

Zero Net Carbon Building Zoning Renewable Energy Procurement TAG Meeting #3 – March 10, 2021



Zoom Meeting Guidance

The BPDA will record this meeting and post it on BPDA's Zero Net Carbon Building Zoning webpage. The recording will include the presentations, discussions and a transcript of Q&A / Chat comments.

It is possible that participants may be recording this meeting as well.

If you prefer not to be recorded during the meeting, please turn off your microphone and camera.

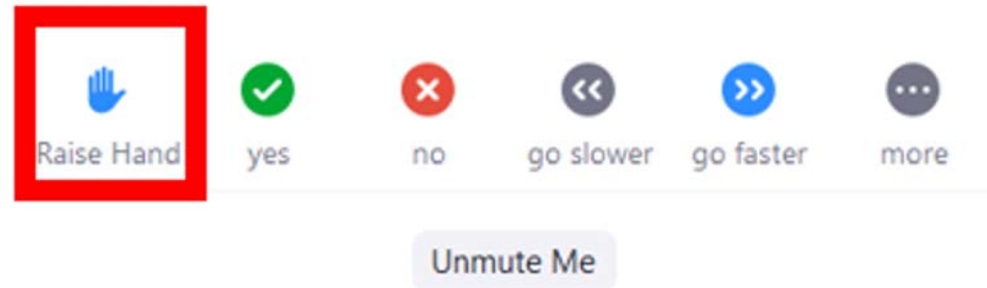
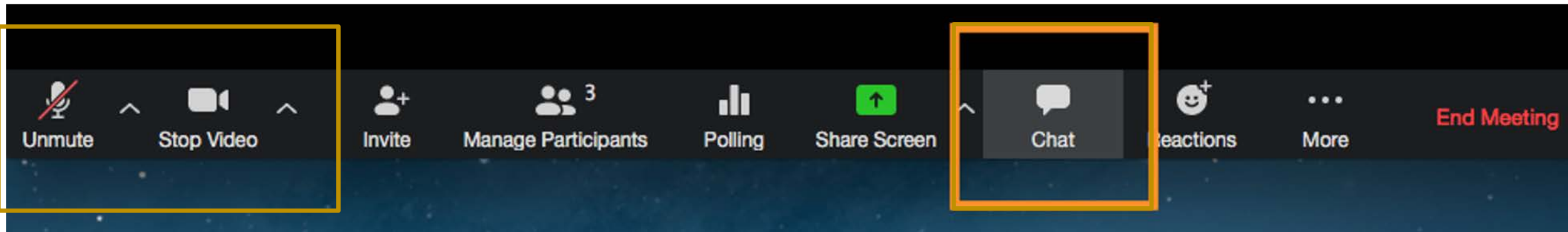
Zoom Meeting Guidance

- Help us ensure that this conversation is a pleasant experience for all.
 - Please mute your mics during the presentation to avoid background noise.
 - It's great to see you! Participant video can be on during the meeting.
 - **Use the Chat** feature for questions and comments during the presentation.
 - Use the Raise Hand feature during the discussion segment.
 - Please be respectful of each other's time.
- As always please feel free to reach out to me directly!
John Dalzell, AIA, LEED Fellow at John.Dalzell@Boston.gov

Zoom Tips

Your controls should be available at the bottom of the screen.

Clicking on these symbols activates different features:



COVID-19 Resources

Stay up-to-date with COVID-19 related announcements, City of Boston reopening plans, and resources for you and your community at:

boston.gov/coronavirus



The screenshot shows the City of Boston website page for COVID-19 resources. The header includes the City of Boston logo, Mayor Martin J. Walsh's name, and navigation links for 'PAY AND APPLY' and 'PUBLIC NOTICES'. The main heading is 'CORONAVIRUS DISEASE (COVID-19) IN BOSTON'. Below the heading, there is a paragraph of text: 'The state has updated guidance on the Reopening Massachusetts website. We also continue to update City-specific guidance for Boston on our reopening website.' To the right of this text, it says 'July 12, 2020' and 'PUBLISHED BY: PUBLIC HEALTH COMMISSION'. Below the main text, there is a section for 'MULTILINGUAL CONTENT' with links for Arabic, Kriolu (Cabo Verdean creole), 中文 (Chinese), Français (French), Kreyòl ayisyen (Haitian Creole), Português (Portuguese), and Русский (Russian). At the bottom, there is a section for 'TOPICS' with links for 'COVID-19 UPDATES' and 'LATEST PRESS CONFERENCE'. Below that, it says 'BOSTON (AS OF FRIDAY, JULY 10)' and '13,673 CASES | 9,683 RECOVERED'.

Renewable Energy Procurement

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ZNC BUILDING ZONING UPDATE

Boston Carbon Neutral 2050 – Climate Action Plan

“Strengthen Article 37 Green Building Zoning requirements to a zero net carbon standard”

Policy Framework: Zero = Bldg Emissions – On-site and Procured Renewable Energy

Low Carbon Buildings Establish Emission Targets and Pathways

On-site Renewable Energy

On-site Energy Generation Standard

Renewable Energy Procurement (*this TAG*)

Determine Options & Reporting



RE Procurement TAG Process

TAG Meetings:

- Meeting 1 – Framework and Pathways
- Meeting 2 – Deep Dive on Procurement Options & Minimum Requirements
- **Meeting 3 (today) – Draft Recommendations for Procurement Options & Minimum Requirements + Discuss additional Classification Criteria, including Community Concerns (updated)**
- Meeting 4 – Finalizing Recommendations

Today's Meeting Outcomes:

- **Recommendations for Procurement Options & Minimum Requirements**



Renewable Energy Procurement TAG

March 10th, 2021 Meeting Agenda

- Review Draft Recommendations for Procurement Options and Minimum Requirements
- Discuss additional Classification Criteria, including Community Concerns
- Questions & Feedback

Members

- **Vincent Martinez, Architecture 2030, COO**
- **Charles Eley, Architecture 2030, Senior Fellow**
- **Erin McDade, Architecture 2030, Senior Program Director**
- **Dennis Carlberg, Boston University**
- Scott Johnstone, VHB
- Scott McBurney, Vicinity Energy
- Seth Federspiel, City of Cambridge
- Cameron Peterson, MAPC
- **Yve Torrie, A Better City**
- Debra Perry, Cadmus
- Joelle Jahn, WSP Engineering
- Ben Myers, Boston Property
- **Patrick Haswell, Vicinity Energy**
- Andrew Belden, Eversource



City Staff

- Aidan Smith
- **Alison Brizius**
- Anna Demina
- **Benjamin Silverman**
- Chris Busch
- Christopher Kramer
- David Musselman
- **John Dalzell**
- **Joseph LaRusso**
- Katherine Eshel
- **Kathleen Pedersen**
- **Manuel Esquivel**
- **Maura Zlody**
- **Richard McGuinness**



Renewable Energy Procurement

- Direct Ownership / Self-owned, off-site project
- Power Purchase Agreements (PPAs) / Virtual Power Purchase Agreements (VPPAs)
- Unbundled Renewable Energy Certificates / Credits (RECs)
- Green Retail Tariffs / Green Pricing / Green Municipal Aggregation
- Utility Renewable Energy Contract / Direct Access to the Wholesale Markets
- Renewable Energy Investment Fund
- Community Renewables

Generation Source (follow MA E-Z Code 2.0)

The following renewable energy systems are acceptable:

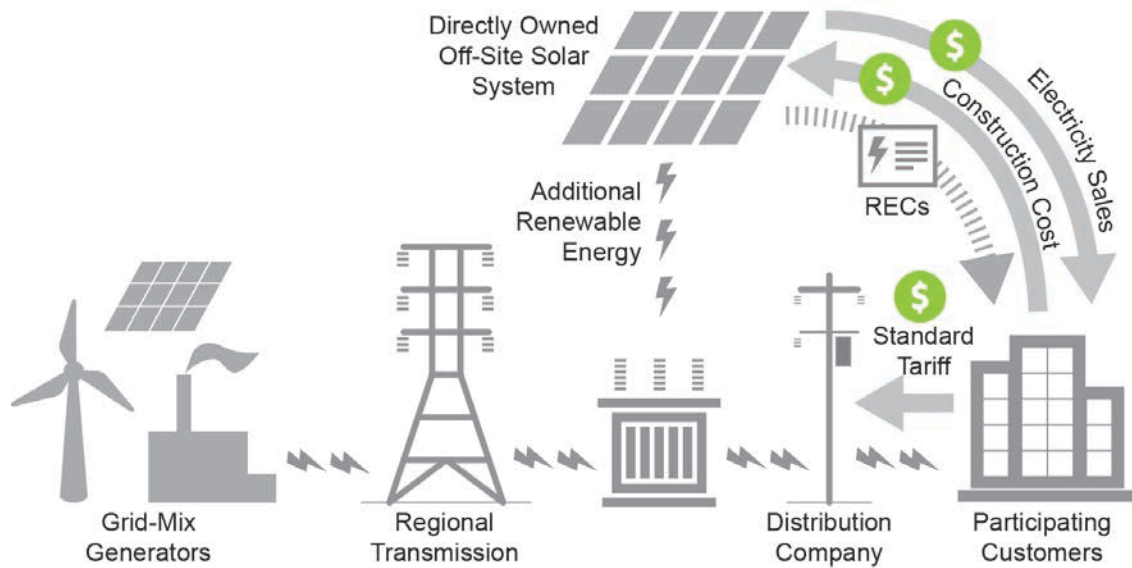
MA Class I (Inclusive of the Following Types)

- a) Solar photovoltaic
- b) Solar thermal electric
- c) Wind energy
- d) Small hydropower
- e) Marine or hydrokinetic energy
- f) Geothermal energy (without vapor compression cycle)

Exception: For existing district energy plants that serve thermal energy to multiple buildings, all MA Class I renewable energy sources are acceptable, including: landfill methane, anaerobic digester gas, and eligible biomass fuel.



Direct Ownership / Self-owned



build back in community renewables options

DISCUSSION:

Minimum Requirements:

- Generation Source (follow MA E-Z Code 2.0)
- Class I MA REC's
- Exception for lease or direct PPA if on another site under the proponent's ownership. Min 15-yr contract.

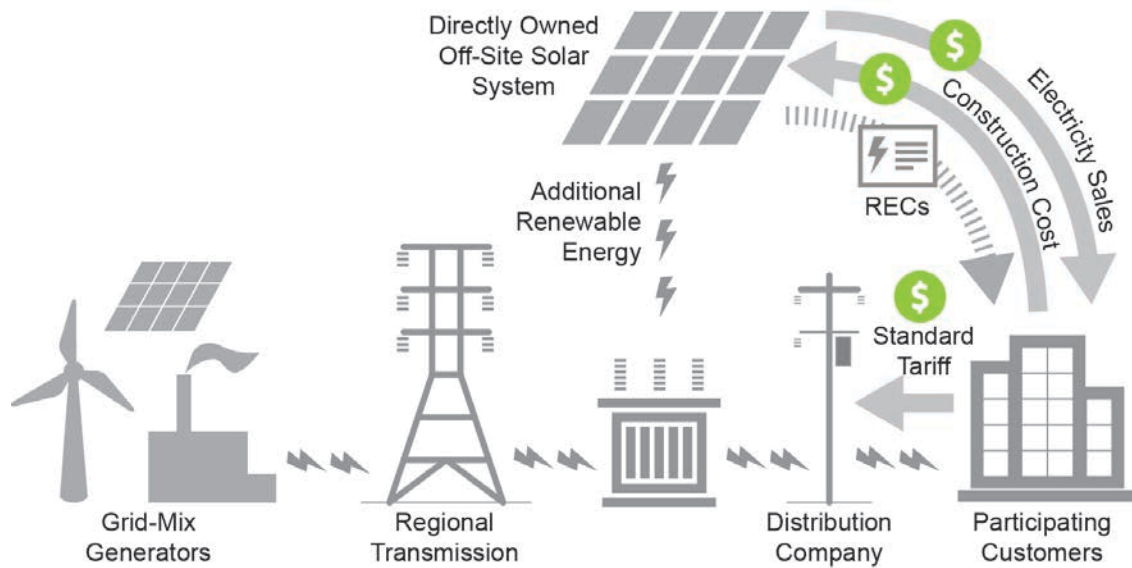
Benefits:

- If in Eversource service area: virtual net-metering

Challenges:

- Under current SMART regs all PV REC's must go to the LDCs; Only applicable to participants in SMART program

Direct Ownership / Self-owned

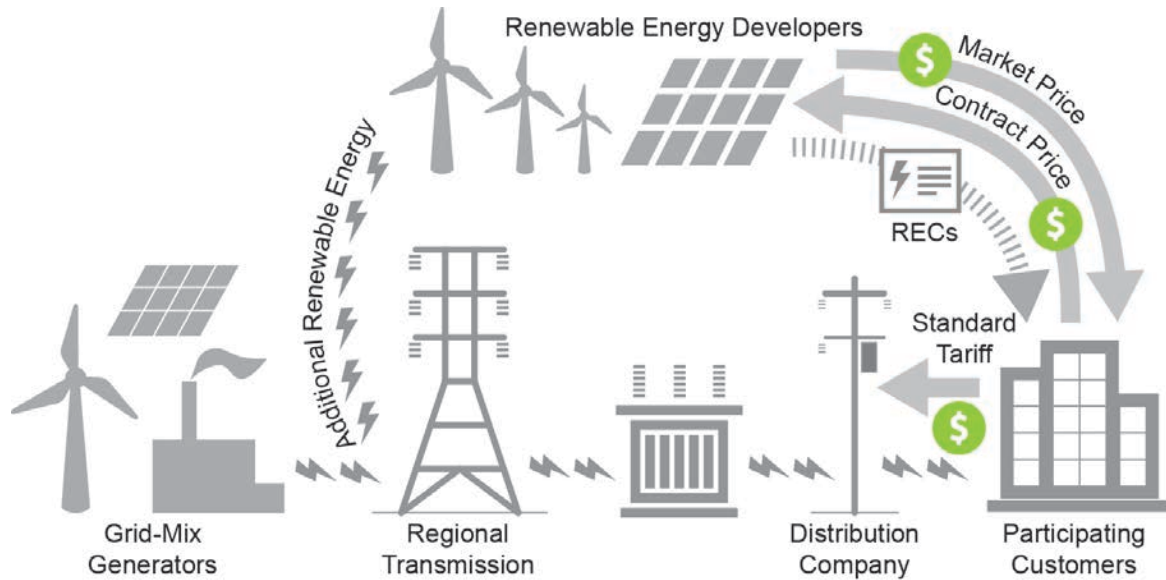


Examples:

- On a parking garage the proponent owns and the proponent pays for the solar on the garage.
- On other building on campus owned by the proponent, proponent engages in a lease for the solar (15-yr).
- Proponent leases the roof of a neighbor building they don't own and the proponent engages in a PPA for the solar.

Who owns the asset at the end of the PPA?
Negotiated for each.

Power Purchase Agreements (PPA / VPPA)



DISCUSSION:

Minimum Requirements :

- Generation Source (follow MA E-Z Code 2.0)
- Class I MA RECs or from a grid with higher GHG intensity than ISO NE (aligns with proposed BERDO update, recommend that align with final BERDO update)
- 15-yr minimum contract (consider shorter terms, or whether a minimum term should be required at all)
 - this is partly about additionality, partly about financing for the renewable energy developer. as development prices decrease, term time may be able to be reduced (from developer perspective)?

Precedents:

- Aggregate with multiple parties to overcome challenges about credit rating and large purchase requirements (A Better City)

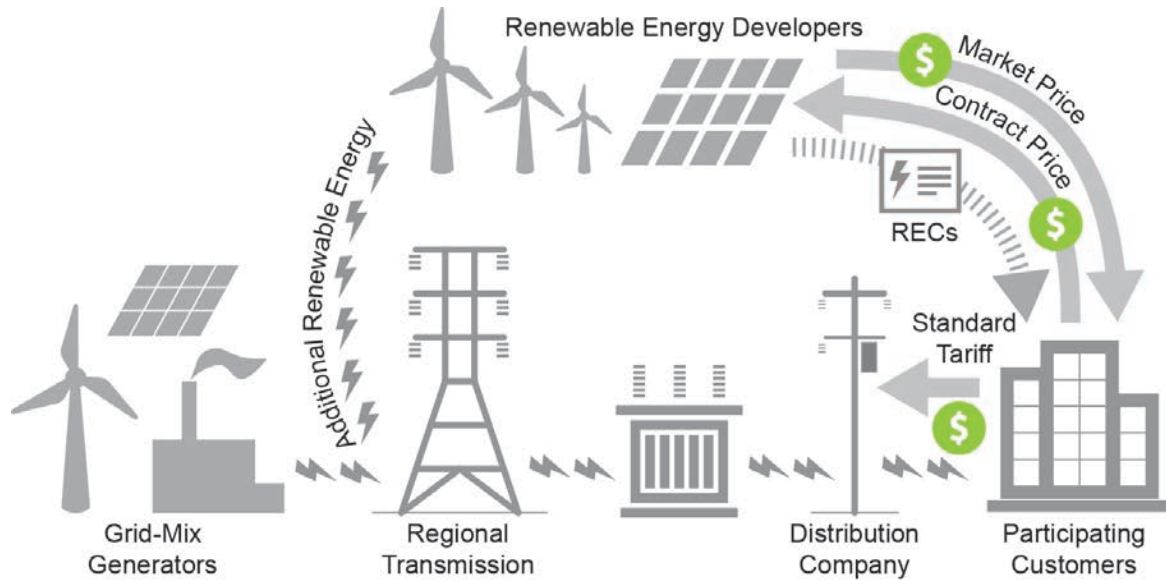
Benefits :

- Potential market savings (contract of differences)
- Guarantees additionality

Challenges:

- Risk of changing energy market prices
- Minimum PPA purchase amount requirements - can be overcome with purchase aggregation

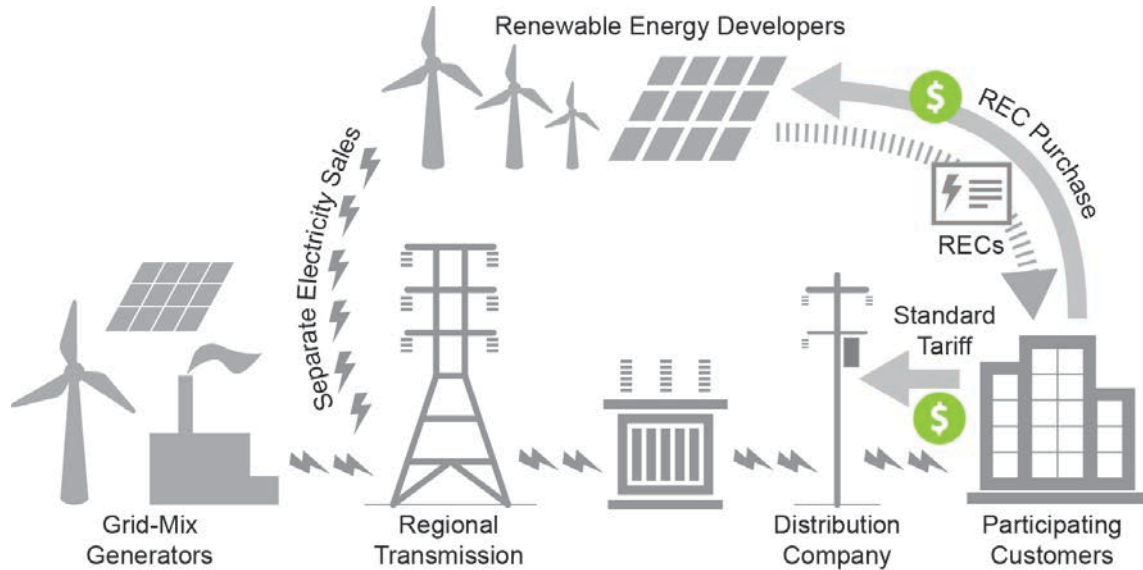
Power Purchase Agreements (PPA / VPPA)



Examples:

- a) PPA example
- b) VPPA example
- c) A Better City Aggregation

Unbundled Renewable Energy Certificates



DISCUSSION:

Minimum Requirements:

- Generation Source (follow MA E-Z Code 2.0)
- Class I MA RECs (aligns with [proposed BERDO update](#))*non-emitting
- 15-yr [minimum](#) forward contract ([consider shorter terms, or whether a minimum term should be required at all](#))

Precedents:

- Well established retail market

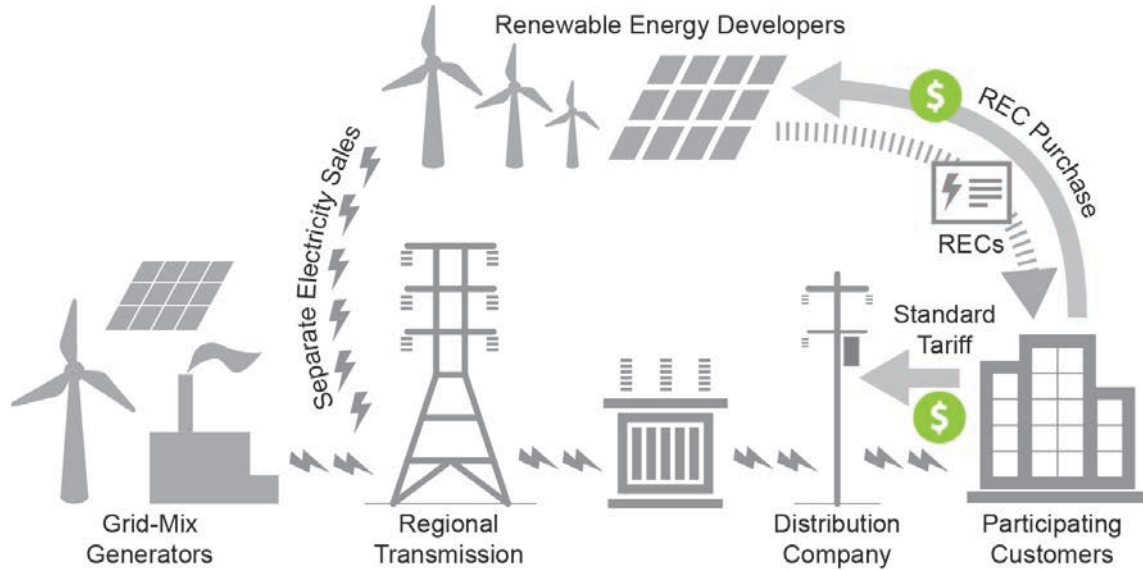
Benefits:

- ~~Simple, one time compliance payment~~
- Can result in lower energy costs
- Doesn't require purchase to be tied to specific building (?)
- Flexibility: contract could allow for opting out, changing renewable sources partway through, or allow for increases/decreases in demand resulting from changes of use or similar

Challenges:

- Precedents for long-term (over 5 years) and forward contracts for unbundled RECs?
 - Could be contract not w/ provider but w/ broker; might not

Unbundled Renewable Energy Certificates

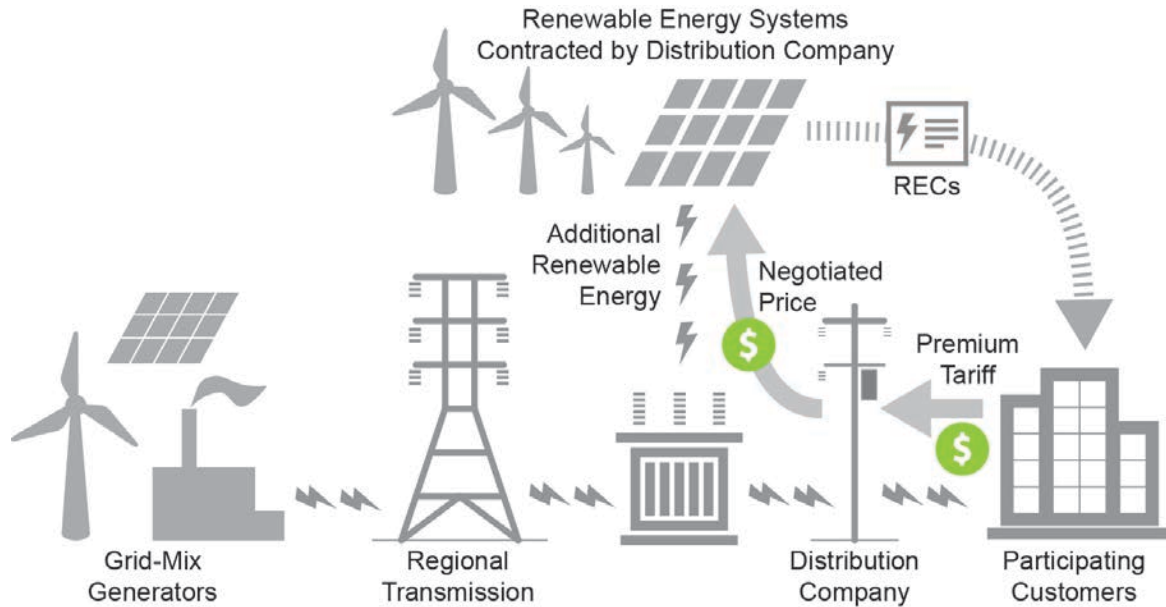


Examples:

a) ~~Turn-key development~~

b) come up w/ example demonstrating flexibility

Green Retail Tariffs / Green Pricing / Green Municipal Aggregation



DISCUSSION:

Minimum Requirements :

- Opt-Up to 100% Renewable Energy Option

(18% RPS minimum (for 2021) + 82% MA Class I non-emitting RECs; additional products available but for compliance the 100% option would be required)

(RECs retired on behalf of the customer)

- Maintain participation in program

(via Cooperation Agreement)

Benefits

- Ease of compliance/path of least resistance (i.e. SF's solar program)

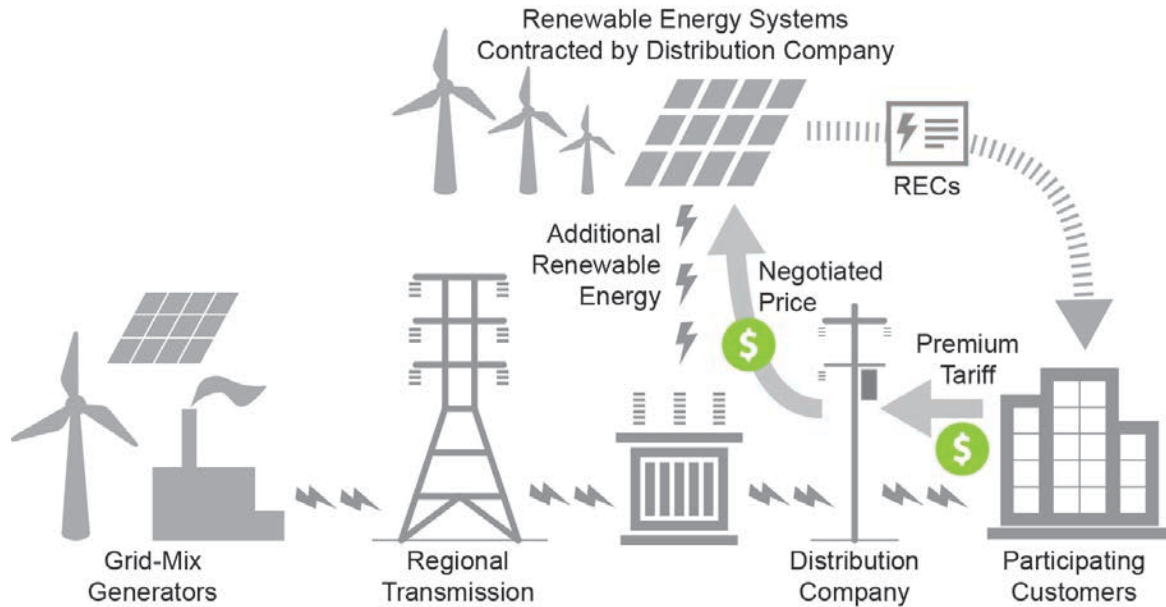
Precedents

- Boston's Community Choice Electricity (aligns with proposed BERDO)

Challenge:

- ~~Can't verify the Generation Source follows MA E-Z Code 2.0~~ All RECs purchased align w/ MA Class 1 non-emitting criteria. **Confirm.** Just an issue for 18% RPS RECs?
- How to require tenants to purchase.
- Tenants might prefer to join a community solar program? Might be cheaper.

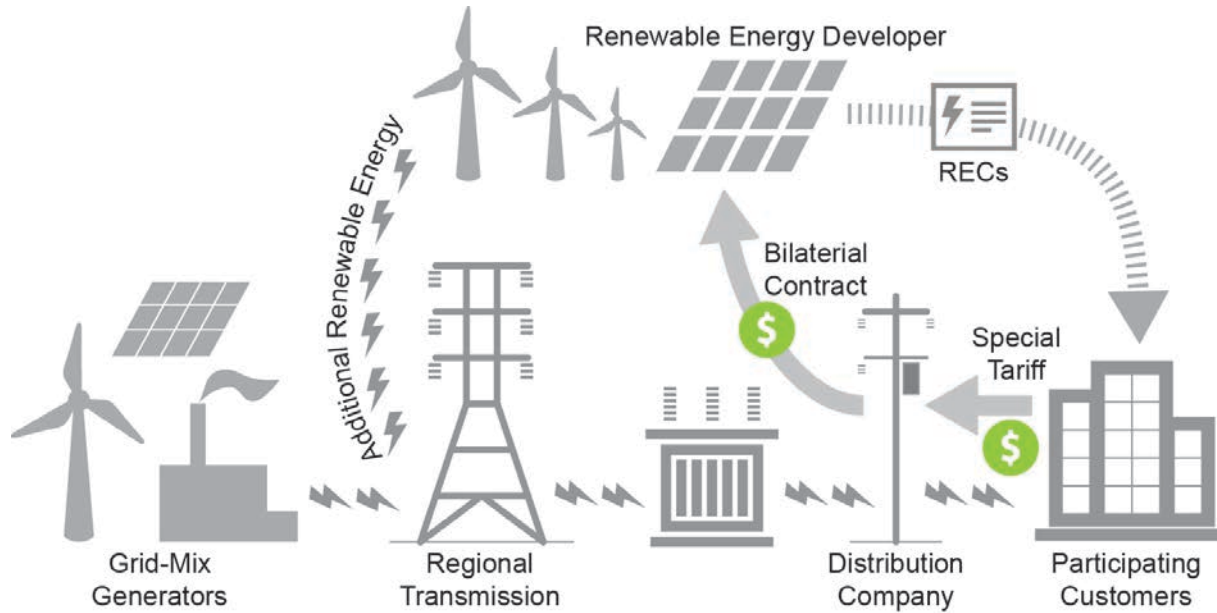
Green Retail Tariffs / Green Pricing / Green Municipal Aggregation



Examples:

- Owner-Occupied
- Tenant-Occupied but Owner pays electricity
- Tenant-Occupied and Tenant pays electricity (green lease)

Utility Renewable Energy Contract / Direct Access to the Wholesale Markets

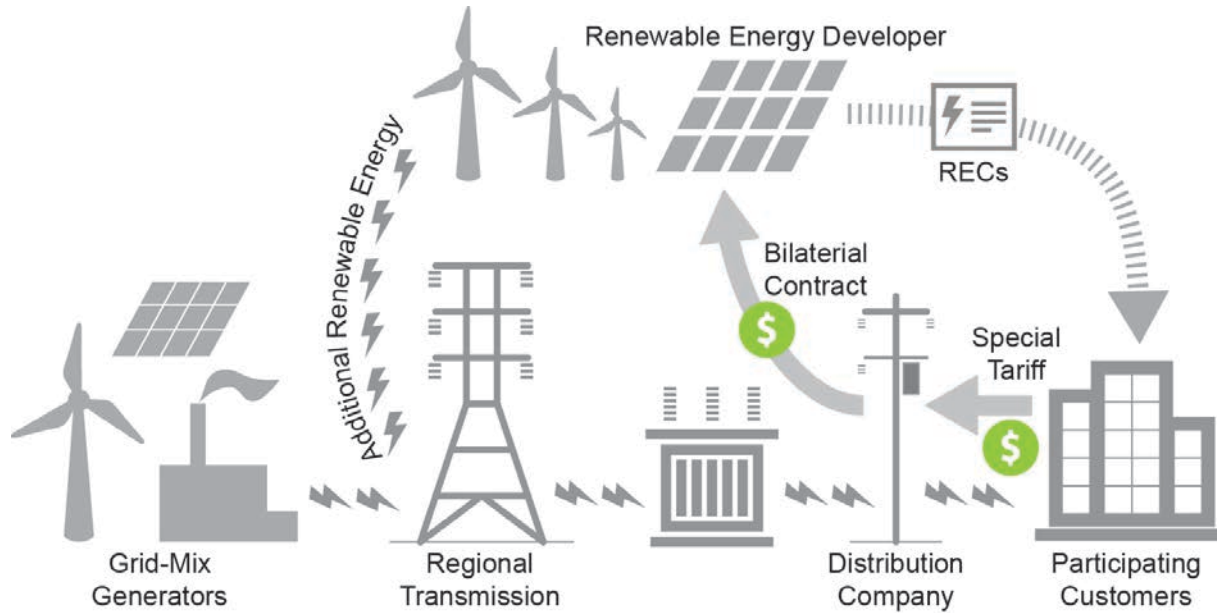


DISCUSSION:

Minimum Requirements :

- Generation Source (follow MA E-Z Code 2.0)
- Class I MA RECs
- 15-yr contract

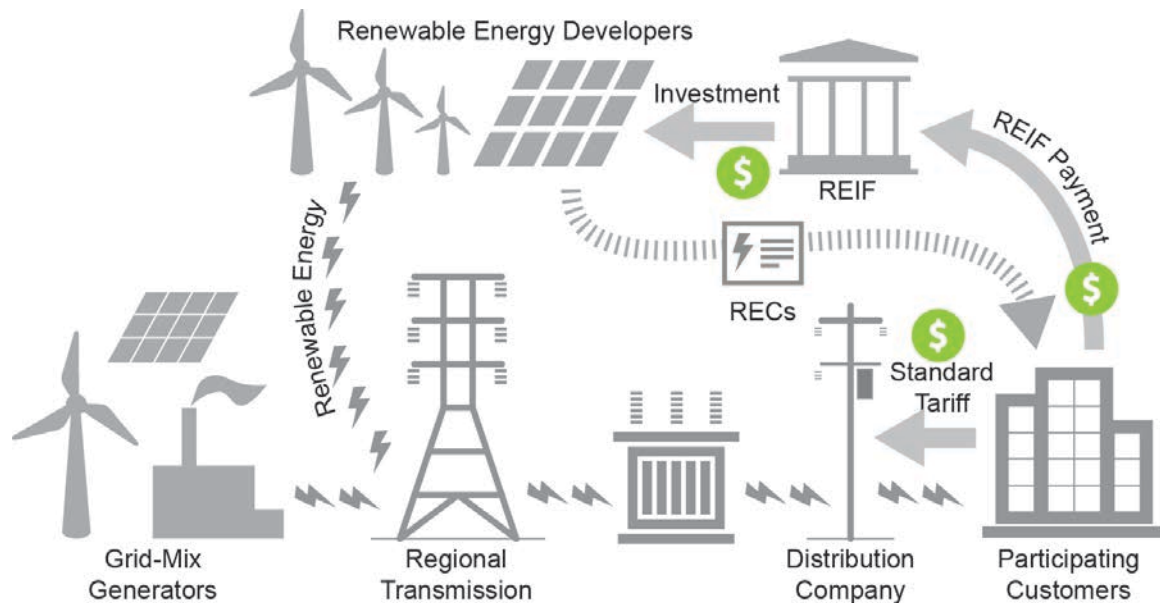
Utility Renewable Energy Contract / Direct Access to the Wholesale Markets



Examples:

a) Large Development (typically owner-occupied)

Renewable Energy Investment Fund



DISCUSSION:

Minimum Requirements (TBD by Entity Managing):

- Generation Source (follow MA E-Z Code 2.0)
- Class I MA RECs or from a grid with higher GHG intensity than ISO NE (aligns with [proposed BERDO update](#))
- 15-yr contract

Precedents:

- None directly, but the [proposed BERDO update](#) is establishing a similar fund

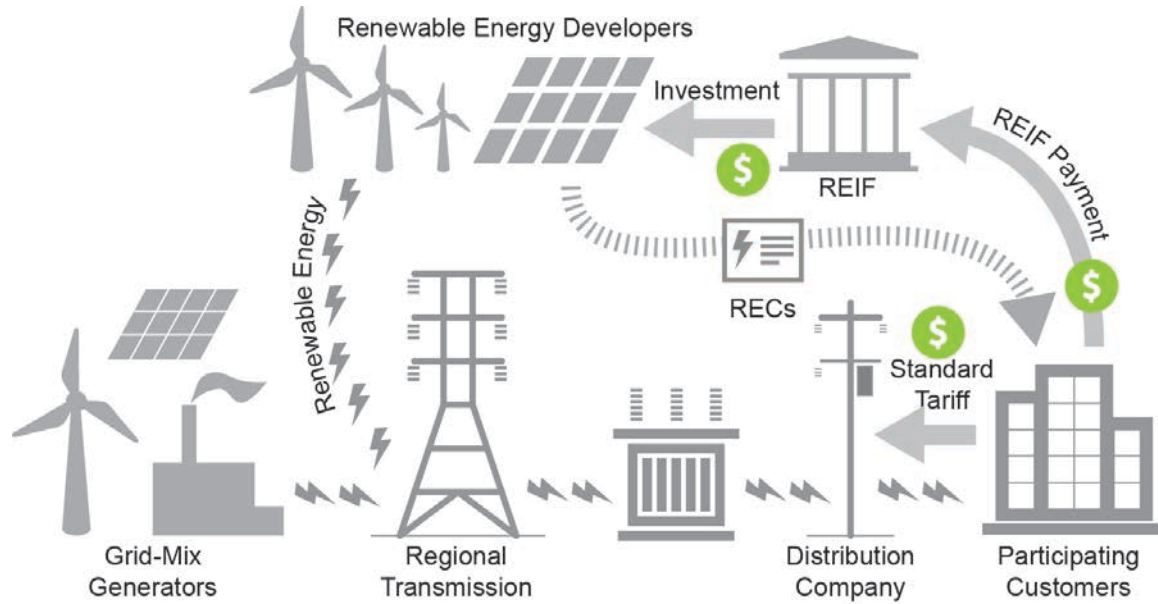
Benefits:

- Aggregates with multiple parties to reach economies of scale
- Simple, one time compliance payment
- Can be directed to community priorities

Challenges:

- Entity would need to be created and managed or managed by an existing entity

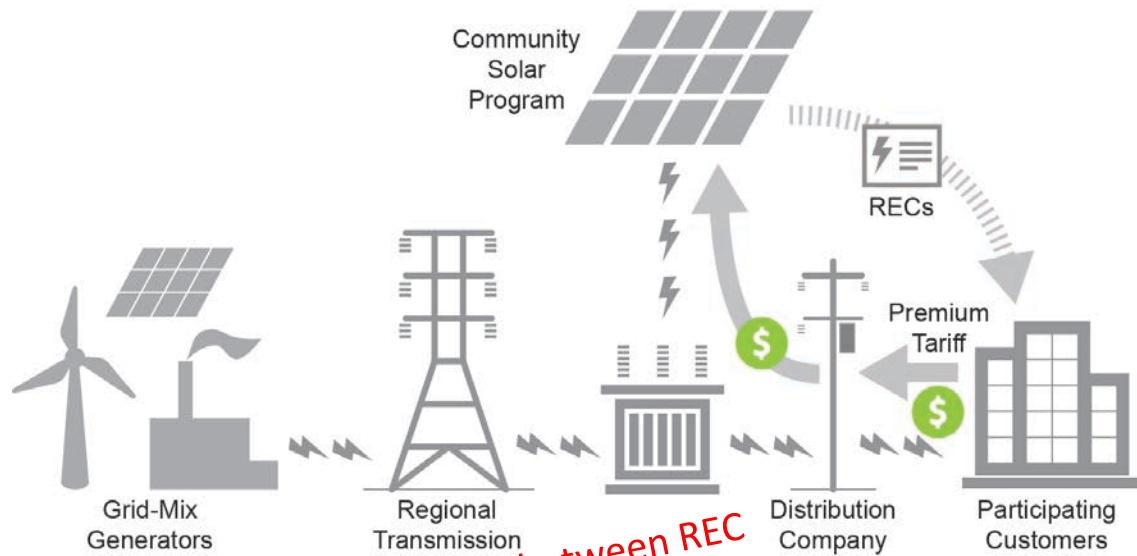
Renewable Energy Investment Fund



Examples:

a) Turn-key development

Community Renewables, SMART Program, Solar Share



update graphic to distinguish between REC and net metering credit distribution

DISCUSSION:

Minimum Requirements :

- Generation Source (follow MA E-Z Code 2.0)
- Contract: 15-yr contract (confirm this is possible)
- Subscription: Maintain participation in program for 15 yrs (*via Cooperation Agreement*)

Precedents

- Eversource runs SMART program (under Solar Share Program)

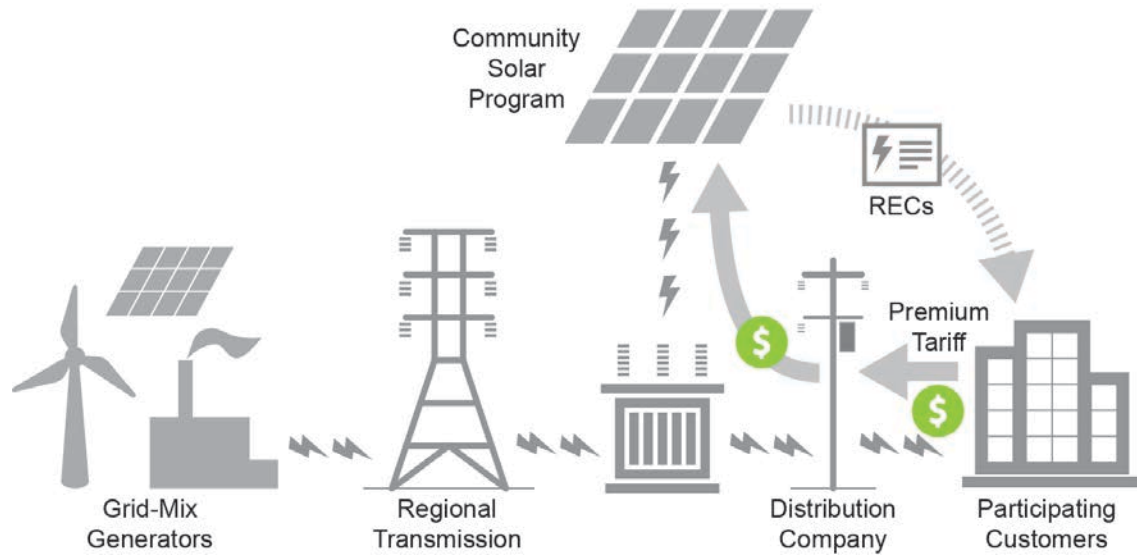
Benefits:

- If in Eversource service area: virtual net-metering
- If across load zones: Alternative On-Bill Credits (AOBC)
- Potential to align with community priorities
- increased solar in region
- resilience – islanding, w/ storage

Challenges:

- The SMART program retains the RECs, customers get net metering credits
 - call it “smart energy” instead of “renewable energy”? to allow for this option as a means to getting to zero carbon
 - Concern about saying building is using renewable energy when it doesn't own the RECs
- So this doesn't comply with BERDO b/c RECs are retired on behalf of utility not building? Still exploring this w/ BERDO update.

Community Renewables

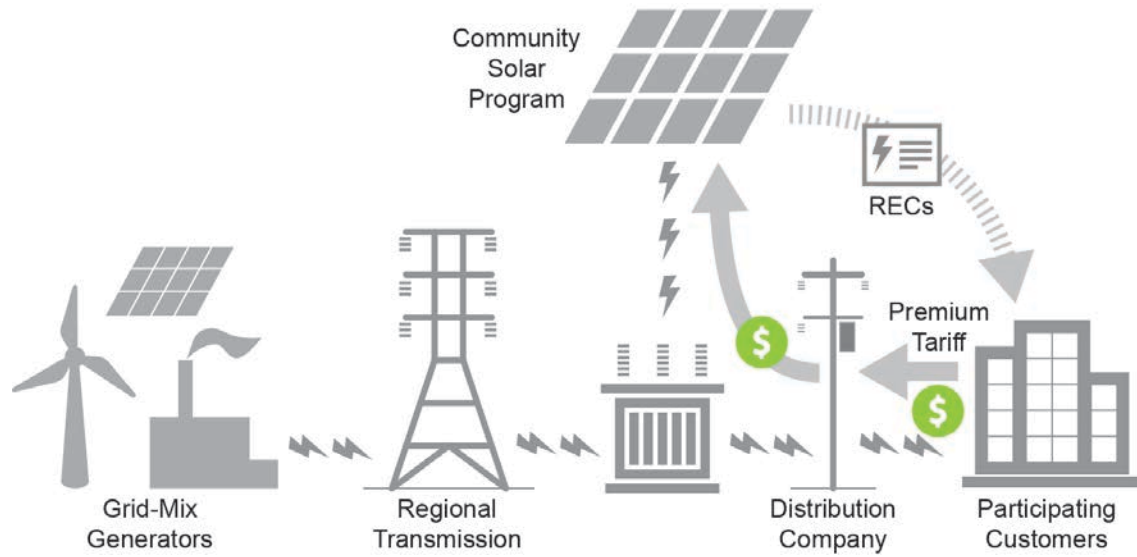


Examples:

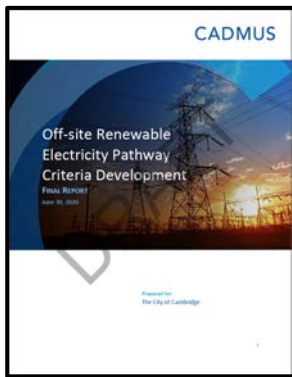
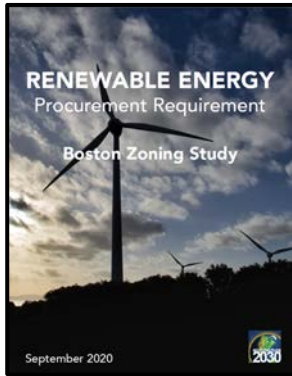
- a) Solar from Southeastern MA (most typical)
- b) On community building
- c) On private building
- d) On local vacant lot

Community Renewables

DISCUSSION:



Evaluation Criteria / Guiding Principles



- **Impact / Additionality**
- **Durability /Long-Term Commitment**
- **Locality / Local Impact**
- **Assignment to Building**
- **Environmental Impact:** have as a minimum requirement but with very straightforward requirements for what we don't allow (ILFI Zero Carbon Certification has guidelines)
- **Renewable Generation Sources:** Challenge - no requirements now or in the future for all CCE RECs to be from all carbon free sources; depends on how this is framed (e.g. MASS Class 1 are all considered "renewable"); could define this requirement differently for each procurement pathway
- **Equity**
- **Public Health**
- **Electricity Credit:** only consideration w/ a few procurement options
- **Incremental Acquisition:** A Better City example shows this doesn't have to be barrier
- **Inspirational/Educational Value:** could be encompassed in equity & local impact conversations
- **Permanent Financing:** lower priority if using cooperation agreement
- **Grid Management:** could take on role of increasing local generation to reduce new infrastructure to bring electricity into city

Other Community Concerns

- Local Markets
- Local Investments (e.g. Community Controlled)
- Community Solar
- **DISCUSSION: Others?**

RE Procurement TAG Process

TAG Meetings:

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- Meeting 4 – Finalizing Recommendations