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Subject: **EFSB 2024 Climate Act Stakeholder Sessions: Site Suitability Methodology for Clean Energy Infrastructure Straw Proposal and Cumulative Impacts**
From: **Mass Power Forward Coalition and additional community, climate, conservation, solar, and justice organizations: 350 Central Mass, 350 Mass, 350ma-Berkshires, Alternatives for Community & Environment, Berkshire Environmental Action Team, Brookhaven Residents Climate Change Committee, Canton Residents for a Sustainable Equitable Future, Clean Water Action, Climate Action Now WMass, Climate Reality Project Massachusetts Southcoast, Community Land & Water Coalition, Elders Climate Action - Massachusetts, Extinction Rebellion Western Mass, FCCPR Climate Crisis Task Force, Green Arlington, Green Newton, Jewish Climate Action Network, Massachusetts Climate Action Network, MassSolar, Melrose UU Church Climate Action Team, Mothers Out Front Massachusetts, Our Revolution Massachusetts (ORMA), Partnership for Policy Integrity, Pipe Line Awareness Network for the Northeast, Protect Newton Trees, Resist the Pipeline, Sierra Club Massachusetts, Solar Design Associates, The Enviro Show, Trees as a Public Good Network, Unitarian Universalist Mass Action, Vote Solar, Winthrop Mothers Out Front, Worcester Congregations for Climate and EEJ)**

SUMMARY Position Statement on Site Suitability

We take the position that Massachusetts needs forests, farms, solar, and community empowerment. We cannot heal the climate crisis without forests to provide clean air, water, and livable temperatures. We cannot survive without rainfall from forests and without farms to feed us. We cannot heal the climate crisis without clean energy, and in the current political situation, that's solar. We need to support solar deployment and end our reliance on polluting infrastructure, especially in light of federal threats to solar and all clean energy.

We advocate for making it easier to build small-scale distributed solar projects and environmentally responsible siting of solar and battery storage, prioritizing the already built and disturbed environment. We need to address interconnection issues without damaging our critical

green and natural infrastructure and without putting extraordinary burdens on environmental justice and rural communities.

We insist that community stakeholders be fully informed about all potential impacts and have the right to provide directional input before an application is submitted. We also need a strong cumulative impact assessment that takes into account all aspects of public health, especially for environmental justice communities.

Identifying Ineligible and Priority Sites

(relating to Response Questions 4, 6, 10, 11 in heading VII here)

Solar and battery-storage siting should be environmentally responsible. EEA should designate *ineligible* (no-go) areas and *priority* (go) areas for siting that are consistent across SMART, EFSB, and DOER regulations. Our goal is that any substantial loss of solar project potential be compensated by incentivizing other, responsibly sited projects, including through state financial support. Massachusetts needs to invest in meeting our climate goals with responsibly sited solar.

- INELIGIBLE (excluded, no-go) AREAS:
  - State-proposed Categories
    - BioMap Core Habitat or Priority Habitat
    - Article 97 protected open space
    - Top 20% of forests for carbon storage statewide
    - Wetland resource areas (310 CMR 10.04)
    - Properties included in the State Register (950 CMR 71.03), except as authorized by regulatory bodies
  - Our Proposed Additional Ineligible Categories
    - All mature forests[1] (which supply nearly 50% of our on-land rainfall)
      - Mature forests should be defined by independent, peer-reviewed and published research, for example, defining mature forests in New England as 35 years and older.[2]
    - BioMap Critical Natural Landscapes
    - prime farmland
    - Steep slopes in natural landscapes (grades of 15% or higher)
    - Filtration buffers around rivers and public drinking-water sources such as reservoirs and aquifers
  - Administrative Rules

[1] See the Woodwell Climate Research Center's endorsed Forest Maturity map, https://www.matureforests.org/forest-maturity-map.

[2] Birdsey et al., 2023, "Assessing carbon stocks and accumulation potential of mature forests and larger trees in U.S. federal lands," https://doi.org/10.3389/ffgc.2022.1074508. Lead author, Dr. Richard Birdsey, is Senior Scientist at Woodwell Climate Research Center and was appointed to Governor Healey's 2023 Massachusetts Climate Forestry Committee.

        - There should be *no waiver application for any project type allowed* in ineligible areas.
        - DCR and state-owned land must be subject to the same regulations on ineligibility.

- PRIORITIZED (incentivized, go) AREAS:
    - Categories
        - Existing degraded or disturbed land,
            - including parking lots, quarries, gravel pits, landfills, brownfields, and tornado-damaged land
        - Building rooftops, both residential and commercial
        - Grid interconnection zones within 2 miles of a substation *where there are lines with capacity*:
            - Lines with current capacity
            - Lines that could have capacity once a substation is upgraded
    - Administrative Rules
        - Suitability scores should be applied to projects in priority areas *after* projects in ineligible (no-go) areas are denied.
            - Projects in priority areas should get high suitability scores and should receive incentives, including financial subsidies.
        - Suitability scores for projects should indicate the project's impact on the climate resilience of communities and ecosystems as well as the social and environmental burdens.
        - Applicants should *not* determine their own site-suitability score; scores should be calculated by an independent third-party reviewer.
        - DCR and state-owned land must be subject to the same regulations on impact reviews.

- CONDITIONAL AREAS

  There are, of course, other areas not included in either of the above categories that will be considered for project siting. Such areas must undergo stringent environmental impact and community impact reviews. Approval conditions should be required depending on site suitability score and technology-specific considerations. Certain conditions should apply to all battery projects, including evidence-based standard precautions for certain types of batteries, developed by the state based on stakeholder input.

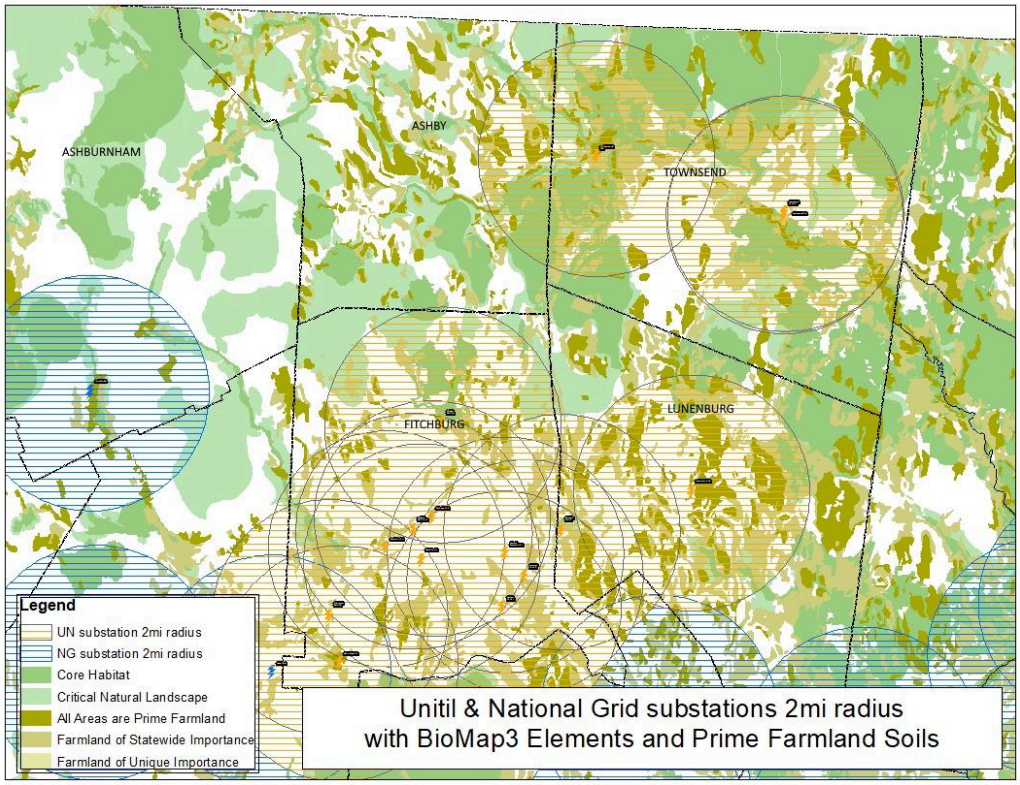
Mapping Ineligible and Priority Areas

We propose that EEA develop publicly available maps showing ineligible (excluded, no-go) areas and prioritized (go) areas. We provide two examples to illustrate the kind of map needed.

The examples below show how SOME ineligible areas interact with a potential grid alignment of prioritized 2-mile substation interconnection zones, as follows[3]:

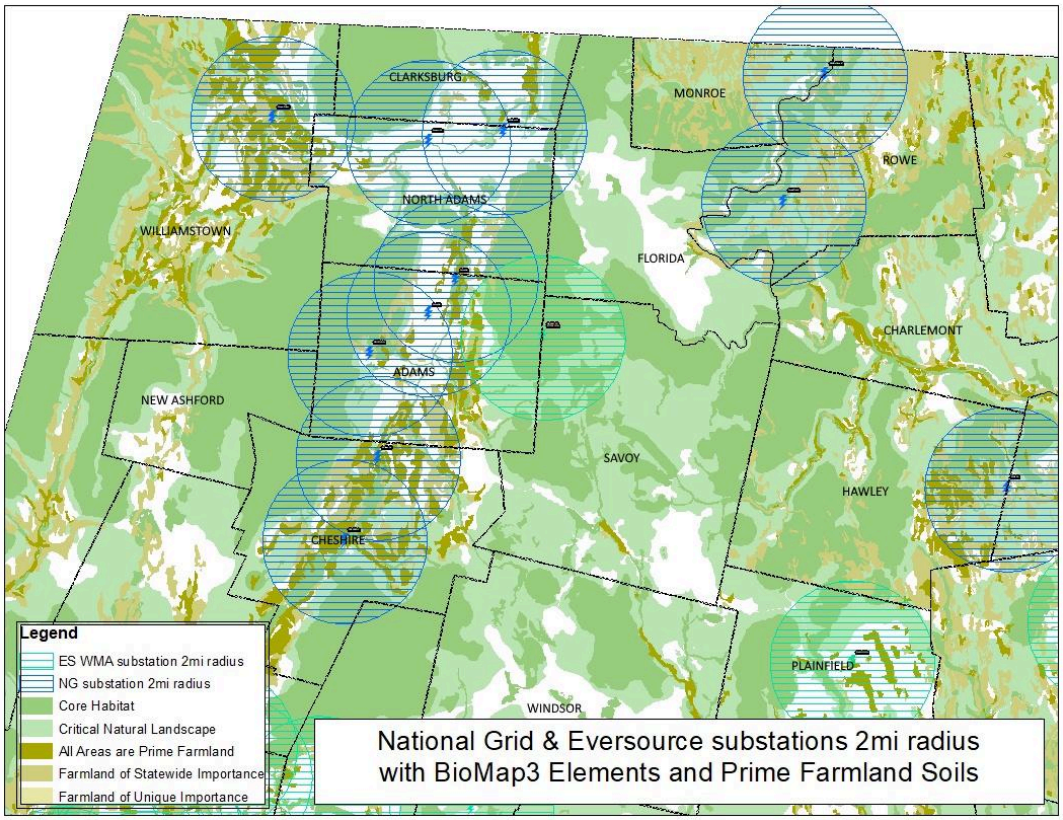
- INELIGIBLE AREAS: BioMap Elements in green, Prime Farmland in tan
- PRIORITIZED AREAS: 2-mile substation interconnection zones (within the hatched circles)

Example 1 Central MA:



[3] Maps for illustrative purposes only, not in any way a regulatory tool for siting & permitting decisions. Made using the following publicly available datalayers: MassGIS BioMap Core Elements and NRCS SSURGO-certified soils data for Massachusetts Top 20 Soils: Prime Farmland Soils available at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information;
Eversource substations available at:
https://dghostingexternalmapprod.eversource.com/dghosting/rest/services/Substations/Substation_Locations/MapServer;
National Grid substations available at:
https://systemdataportal.nationalgrid.com/arcgis/rest/services/MASDP/MASDP_Substations/MapServer;
Unitil substations available at:
https://unitil.com/sites/default/files/2021-05/HostCapacityMap_FitchburgMassRegion_2020_07_23_0.pdf ;

Example 2 Western MA:



Community Engagement + Cumulative Impacts

Siting of clean-energy projects (solar, battery storage, etc.) should be civically responsible. Communities must be able to meaningfully influence a project *before* an application is submitted. Communities must be informed about all potential impacts to their community ahead of time and be able to offer directional input.

CIAs should include an analysis of anti-displacement measures on unfairly burdened populations for any clean energy infrastructure project. Population characteristics should include cultural and historic preservation and their proximity to proposed energy projects. Cumulative impact should examine proximity to schools/residential areas in terms of public health impacts and, where there are negative health impacts, require evaluation of alternative sites that promote an equitable and just energy grid (for example rooftops, parking lots, and other low impact sites). Historic burdens from pollutants and displacement should be given higher weight when calculating overall cumulative impact from the proposed site. CIA must include a public scoping to ensure the community affected by the project is involved in determining the CIA indicators.

Projects in prioritized areas that are also environmentally and civically responsible should receive streamlined processes while fairly addressing community concerns.

Impact analyses should play a significant role in permitting decisions. Analyses should go beyond air quality to include analyses of heat, flooding, and access to clean water. There must also be robust consideration of the cumulative impacts a community is experiencing. Projects proposed in environmental justice communities should receive extra scrutiny and require a higher level of community engagement.

Evaluation Criteria

(presented in heading IV, queried in Response Questions 1 and 2 in heading VII here)

Appropriateness of Proposed Criteria

Response Question 1. Are the proposed evaluation criteria appropriate? Are there criteria that should be applied to certain types of infrastructure and not others?

1. **Developmental potential**:

   We agree that *as long as a project is not located in an ineligible zone*, developmental potential should be weighted heavily, particularly within a two-mile radius of an existing substation. All projects in ineligible (no-go) zones should be denied (with no waivers allowed), regardless of proximity to current or future substations.

   Priority should only be given to grid interconnection zones only after ineligible (no-go) zones are removed from consideration. Highest priority should be given to areas near substations with current capacity. Lower should be given to substations with distribution lines that could have capacity if the substation were upgraded. Lowest priority should be given to areas with projected substation investments *on the condition that the proposed substations are not located in an ineligible zone and have already passed environmental and community impact reviews for suitability*.

   Consistently denying all projects in ineligible zones, including projects associated with proposed substations, provides strong incentives for environmentally responsible sites for substations and projects.

2. **Climate resilience**:

   The current use of the term “climate resilience” to refer only to the resilience of energy infrastructure is confusing to the public. The term is generally understood to refer to the

resilience of *communities and ecosystems* in the face of climate change impacts. Both types of climate resilience are important and should be evaluated *in terms of site suitability*.

We agree that consideration of a site's impacts on energy-infrastructure resilience is appropriate. We suggest considering the potential for flooding at a particular site, not only due to rising sea levels and the increasing frequency of so-called 100-year storms, but also due to nearby tree removal and the slope of the proposed site.

Additionally, there should be consideration of the impact of a project's siting on the resilience of nearby communities and the surrounding ecosystem. For example, siting on a slope of 15% or higher increases the risks of flooding and mudslides and should be denied.

3. **Carbon sequestration and storage AND (4) Biodiversity**:

   It is essential to recognize Massachusetts forests' potential to reduce climate change via carbon sequestration and to preserve biodiversity. Scoring should go beyond federal and industry databases and should draw on current scientific assessments showing that our biodiverse middle-aged *Eastern forests have the potential to accumulate twice their current carbon* in the coming decades (Birdsey et al. 2023, "Middle-aged forests in the Eastern U.S. have significant climate mitigation potential," https://doi.org/10.1016/j.foreco.2023.121373).

4. **Biodiversity**: See (3) above: We need to recognize the great potential of intact, natural forests. Known habitat connectivity corridors (that preserve biodiversity) should be considered in this criterion.

5. **Social and Environmental Burdens**:

   First, these impacts should be recognized as *harms* to communities, which are more than burdens. Thus, meaningful community engagement as discussed above must be required.

   As an additional aspect of examining harms, EEA needs to explicitly consider how the different contexts and infrastructure available in rural communities versus those in urban communities lead to different social and environmental impacts. For example, many western and central Mass towns have no or very limited central municipal water systems. This infrastructure limitation has consequences for the fire hazard from lithium-ion battery storage. At a rural site without access to a central water system, the thermal runaway from such a fire cannot be contained by water.

Separate harm-scoring systems may be necessary for urban and rural areas. Certainly, qualitative input from community leaders and residents (whether urban or rural) is essential to considering harmful impacts at the local level.

6. **Social and Environmental Benefits**:

As proposed, this category would include at least five distinct types of benefits: (a) siting a project in a prioritized area, (b) providing purported habitat benefits, (c) creating jobs, (d) expanding recreational areas, and (e) displacing an emitting source. These distinct types of benefits should be treated differently. Only type (a) should be included and prioritized in site suitability evaluations; types (b), (c), (d), and (e) should *only* be used to evaluate those proposed projects that have *already passed* siting suitability review.

The first type of benefit–siting a project in a prioritized area–applies to the specific site under consideration and should be included and prioritized in the site suitability score *after* projects at sites in ineligible areas are eliminated. For detailed suggestions, including map examples, please see our above sections "Identifying Ineligible and Priority Sites" and "Evaluation Criteria: (1) Developmental Potential" for more detailed discussion.

The other four types of potential benefits proposed for consideration for siting do not minimize or mitigate the impacts of inappropriate site selection, so they should *not* be included in site suitability scoring. The harmful impacts of destroying habitat in one place (e.g., cutting forests) are not lessened by creating a different kind of habitat (e.g., pollinator meadows) or recreational space (e.g., bike trails) there or elsewhere. Locally harmful impacts are also not lessened by displacing an emitter source elsewhere. (If the clean energy station were being built on the site of an emitter source, then it would separately gain priority from being sited in the built environment, a priority location.) These other types of benefits should be considered in evaluating projects *after* the projects have passed site suitability evaluation.

7. **Agricultural production potential**:

We are glad to see EEA is prioritizing the preservation of farmland. Particular priority should be given to preserving agricultural lands without creating new emissions. Crop fields and grazing fields should have separate considerations within this category, given the methane contributions of grazing animals. Already grazed lands should be encouraged to consider agrivoltaics, but converting croplands to grazing fields should not be prioritized or incentivized.

Although forestry is considered agriculture in Massachusetts, forest sites should NOT be evaluated under the agricultural category for site suitability. Forest sites should be considered under a new distinct category of trees (see below, "New Category: Trees and Forests").

Additional Criteria Needed

Response Question 2. Are there other criteria that should be added (e.g., public health, safety, or welfare-related metrics)? Please provide proposed metrics and data sources to assess any recommended Criteria.

We propose adding two criteria: (a) Trees and Forests and (b) Public Health, Safety, and Welfare. Although these categories are touched upon in other criteria, each category is so crucial to site suitability that it needs the additional weight of being an independent evaluation criterion.

1. **NEW CATEGORY: FORESTS AND TREES**

We propose adding weight to the environmental benefits of existing trees and forests by assessing *not only* their carbon storage and biodiversity benefits *but also* their essential contributions to regional rainfall cycle regulation, flooding reduction, and temperature moderation. Mature forests and trees provide the greatest environmental and social benefits, so maturity must be defined and assessed scientifically. (A list of scientific sources is provided below.)

Rainfall cycle: Through a process known as "transpiration," a single mature tree can release hundreds of gallons of water per day, and a forest can deliver more moisture to the air than evaporation from a water body of the same size. By evaporating water from increasingly intense rainfall, transpiration by trees significantly reduces flooding and their roots prevent soil erosion. Flood risk is by far the most frequent, serious, and increasing impact that is expected for communities across Massachusetts.

In short, tree and forest cover in western, central, and southeastern Massachusetts determines rainfall quantity, variability, and seasonality, as well as soil moisture, across the entire state. Deforestation and forest degradation disrupt the rainfall cycle, increasing the risk of drought and fire. A mismatch between inflow and outflow, even in an area with abundant water, can result in a long-term drying of the landscape.

Water Filtration and Quality: Forests and forested buffers are the most effective land cover for maintenance of water quality. Trees collect rainfall and filter sediments and other pollutants from water in the soil before releasing it slowly into streams, rivers,

aquifers, and lakes. Deforestation and forest degradation negatively impact water quality, whereas the more intact natural forest in a source water watershed, the lower the cost to treat that water.

Preservation of forests in central Massachusetts directly affects drinking water for Boston and MetroWest communities. Recently, the City of Cambridge used Community Preservation Act (CPA) funds to purchase land surrounding the Hobbs Brook Reservoir in Lexington to protect Cambridge's drinking water source. As the NAACP documents, water crises (such as the May 2010 Boston water emergency) disproportionately impact EJ communities.

Energy cycle and temperature moderation in Boston and MetroWest: Forests modify surface and near‑surface air temperatures through biophysical processes. Boston and other cities in the eastern US are several degrees cooler than we would expect from the warming trends across the rest of North America because of the forests across Massachusetts and other parts of New England. Deforestation and forest degradation will make Boston and MetroWest hotter.

Defining Mature Forests and Trees: Maturity should be defined by independent, peer-reviewed and published research. Mature forests should initially be defined from 2024 (see Forest Maturity Map below), when the Climate Bill requiring new regulations was passed. Periodic revision of identifying mature forests should include a look-back period to prevent deliberate deforestation and degradation to secure siting priority.

Mature forests in New England, for example, are defined as 35 years and older, according to peer-reviewed research by Dr. Richard Birdsey, Senior Scientist at Woodwell Climate Research Center and Member of the 2023 Massachusetts Climate Forestry Committee.

Maturity for urban trees varies not only by tree species but also by urban environmental constraints and hazards. The high mortality rates of planted urban trees emphasize the need to preserve existing, mature urban trees.

Scientific sources with guidance on defining maturity and quantifying the contributions of forests and trees include, for notable examples:

- Ellison et al. 2017, "Trees, forests, and water," https://doi.org/10.1016/j.gloenvcha.2017.01.002.
- Birdsey et al. 2023, "Middle-aged forests in the Eastern U.S. have significant climate mitigation potential," https://doi.org/10.1016/j.foreco.2023.121373.
- Birdsey et al., 2023, "Assessing carbon stocks and accumulation potential of mature forests and larger trees in U.S. federal lands," https://doi.org/10.3389/ffgc.2022.1074508.

- Barnes et al. 2024, "A Century of Reforestation Reduced Anthropogenic Warming in the Eastern United States," https://doi.org/10.1029/2023EF003663.
- Forest Maturity Map, https://www.matureforests.org/forest-maturity-map, endorsed by Woodwell Climate Research Center (among others).
- Hilbert et al. 2019, "Urban Tree Mortality," https://research.fs.usda.gov/treesearch/58772
- Augusto et al., 2025, "Widespread slow growth of acquisitive tree species," https://doi.org/10.1038/s41586-025-08692-x

2. NEW CATEGORY: PUBLIC HEALTH, SAFETY, AND WELFARE

We agree that Public Health, Safety, and Welfare need additional weight. We want to amplify Michael DeChiara's comments on Site Suitability that public health, safety, and welfare considerations are essential and should minimally include technology-specific and community-specific considerations. Special attention should be paid and weighted to technologies that have the potential to legitimately harm public health, such as harm to drinking water, recreational bodies of water, and wetlands, both locally and regionally. While site impacts on water quality are considered elsewhere under ecosystem impacts, water quality should also be fully considered from a public health perspective.

Community considerations should be blended in as well. Examples include whether rural local infrastructure can handle emergencies, whether there is a central water system for fighting fires (for technology prone to fire, eg. some types of batteries), whether there will be overuse of unpaved public roads by construction equipment, making them unpassable for emergency or public services.

Thank you for your consideration.

Sincerely,

Mass Power Forward Coalition with a special emphasis on

- **Statewide organizations**
    - 350 Mass
    - Clean Water Action
    - Jewish Climate Action Network
    - Massachusetts Climate Action Network
    - Mothers Out Front Massachusetts
    - Partnership for Policy Integrity
    - Pipe Line Awareness Network for the Northeast
    - Sierra Club Massachusetts
    - Solar Design Associates
    - Trees as a Public Good Network
    - Unitarian Universalist Mass Action
    - Vote Solar
- **Local organizations**
    - 350 Central Mass
    - 350ma-Berkshires
    - Berkshire Environmental Action Team
    - Brookhaven Residents Climate Change Committee
    - Canton Residents for a Sustainable Equitable Future
    - Climate Action Now WMass
    - Climate Reality Project Massachusetts Southcoast
    - Extinction Rebellion Western Mass
    - FCCPR - Climate Crisis Task Force
    - Green Arlington
    - Green Newton
    - Melrose UU Church Climate Action Team
    - Winthrop Mothers Out Front
    - Worcester Congregations for Climate and EEJ

Additional organizations:

- Alternatives for Community & Environment
- Community Land & Water Coalition
- Elders Climate Action - Massachusetts
- The Enviro Show
- MassSolar
- Our Revolution Massachusetts (ORMA)
- Protect Newton Trees
- Resist the Pipeline