SILICON VALLEY CLEAN ENERGY

Silicon Valley Clean Energy
Customer Program Advisory Group Meeting
Wednesday, April 18, 2018
11:00 am

Campbell Community Center
Roosevelt Room (Q-80)
1 W Campbell Avenue
Campbell, CA

AGENDA

Call to Order

Roll Call

Public Comment on Matters Not Listed on the Agenda

The public may provide comments on any item not on the Agenda. Speakers are limited to 3 minutes each.

Consent Calendar

1) Approve Minutes of the March 21, 2018, Customer Program Advisory Group Meeting

Regular Calendar

2) Evaluate Program Briefs Against Benefit List (Discussion)

Committee/Staff Remarks and Future Agenda Items

Adjourn

svcleanenergy.org

333 W El Camino Real
Suite 290
Sunnyvale, CA 94087

Silicon Valley Clean Energy Authority
Customer Program Advisory Group Meeting
Wednesday, March 21, 2018
11:00 am

Campbell Community Center
Roosevelt Room (Q-80)
1 W Campbell Avenue
Campbell, CA

DRAFT MINUTES

Call to Order

CPAG Chair, Peter Evans, called the meeting to order at 11:05 a.m.

Chair Evans provided brief opening comments regarding the order of business including an objective of completing a programs list to evaluate for potential recommendations to the Board.

Roll Call

Present:
Member Gary Latshaw, City of Cupertino
Member Tara Sreekrishnan, City of Cupertino
Member Donald Weiden, City of Los Altos
Member Peter Evans, Town of Los Altos Hills
Member George Parton, Town of Los Gatos
Member Thomas Clavel, City of Milpitas (arrived at 11:07 a.m.)
Member Bryan Mekechuk, City of Monte Sereno
Member Robert Brewer, City of Mountain View
Member Jeff Homan, City of Mountain View (arrived at 11:27 a.m.)
Member Sandeep Muju, City of Saratoga
Member Douglas Kunz, City of Sunnyvale
Member Tara Martin-Milius, City of Sunnyvale
Member James Tuleya, City of Sunnyvale
Member Pamela Garcia, Unincorporated Santa Clara County

Absent:
Member My Nguyen, City of Campbell
Member Tristan Mecham, Unincorporated Santa Clara County

Public Comment on Matters Not Listed on the Agenda

No speakers.

Consent Calendar

MOTION: Member Mekechuk moved and Vice Chair Martin-Millius seconded the motion to approve the Consent Calendar.

The motion carried unanimously with Members Homan, Mecham, and Nguyen absent.

1a) Approve Minutes of the February 21, 2018, Customer Program Advisory Group Meeting

Regular Calendar

2) Further Develop List of SVCE Candidate Programs

Community Outreach Manager Pamela Leonard introduced the item and opened with an example to get the group thinking about energy solutions that could make a residential living situation more comfortable in a common multi-family home scenario. Director of Marketing and Public Affairs Alan Suleiman responded to Member questions regarding number of multi-family residential SVCE customers; Member Mekechuk requested Staff provide information regarding the number of meters by municipality served and rate plans for customers.

Following discussion, the group shared ideas of what landlords could do to help alleviate some of the energy efficiency problems in the multi-family unit including the addition of dual pane windows, new heating and cooling units, replacement of heat pumps, and the addition of EV charging stations.

SVCE CEO, Girish Balachandran, encouraged Members to consider platform preservation, proof of concept, and prototyping for future programs.

Vice Chair Martin-Milius documented ideas the group identified for how SVCE could assist with energy efficiency in multi-family units.

Chair Evans provided instruction for an exercise to brainstorm additional program ideas around the benefits that were identified at the last Customer Program Advisory Committee Meeting.

The group recessed for the exercise at 12:02 p.m.; Chair Evans and Vice Chair Martin-Milius provided additional instruction during the course of the activity.

Members grouped like-ideas together for each program benefit and reconvened at 12:33 p.m. to review the program ideas; members presented these ideas in small groups.

Following discussion, Members formed voluntary sub-groups to meet and discuss the program ideas identified in more detail outside of the current meeting to bring back to the April 18 CPAG meeting. Chair Evans noted the purpose would be to describe the program, specific elements, SVCE's role, and how the group would define success.

Without objection, the following sub-groups were formed:

Multi-family Residents (Program accessibility to non-owner residents in multi-unit dwellings)
Bryan Mekechuk
Gary Latshaw
George Parton
Pamela Garcia

Electrification Migration (Fuel-switching devices, excluding EVs. Space and water heating; appliance-level focused)
James Tuleya
Tara Martin-Milius
Sandeep Muju

Jeff Homan

Readiness for Electrification (building codes; upgrades that consider future uses)
Don Weiden
James Tuleya
Doug Kunz
Tara Martin-Milius

EV Charging (managed charging; more charging infrastructure)
Tara Sreekrishnan
George Parton
Thomas Clavel
Don Weiden

Connected Homes (home device demand management through, e.g. web-connected thermostats)
Sandeep Muju
Peter Evans

Chair Evans noted the next meeting would include report outs on the ideas formed within the sub-groups and a template would be sent to Members.

3) Seeking Community Input on Program Ideas

Group members discussed various avenues for reaching the community including speaking at City Council meetings, environmental/sustainability commission meetings, NextDoor, and connecting with City staff.

Community Outreach Manager Leonard noted Staff could assist with any tools needed by Members.

Member Muju requested a standard format for reaching out to the Community; Member Garcia requested a list of key questions.

Chair Evans summarized direction that Members would be sent a form detailing the goals of the sub-groups, conference confirmations, and an email and prompt for speaking to the community.

Robert Brewer left the meeting at 1:11 p.m.

Committee/Staff Remarks and Future Agenda Items

Member Mekechuk announced a talk occurring during the evening at Acterra regarding Palo Alto's Climate Action Plan.

CEO Balachandran suggested Staff continue to meet with Chair Evans and Vice Chair Martin-Milius and commented Staff will reach out to local member community groups, specifically the Member Agency Working Group, to see if a presentation or information could be brought to the CPAG.

Adjourn

Chair Evans adjourned the meeting at 1:12 p.m.

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Title & Use Case (Do "x" *for* "y".)	Connected home for customer understanding and management of their loads and for load management
Specific Elements	• web connected thermostats (off the shelf) • web-connected pool pump controller (off the shelf?) • app for customers with device operation and consumption data • additional analytics • device/load management capability (with customer over-ride) - e.g. peak reduction or summer-only AC management • ability to move between solar production to grid and solar storage to optimize viz the Duck Curve for single family homes with solar.

SVCE's Role *(possible partners or collaborators)*	• rebates for new participants?
	  ○ rebates for thermostats
	  ○ rebates for storage
	• enlistment & customer permission
	• work with one or more 3rd parties (e.g. Nest) - really its their platform; downselect from proposals

Success *(define success)*	• participation rate (different targets for different devices) - find out how willing customers are to participate; maybe pilot 2,500 volunteer Nests with a history • customer feedback (are they willing to continue) • How much demand reduction there is (what does 2,500 participants map to in kW demand reduction); use control group

SILICON VALLEY CLEAN ENERGY

Title & Use Case (Do "x" *for* "y".)	**Residential Storage Program** Expand the use of residential storage to reduce duck curve impacts.
Specific Elements	• Pre-engineered package • Residential • 3 – 5 KW • Pair with solar? • New construction and/or retrofit? • Single family or MUD? • Financial modeling tools • Group buy • Permit assistance
SVCE's Role *(possible partners or collaborators)*	• Promotion • Bulk purchase • Storage-friendly rate structure • Installer pre-qualification • Collaborate with installers, startups and established manufacturers
Success *(define success)*	• Number of deployments as a direct result of program offering • Kilowatt hours under management • Kilowatt peak reduction

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Title & Use Case (Do "x" *for* "y".)	Multifamily (MF) residence energy efficiency program – program to reduce cost of living to residents and to reduce GHGs.

Specific Elements	• Incentives/financial assistance to increase energy efficiency at MF residences. • Suggested changes: solar panels, energy efficient appliances (e.g. washers and dryers), energy efficient AC and heating, switch from natural gas/propane to electric cookers. • EV Charging • Power storage to smooth demand • Ability for landowner to sell back excess electricity to reduce split incentive problem. • Either replace at end of life or retrofit energy efficient devices. • Energy rating scheme to incentivize landowners and inform tenants.
SVCE's Role *(possible partners or collaborators)*	• Financial assistance for work carried out. Either in the form of rebate, discount, or reduced interest-loan. • Streamlined permitting process with municipalities. • Inform end users and landowners on $ and environmental benefits of specific energy efficient appliances and equipment. • Pilot these benefits in an everyday-use scenario. • Model the acceptance rate of each recommendation and the actual GHG reduction. (e.g. which devices/appliances had the biggest GHG-reduction impacts in aggregate). • Measure the customer experience. • Provide an energy efficiency rating. Measure $ benefit to the landowner. • Inform about government rebates/tax benefits available to landowner. • Recommend energy tariffs to customers to maximize benefit. (e.g. solar or TOU tariff). • Partner with housing authorities, construction firms.
Success *(define success)*	• A numerical goal of customer monetary savings and GHG savings over 10 years balanced with a positive customer experience.

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Title & Use Case (Do "x" *for* "y".)	Electric Vehicle Residential Charging Station Incentive program in order to encourage vehicle electrification.
Specific Elements	• Financial assistance in the form of a rebate or reduced-interest loan to prepare for and install a vehicle charging station. Aimed to offset the split incentive problem.
SVCE's Role *(possible partners or collaborators)*	• SVCE would offer the program to residential home and multi-family residence owners and tenants. • Streamline the process with: 1) Reduced-cost of charging unit from bulk discount 2) Preferred contractors to carry out work 3) Streamlined permitting process • Tenant – educate on cost and benefits of EVs with recommended tariffs, $ benefits and GHG reduction. • Property owner – inform about benefits of having a charging station on-site. e.g. better occupancy rates. • Inform property owner about any incentives from city/state/government. • SVCE would process the administration and billing of the charging stations on behalf of the landowner.
Success *(define success)*	• Take up of program – measured vs a target based on installation and utilization of charging units at residences. • This program is a double win for SVCE. Reduced GHG from EV use vs gasoline-fueled cars and electricity sourced form carbon-neutral sources.

Direct, incremental, meaningful impact of successful program:
+ positive
* neutral/small/not applicable
- negative

		Residential Storage - reduce duck curve impacts	Connected Home Devices - customer understanding and load management	Residential & MF EV Charging - encourage vehicle electrification	MF Residence Energy Efficiency - GHG and customer cost reduction	Customer Empowerment (placeholder)	Customer Load Monitoring (placeholder)	Electrification Migration (placeholder)	Readiness for Electrification (placeholder)
Pstr 1	Increase customer energy literacy								
	Provide personalized customer engagement; promote active choices (e.g. upgrading to GreenPrime); increase SVCE awareness								
	Engage customers in their energy use through comparisons with peers, benchmarks, their own trends (gamification)								
	Improve transparency on decisions for customers								
	Provide customers more choices and local control								
Poster 2	Increase engagement and participation in energy programs for disadvantaged communities								
Poster 3	Provide customer services or programs not offered by PG&E and leverage services and programs offered by PG&E								
Poster 4	Reduce customer bills by reducing usage and shifting usage from peak price periods								
	Reduce customer costs in purchasing and using energy-consuming devices								
Poster 5	Reduce demand during peak hours and increase demand during peak PV production (duck curve)								
	Reduce the need for/use of carbon-emitting peaker plants								
	Reduce GHG emissions through reduced electricity use								
Poster 6	Promote local jobs and economic development								
Pstr 7	Provide customer backup power								
Poster 8	Transform markets (accelerate adoption of clean energy devices and practices)								
Poster 9	Alleviate climate change impacts (GHG reduction)								
	Increase readiness for expanded use of clean electricity								
	Improve indoor/outdoor air quality								
Pstr 10	Increase SVCE sales of clean electricity								

Direct, incremental, meaningful impact of successful program:
+ positive
* neutral/small/not applicable
- negative

		Residential Storage - reduce duck curve impacts	Connected Home Devices - customer understanding and load management	Residential & MF EV charging stations - encourage vehicle electrification	MF residence energy efficiency - GHG and customer cost reduction	Customer Empowerment (placeholder)	Customer Load Monitoring (placeholder)	Electrification Migration (placeholder)	Rediness for Electrification (placeholder)

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SVCE Customer Program Advisory Group
Candidate Program Ideas Activity
March 21, 2018

CPAG members were asked to identify candidate program ideas and categorize them based on benefits discussed at the February CPAG meeting.

Poster 1

How Might We…

- Increase customer energy literacy
- Provide personalized customer engagement; promote active choices (e.g. upgrading to GreenPrime); increase SVCE awareness
- Engage customers in their energy use through comparisons with peers, benchmarks, their own trends (gamification)
- Improve transparency on decisions for customers
- Provide customers more choices and local control

Ideas:

- Training programs regarding climate change and use of clean energy
- Educate youth re: climate issues
- Outreach/awareness focused on high schools to motivate for college/parents
- Better [customer] data on demand to self-manage energy usage
- Facilitate/rebates installation of energy monitors that can disaggregate usage by appliance
- App that notifies energy switches to save money or CO2
- Measure EV adoption and carbon reduction by community
- Measure GreenPrime participation by community, challenge to be highest
- Describe benefits of energy efficiency in a tangible way e.g. by dollar savings or an understandable CO2 measure

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Poster 2

How Might We…

- Increase engagement and participation in energy programs for disadvantaged communities

Ideas:

- Auto-enroll in cheapest tariff based on actual usage
- Door-to-door education
- University partnership [reach disadvantaged communities through their students who attend CSU]
- Grants to replace gas lawn mowers and leaf blowers with electric
- Public EV charging stations (customers must pay for charging)
- SVCE 'profit sharing' rebates, esp. in south county

Poster 3

How Might We…

- Provide customer services or programs not offered by PG&E and leverage services and programs offered by PG&E

Ideas:

- Mine PG&E multi-family EV charger program
- Work with new multi-family development to pre-plumb/wire for future EV charging, PV, solar thermal, heat pumps; free to developer
- Electric mini-bus/ride sharing across several multi-family complexes; via partner with Proterra for example
- Identify and target high-energy consuming single-family (SF) home renters
- Identify and target high-energy consuming multi-family (MF) renters
- Target MF residents with discount programs for electrification (devices or cars)
- Residential unit (SF and MF) energy efficiency ratings
- Mine PG&E multi-family energy upgrade program

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Poster 4

How Might We…

- Reduce customer bills by reducing usage and shifting usage from peak price periods
- Reduce customer costs in purchasing and using energy-consuming devices

Ideas:

- Home insulation improvement to reduce energy consumption
- Grid-tied storage to reduce peak TOU rate [usage]
- SVCE storage incentives for [reduced] peak use of grid
- [use] smart meter data to recommend cheaper times of use
- Create an "energy comfort rating" published on SVCE pages and that landlords can advertise
- Energy efficient appliance information
- Education programs that focus on motivating desired outcomes, not just attendee counts
- SVCE "overlay rate" like NEM that increases the value of time shiftings

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Poster 5

How Might We…

- Reduce demand during peak hours and increase demand during peak PV production (duck curve)
- Reduce the need for/use of carbon-emitting peaker plants
- Reduce GHG emissions through reduced electricity use

Ideas:

- Store day time clean energy for night time use
- Single family homes with PV: how to best use excess power (export or storage)
- Commercial PV for SVCE (no-cost/bldg roof lease) in exchange for reduced-cost "solar" supply
- Connected home peak-shifting (AC pre-cooling)
- EV charging management/smart chargers; residential, workplace

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- Encourage municipalities to create and enforce codes that would mandate unit upgrades whenever remodeling in exchange for discounts for all residents
- Smart pool pump controls
- Smart meter program that tracks energy uses and updates customers
- Measure duck curve impacts at the community level
- Incentives for west-facing PV with later peak production

Poster 6

How Might We…

- Promote local jobs and economic development

Ideas:

- Promote local solar (SVCE rate choice)
- Work with electricians' union to create 'beneficial electrification' job training program

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Poster 7

How Might We…

- Provide customer backup power (improve electric reliability for customers)

Ideas:

- Residential on-site storage for excess solar production
- City microgrids to promote resiliency & disaster preparedness (like project in Sonoma now)
- Off-set tiered decrease of CA battery storage rebate
- Subsidize purchase or leasing of battery storage
- Energy storage group purchase, easy permitting, pre-configured alternatives, baseline measurement

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Poster 8

How Might We…

- Transform markets (accelerate the adoption of clean energy devices and practices)

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Ideas:

- Multi-family owner focus group
- EnergyStar-like ratings (comfort and efficiency) [for SFH? MFH?]
- Rental efficiency ratings and energy costs
- Compare rental income per sq. ft. with energy efficiency [i.e. does higher efficiency map to higher income?] and use that to advocate for energy efficiency with landlords
- Update building codes to mandate efficiency for new construction and renovation of existing buildings
- Amend city codes to streamline solar and other renewable permitting & installation
- Integrate SVCE programs with member city energy/environmental programs
- Direct installation of HPHWH and space heaters in contractors' homes and low-income homes
- Contractor incentives/prizes for the most installs of heat pumps each month/quarter
- "Upstream" incentive program to encourage more local inventory of HPHWHs, HP space heaters
- All-electric home upgrade bundle program (EV and/or solar with heat pump HWH)
- Incentive for replacement of room AC units with heat pump HVAC units
- "be ready": for any program that affects a building electric system (panel, wires), add an assessment to encourage upgrade to enable all-electric
- SVCE incentives or rebates for re-wiring old homes for readiness for EV charging, heat pumps, and induction
- Bulk-buy or concierge service for heat pump HWH or space heater upgrades (electrification made easy)
- On-bill financing program to spread high first-cost of HPHWH and space heaters across useful life
- Induction cooking chef demonstration to educate that it is as good as gas stoves/cooktops

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Poster 9

How Might We…

- Alleviate climate change impacts
- Increase readiness for expanded use of clean electricity
- Improve indoor/outdoor air quality

Ideas:

- Model building code for electric HPHWH
- Member city building codes for discouraging gas connections in new construction
- Create fast track for building projects that include improved energy efficiency
- Prioritize downtown EV parking with charging
- Install EV chargers in each school parking lot in service area
- Employer incentives to provide EV charging
- EV charging stations at MFH with markup for landlord [incremental revenue stream] and charging station network
- Grants/program for installing charging stations
- Solar incentives, greater payout for solar generation
- Mandatory solar on new construction
- Promote residential PV
- Promote battery-powered (solar charged) lawn/[landscape] devices
- Replacement of wood-burning fireplaces
- "Groupon for beneficial electrification" – Group discounted pricing for electrification if enough people in target area signup at same time

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Poster 10

How Might We…

- Increase SVCE sales of clean electricity

Ideas:

- Encourage participation in energy value rating; upgrades to HVAC, windows, insulation, lights, etc.

- SVCE revenue sharing for MFH owners for converted gas appliances
- Incentives for electric panel upgrades when associated with EV, PV, HPHWH, storage
- Switch from gas to green electricity
- Call existing customers and try go to get them to switch to GreenPrime
- Market SVCE door-to-door or through mailings

Additional Ideas from Opening Brainstorm Activity, Multi-Family Housing:

- mini-split (per unit)
- insulation
- dual-pane windows
- HWHWH (whole building)
- inform building owner about energy efficiency
- variable refrigerant flow [in-wall HP space heating/cooling]
- EV charging
- EV charging incentives for property owners & ChargePoint
- Mobile EV charging
- dual pane windows

Focus pilot on incentives:
- proof of action
- split incentives
- building codes/permitting; CCE + City integration
- landowner ratings
- reduce barriers, make it attractive

- Cities make Yelp-like info available to potential renters
- multi-family landlord outreach; opt-in to "happy dwelling" list, report "EnergyStar" apartments

Corporate properties:
- overcome barriers to upgrade
- opportunities for scale with SVCE

New construction:
- all-electric, not running gas lines
- mandating upgrades and providing help/incentives
- fast track with incentives for quick build [for energy efficient/all electric]
- trade-off incentives for all-electric

- small scale landlords focus group

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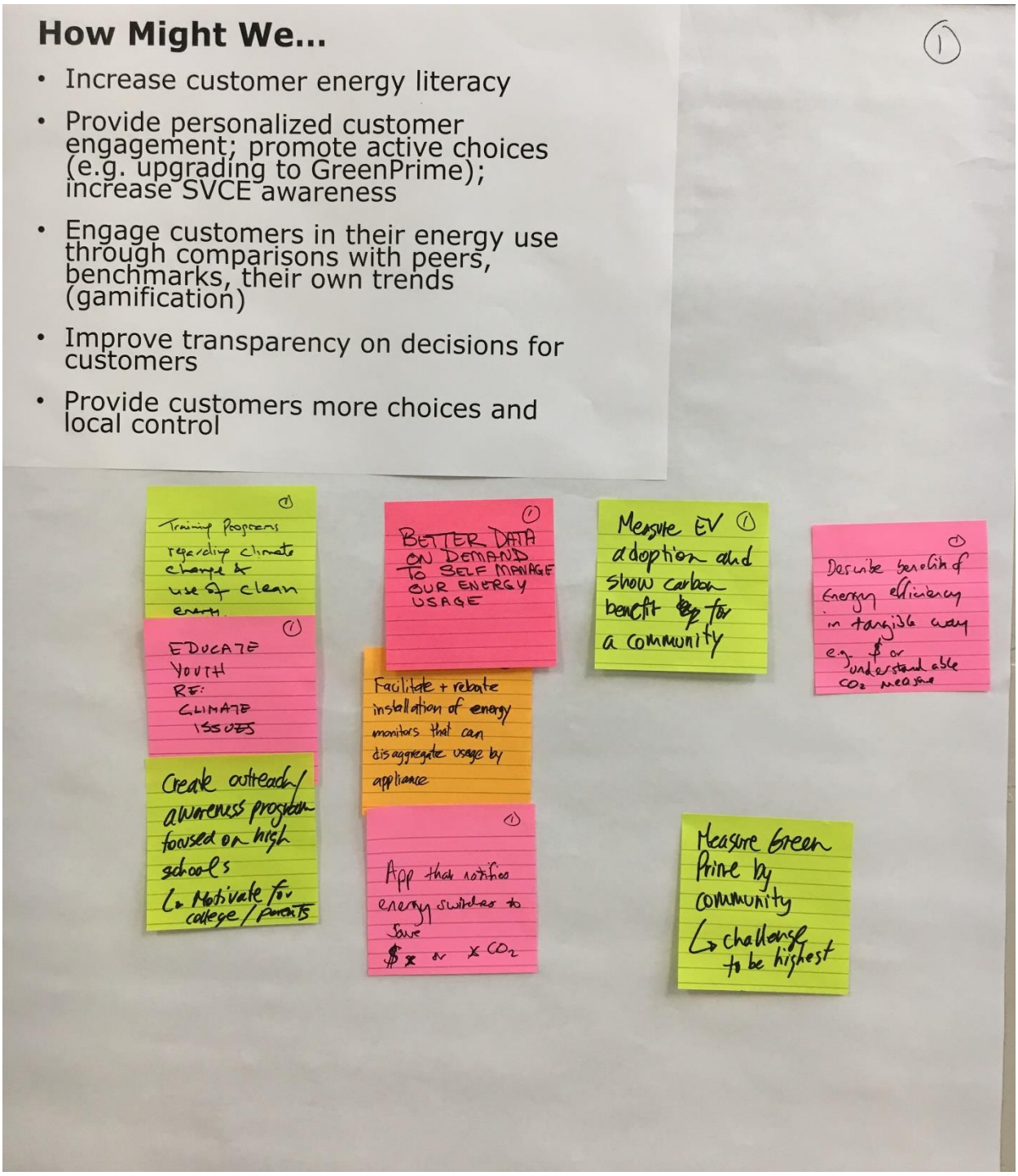
Candidate Program Ideas Activity (Photos)
March 21, 2018 Meeting



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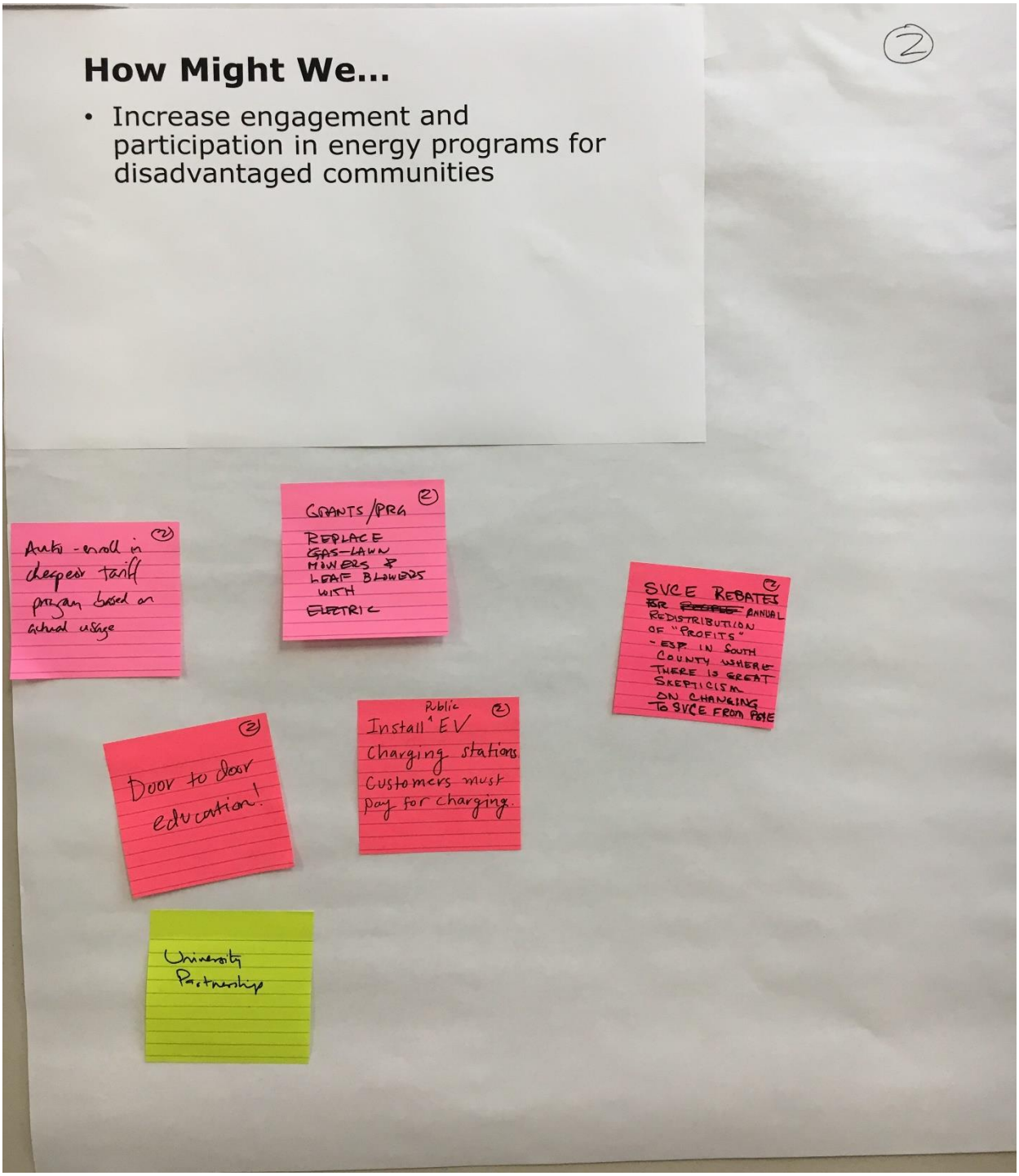

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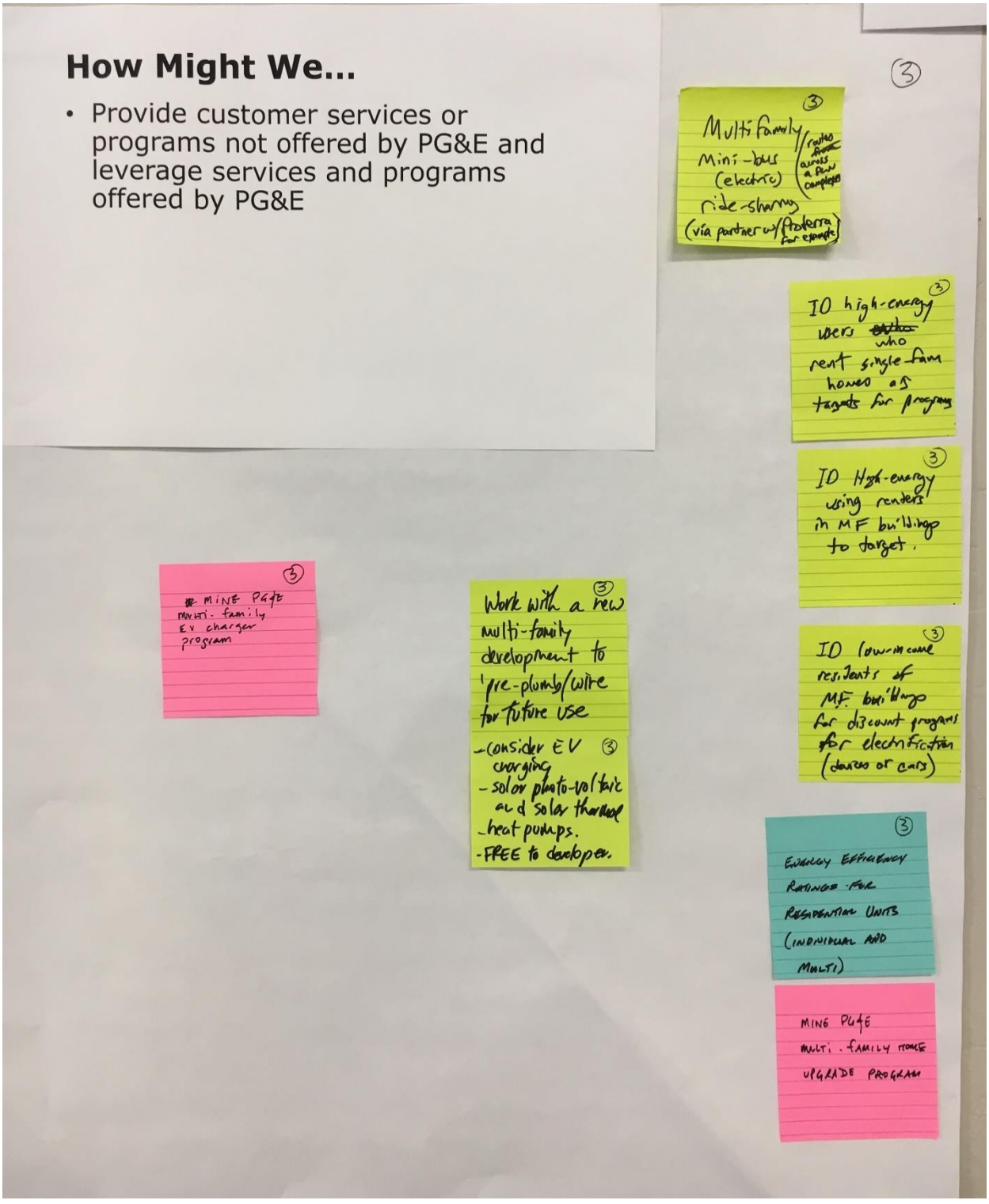

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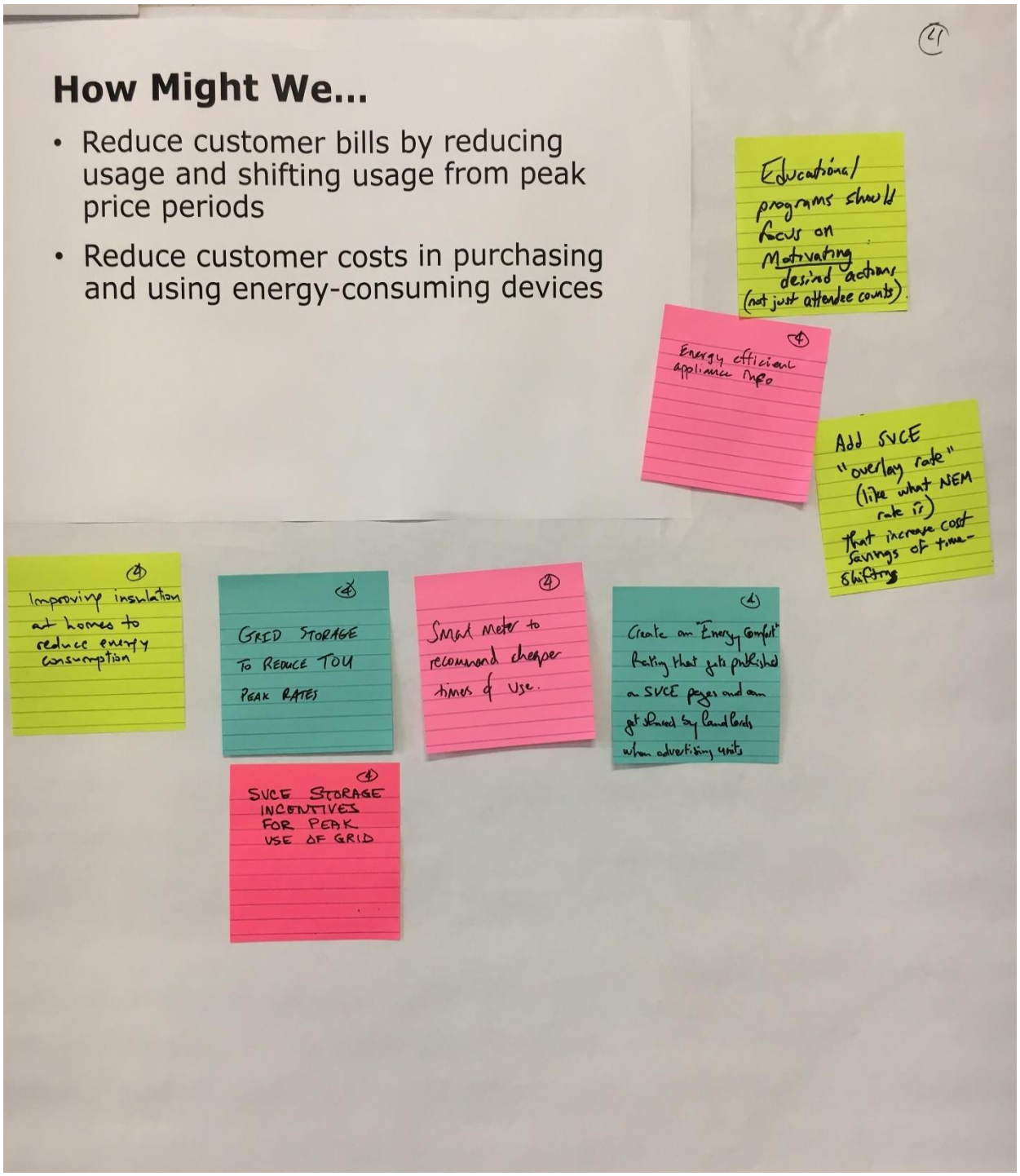

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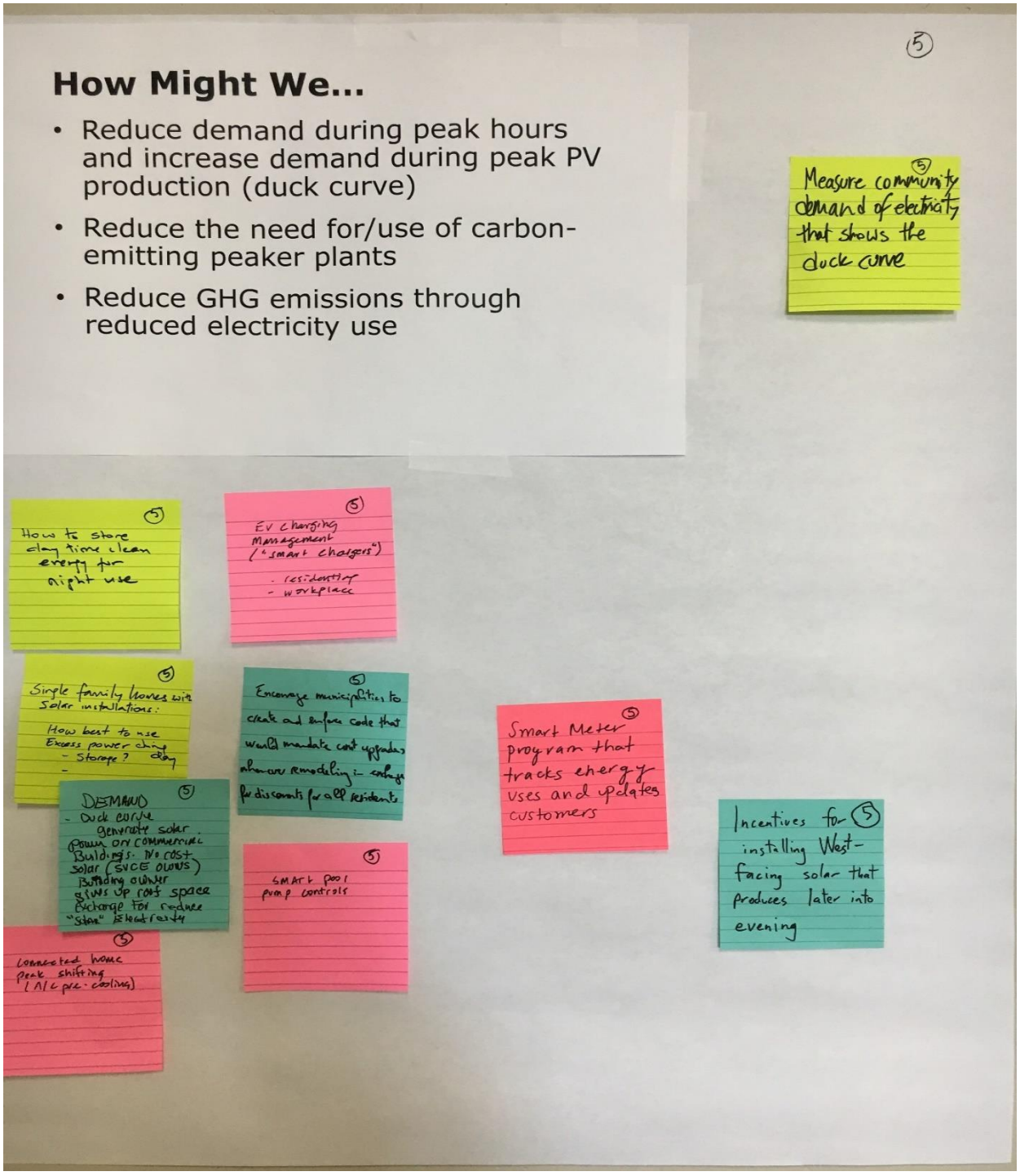

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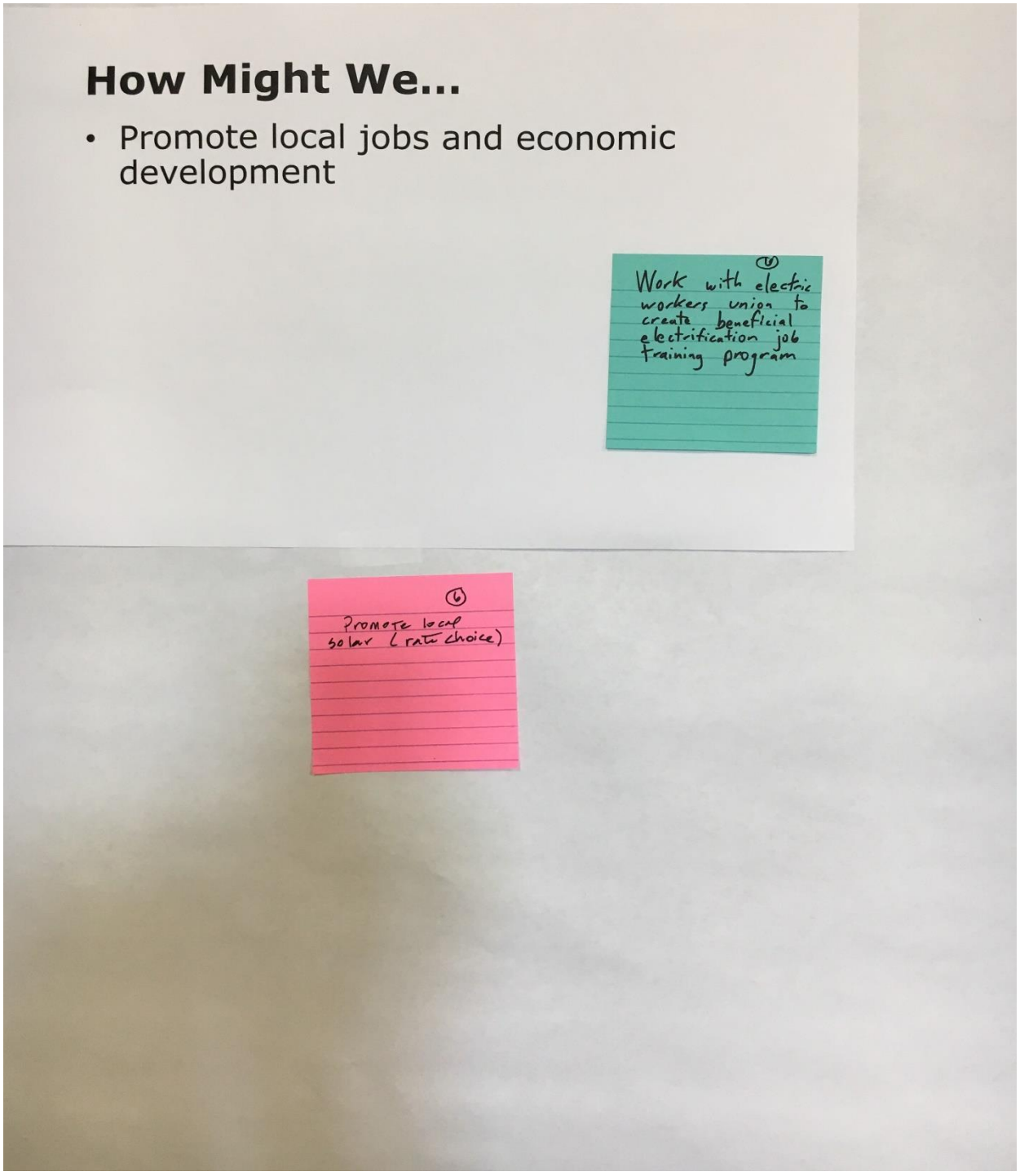

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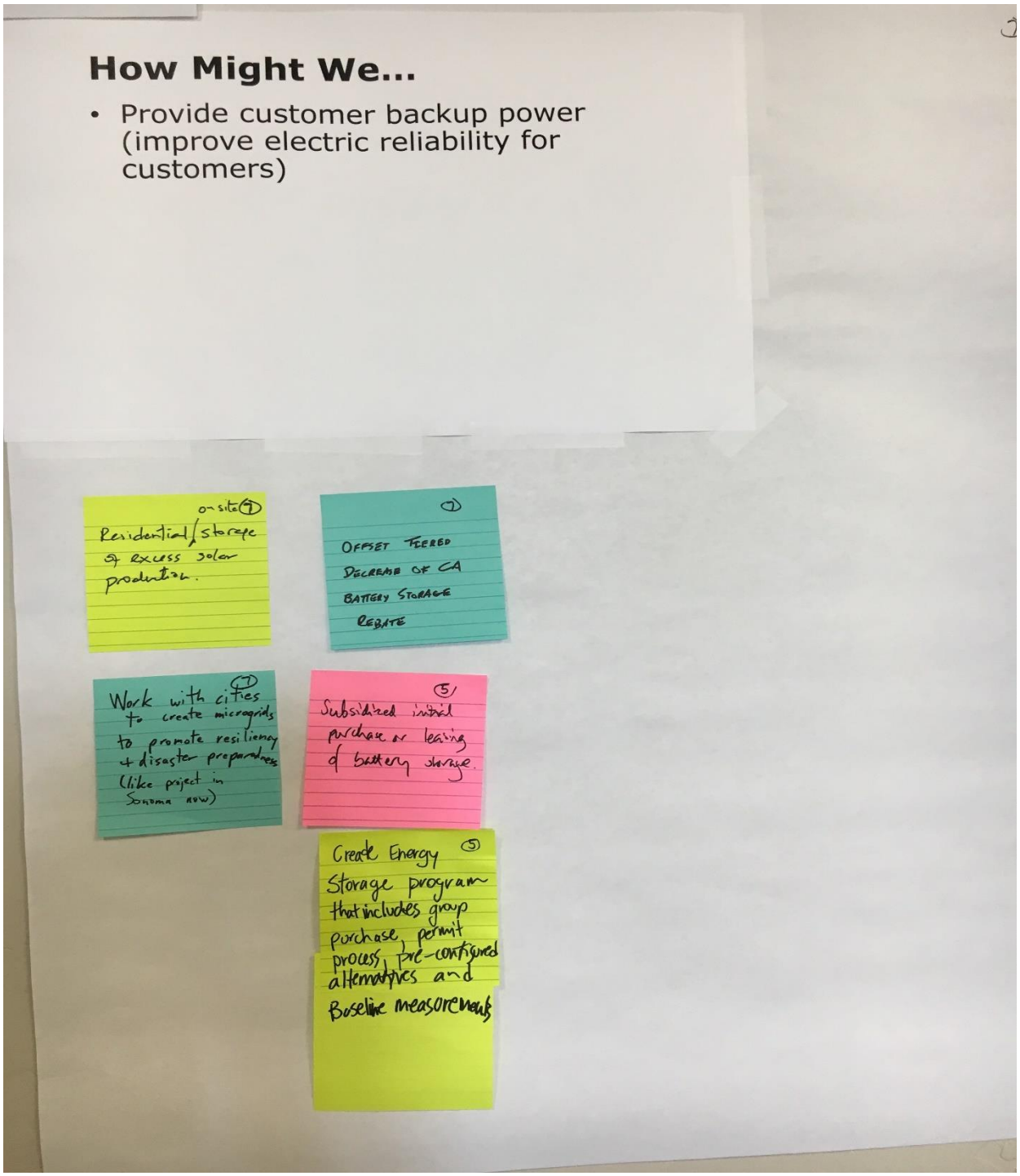

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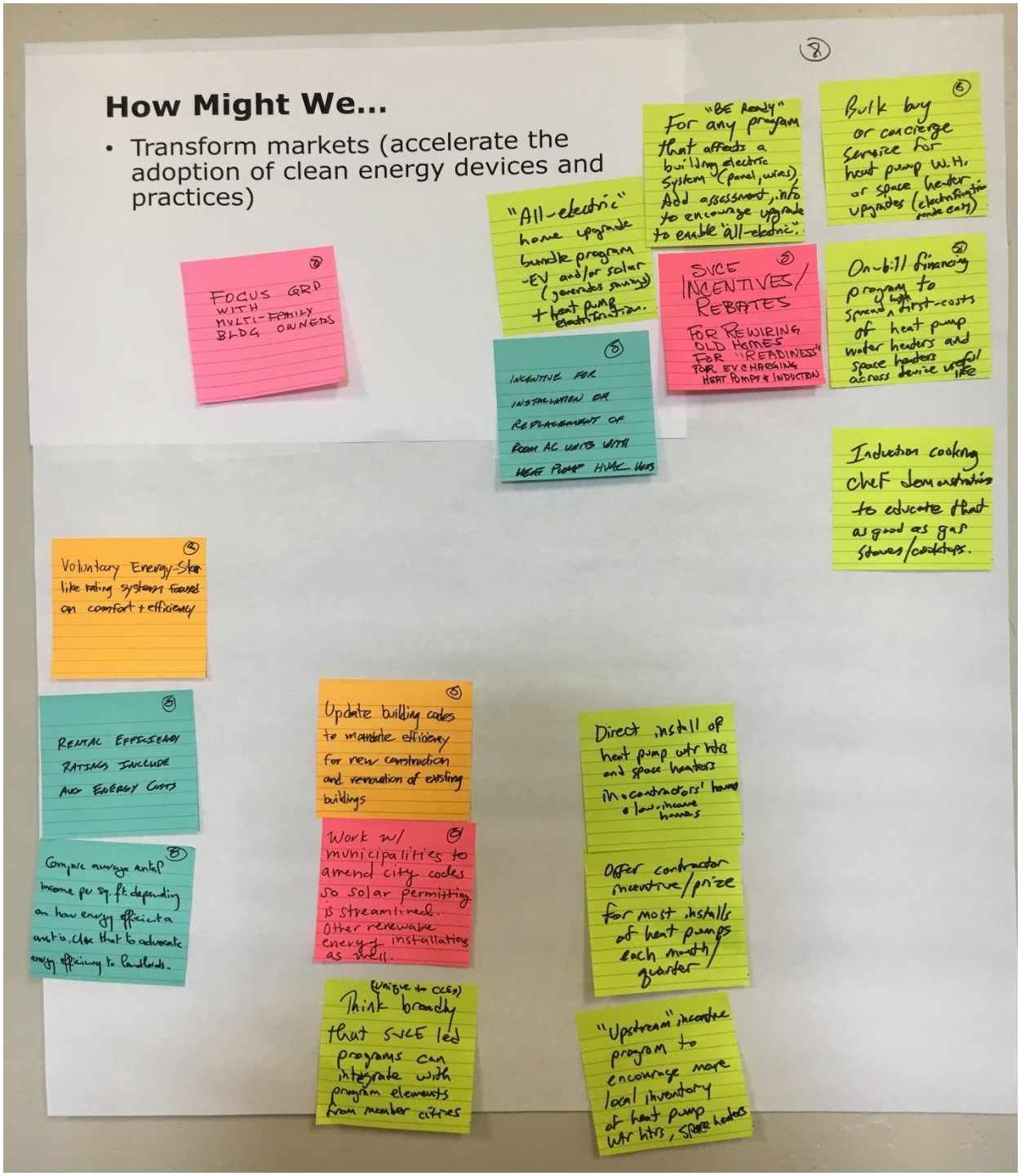

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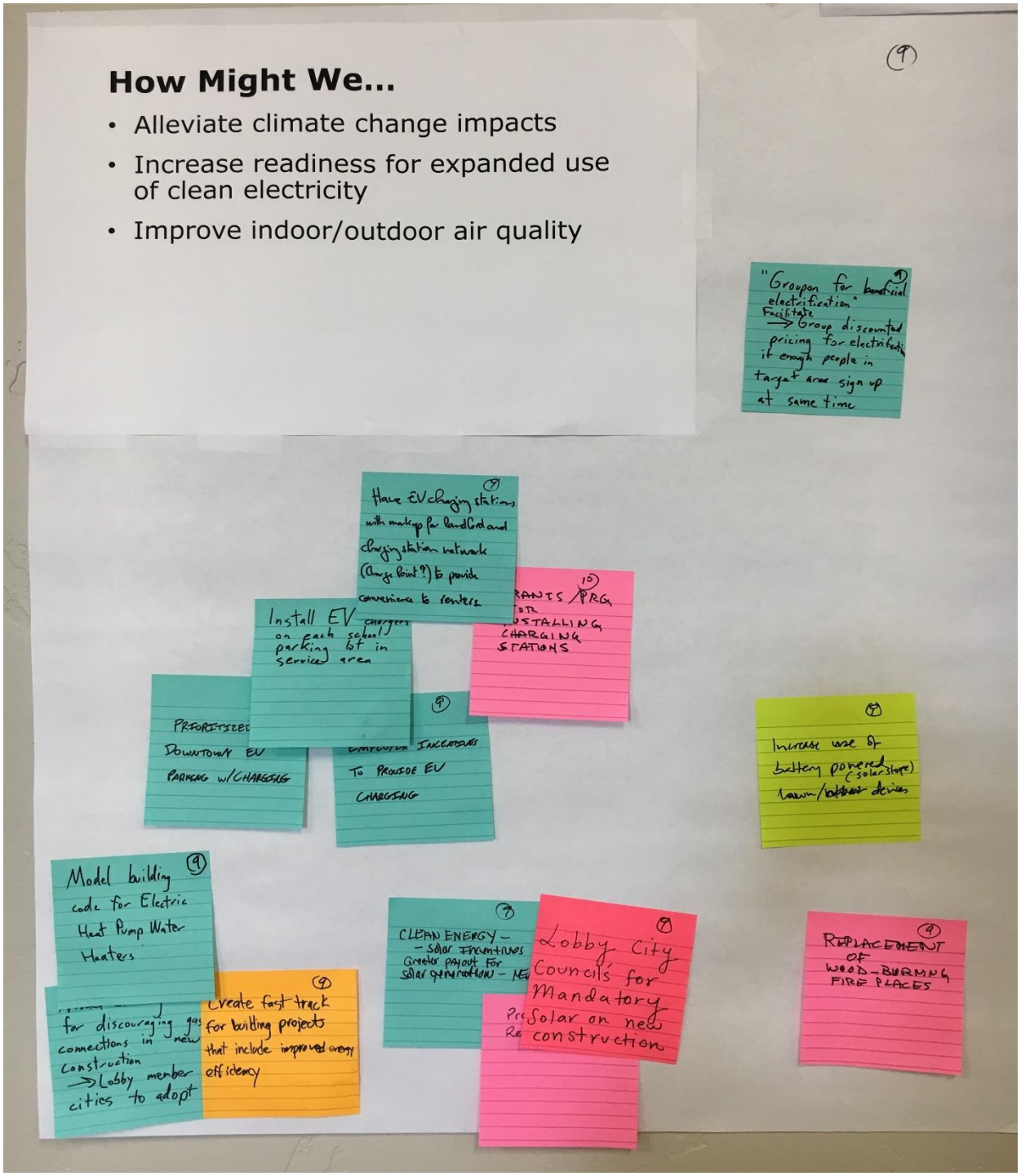

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