate multi-family residential development to install and maintain charging stations to support the expanded use of electric vehicles in West Maui until future technology advancements make this unnecessary.”

Consumer Reports (November 2022) says:

“Sixty-one percent of those not currently planning to buy or lease an EV (if they were buying a vehicle today) said the barriers include concerns over charging logistics.”

A woman with blonde hair, wearing a black t-shirt with 'STUDENT ASSISTANT' in blue and yellow lettering, is standing next to a ChargePoint EV charging station. She is holding a smartphone and looking at the station's screen. The station is black with the 'chargepoint+' logo in orange and blue. The background shows a building with large windows and a paved area.

EV Charging...
a customer amenity...
a win-win...

Benefits

Brand

- Contribution to sustainability efforts
- Enhanced eco-credentials
- Customer and employee loyalty

Revenue

- Increased retail activity
- Charging fees and ads

Addition to business infrastructure

- Support for business electric fleet



Cost Offsets

Hawaii Energy Commercial EV Charger Rebates 2022 – \$4,500 – \$45,000

Tax Credits

Hawaiian *Electric EV-J and EV-P Rates*

- EV-J - for Level 2 and small-scale DC fast charging
- EV-P – for large DC fast charging

Hawaiian Electric's *Charge Up Commercial*

- Covers infrastructure up to the charging equipment
- For HECO territory customers
- Q4



From Hawaii Energy



Benefits of Hosting EV Chargers for Your Residents

MONETARY BENEFITS

Rebates through Hawai'i Energy:

Offset installation costs at your commercial public facility through [Hawai'i Energy's EVSE rebate program](#). Rebates are available on a first-come first-served basis while funding lasts. Effective date of station must be between January 1, 2021 and June 30, 2021 to qualify.

Federal Tax Credit:

Through Form 8911, corporate taxpayers qualify for a tax credit of up to 30% of the installation cost (up to \$1000 residential or \$3,000 commercial). This credit is set to expire on December 31, 2021.

| Project Type | Charger Type | Maximum Reimbursement |
|------------------|-----------------|-----------------------|
| New Installation | Level 2 | \$4,500 |
| New Installation | DC Fast Charger | \$35,000 |
| Upgrade | Level 2 | \$3,000 |
| Upgrade | DC Fast Charger | \$28,000 |



From Hawaii Energy

Provide an amenity to your residents:

You can provide a service to your EV-driving residents by allowing them the opportunity to charge at home. This can also you attract and retain residents.



Showcase your commitment to sustainability and the environment:

EV charging stations will signal your values and make an impression on prospective residents and visitors. Your installation may even encourage more residents to go electric.



Mitigate the costs of climate change:

EV chargers encourage EV ownership. As Hawai'i moves to 100% renewable energy, EVs will increasingly help us mitigate climate change. Studies project that effects of climate change could amount to \$20 billion in damages to Hawai'i.



Gain points toward LEED certification:

If your space has ever considered getting LEED certified, EVSE can help you reach that goal.



Economic benefits for the local economy

As Hawai'i moves to 100% renewable electricity by 2045, as mandated by law, more of our energy is created locally, creating local jobs and increasing money spent in Hawai'i. When funds are redirected from imported petroleum they can be channeled into other sectors, which can create 16 times as many jobs per dollar spent.

The more public charging stations available in Hawaii, the easier it is for residents to adopt EVs and stimulate the local energy economy.

Promote public health:

Hosting an EV charger will showcase your commitment to public health and clean energy, as EVs help improve local air quality and reduce our fossil fuel use and greenhouse gas emissions.

DRIVE ELECTRIC
-HAWAII-

blue planet



Sustainable Transportation Coalition of Hawai'i
A U.S. DEPARTMENT OF ENERGY CLEAN CITIES COALITION





Reso 22-223

enables equitable
access to affordable
clean transportation
and accelerates
Maui's transition to a
clean energy future

Reso 22-223

Rules for use of designated EV parking

- Only EVs that are plugged in are allowed to park in designated spot. Fines may be assessed.

Requires the installation and maintenance of EV Parking and EV Chargers in places of public accommodation

- Existing properties – EV parking and charging in lots with >100 stalls
- New properties and those going through plan review – starting with 2 EV parking and charging ports / 50 stalls, increasing through 2029

Based on Hawai'i County Bill 120

- Adopted unanimously by all committees
- Adopted unanimously by the Kona and Hilo Planning Commissions
- Adopted unanimously by all Council meetings



Mahalo

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References

Local Commercial Charging Companies

- **Aloha Charge** - alohacharge.com
- **EverCharge** - evercharge.com

Hawaii County [Bill 120](#)

Maui County [Reso 22-223](#)

Hawaiian Electric EV-J and EV-P Rates

- hawaiianelectric.com/products-and-services/electric-vehicles/electric-vehicle-rates-and-enrollment/commercial-facility

Hawaiian Electric Charge Up Commercial

- hawaiianelectric.com/products-and-services/electric-vehicles/charge-up-commercial

Hawaii Energy EV Charger Rebate

- hawaiienergy.com/for-business/rebates/electric-vehicle-charging-stations

Sustainability Partners - www.sustainability.partners



PSLU Committee

From: Rob Weltman <rob.weltman@gmail.com>
Sent: Tuesday, November 15, 2022 11:46 AM
To: PSLU Committee
Subject: Presentation for PSLU-65
Attachments: EV Charger Preso Chambers of Commerce.pdf