**RCC brainstorming Multi City Buildings & Energy Projects to consider for EPA CPRP strategies and implementation grants** [**Google Doc**](https://docs.google.com/document/d/1K59eENLR0YPFVxacvmQ8qKXFo_q67bbjatoQul8G46Q/edit?usp=sharing)

Please join us at the MPCA Sector Webinar this Mon [October 23 (1 p.m.): Clean energy and efficient buildings](https://urldefense.proofpoint.com/v2/url?u=https-3A__lnks.gd_l_eyJhbGciOiJIUzI1NiJ9.eyJidWxsZXRpbl9saW5rX2lkIjoxMDQsInVyaSI6ImJwMjpjbGljayIsInVybCI6Imh0dHBzOi8vd3d3Lnpvb21nb3YuY29tL2ovMTYwNDg2MzQzOCIsImJ1bGxldGluX2lkIjoiMjAyMzEwMTAuODM4Njg3OTEifQ.S6GFmbsM7b3Sm0OL20D-5FQcP9vp5dQcoR8qWNfO78smw_s_2943394125_br_227707254191-2Dl&d=DwMFAw&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=djiS-YOC51O_VikDNdQ-vA&m=JH9HyovKSwET3G-InLQxZUaCiBcZRBxME1Z9FEq5IzvP2Gmd4bbx6zcCL-puWk9a&s=Azo1k6PoKcWqS2wsY1qDO1iLHaT3OEXuTrz_pVNLvW4&e=)

Share your ideas on the **MPCA** page<https://engage.eqb.state.mn.us/climate-priorities> the [MPCA’s Form](https://forms.office.com/pages/responsepage.aspx?id=RrAU68QkGUWPJricIVmCjGSD5T-drzhBsXQ3ZaoUYVpURFFKNFdDNTlXSEZNUEhCNkU2RjY1NVQ3NyQlQCN0PWcu) & our RCC [**Google Doc**](https://docs.google.com/document/d/1K59eENLR0YPFVxacvmQ8qKXFo_q67bbjatoQul8G46Q/edit?usp=sharing)

THANKS SeanGosiewski, Resilient Cities & Communities612 250-0389 sean@rccmn.co   [**https://rccmn.co/buildings**](https://rccmn.co/buildings)

**Please see the detailed project descriptions below this table that I sent in via the MPCA’s project template form**

|  |
| --- |
| **Clean Energy and Efficient Buildings** **a. Decarbonize residential and commercial buildings**: Reducing greenhouse gas emissions from single-family, multifamily, and manufactured housing, community healthcare, and commercial buildings, including deep energy efficiency retrofits, electrification, low-carbon materials, and access to renewable energy  |
| Co benefits, reducing energy costs, indoor air quality, increased tax base, local jobs | **Good fit for EPA CPRP grant?** | **Additional funding options** |
| **Electrify Everything MN** <https://www.mncee.org/electrifyeverythingmn>* Expand participation in Electrify Everything MN Campaign with additional cities
* Electrification and weatherization of suburban ramblers using IRA tax credits
* Staff support by CEE, Katie Jones, building on RMI cohort
* **Current cities Minneapolis, SLP, Edina, Bloomington EP,**
* **Relevant** to CERTS IRA Ambassadors
* Invite additional cities with similar housing stock and residents with incomes sufficient to use tax credits, i.e. Maple Grove, Plymouth, Brooklyn Park, Woodbury, etc.
 | Quantifiable?Justice 40? | IRA Tax CreditsMNCIFA/ Green Bank 20%Federal Loan 80% |
| **Expanding Low-Income Weatherization, Electrification and Healthy Homes Retrofits** via make the most of 25% more Federal Energy Assistance by * signing up more households for Energy Assistance
* getting them scheduled for home energy audits, healthy home assessments
* Installation and quality control - Weatherization, electrification, indoor air quality, Pre-weatherization Indoor air quality, air filtration, replacing electric panels, emergency appliance replacement, etc.

Who - interested cities, counties, CAP agencies, nonprofits, local  BIPOC communities, Dept of Commerce, * Fits with Justice 40 focus
* City of Minneapolis and St. Paul have maps of areas with energy burdened households,
* Build on the Minneapolis Pilot project with SRC in the green zones
* Build on the work of the Energy Efficiency for All coalition, Fresh Energy MN CUB, etc. <https://www.energyefficiencyforall.org/states/minnesota/>
* Focus on improving indoor air quality can help households with Asthma living in areas with cumulative air impacts.

Federal Energy assistance can fund weatherization of Single family, 4 plexes, 12 plexes Public housing, different barriers in engaging residents and property owners for each type | Quantifiable?Justice 40?YES | Federal IIJA 25% increase in LIHEAP $ to states over 5 years |
| QUESTION Our MN **State- wide commercial building code improvement** - will improve within 3 to 5 years- **what to do with all the new buildings going up now** in advance of future commercial energy code improvements having higher requirements that will reduce the use natural gas only HVAC in new buildings  |
| **Clean Energy and Efficient Buildings** **a. Decarbonize residential and commercial buildings**: Reducing greenhouse gas emissions from single-family, multifamily, and manufactured housing, community healthcare, and commercial buildings, including deep energy efficiency retrofits, electrification, low-carbon materials, and access to renewable energy  |
| Co benefits, reducing energy costs, indoor air quality, increased tax base, local jobs | **Good fit for EPA CPRP grant?** | **Additional funding options** |
| **Expanding building electrification in Commercial/Multifamily New Construction*** new 4 story commercial/residential buildings, especially along transit corridors <https://rccmn.co/green-development-buildings-financing/>
* In partnership with MN cities experiencing a lot of redevelopment
* Support City community development staff to
* Use City Sustainable Building Policies and PUD, variances, TIF leverage
* Meet with developers/architects and builders early in project development to share
* Share example projects and financing and HVAC options (i.e. low temp water, building wide HVAC with unit by unit heat pumps)
* Demonstrate cost effective plans to install building wide HVAC that is geothermal ready to steer them away from using unit by unit HVAC - magic packs
* **Challenges,** Split incentive between developer and building owner

**Resources** - CEE’s Heat Pump campaign Evergreen Energy and Darcy Solutions, Ground source geothermal wells, St. Paul Port Authority PACE for new construction | Quantifiable?Justice 40? | PACEIRA Tax CreditsMNCIFA/ Green Bank 20%Federal Loan 80% |
| **c. Expand district heating and cooling:** Recovering heat energy from wastewater and developing district heating and cooling partnerships and infrastructure **Advancing District Geothermal pilot projects with 8 MN Cities currently in the planning stage into the implementation state**Duluth, Rochester, Minneapolis, Arden Hills/Rice Creek Commons, Northfield, Minneapolis - Redesign 28th/East Lake Towerside/ U of MN, - Any additional MN cities have projects lined up?  Bloomington, St. Cloud? .<https://rccmn.co/district-ground-source-energy/> Also our MN Cities advancing district geothermal could propose a district geothermal peer learning cohort with NREL (that might attract cities outside of MN)  **C2C Peer-Learning Cohorts** [**Apply by Oct. 31, 2023**](https://forms.office.com/Pages/ResponsePage.aspx?id=fp3yoM0oVE-EQniFrufAgDG9RDCH3opImMKJK6bWYC1UQUQyNFJCTVNKNEZFSFkyMkZGVENFWEJGVy4u)**Clean Energy to Communities (C2C)** offers peer-learning cohorts to advance local clean energy goals. Cohorts are funded by the U.S. Department of Energy and managed by NREL with support from the World Resources Institute.  <https://www.nrel.gov/state-local-tribal/c2c-peer-learning-cohorts.html>  | Quantifiable?Justice 40? | Current Federal grants to Duluth and Rochester for District Geothermal planningDistrict Energy Internal Financing via usersIRA Tax CreditsMNCIFA/ Green Bank 20%Federal Loan 80% |

**b. Decarbonize public buildings**: Assisting schools, state colleges and universities, governmental facilities, public housing, and corrections facilities with efficiency and decarbonization, including ground-source heat pumps, networked geothermal, and solar.

**c. Expand district heating and cooling:** Recovering heat energy from wastewater and developing district heating and cooling partnerships and infrastructure

**ENERGY**

**d. Switch electricity transmission safety away from potent greenhouse gasses:** Transitioning to alternative, environmentally-friendly insulating gases in electricity transmission circuit breakers, switchgear, and other electrical equipment i.e. Prioritize energy storage for renewable generation: Building energy storage infrastructure, such as batteries or hydrogen production

**f. Streamline the planning and approval process for energy projects:** Improving planning and decision-making processes for the location and design of clean energy generation, transmission, and storage (e.g., batteries, hydrogen) projects

**g. Strengthen building code enforcement:** Developing additional energy and building code enforcement mechanisms within municipalities that have adopted the state building code and statewide for portions of the code specific to energy and resiliency

**h. Accelerate refrigerant replacement**: Promoting the transition to cleaner technologies in appliances and commercial applications, such as home refrigerators, HVAC systems, ice rink chillers, and industrial refrigeration equipment

**i. Expand anaerobic digestion**: Facilitating anaerobic digester development throughout the state to process manure, industrial food waste, and municipal organics waste, and to produce renewable natural gas

## SEE <https://engage.eqb.state.mn.us/20800/widgets/69623/documents/47346>

## New resource available for review Using the Minnesota Climate Action Framework as a foundation and incorporating ideas from public engagement, we have generated [draft concepts](https://engage.eqb.state.mn.us/20800/widgets/69623/documents/47346)for the Priority Climate Action Plan. As we continue to engage Minnesotans and explore these ideas, we will consider adjustments to this list.

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Hello Efficient Buildings & Clean Energy Friends!

Please join me to share your ideas for ways we can reduce Green House Gas emissions in MN in the Energy/Buildings at the MPCA Sector Webinar this Mon [October 23 (1 p.m.): Clean energy and efficient buildings](https://urldefense.proofpoint.com/v2/url?u=https-3A__lnks.gd_l_eyJhbGciOiJIUzI1NiJ9.eyJidWxsZXRpbl9saW5rX2lkIjoxMDQsInVyaSI6ImJwMjpjbGljayIsInVybCI6Imh0dHBzOi8vd3d3Lnpvb21nb3YuY29tL2ovMTYwNDg2MzQzOCIsImJ1bGxldGluX2lkIjoiMjAyMzEwMTAuODM4Njg3OTEifQ.S6GFmbsM7b3Sm0OL20D-5FQcP9vp5dQcoR8qWNfO78smw_s_2943394125_br_227707254191-2Dl&d=DwMFAw&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=djiS-YOC51O_VikDNdQ-vA&m=JH9HyovKSwET3G-InLQxZUaCiBcZRBxME1Z9FEq5IzvP2Gmd4bbx6zcCL-puWk9a&s=Azo1k6PoKcWqS2wsY1qDO1iLHaT3OEXuTrz_pVNLvW4&e=) And share your ideas

on the **EQB and MPCA web site** <https://engage.eqb.state.mn.us/climate-priorities> and the [MPCA’s Form](https://forms.office.com/pages/responsepage.aspx?id=RrAU68QkGUWPJricIVmCjGSD5T-drzhBsXQ3ZaoUYVpURFFKNFdDNTlXSEZNUEhCNkU2RjY1NVQ3NyQlQCN0PWcu)

& our RCC Buildings & Energy [**Google Doc**](https://docs.google.com/document/d/1K59eENLR0YPFVxacvmQ8qKXFo_q67bbjatoQul8G46Q/edit?usp=sharing)ideas for Multi City Projects for EPA CPRP strategies and implementation grants

**Please see the detailed project descriptions below this table that I sent in via the MPCA’s project template form**

THANKS SeanGosiewski, Resilient Cities & Communities612 250-0389 sean@rccmn.co   [**https://rccmn.co/buildings**](https://rccmn.co/buildings)

cc. Faith Krogstad, MPCA Climate Engagement Coordinator (651) 757-2086 faith.krogstad@state.mn.us

Marcus Grubbs, Enterprise Sustainability Planner, MN OES (651) 201-2562 marcus.grubbs@state.mn.us

**Share project ideas for competitive federal climate action funding in your sector**

**Tune into MPCA webinar series October 16 - 24** The [U.S. EPA's Climate Pollution Reduction Grants (CPRG) program](https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants) will be offering $4.6 billion in competitive grant funds for states, local governments, and Tribal Nations to reduce greenhouse gas emissions and other harmful air pollution.

To be eligible for these competitive funds, projects must be included in a priority climate action plan. We want **your help** to ensure the plan reflects a diverse range of opportunities to reduce climate pollution in communities across the state.

Leaders from Minnesota state government will be hosting a series of 1-hour webinars to discuss how the CPRG grant program could be used to address climate pollution from specific sectors. See dates & times below. <https://engage.eqb.state.mn.us/climate-priorities>

* [October 16 (10 a.m.): Climate-smart natural and working lands](https://www.zoomgov.com/j/1610575704)
* [October 23 (11 a.m.): Clean transportation](https://www.zoomgov.com/j/1613518477)
* [October 23 (1 p.m.): Clean energy and efficient buildings](https://www.zoomgov.com/j/1604863438)
* [October 24 (10 a.m.): Clean economy](https://www.zoomgov.com/j/1602752579)

[Share your ideas](https://engage.eqb.state.mn.us/climate-priorities) for climate action projects in your sector on the [MPCA’s Form](https://forms.office.com/pages/responsepage.aspx?id=RrAU68QkGUWPJricIVmCjGSD5T-drzhBsXQ3ZaoUYVpURFFKNFdDNTlXSEZNUEhCNkU2RjY1NVQ3NyQlQCN0PWcu) You can also [watch a webinar](https://minnesota.webex.com/webappng/sites/minnesota/recording/0a5492cf45d7103c9df300505681643e/playback) with more information on how the state is identifying priorities for CPRG program funding.

Individuals, organizations, businesses, local governments, Tribal Nations, and others are encouraged to learn more and share their input. For more information contact MPCA climate and energy coordinator Faith Krogstad at faith.krogstad@state.mn.us with questions.

**Project Details**

**Electrify Everything MN** <https://www.mncee.org/electrifyeverythingmn>

* Expand participation in Electrify Everything MN Campaign with additional cities
* Electrification and weatherization of suburban ramblers using IRA tax credits
* Staff support by CEE, Katie Jones, building on RMI cohort
* **Current cities Minneapolis, SLP, Edina, Bloomington EP,**
* **Relevant** to CERTS IRA Ambassadors

Invite additional cities with similar housing stock and residents with incomes sufficient to use tax credits, i.e. Maple Grove, Plymouth, Brooklyn Park, Woodbury, etc.

**schedule and milestones**

30 cities each signing up 500 households and matching them with quality contractors to install air source heat pumps, and other building efficiency and electrification improvements using IRA tax credits and utility incentives to help reduce natural gas use before 2030

**Geography**

Minneapolis, St. Paul, Metro Suburbs, Duluth, Rochester, St. Cloud etc.

**Key implementing agency, agencies, or other governmental lead**

Mn Dept of Commerce, MN CEE, MN Efficient Buildings Collaborative, Electrify Everything MN cities

If the cities also want to use MNCIFA funding and federal loans they would need to find one or more contractors to make a proposal to fill in gaps not covered by the IRA tax credits

**Complementary funding**

IRA Tax Credits, Utility incentives, MNCIFA, Federal Loans, Federal LIHEAP, Cities buying down Home Energy Squad home visit costs, Minneapolis Climate Legacy Funds, Bonding from Port Authorities/HRAs, Foundation Program Related Investments, MN Pre weatherization $ and Electric Panel replacement $

Metrics

30 cities each signing up 500 to 1,000 households

and matching them with quality contractors to install air source heat pumps, and other building efficiency and electrification improvements using IRA tax credits and utility incentives to help reduce natural gas use before 2030

low income benefits

Find ways for low income households to use the instant tax credit, from commerce, if their income is too low to be able to use the tax credit, Build on the CERTS IRA Ambassadors. Yes for reduced home energy costs (depending on if the utility can give a special rate( high-quality jobs, improved health, cleaner air, reduced risk from extreme heat, reduces summer grid peak.

**Expanding Low-Income Weatherization, Electrification and Healthy Homes Retrofits**

to make the most of 25% more Federal Energy Assistance by

* signing up more households for Energy Assistance
* getting them scheduled for home energy audits, healthy home assessments
* Installation and quality control - Weatherization, electrification, indoor air quality, Pre-weatherization Indoor air quality, air filtration, replacing electric panels, emergency appliance replacement, etc.

Who - interested cities, counties, CAP agencies, nonprofits, local  BIPOC communities, Dept of Commerce,

* Fits with Justice 40 focus
* City of Minneapolis and St. Paul have maps of areas with energy burdened households,
* Build on the Minneapolis Pilot project with SRC in the green zones
* Build on the work of the Energy Efficiency for All coalition, Fresh Energy MN CUB, etc. <https://www.energyefficiencyforall.org/states/minnesota/>
* Focus on improving indoor air quality can help households with Asthma living in areas with cumulative air impacts.

Federal Energy assistance can fund weatherization of Single family, 4 plexes, 12 plexes Public housing, different barriers in engaging residents and property owners for each typeImplementation schedule and milestones

Groups of cities work with their County Community Action Agency and their County HRA to plan targeted outreach to households/zip Codes, properties taht would fit with federal energy assistance income requrirments.

Find ways to reach out to both home owners and renters and how to overcome language barriers

Calculate the number of houses to be done, calculate the how to increase the number of contractors and weatherization staff needed to meet the demand

Plan to incorporate needed pre-weatherization work and home insulation and air sealing and find other funds for air source heat pumps and healthy home retrofits

Establish a project template based on successful examples, Then any group of cities with enough residents meet LIHEAP income guidelines could work with their local CAP agency and County HRA, if they have outreach capacity

**implementing agencies**

Mn Dept of Commerce, City of Minneapolis, St. Paul, Duluth, etc. Community Action Agencies, County HRAs

**Legislative**

Mn Legislature already approved some pre-weatherization dollars and funding to replace electrical panels along with the competitiveness fund and MNCIFA

**Additional funds**

Federal Energy Assistance, Utility Incentives, Mn Legislature already approved some pre-weatherization dollars and funding to replace electrical panels along with the competitiveness fund and MNCIFA Could tie in with Tribal IIJA and IRA funds. and MN PUC next steps with Inclusive Financing Tarif on Bill financing Docket.

**Metrics**

CAP agencies already track stats for their federal energy assistance weatherization projects, would need to add tracking for heat pumps improved indoor air quality for family members with Asthma, etc.

**costs**

What gaps (i.e. outreach) would the EPA CPRP funds cover? Minneapolis Health SHHE Division has the costs for home weatherization + heat pumps + healthy homes and funding sources, costs would be lower outside the metro

**Low income benefits**

Very direct benefit for low income households, supporting them to access federal energy assistance plus a one stop shop for pre-weatherization, weatherization/air sealing, heat pumps, appliances, healthy home retrofits to reduce asthma triggers, mold, lead, radon, etc. reduced energy costs and lower summer and winter energy costs.

**Contact name and affiliation**

Kim Havey City of City of Minneapolis, Jed Norgaarden SRC, MN CUB

kim.havey@minneapolismn.gov ; j.norgaarden@src-mn.org ; carmenc@cubminnesota.org

**Expanding building electrification in Commercial/Multifamily New Construction**

* new 4 story commercial/residential buildings, especially along transit corridors <https://rccmn.co/green-development-buildings-financing/>
* In partnership with MN cities experiencing a lot of redevelopment
* Support City community development staff to
* Use City Sustainable Building Policies and PUD, variances, TIF leverage
* Meet with developers/architects and builders early in project development to share
* Share example projects and financing and HVAC options (i.e. low temp water, building wide HVAC with unit by unit heat pumps)
* Demonstrate cost effective plans to install building wide HVAC that is geothermal ready to steer them away from using unit by unit HVAC - magic packs
* **Challenges,** Split incentive between developer and building owner

**Resources** - CEE’s Heat Pump campaign Evergreen Energy and Darcy Solutions, Ground source geothermal wells, St. Paul Port Authority PACE for new construction

Good for reducing natural gas usage in new buildings for both 2030 and 2050 benchmarks.

**Implementation schedule**

Focus on specific current popular new commercial and multi family building types - i.e. warehouse, strip mall, 4 story mixed use with cement 1st floor and 3 stories of 2 by 4s with drywall. St. Paul Port Authority is working on a prototype related to warehouse. CSBR and Elevate can find examples for 4 story mixed use multi family.

Focus involving cities that are issuing a lot of commercial and multi family building permits - especially along the new LRT and BRT lines in the metro and in Duluth and Rochester, Metro Transit TOD/ Met Council office has a lot of the detail.

Work with CSBR and MN Housing/Green Communities to identify outstanding current projects and the new technologies they are using, i.e. R-Wall, low temp water building wide HVAC with unit heat exchangers. Develop 2 different funding stacks - one for Privately funded new developments and a second for public funded multi family construction.

Public buildings will hit the SB 2030 threshold for moving away from natural gas 3 years before private commercial and multi family buildings will be required to do this as the Mn State Commercial Building Energy Code performance standards increase via 2023 MN legislation. Invite architects and developers working to meet the public building requirements to educate private developers to follow similar design, HVAC etc. to start designing and building lower carbon commercial and multi family buildings right away

**key implementing agencies**

Commerce, U of MN CSBR, CEE, Elevate, MN Housing, MN ULI. St. Paul Port Authority, MNCIFA

**milestones for approval**

Cities have leverage to incentivize developers to create lower carbon new commercial and multi family zoning, via sustainable building policies, zoning variances, PUDS, TIF financing, etc. The key is to meet with developers early in the process and to connect them with successful low carbon examples with developers of buildings of the same building type.

Public buildings will hit the SB 2030 threshold for moving away from natural gas 3 years before private commercial and multi family buildings will be required to do this as the Mn State Commercial Building Energy Code performance standards increase via 2023 MN legislation. Invite architects and developers working to meet the public building requirements to educate private developers to follow similar design, HVAC etc. to start designing and building lower carbon commercial and multi family buildings right away.

**additional funding**

IRA Tax Credits, and additional tax credits via low income, local workforce etc. PACE financing, MNCIFA, expanded MN affordable housing funds, Utility funded design assistance. Still need to address the split incentive between the building developer and their finance partners (and interest rates) and the building owner/operator and residents or businesses that pay for the heating and cooling costs and peak demand charges.

**Metrics**

Get the GHG numbers from successful examples, then show the delta between x number of projects being built with business as usual and the improved building performance and lower GHG numbers if they match the example projects for their building type.

Need to see what the EPA CPRG funding could pay for to support a cohort cities pulling a lot of permits for new commercial and multi family construction to be able to engage developers early on to use designs, financing, building envelop, HVAC and construction techniques to match the best examples of their building type. Elevate Energy is good at curating funding stacks for developers. They could create sample financing stacks for each building and developer type.

**Benefits**

Building wide HVAC can have good indoor air quality benefits, especially with the need to prepare for canadian wild fire smoke. Good to help all the building trades to transition to the new HVAC systems and new construction techniques that reduce air leaks, etc. Good for reducing summer and winter utility peaks. Lower heating and cooling costs make housing and commercial space more affordable.

**Advancing District Geothermal pilot projects with 8 MN Cities**

**currently in the planning stage into the implementation stage**

Duluth, Rochester, Minneapolis, Arden Hills/Rice Creek Commons, Northfield, Minneapolis – Sabathani, Seward - Redesign 28th/East Lake Towerside/ Upper Harbor Terminal, U of MN, St. Paul the Heights

Any additional MN cities have projects lined up?  Bloomington, St. Cloud? .<https://rccmn.co/district-ground-source-energy/>

Also our MN Cities advancing district geothermal could propose a district geothermal peer learning cohort with NREL (that might attract cities outside of MN)  **C2C Peer-Learning Cohorts** [**Apply by Oct. 31, 2023**](https://forms.office.com/Pages/ResponsePage.aspx?id=fp3yoM0oVE-EQniFrufAgDG9RDCH3opImMKJK6bWYC1UQUQyNFJCTVNKNEZFSFkyMkZGVENFWEJGVy4u)

**Clean Energy to Communities (C2C)** offers peer-learning cohorts to advance local clean energy goals. Cohorts are funded by the U.S. Department of Energy and managed by NREL with support from the World Resources Institute.  <https://www.nrel.gov/state-local-tribal/c2c-peer-learning-cohorts.html>

Implementation schedule time line

Good for helping to meet natural gas use reduction targets for 2030 and 2050 and to reduce the summer and winter energy peak usage even with hotter summers, etc.

Peer learning and implementation cohort with staff and development partners Advancing District Geothermal projects with eight MN Cities currently in the planning stage into the implementation and completion. Duluth, Rochester, Minneapolis, Arden Hills/Rice Creek Commons, Northfield, Minneapolis - Redesign 28th/East Lake Towerside/ U of MN, - St, Paul, the Heights, Any additional MN cities have projects lined up? Bloomington, St. Cloud

Help one another to develop clear pathways for the geothermal wells of the anchor properties to be able to connect in with adjacent properties. New buildings must be design and constructed to be ready to connect into the geothermal. Nearby exiting buildings must adjust their HVAC replacement plans to install HVAC that will be compatible to connect into district geothermal.

Overcome regulatory barriers for tapping into thermal energy via at Rice Creek Commons via the army superfund site water filtration, Duluth using water treatment plant heat and northfield using waste heat from malt o meal. Streamline permitting with state agencies for Darcy aquifer based geothermal wells.

Share the financing tools each project is using, for example setting up a nonprofit LLC to be the mini energy utility with the future energy payments of the participating buildings being used to attract up front funding to construct the geothermal wells.

Ever-green energy and Darcy solutions are working with most if not all of the cities listed here.

Key implementing agencies

Commerce, Ever Green Energy, Darcy Solutions Cities and counties, depending on who owns the land, Commerce, St. Paul Port Authority,

Milestones for obtaining legislative or regulatory authority, as appropriate

Overcome regulatory barriers for tapping into thermal energy via at Rice Creek Commons via the army superfund site water filtration, Duluth using water treatment plant heat and northfield using waste heat from malt o meal. Streamline permitting with state agencies, cities, etc. for Darcy aquifer based geothermal wells.

Identify additional, complementary funding sources

Because all 8 of these geothermal projects are in the planning stage, they should be able to move into implementation and completion relatively quickly. Share the financing tools each project is using, for example setting up a nonprofit LLC to be the mini energy utility with the future energy payments of the participating buildings being used to attract up front funding to construct the geothermal wells. Predevelopment grants, PACE, MNCIFA, private financing, tax credits.

Metrics for tracking progress

Get the delta between business as usual HVAC with using district geothermal systems and multiply by the square feet to be developed at each of the 8 developments. Lower heating and cooling costs for residents and businesses. Climate resilience via heat waves. Indoor air quality.

Quantitative cost estimate

What will the EPA CPRP funds pay for? in addition to the funding stacks each of the district geothermal project developers are creating

Describe benefits to low-income and disadvantaged communities

Lower heating and cooling costs contributes to affordable housing and commerical space. Green job development, indoor air quality.

contact names

Michael Ahern, Evergreen Energy Andy Hestness, Redesign Brian Larson, Darcy Solutions

michael.ahern@ever-greenenergy.com ; andy@redesigninc.org ; brian@darcysolutions.com