



Lab Summit

meeting recap





thank you!

Thank you for being a part of e-Lab Summit 2017! Without your participation and perspectives, the collective work advanced at Summit would not have been possible. As you return to your work, we hope that the insights and connections that you made in New Mexico support you in meaningful and actionable ways. We wish you luck in all of your endeavors, and hope to see you at a future e-Lab event!

The e-Lab team





ground rules

you can say **who was there**

and **what was said**

but **not who said what***

Please remember these rules as you share the outputs of your work at Summit, including the contents of this document.

**without their permission*





follow-up

Offers of support from the e-Lab team

Don't hesitate to contact us with follow-up questions, comments, or requests related to e-Lab. For instance, we're happy to:

- make introductions to other Summit participants, e-Lab network members, or RMI staff
- share information on the collaboration frameworks we use (e.g., types of complexity, 4 ways of talking and listening)
- work with you to refine the Summit for 2018
- send copies of RMI reports or other analyses, briefs, etc.
- explore ways for you or your organization to get more involved with e-Lab, including as a full member

Please contact Mark Silberg (msilberg@rmi.org) with any follow-ups.





e-Lab Accelerator

What is e-Lab Accelerator?

e-Lab Accelerator is an invitation-only, four-day working meeting to accelerate high-impact and innovative projects at the electricity system's distribution edge.

Why attend e-Lab Accelerator?

We'll help you unlock opportunities to drive projects forward more effectively, and collaboratively. Specifically, Accelerator will give teams:

- **A structured working session** to make progress on their project or initiative
- **A rich learning experience** featuring experts on the latest thinking on new utility business models and distributed resources in the U.S. electricity sector
- **Tools and training** to conceptualize problems in collaborative and innovative ways
- **New alliances** to form a broader support network with other teams working on similar projects
- **A unique environment** conducive to creativity and breakthrough ideas

Is e-Lab Accelerator for you?

Accelerator teams comprise 5–8 people representing multiple project stakeholders. Successful teams bring together the right combination of vision, experience, knowledge, and commitment to a project that can accelerate change in the electricity system. Projects must be actively under development at varying levels of maturity.

May 1-4,
2018

Sundance
Mountain
Resort, Utah



pod topics



Smart Heating Electrification

Infrastructure Planning and New Mobility



Blockchain and Transactive Energy

Rate Design Pathways

Value Stacking for DERs

Distributed Grid Infrastructure

Utility Business Model Pathways

LMI-Focused Utility Business

your pod's
recap is
in the next
section





Infrastructure Planning for New Mobility

When, Where, and How we charge



Objectives



What are your objectives for Summit

Discussed at Summit

2
DEVELOP "NEW COLLABORATIVE
FRAMEWORK OR PLATFORM"
WHERE WE CAN CHALLENGE
TRADITIONAL ROLES + ASSUMPTIONS
AMONG KEY PLAYERS OF
UTILITIES, EVSE, AUTO'S + BUS
NGO'S AND INNOVATORS

1
• IDENTIFY BARRIERS +
OBSTACLES, BUT ALSO
TARGET LEVERAGE POINTS
TO ACCELERATE DEPLOYMENT,
SUCH AS LEGISLATION (INCENTIVES/
REGULATORY, AND PRIVATE
SECTOR SOLUTIONS

Identify
best/most efficient
market mechanisms
FV uptake

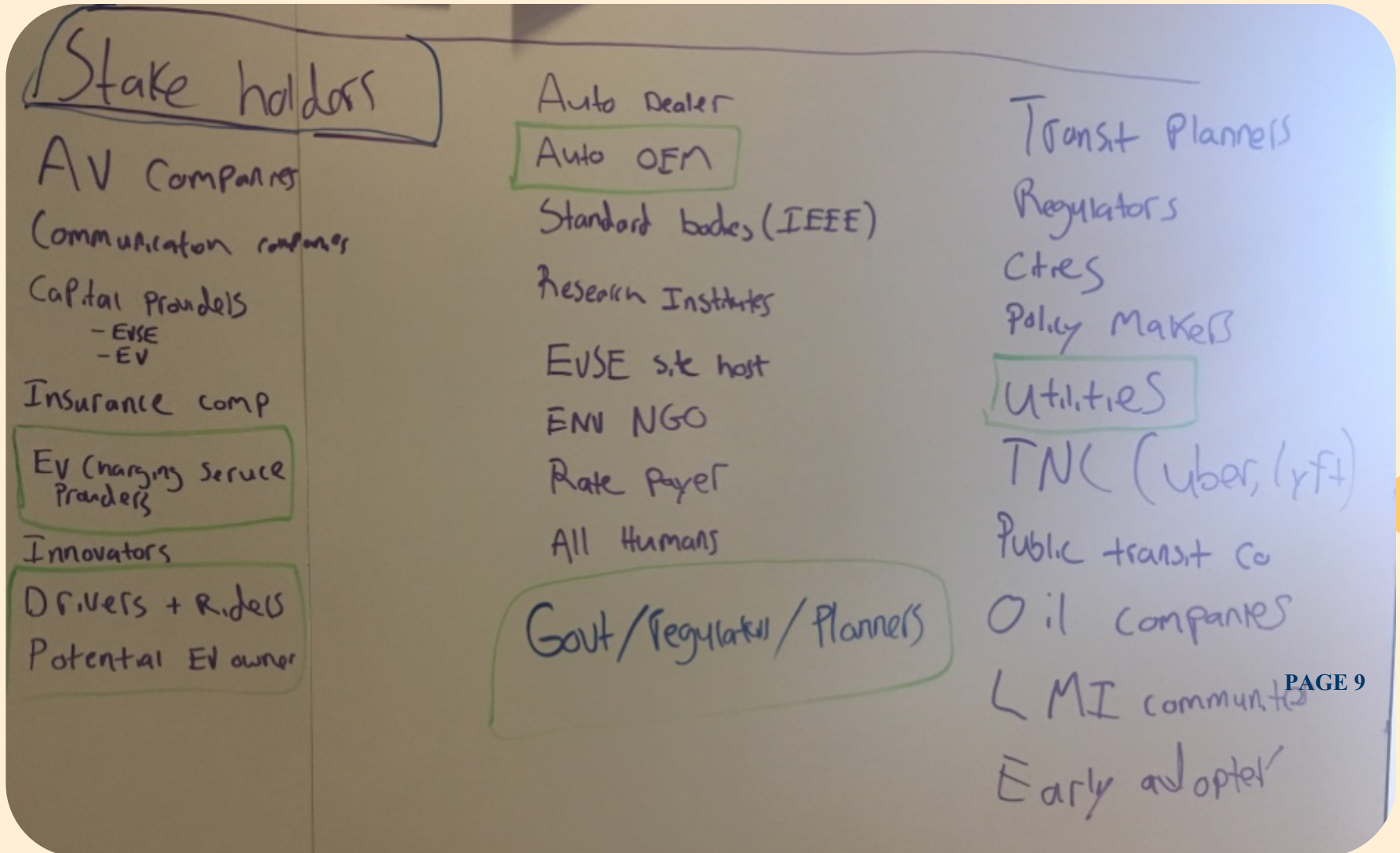
Include
DCFC Models
that work!



Stakeholders



What is the EV and EVSE stakeholder ecosystem

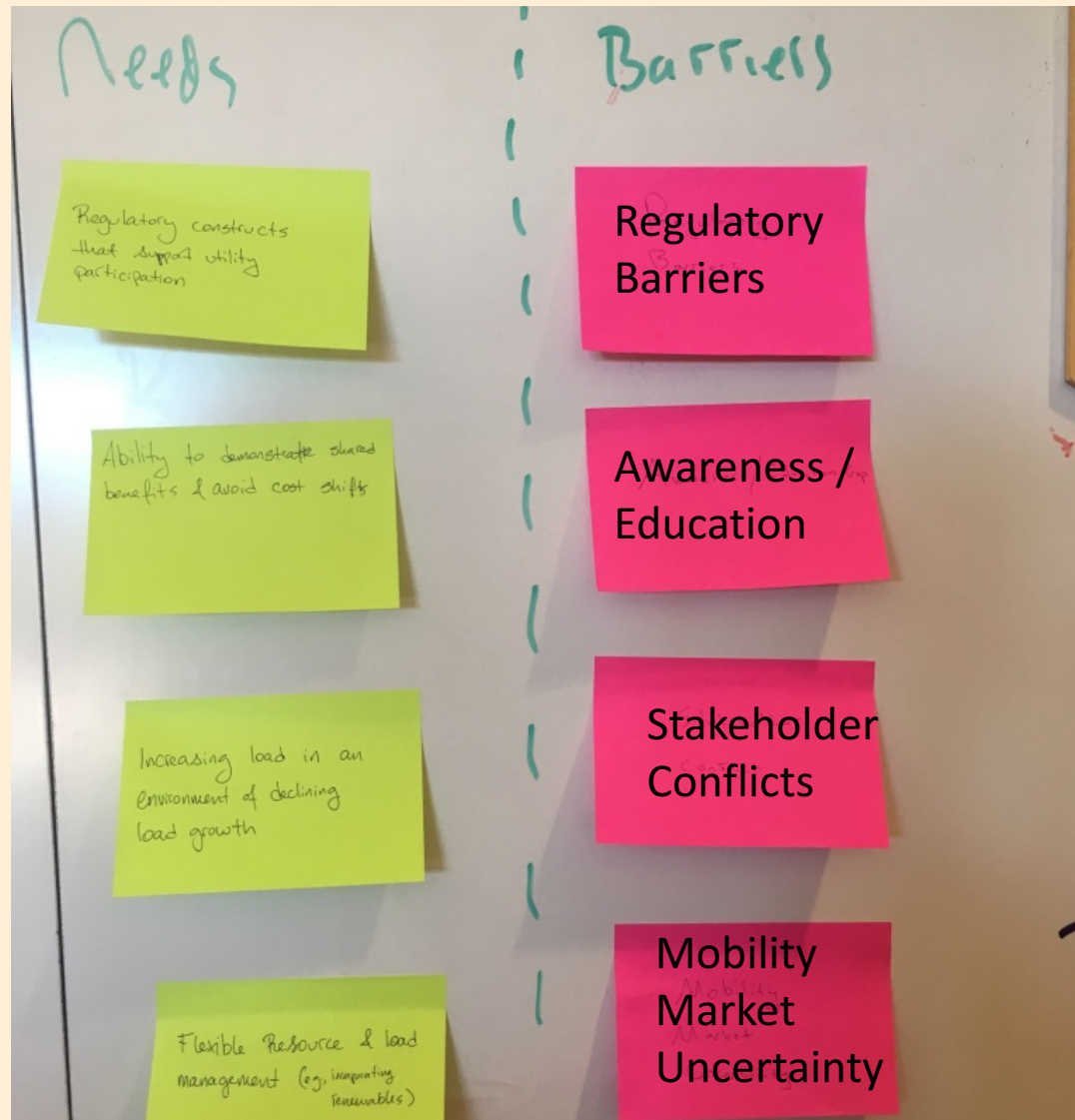


Barriers



Utilities

What are the primary barriers facing EVSE deployment

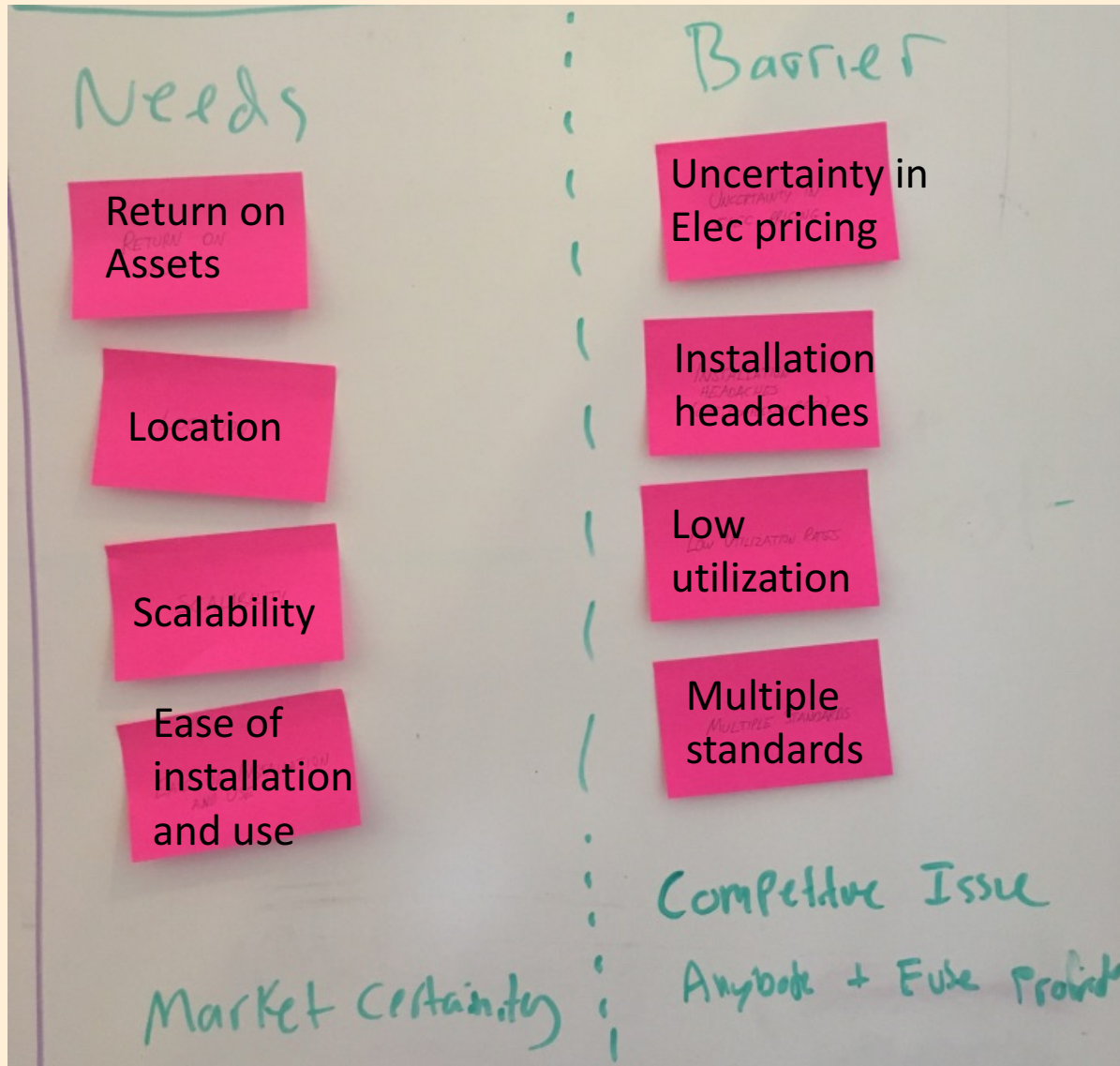


Barriers



**EVSE
providers**

What are the primary barriers facing EVSE deployment



Barriers



Auto OEMs

What are the primary barriers facing EVSE deployment

Needs	Barriers
New Bus Models for dealers to deliver vehicles	Profit gap for dealers and OEMs
New Bus models for OEMs to deliver vehicles, to consumers & TDC	Consumer awareness of benefits of EVs
More ^{usable} charging infrastructure available	Fighting for internal resources for EVs
Understanding value of EVs once sold and delivery to consumers	Talent acquisition

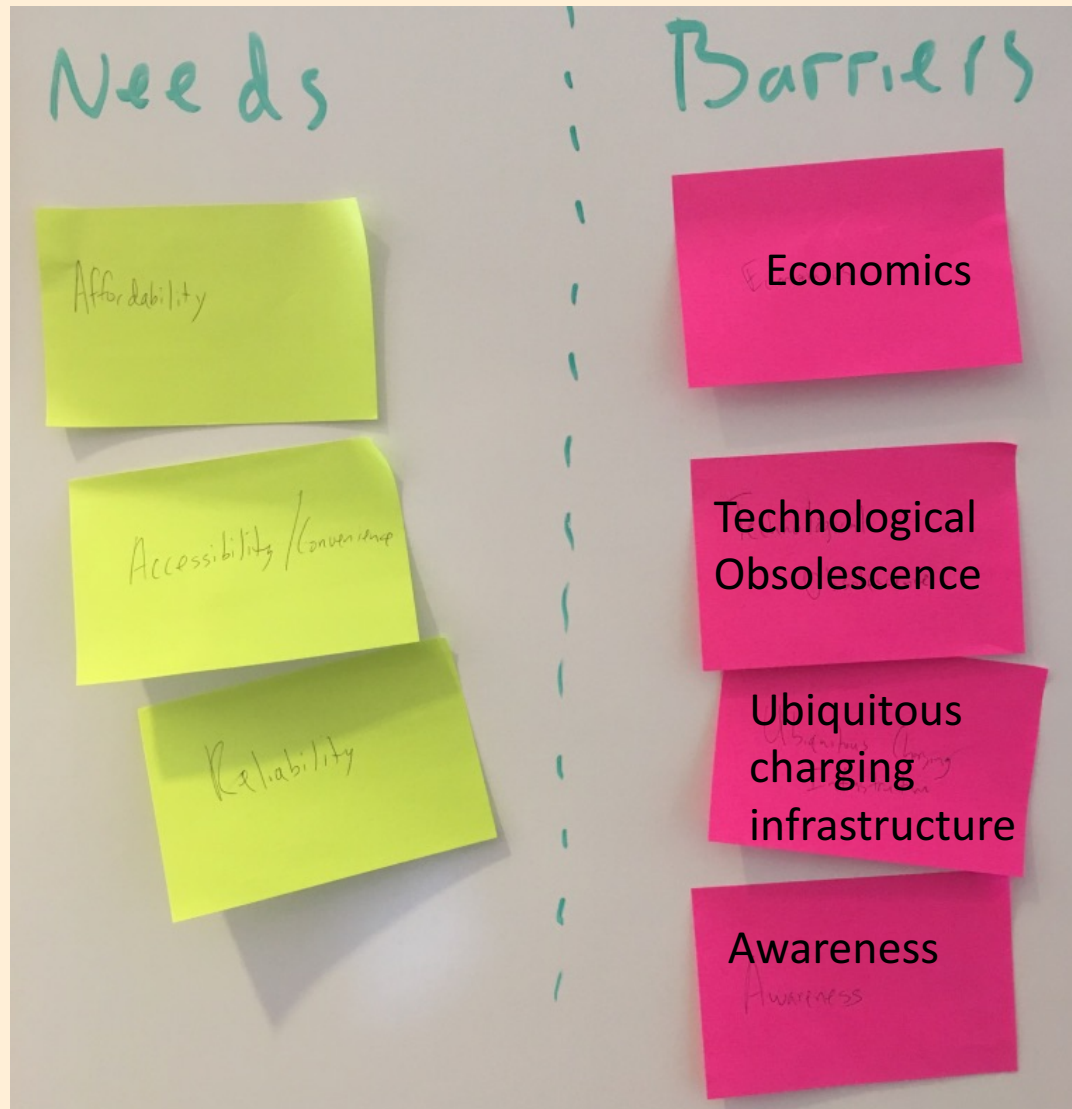


Barriers



Drivers / Riders

What are the primary barriers facing EVSE deployment



Barriers



Gov't/Reg/
Planners

What are the primary barriers facing EVSE deployment

Needs

- New toolbox for regulators to address emerging market issues
 - ↳ pilots
 - ↳ data collection
- Stakeholder process to narrow and focus objectives
- Incentives to drive mass EV adoption

Barriers

- Regulatory Silos
 - Electric and transportation regulation is different
- How to regulate an industry that is not yet formed?
- Risk of applying previous regulatory techniques to new technology & industry
 - Cost of service interruption
 - Pending review



Levers



What are the mechanisms to increase EV and EVSE deployment

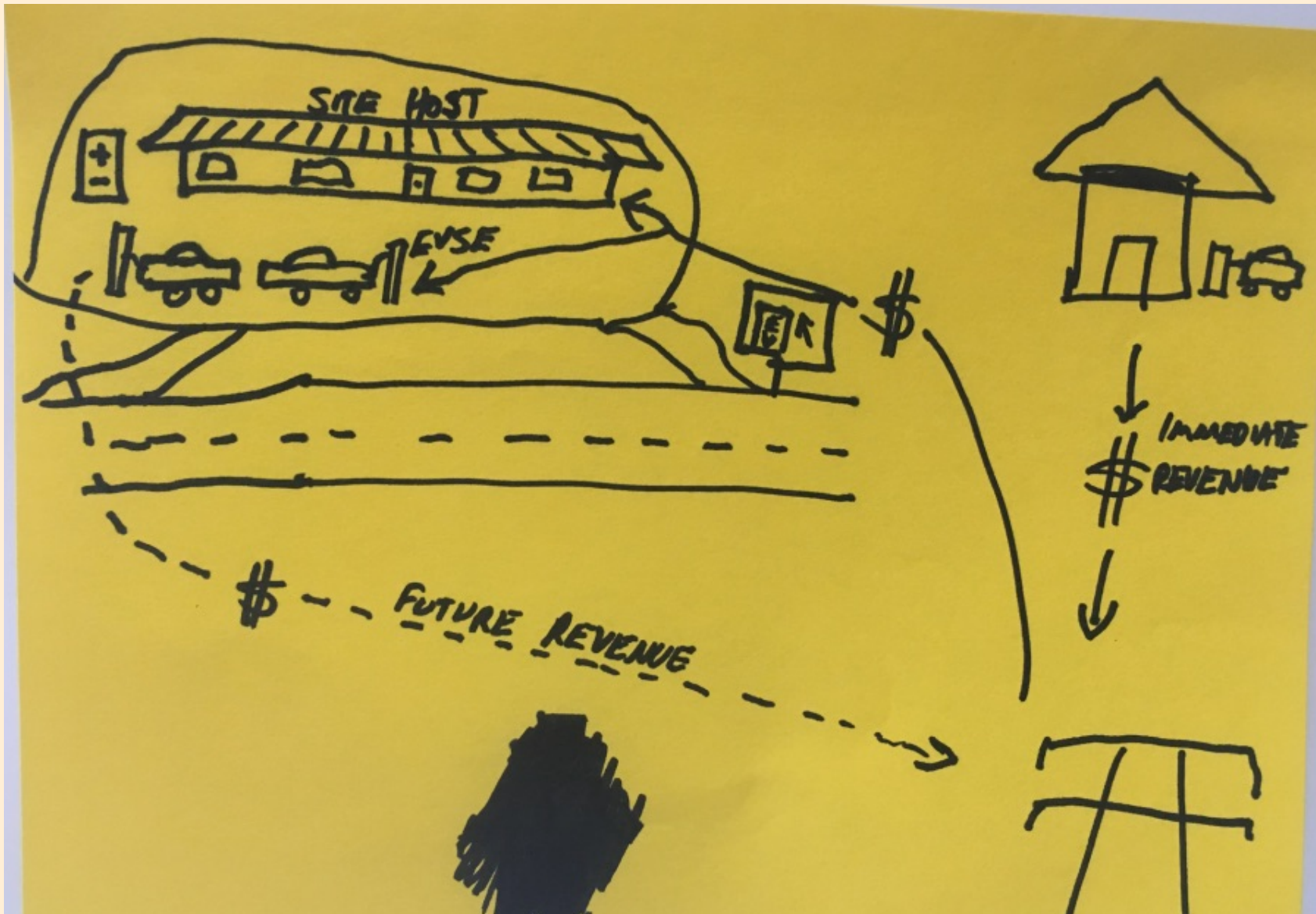
Increase EVSE Deployment	Increase EV adoption
<ul style="list-style-type: none"> Grants for OP & Capex Coord on work schedule b/w cities & utility let utilities profit from EVSE infrastruc APPLY traditonal cad grow to EVSE EV (Non EV) Registratn fee → EVSE deployment Alter building code to promote EVSE Direct city install manage charging to diversify revenue streams State wide Permitting Regulation Storage Pilot 	<ul style="list-style-type: none"> nation wide ZEV mandate Signage for EVSE Finance for EVs for all credit levels Legalize direct sales tell story about how cool EVs are + debunk range anxiety Purchase Vehicle Incentive Free charging Cheaper batteries Statewide mandate for TNC to have EVS % SUV + PickUp Educate & Awareness

Plan 5 Utilities

EVSE	EV
<ul style="list-style-type: none"> Econ Incentive tax breaks for Employer Property tax credit for Property that install EVSE Utilities provide Make-Ready Programs Low carbon fuel standards Compatibility standard Expanded tax break to all tax payers Portfolio approach for different charging types Ability for utility to ratebase rebates Think about storage value + Anticipate fire way to value that flexibility 	<ul style="list-style-type: none"> Increased Marketing & Fully Green Supply Chain for electricity (Green charging) Purchase Incentive for use EV HoV lanes More equitable incentives All Publicly + muni. own fleets Carbon tax Make TCC easy to understand upfront Utility tariff authority to make financing available to all credit (on-bill finance) EV loan programs



Future Revenue



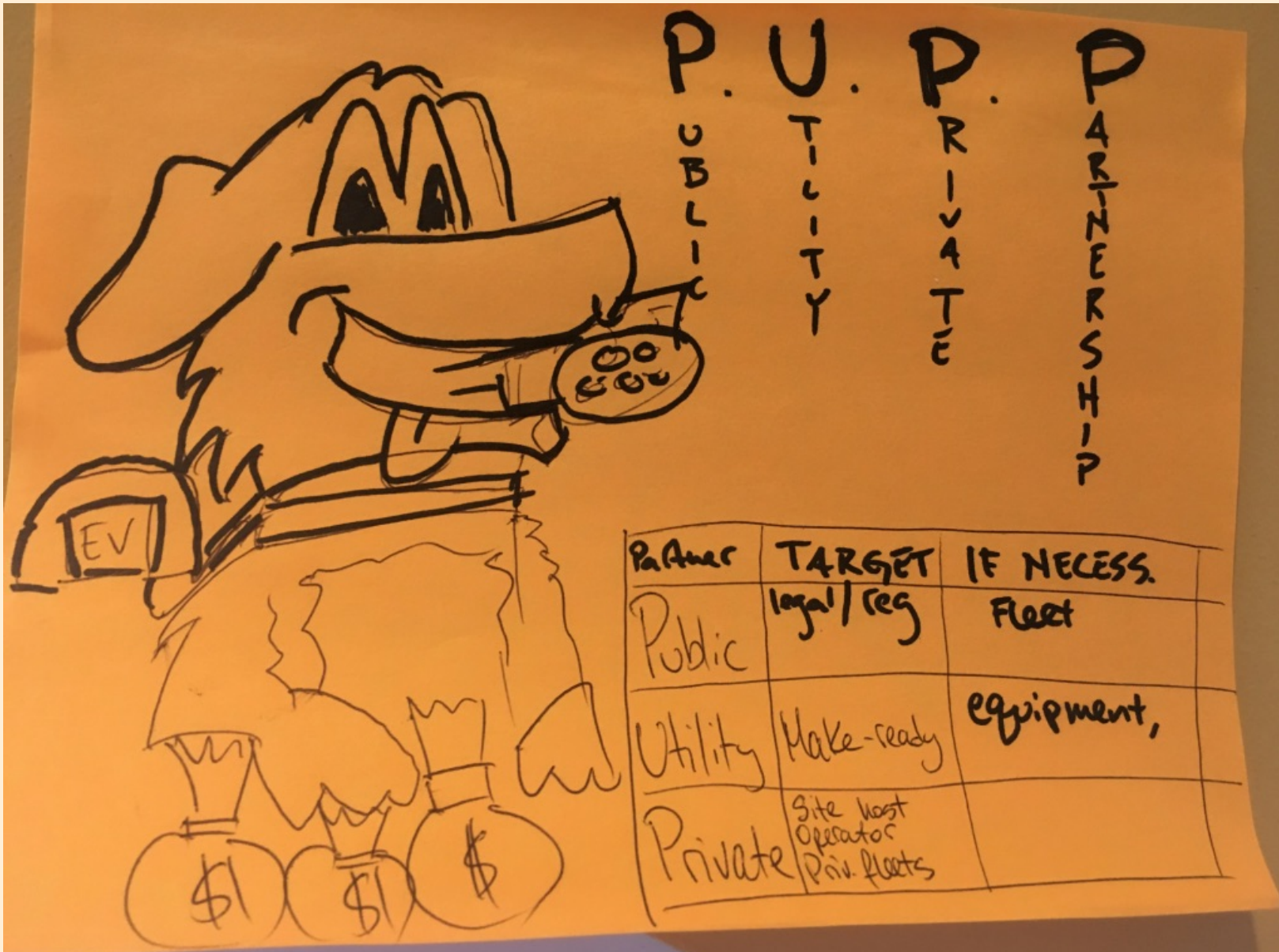
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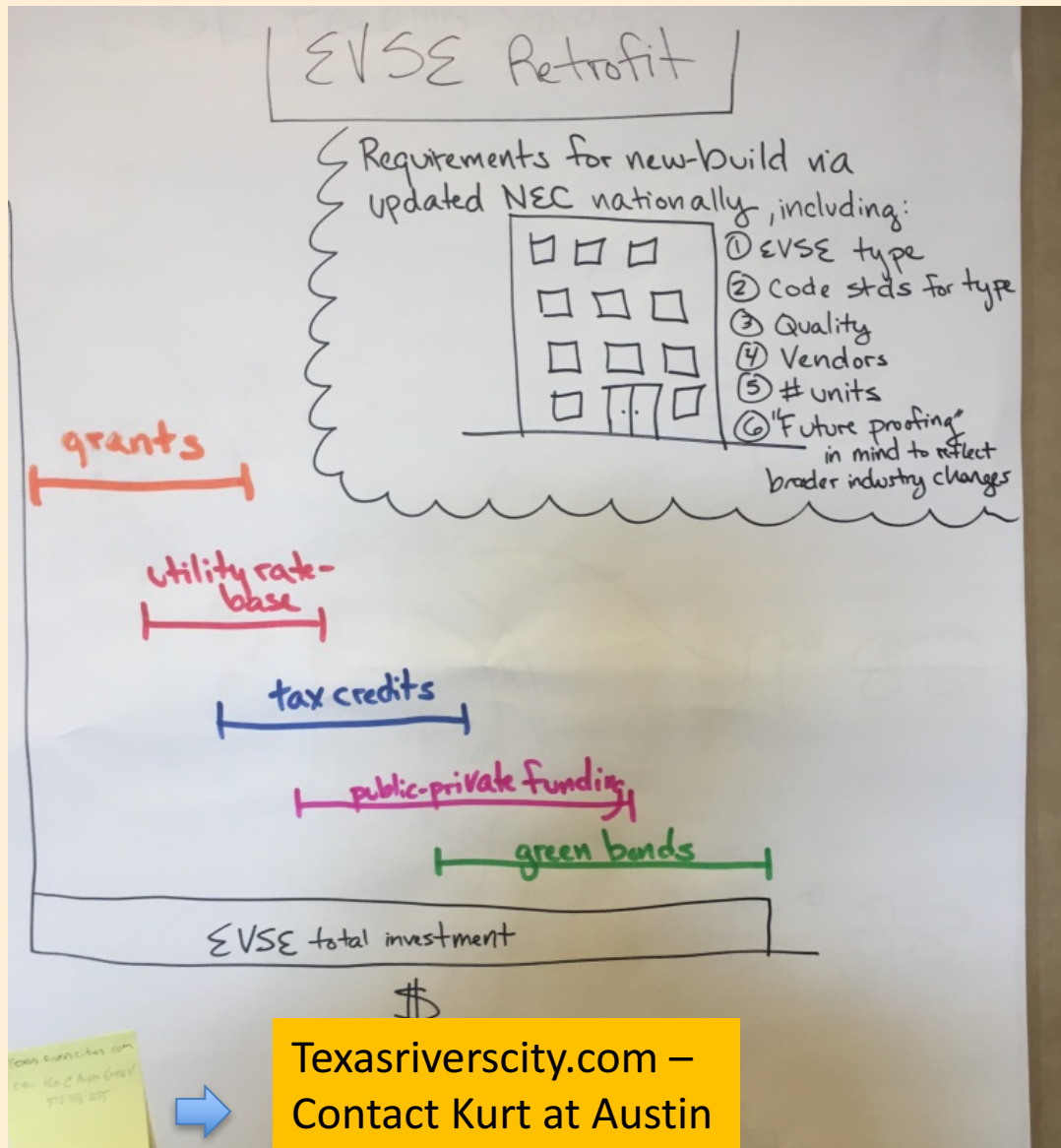
- Use 3 years of expected EV charging revenue (at home) to pay for DCFC buildout and ratebase that cost
- Similar to how new sub-development infrastructure buildout is paid for.



PUPP



Building Code



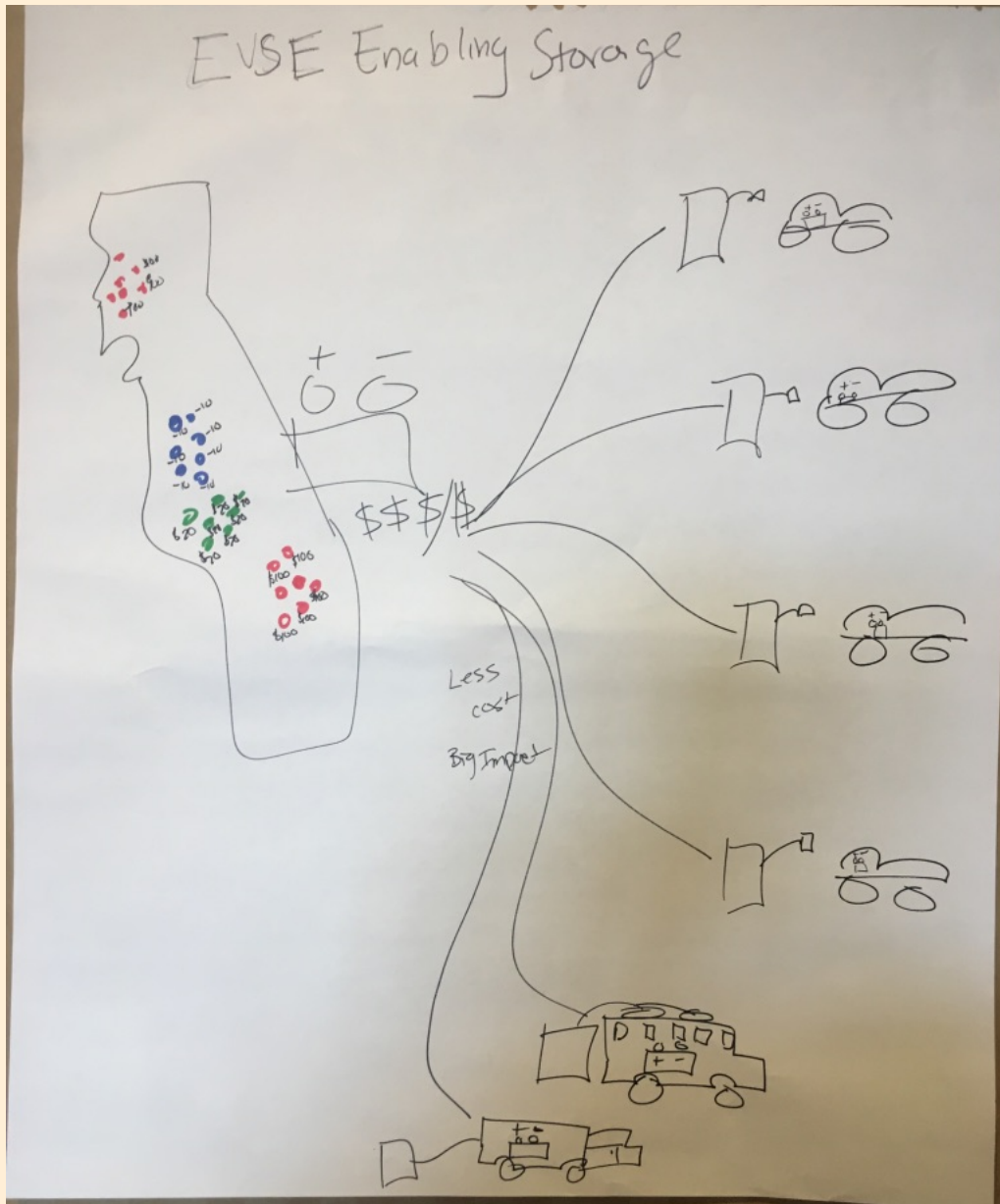
5000 ranches.com
CA. 402 400 6007
712 413 1255



Texasriverscity.com –
Contact Kurt at Austin
Energy 512-413-1255



EVs as Storage



- Pull future value of EV as flexible load and provide funds for EVSE buildout
- Consider the SGIP program or storage mandate in CA



Shared / Autonomous



Themes

Car Sharing (screwed)

AV is good but don't wait for it to go

TNC Biz model is Capital Light

Incentives for E-TNC miles
mandates " " "

Make TNC electric to show

why AVs need to be Electric

Challenges

Car Share Programs don't have
adequate charging access (could be managed via telematics)

TNC lose \$ when they have to charge

Companies don't feel comfortable deploying

EVs due to EVSE

- If they do they 'hog' public

This group is not involved in the
AV Industry or regulatory work

TNC drivers have poor credit
and can't get EVs

Shared / Autonomous



Next Steps

- Differentiating the different needs for car sharing, ride hailing, fleets.
- Get involved in AV world
- Understand who are the winners/losers
- Focus on making AVs shared
- Reach out to Center for Automated ^{transit} research
- Update transit planning
- Integrate with Smart cities
- How will this serve rural population
 - how to bring them into convo risk
- need financing for TNC drivers to get EVs
- Crafting the right stick



Needs and offers of help

Knowledge of what pilots /
demonstration projects / working
business models are operating
on electrification of shared
vehicles and car pooling

Mark

Matt

Lehman

- Boulder

Utilities can solve the near-term EV charging Infrastructure challenge.

Need more support for utility stop letting perfect be the enemy of good.

kevin.miller@chargepoint.com

I need input/engagement on how to thread needle of contrasting positions on

□ spectrum & timeframe for regulated/competitive infra/equip ownership (behind/beyond meter)

□ pilots for con

can provide data + sample rates

Long @ Duke

SEPA can help understand utility role thru the EV working group

- Mike emyers@sepepower.org

Listen & Share

jonathan@vision-ridg.com

- thoughts on which large NGOs are best
 - a) supporting important policy work re. EV infrastructure
 - b) making localized, small, creative re-grants to increase adoption in specific geographies

Fred

kevin.miller@chargepoint.com

HAPPY TO SHARE
MY PERSPECTIVE
& EXPERIENCE

TOM
tom@gremlot3.com

OPPORTUNITY TO DEPLOY LOW OR
NO COST INFRASTRUCTURE TO
SUPPORT PILOT/PROGRAM
DEVELOPMENT WITH TNCUS,
PROVIDING SITE/SITE HOSTS,
ALTERNATIVELY.

Matt

Lehman

- Boulder

Needs from this group!>

Experience + Expertise from:

- Utility folks
- EUSE people
- Regulators

to ~~broaden~~ deepen my
understanding beyond my local
and anecdotal experience.
Max Tyler

HAPPY TO SHARE
PERSPECTIVE &
EXPERIENCE

TOM

tom@gremlots.com

Best Role for the Utility in
Behind - the Meter EV infrastructure
↳ make-ready

→ Build vs. Rebates

→ Standards / Capabilities Req's

Connect on Elgo
make-ready expense

Mike Backstrom

kevin.willier@clearpoint.com

jonathan@vision-ridge.com or a prototype
solution for EVSE +

EV Infrastructure planning tool
- spreadsheet with inputs for
local information and established
evidence-based calculations of
infrastructure recommendations

Douglas Jester

Don't know how
much I can add
but sounds like
an interesting project.

Max@MaxTyler.US

- What is the impact of
mass market EV adoption and
transition to mobility-as-a-service
on total VMT and on viability of
transit and bike share programs?

Matt
Lehrman
Boulder

HAPPY TO LOOK INTO THIS

PETE O'CONNOR
PAOCONN98@GMAIL.COM

ret
Fitzgerald@erni.org

- IDENTIFY FLEET CONTACTS
WHO WANT TO MOVE FORWARD
WITH EV CHARGING
INFRASTRUCTURE IN THE NEXT
2 YEARS. - ROBERT WELCH

I can help introduce
you to my networks
w/ access to fleet
mgrs

- Erika

emys@sepa-power.com

Help advancing the incentive/
mandate for zero-emissions
miles in TNC (and other?) fleets

mark.ferron@gmail.com

~~Kahna@coned.com~~
Kahna@coned.com

Max@
MaxTylerUS

- Jonathan

Interested in talking AB
CA opportunity.

Michael.backstrom@

evin.miller@chargepoint.com

I need help to understand
impact of EVs on distribution grid
planning & how to advance
managed charging/optimization

Also, please join SEPA's EV
working group

- Erica Meyer
SEPA

Very interested in connecting
you with the right
folks @ SCE.

Michael.backstrom@sce.com

I can link EVs
to standard
distribution
planning practice
D. Jester

Holmes H. MEL@CLEANENERGYWORKS.ORG

Plank on the idea

jonathan@vision-ridge.com

I'd love to dive into the details
A support however useful (design, framing, reg support, etc.)

kevin.miller@chargepoint.com

PARTNER W/ UTILITIES, EVSE
AND/OR PLANNERS / RESEARCHERS
TO PILOT "IDER-LITE"
BRIDGING DRIVERS', UTILITIES'
AND SITE HOSTS' NEEDS IN
EVSE PLANNING & SITING

Partners for a prototype
financing solution for EVSE +
EV Deployment: observers and
thought partners welcome

Holmes H. MELL@CLEANENERGYWORKS.
ORG

Thought on the idea

Jonathan@vision-ridge.com

I'd love to dive
into the details
A support however
useful (design, framing,
reg support, etc.)

Kevin.miller@chargepoint.com

PARTNER w/ UTILITIES

Thank you all for your patience, attention, and dedication to this very important challenge. I had a great time facilitating this Pod and I took away many new insights, ideas, and challenges. Summit, and more importantly, EVSE and EV adoption are not possible without all of you. Please feel free to connect with me with any questions, suggestions, feedback, or collaboration ideas.

Thank You!

Garrett





thank you!

Garrett Fitzgerald | Gfitzgerald@rmi.org | Basalt, CO



AN
INITIATIVE
OF

