



# Best-Practices for Streamlining DCFC Permitting

Southeast Florida Regional Climate Change Compact

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# Types of Charging

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## Level 1

2 to 5 miles of range per hour of charging

Standard 120v AC Wall Outlet

## Level 2

10 to 20 miles of range per hour of charging

Requires 208v electrical service and dedicated 40 amp circuit – the same kind used by a clothes drier or stove

## DCFC

60 to 80 miles of range per 20 minutes of charging\*

Requires three-phase 480V AC electric circuit

Needs to be mounted on an equipment pad

**\*Note:** Most existing DCFC stations are 50kW, however, new 350kW DCFC are capable of delivering 200 miles of range in 10 minutes.



# DCFCs are Not Comparable to Gas Stations

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Gas stations should not be used as a blueprint for how to permit DCFC.

Gas station's permits need to account for several features that DCFC do not, including that gasoline is a toxic substance that, if spilled or leaked, can get into waterways, groundwater, etc.

Gas stations are typically accompanied by a storefront, which requires HVAC and plumbing equipment, and gas pumps that require canopies and underground storage tanks.

DCFC are also typically added to existing developments, as an accessory use, whereas gas stations and their associated stores are typically stand-alone enterprises.



# Choosing a Site for DCFC is Resource Intensive

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Station developers consider many factors when selecting charging sites, such as:

- Traffic patterns;
- Proximity to major roadways;
- Safety;
- Nearby services (i.e. stores, coffee shops, etc.); and
- Appropriate lighting (i.e. well-lit at night).



Station developers also work with utilities to ensure adequate electrical infrastructure and an ability to connect the station to the grid. Electrical capacity and easements may limit charger placement at a site.

Once a site is selected, the station developer and site host enter into a contract, which often restricts or dictates the specific on-site location of the chargers.

All of this is done before an EVSE company applies for a permit.





Photo credit: Steve Brady



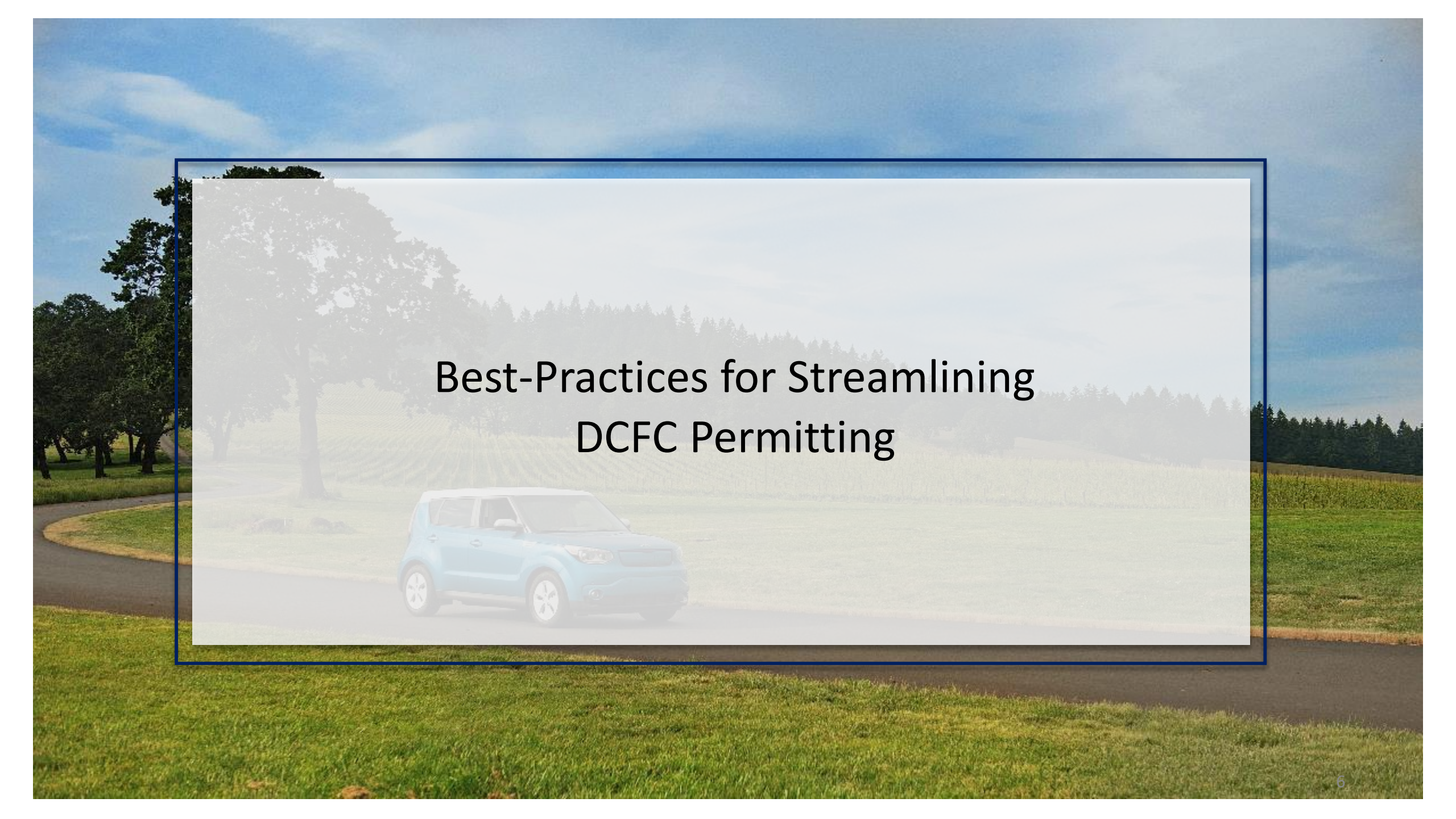
# Most local jurisdictions have **never** permitted DCFC stations

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As a result, the permitting process for DCFC stations is often:

- Undefined
- Resource intensive
- Lengthy
- Variable from place to place



The background of the slide is a photograph of a golf course. A blue car is parked on a paved path that curves through a green field. In the distance, there are trees and a blue sky with some clouds. A semi-transparent white rectangular box is overlaid on the image, containing the title text.

# Best-Practices for Streamlining DCFC Permitting

# Standardize the permit review and inspection process



- Classify DCFC stations as an accessory use that do not trigger zoning review and clearly identify any exceptions.
- Provide concurrent reviews for building, electrical, etc.
- Clearly establish the grounds for denying a building permit (e.g., California limits permit reviews to health and safety issues).
- Develop inspection checklists specifying what needs to be inspected and when, that the project will be inspected to ensure consistency with issued permits, documents to bring, and who should be present.





# Make the permitting process transparent

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- Create facts sheets to clearly identify required application materials, where to find applications, timelines, fees, and points-of-contact.
- Feature this information prominently on website.



# Offer options to submit permit applications electronically

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- Provide forms, ideally fillable PDF applications that accept electronic signatures, online; or
- Provide application forms on website and allow applications to be submitted via email.





## Count EV charging spaces as parking spaces

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- Update ordinances to clarify that spaces for charging stations count toward minimum parking requirements.
- To incentivize the deployment of charging stations, some jurisdictions count EV charging spaces as more than one parking space for zoning purposes.





# Develop expertise and share knowledge

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- Offer pre-permitting meetings during the siting phase.
- In larger jurisdictions, designate an “EVSE Expert,” who is the point person on EV charging applications.
- Coordinate with other jurisdictions in your region to share best practices and create consistency.

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## PREPARING OUR COMMUNITIES FOR ELECTRIC VEHICLES: FACILITATING DEPLOYMENT OF DC FAST CHARGERS

PREPARED BY ELAINE O'GRADY AND JESSE WAY

### BACKGROUND

To close the electric vehicle (EV) charging gap and keep pace with increasing demand, states recently identified streamlining permitting for charging stations as a high priority in the Multi-State Zero-Emission Vehicle Action Plan<sup>1</sup> and the Northeast Corridor Regional Strategy for Electric Vehicle Charging Infrastructure.<sup>2</sup> Because local municipal and county governments are the authorities having jurisdiction (AHJs) over permitting charging stations, the purpose of this document is to present information about EVs, charging equipment, and common issues that arise when permitting Direct Current Fast Charging (DCFC) stations.

### AN INTRODUCTION TO ELECTRIC VEHICLES

There are two types of electric vehicles that use an external power source to charge an onboard battery, battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). BEVs use an electric motor that is powered solely by a battery. The range of BEVs varies from 80 to 335 miles, depending on the model. PHEVs contain both electric motors and gasoline engines. They use the electric motor, at times selectively, until the battery is depleted, and then the vehicle switches to the gasoline engine. PHEVs have all-electric ranges that vary from 30 to 50 miles. Both BEVs and PHEVs, which will be collectively referred to as electric vehicles or EVs, use electricity to charge their batteries.

Electric vehicles offer benefits both to the environment and to the consumer. Because they have no tailpipe emissions when running on electricity, EVs reduce pollutants, such as nitrogen oxides, that lead to the formation of ground level ozone, the main ingredient of smog. Additionally, EVs emit fewer greenhouse gases (GHGs) than gasoline-powered vehicles<sup>3</sup>, and the GHG reductions from EVs will become even greater as a higher portion of electricity is produced by renewable resources. This is why

<sup>1</sup> ZEV Task Force, "Multi-State ZEV Action Plan 2018-2021," 2018. Available at: <https://www.nescaum.org/topics/zero-emission-vehicles/multi-state-zev-action-plan-2018-2021-accelerating-the-adoption-of-zero-emission-vehicles>

<sup>2</sup> NESCAUM, "Northeast Corridor Regional Strategy for Electric Vehicle Charging Infrastructure 2018-2021," May 2018. Available at: <https://www.nescaum.org/documents/northeast-corridor-regional-strategy-for-ev-charging-infrastructure-2018-2021.pdf>

<sup>3</sup> Union of Concerned Scientists, "Cleaner Cars from Cradle to Grave," 2015. Available at: <https://www.nescaum.org/documents/cleaner-cars-from-cradle-to-grave-2015.pdf>

# Thank You

Whitepaper available at:

<https://www.nescaum.org/documents/dcfc-permit-streamlining-whitepaper-final-5-14-19.pdf/>

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