Financing & Incentive Options for Community Renewable Energy Projects

Moderator:

Indu Lnu / *University at Albany*

Panel:

Donovan Gordon / *NYSERDA*

Dylan Turek / *City of Troy*

Shadrach Treat / *Siemens*

Jacob Goldman / *Energy Tax Savers*

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Decarbonizing Troy
District Geothermal Utility Case Study

Shadrach Treat
Energy Services
Market Lead
Siemens Industry, Inc.

Dylan Turek
Director of Economic
Development
City of Troy, NY & Troy LDC

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Case Study | City of Troy, New York

Historic Downtown Area

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Project Background

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Phase 1 – Beginning 2023

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Phase 2 – Beginning 2024

Backup Slides – Reference Only

Challenge #1 | “Great idea! Before we start: who knows what we’re doing?”

Stakeholders

Select the right partners from the start

The Problem: Framing the project with little relevant experience.

- Real Estate: Who owns the land?
- Engineering: How do you design and build in an historic downtown?
- Project Management: How do you manage all off-taker projects along with your own?
- Technology: What equipment and systems provides efficient and automated control of the system?
- Financing: How do we pay for it?
- Sales: Who needs to support/approve the project and what are their broader goals/motivations?

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Lesson Learned #1

Engage a core group of partners with strategic expertise

- City of Troy
  - Owns and controls public land.
- Siemens
  - Global technology providers with in-house energy, workforce development and cleantech solutions
- CHA
  - Regional engineering firm with strong relationship with all partners. Specializes in public infrastructure and energy systems engineering
- Troy LDC
  - Semi-gov't non-profit corporation controlled by a small board of directors that operates outside direct City control

Fill remaining gaps with contracted relationships

- Public Funding
- Financing
- Thermal Distribution Network
- Workforce Development

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Challenge #2 – “Yeah baby! We’re the first!”

“Shit, we’re the first…”

Ownership issues & unintended consequences

- Public Infrastructure projects are typically funded through Municipal Bonds (GO bonds) with Bond Anticipatory Notes (BANs) for cashflow.
  - New York State Public Finance Law prohibits City from bonding 1st loop… according to an attorney (ok, our attorney).
- Project requires large upfront capital investments, but promises reduced operating costs (we hope?)
  - Traditional financing with higher interest rates will drive up debt service and user fees
- City ownership presents possible political problems (Yes, that’s a four-word use of unnecessary alliteration. No, I won’t apologize. You apologize.)

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Lesson Learned #2 | Be flexible and willing to pivot…a lot

“City can’t own and bond for the 1st phase? Fine.”

- Introducing the Troy Local Development Corporation
  - Own the system
  - Secure flexible financing options
  - Board of Directors appointed by Mayor
- TLDC doesn’t own the needed parkland, the City does…
  - Subterranean rights to utilize Riverfront Park for thermal extraction/sink.
- Nobody can definitively state whether subterranean rights under parkland qualifies as alienation…
  - State Senator John McDonald says better safe than sorry and agrees to introduce the first ever park alienation agreement for the purposes of developing a thermal energy district during the legislative session.
- “Hold up, doesn’t State law require in-kind replacement of the alienated parkland somewhere else? This makes no sense…”
  - Get imperfect legislation passed and just keep moving forward.

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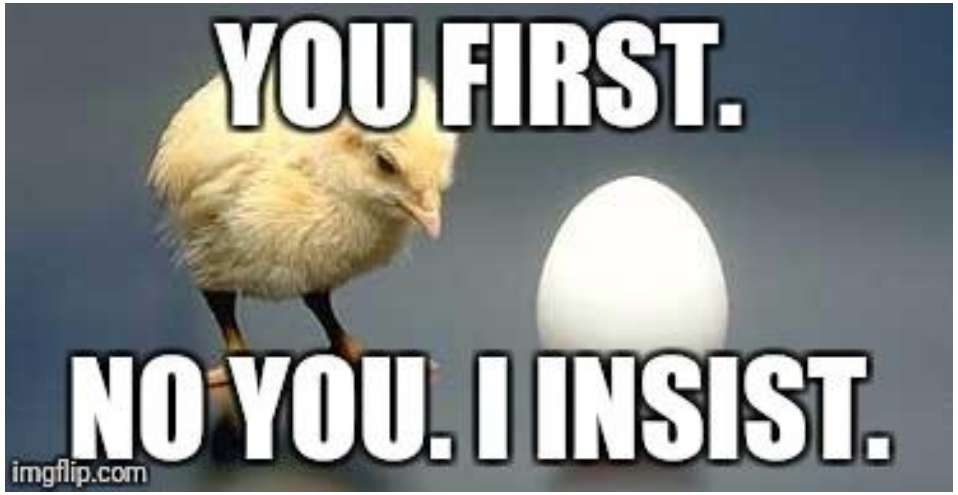
Challenge #3 | Funding

“Borefield of Dreams”

Municipal District Energy vs. Traditional District Energy

- Off-taker Obstacles:
  - Diverse, not finite group of off-takers
    - Developers, businesses, non-profits, residential etc.
- Off-takers existing heating/cooling infrastructure
- Varied off-taker construction schedule
- Various Off-taker cost-benefit exploration
- Off-taker leap of faith
- Determine how is the project funded



Result – Risky….but lucrative financial models

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Lesson Learned #3 | Funding not just financing

“We get by with a little help from our friends… and persistence… and luck.”

- Problem: “We need money…”
  - Solution: Target Grant Funding - NYSERDA supports TLDC with significant grant funds
- Problem: “The project is still too expensive…”
  - Solution: Expand partnerships - National Grid is an expert in utility distribution. National Grid to build and own the distribution piping
- Problem: Off-taker Challenge - We still need off-taker/user fees to secure funding for our portion of the project
  - Solution: As our regional energy provider, all future off-takers are already National Grid customers. Let them handle customer agreements and instead, let’s just charge them a fee inclusive of our remaining debt service, overhead and expenses
- Problem: Off-taker Challenge Part 2 - National Grid needs off-takers to test rate case and nobody wants to sign up first
  - Solution: National Grid agrees to cover costs related to off-taker MEP conversions
- Luck: NYS law requires all major utilities in the State to engage in pilot rate cases for district energy systems and to get ahead of accepted oncoming market disruption
- Persistence: Out of all the proposed pilot projects in NY State, Troy is the only P3 structure proposed with publicly-owned assets… and we’re much further along than all the other projects…

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The Result

- Troy Local Development will own production.
- National Grid will own delivery.
- TLDC leases subterranean rights from City of Troy based on a share of revenue.
- TLDC enters P3 partnership with Siemens for Design Built Operate Maintenance of the system.
- The TLDC's portion of the project costs over $12m.
- National Grid becomes the 1 off-taker or customer of the TLDC.
- National Grid maintains existing relationship with customers: delivery of utility, billing, maintenance of infrastructure, customer service, etc.
- 1st phase would not be possible without NYSERDA support and likely would not have been financeable without guaranteed off-taker in National Grid.
- 2nd and 3rd phases are now financeable on the back of the 1st phase plus tax credits earned from IRA.

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Financing and Ownership Models for Community Energy Projects

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Donovan Gordon
Director of Clean Heating & Cooling

April 26, 2023

NYSERDA View on Financing Community Energy Projects

- Depends on size and type of project
  - Single owner campus (college, hospital, multifamily)
  - Multiple building owners crossing public rights of way
  - Government owned buildings
  - Privately owned buildings

NYSERDA View on Financing Community Energy Projects

- Private Equity Financing
- Commercial Banks
- Public/Private partnerships
- Utility Ownership
- Municipal Ownership
- Master Limited Partnerships (MLP)
- Real Estate Investment Trusts (REIT)
- ESCO
- DOE Loan Programs Office (LPO)
- C-PACE
- Green Bonds
- Green Bank
- Tax Credits
- State or local grants and incentives

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Who Gets the Credit

- **Economic Owner of the Eligible Equipment**
- **Said another way, "Who is Depreciating the Asset"**
- **Operating Lease vs Capital Lease**
  - **Operating Lease is more like a rental Financier typically get the Tax Incentives**
  - **Capital Lease the Property owner gets the Tax Incentive**
- **Avoid "Limited Use" situations**
  - Company A owns "limited use" property that has been installed on the premises of Company B
  - Typically uneconomic or impractical to remove
- **Tools**
  - **Tax Credit**
  - **Direct Pay**
  - **Transfer**

Direct Pay

Elective Payment of Applicable Credits-§6417 (2023-…)

- Some Gov't and Not-for-Profit can benefit from the credit
  - ''(i) any organization exempt from the tax imposed by subtitle A,
  - ''(ii) any State or political subdivision thereof, (**NOT FEDERAL PROJECTS**)
  - ''(iii) the Tennessee Valley Authority,
  - ''(iv) an Indian tribal government (as defined in § 30D(g)(9)),
  - ''(v) any Alaska Native Corporation (as defined in section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602(m)), or
  - ''(vi) any corporation operating on a cooperative basis which is engaged in furnishing electric energy to persons in rural areas.
- **3 Ways to avoid 10% Haircut**(§48(a)(13) → (§45(b)(10))
  1. <1MW or
  2. Meets Domestic Content or
  3. Start of Construction prior to 1/1/24
  - Otherwise, 90% (Some exceptions exist)
- **Up to a 15% haircut for projects paid for with Tax-Exempt Bonds** §48(a)(4) → §45(b)(3)

Credit Transfer

- **Tax credit from commercial clients can be Transferred to other Commercial Clients- §6418 (2023-…)**
  - If credit receiver does not have tax capacity, they can sell the credit to a taxpayer that does
  - This does **NOT** allow Gov't Buildings/Not-for-Profits to sell the credit
  - Markets will be created

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Tax Credit Math

- **6% Base Credit**
- **5x Bonus**
  - **(6% x 5 = 30%)**
- **Domestic Content 2% Bonus or with 5x Bonus 10%**
  - **[6% + 2% = 8%, or (6% + 2%) x 5 = 40%]**
- **Energy Community 2% Bonus or with 5x Bonus 10%**
  - **[6% + 2% = 8%, or (6% + 2%) x 5 = 40%]**
- **Domestic Content & Energy Community 2% + 2% or with 5x Bonus 10% + 10%**
  - **[6% + 2% + 2% = 10%, or (6% + 2% + 2%) x 5 = 50%]**

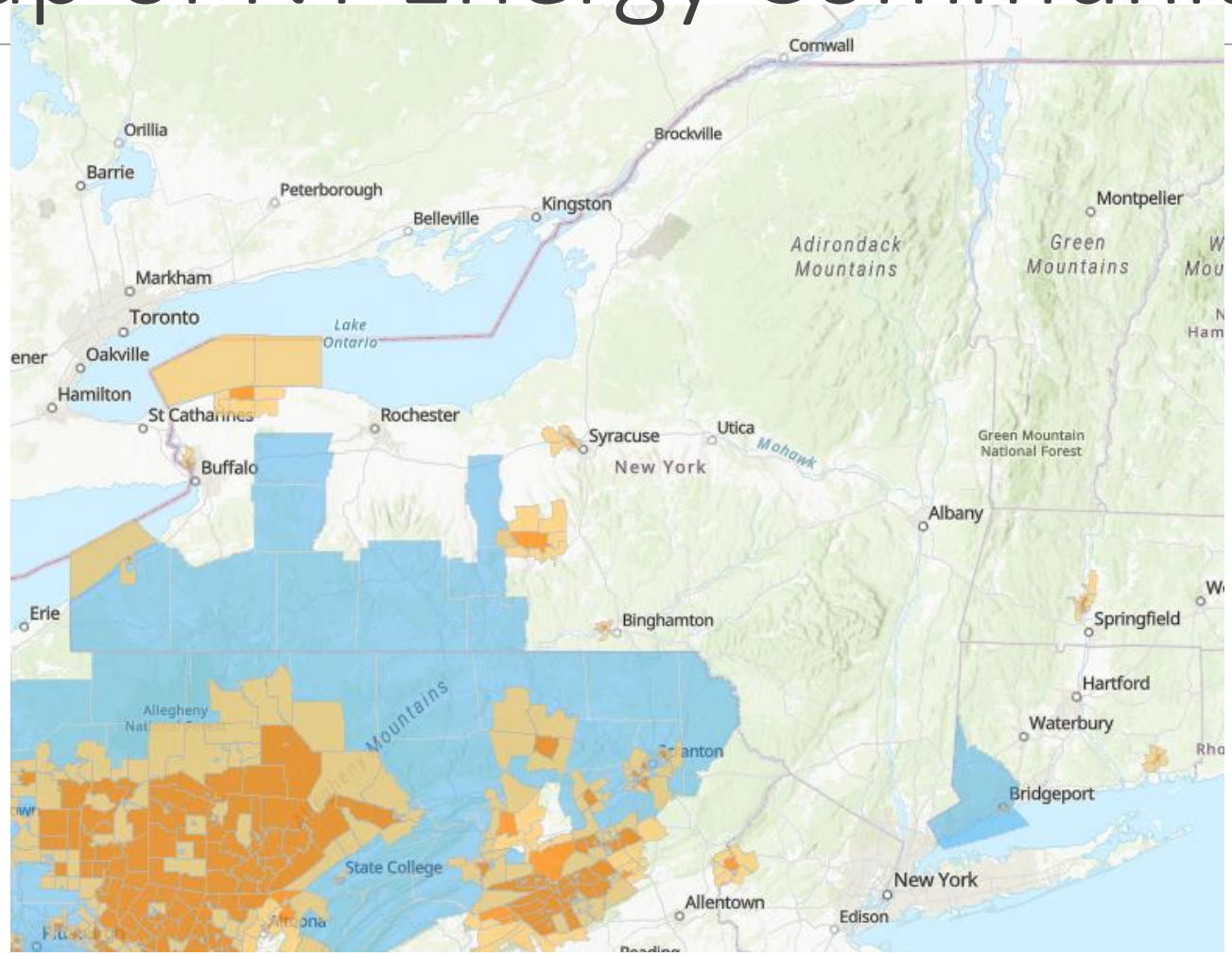
Alternative Energy Credits-Bonus

- **5 Times Bonus (6% x 5 = 30%) (2022-…)**
  - Project with a Net Output of less than 1 MW (284 Tons?) or
  - Meets the Prevailing Wage and Apprenticeship (P+A) Requirements (IRS Notice 2022-61) or
  - Projects that begin Construction prior to January 29, 2023
- **Domestic Content Bonus (Qualified Facility) (2023-…)**
  - 100% of the cost of steel and iron and 40% of manufactured product (49 CFR § 661.5) is produced in USA
  - 2% Bonus (6% + 2% = 8%)
  - If project meets 5x Bonus requirements, 10% Bonus (30% + 10% = 40%)

Alternative Energy Credits-Bonus

- **Energy Community Bonus**
  - Energy Community
    - Census Tract or adjoining tract with a Coal Mine closed since 2000 or
    - Census Tract or adjoining tract with Coal Fired plant closed since 2010 or
    - Brownfield Site (42 U.S.C. 9601(39)) (https://cimc.epa.gov/ords/cimc/f?p=cimc:map::::71:P71_WELSEARCH:NULL|Cleanup|||true|false|false|false|false|false|||sites|Y) or
    - Area with 0.17% direct employment related to Coal, Oil or NG and higher then avg unemployment(**Based on Start of Construction**) or
    - ~~Area with 25% tax revenue related to Coal, Oil or NG and higher then avg unemployment~~
  - 2% Bonus (6% + 2% = 8%)
  - If project meets 5x Bonus requirements, 10% Bonus (30% + 10% = 40% + 10% Domestic = 50%)
  - Official IRS Site: Will be completed in May, partially usable now. Updated every May:
  - https://arcgis.netl.doe.gov/portal/apps/experiencebuilder/experience/?id=a2ce47d4721a477a8701bd0e08495e1d
  - Unofficial Site https://storymaps.arcgis.com/stories/844bd085378b4c1c9da9bf1081d5bb66

Map of NY Energy Communities



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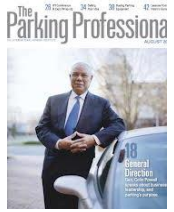

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https://www.youtube.com/watch?v=0EmLakKLjms