



Workplace Charging Management Policies

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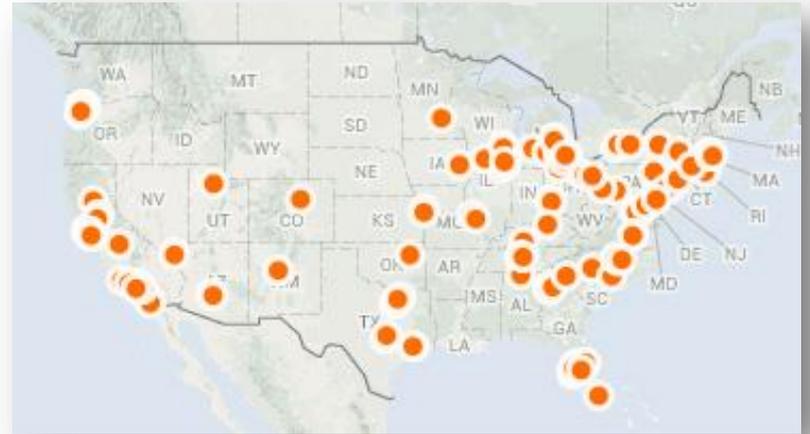
Zane Lichtneger, SAS Institute

Rajit Gadh, UCLA Smart Grid Energy Research Center



U.S. DOE Workplace Charging Challenge

Goal: Increase the number of employers offering charging by 10x by 2018



- 190 Partner employers committing to provide EVSE for employees
- 3,500+ EVSE installed or planned for installation
- 18 Ambassadors promoting and supporting workplace charging

Ambassadors promote and support workplace charging



NEW REPORT: Overcoming Barriers to Deployment of PEVs

Finding:

Charging at workplaces provides an important opportunity to encourage PEV adoption and increase the fraction of miles that are fueled by electricity.

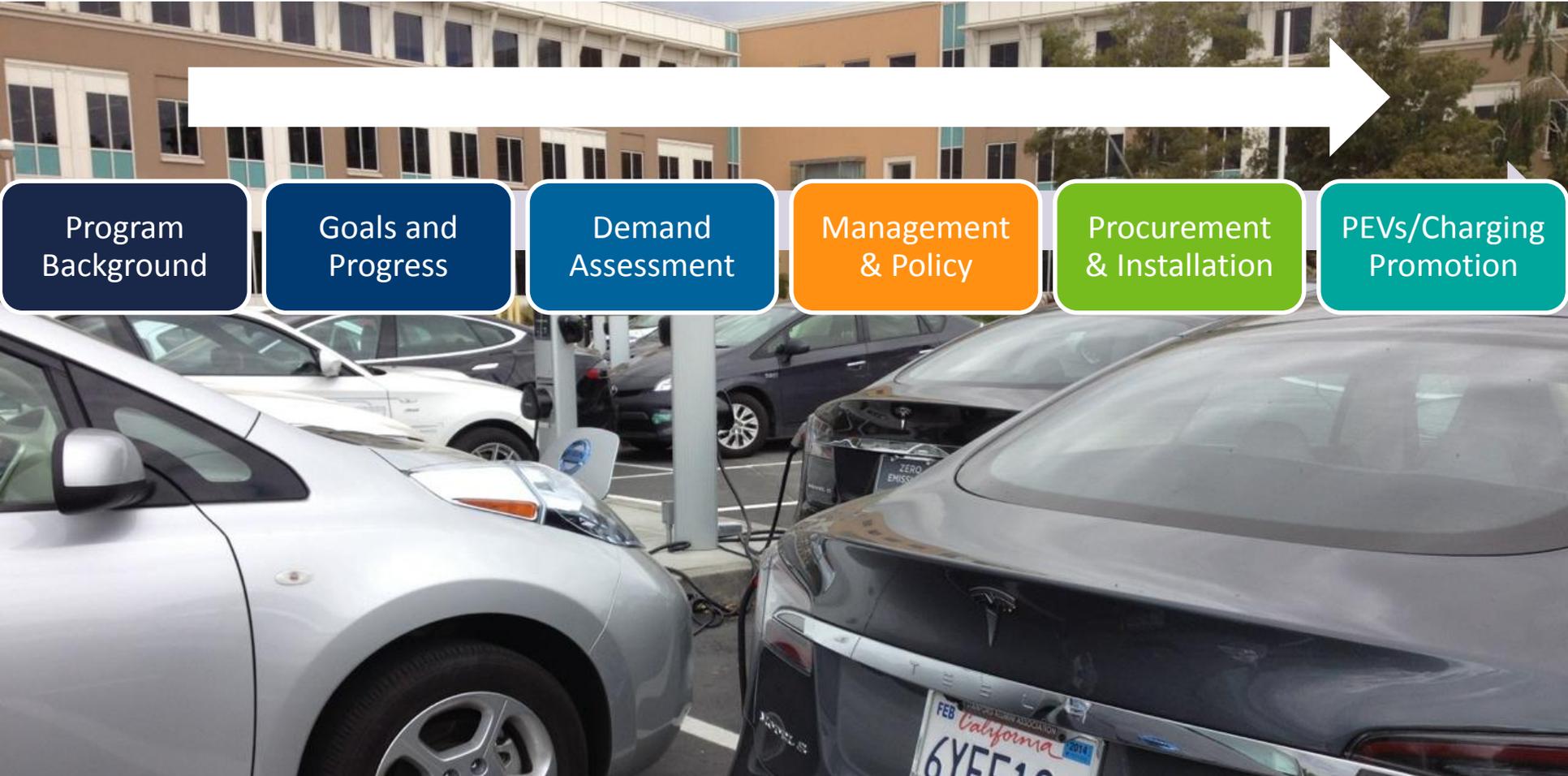
Recommendation:

Local governments should engage with and encourage workplaces to consider investments in charging infrastructure and provide information about best practices.

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Workplace Charging Challenge Partner Plan



Workplace Charging Management & Policy Resources

Management & Policy

Workplace Charging
Challenge

Join the Challenge

Meet Challenge
Partners

Install Workplace
Charging

Promote Workplace
Charging

MANAGING WORKPLACE CHARGING

- **Administration** – Lay the groundwork for a well-managed program by identifying roles and responsibilities across your organization.
- **Registration & Liability** – Help employees get plugged in to workplace charging with a clear and simple sign-up procedure.
- **Pricing** – Learn about the advantages and disadvantages of fee-based and free employee charging.
- **Station Sharing** – Consider tried and true practices that mitigate problems when the number of employee-driven PEVs exceeds charging station availability.

Resources available at : www.electricvehicles.energy.gov

Workplace Charging Management & Policy Resources

Management & Policy

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Sample templates and ambassador resource highlights:

- ✓ Sample charging agreement
- ✓ Sample charging policy
- ✓ Policy information guide
- ✓ Workplace charging case studies
- ✓ Charging pricing guide



Resources available at : www.electricvehicles.energy.gov



Learn More: WorkplaceCharging@ee.doe.gov

www.electricvehicles.energy.gov



Workplace Charging Challenge Partner Speakers



Frank Marino,
Raytheon

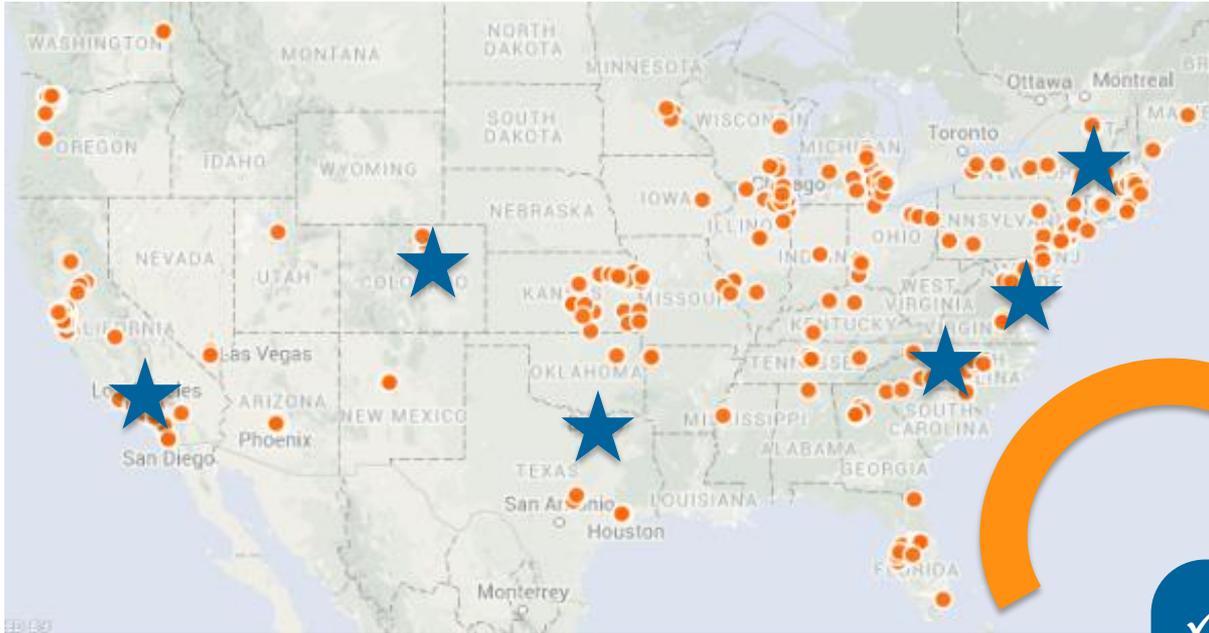


Zane Lichtneger,
SAS Institute



Rajit Gadh,
UCLA Smart Grid Energy Research Center

Today's Discussion Format



- ✓ Administration
- ✓ Registration
- ✓ Pricing
- ✓ Sharing

Raytheon

Ucla

Raytheon

Headquarters

Waltham, MA

Locations with charging

6 – CA, CO, MA, TX, VA

Number of employees

60,000

Number of charging stations

15

Number of PEV driving employees

75

Biggest management challenge

Funding





Headquarters

Cary, NC

Locations with charging

Cary, NC & Sweden

Number of employees

5,377 at Cary HQ

Number of charging stations

52 Global, 42 Cary, NC

Number of PEV driving

employees

99

Biggest management challenge

COMMUNICATION





Headquarters
Los Angeles, CA
Locations with charging

1 – CA

Number of employees

31,000

Number of charging
stations

137

Number of PEV driving
employees

~250+

Biggest challenge
Infrastructure cost and cost
recovery

SMERC
UCLA Smart Grid Energy Research Center

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What are partners saying about administration?

Key Players

Get leadership buy-in on early identification of who:

- establishes and signs off on management policy
- leads communication to employees & the public
- manages ongoing operations & maintenance
- funds procurement, installation & future expansion

Signage & Access

Use clear and consistent signage to:

- draw attention to where charging stations are located
- communicate designation for actively charging PEVs
- advise on time or accessibility limitations

Policy Enforcement

Ensure that all employees understand:

- who is responsible for enforcing charging policy
- penalties for not adhering to policy

Workplace charging administration



Key Players

Installation & Management Policy Establishment

EHSS and Facilities
Partnership

Operations & Maintenance
Facilities

Funding
Facilities

Signage/Access

Signage

No standard on signage

Hours of Use

First shift from
~7 AM to 7 PM

Access

Employees Only

Policy Enforcement

Responsible party
Self-policing model

Repercussions

None

Security

None

Workplace charging administration



Key Players

Installation & Management Policy Establishment
Corporate Services

Operations & Maintenance
Corporate Services

Funding
Corporate Services

Signage/Access

Signage



Hours of Use
Open 24/7
Limit to 4hr/day

Access
Registered
Employees &
Visitors

Policy Enforcement

Responsible party
Security &
Employees

Repercussions
Yes- Contact
Employee and
Manager

Security
Yes –Routine
Patrol

Workplace charging administration



Key Players

Installation & Management Policy Establishment
UCLA parking, facilities, and faculty

Operations & Maintenance
UCLA electrical, facilities, SMERC

Funding
R&D, Operations

Signage/Access

Signage
Yes, for some

Hours of Use
Open 24/7

Access
Employees/public

Policy Enforcement

Responsible party
UCLA parking personnel

Repercussions
Policies are in flux

Security
UCLA parking/security

What are partners saying about registration?

Registration

An established registration process can provide:

- certainty of charging demand (number & kind of PEV)
- an opportunity for employee to agree to policy

Liability

Liability waivers can be used to:

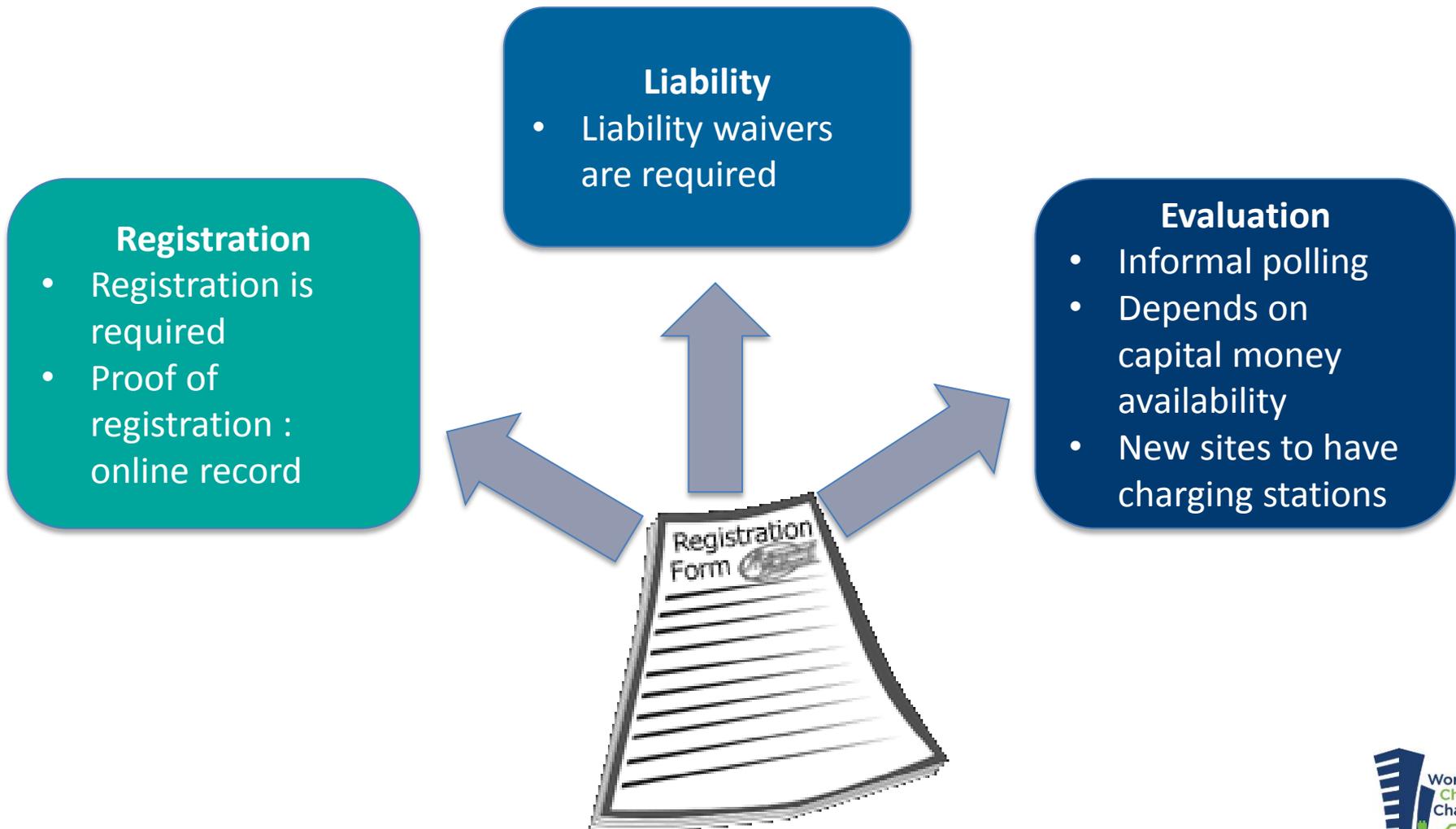
- stipulate who is responsible for risk associated with charging station usage

Evaluation

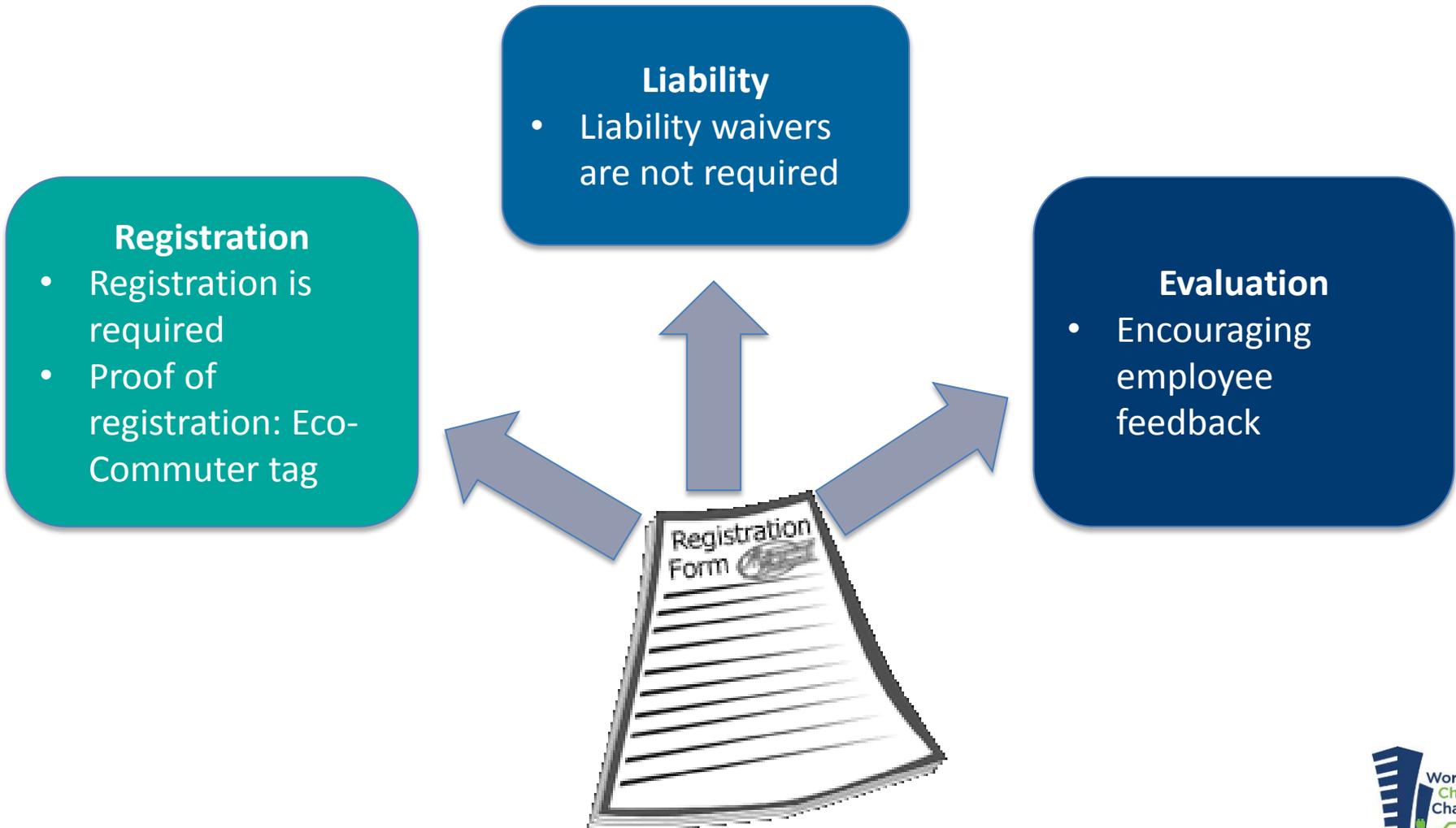
Periodic review of charging program can:

- determine needs for infrastructure expansion
- allow for management policy revision

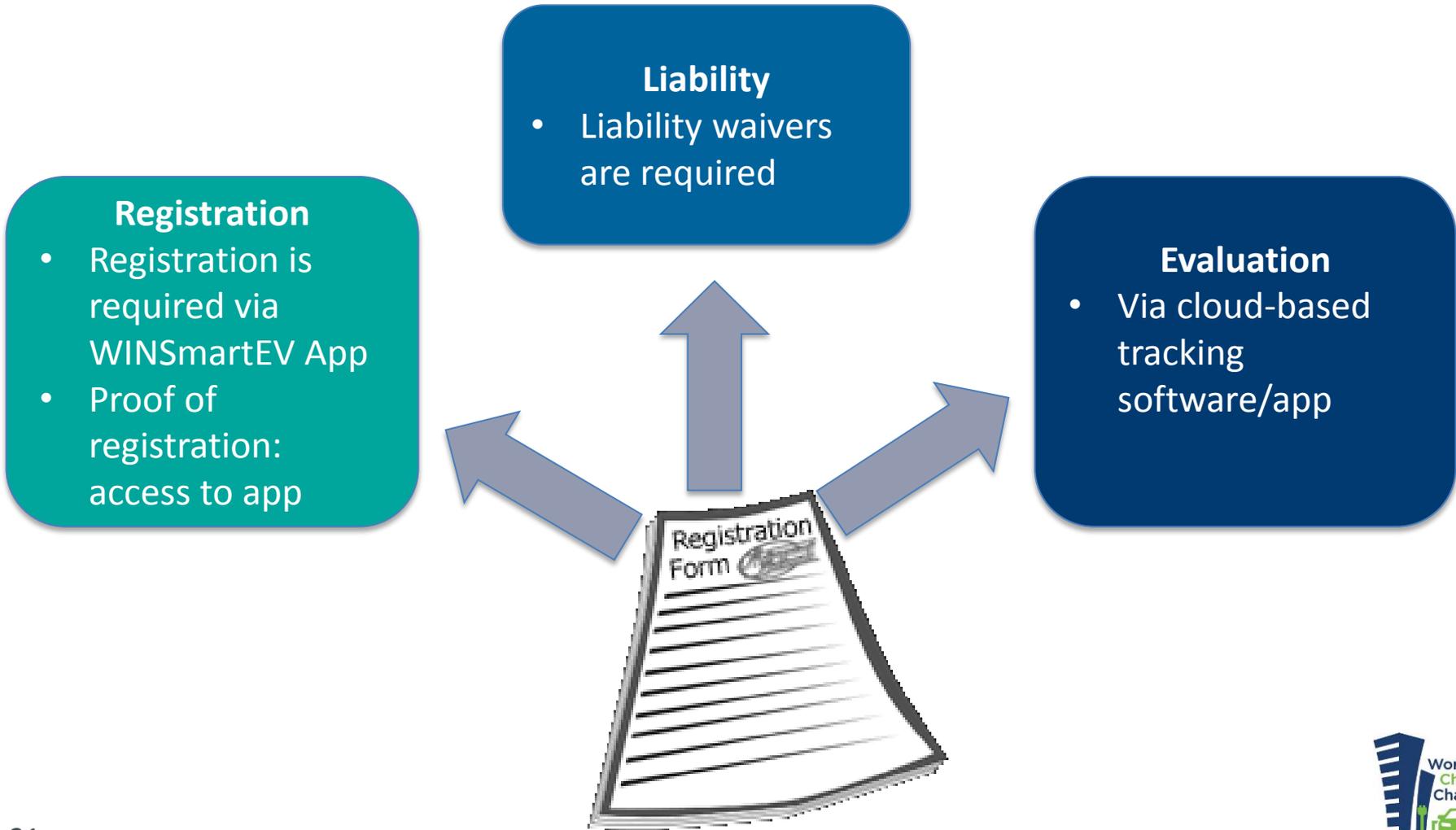
Workplace charging registration



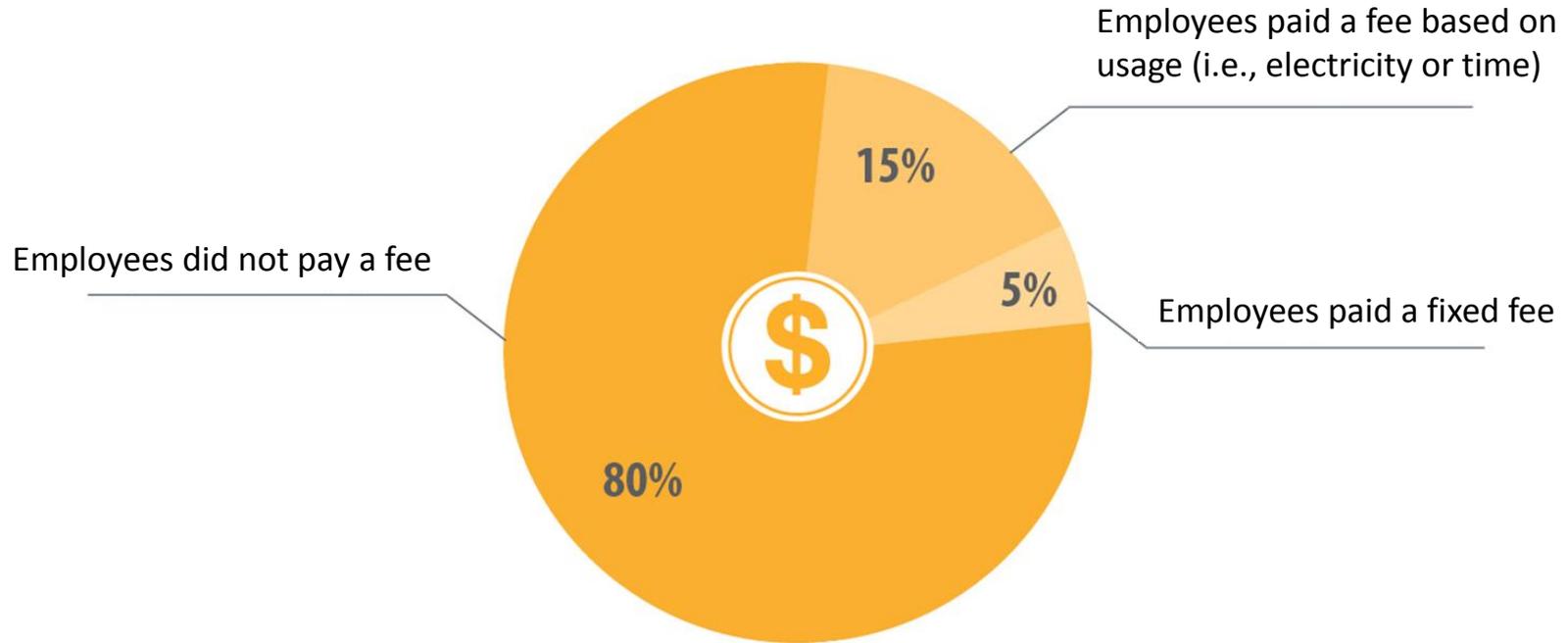
Workplace charging registration



Workplace charging registration



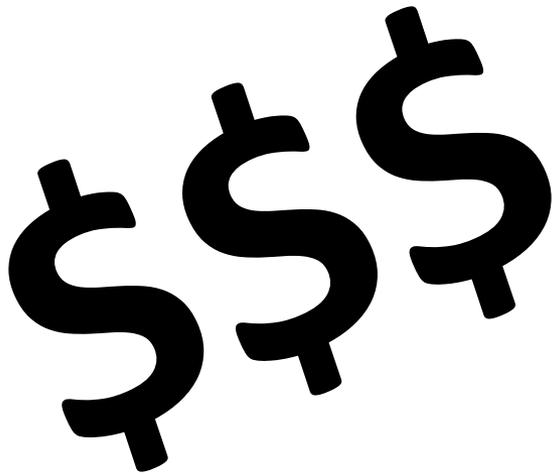
What are partners saying about pricing policy?



Pricing

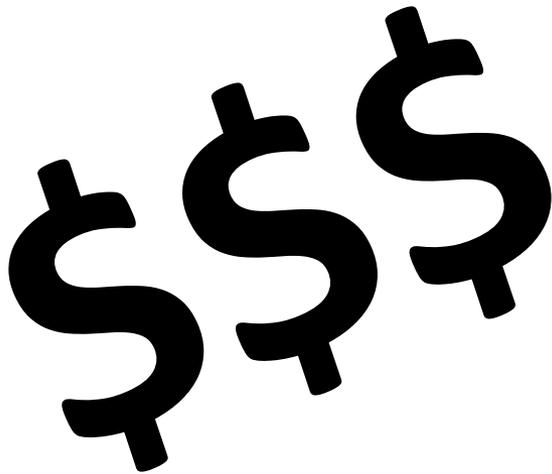
On deciding between fee or free charging:

- free can be easier to administer and is an additional incentive for employee PEV purchase
- fees can relieve charging station congestion



- ✓ Fee-based charging
- ✓ Fee varies by location
 - \$1/hour
 - \$1/hour and \$0.40 each hour after
- ✓ Fee-based due to government reimbursement as DoD contractor

Workplace charging pricing



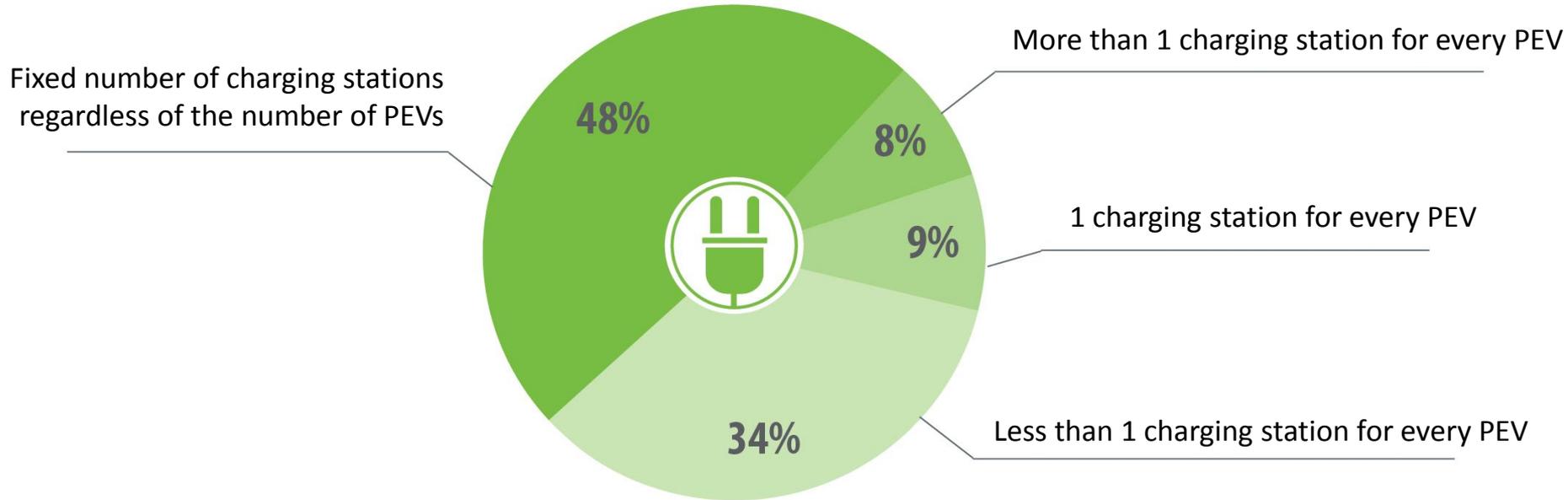
- ✓ Free charging for 4 hours
- ✓ Didn't feel the added cost to charge for using the EVSE was worth the effort
- ✓ Best fit for our workplace culture

Workplace charging pricing



- ✓ Some EVSE charging is free
- ✓ Some EVSE charging is fee-based
 - \$2/hour
- ✓ Experimenting with different pricing models across campus

What are partners saying about sharing policy?



Top ways to manage charging station sharing:

- ✓ valet
- ✓ station assignment
- ✓ reservation system
- ✓ time limit
- ✓ employee self-management

Workplace charging sharing



- ✓ Employee demand is currently met
- ✓ Sharing Method: employee self-managed
- ✓ Communication Method: email, newsletters, plasma screens, EHSS Council Meetings



Photo courtesy of Raytheon

Workplace charging sharing



- Employee demand is currently met
- Sharing Method: employee self-managed, guided by use policy
- Communication: Online - Green Initiative Site and The Hub (EV enthusiasts group page)



Electric Geese at SAS EVSE

Workplace charging sharing



- Employee demand is not currently met
- Sharing Method: employee self- managed with help of multiplexing technology with WINSmartEV quad charger (photo on right)
- Communication Method: Phone app, quarterly meetings



Photo courtesy of UCLA SMERC

Workplace Charging Management Q&A



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Learn More: WorkplaceCharging@ee.doe.gov

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