



# Legislative Agenda for District Energy and CHP

## Role of District Energy and Combined Heat & Power in Energy and Climate Policy Solutions

Briefing sponsored by  
Environmental and Energy Study Institute  
and International District Energy Association

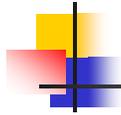
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## Benefits of district energy & CHP

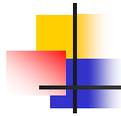
- Economic stimulus
  - Construction and green collar jobs
  - Multiplier effect of investing in local energy
- Waste heat recovery (recycled energy)
  - CHP
  - Industrial
  - Municipal



## Benefits of district energy & CHP

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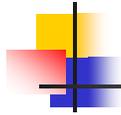
- Renewable energy
  - Bioenergy
  - Geothermal
  - Natural cooling energy
- Greenhouse gas reduction



## Benefits of district energy & CHP

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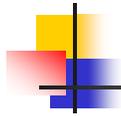
- Reliability and energy security
  - Local energy sources
  - Energy supply flexibility
  - "Smart grid" power demand management
    - Load shifting (thermal energy storage)
    - Power generation near load center



## Why is legislation needed?

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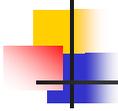
- Core issue: district energy & CHP are capital-intensive
  - In essence, district energy substitutes capital for ongoing energy costs and related environmental impacts
  - Financing constraints in both the non-profit and for-profit sectors
  - Exacerbated by credit meltdown
- Differences between non-profit and for-profit sectors



## Legislative recommendations

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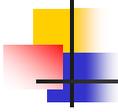
- Appropriations FY 2010
  - \$750 million for Section 471
  - \$222 million for Section 451
- Tax incentives
  - 5-year depreciation on district energy assets
  - Expansion of tax-exempt bonding
  - Thermal energy production tax credits



## Energy Sustainability and Efficiency Grants and Loans for Institutions

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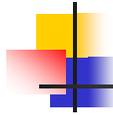
- Authorized in **Section 471** of Energy Security and Independence Act of 2007 (EISA)
- Eligible entities
  - Institutions of higher education (public or non-profit)
  - Local governments
  - Municipal utilities
  - Public school districts
  - Designee of one of those entities



## EISA Section 471

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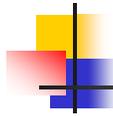
- Technical Assistance Grants
  - Help in “identifying, evaluating, designing, and implementing sustainable energy infrastructure”
- “Sustainable Energy Infrastructure”
  - District energy systems and facilities for producing energy from renewable energy sources, thermal energy sources, or highly efficient technologies, including CHP or other waste heat use



## **EISA Section 471**

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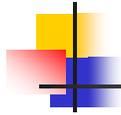
- Grants
- Loans
  - Maximum 20 year term
  - Interest rate benchmarked to Treasury securities with a similar maturity
- Authorized appropriations of \$3.75 billion over FY 2009-2013
  - \$1.25 billion in grants
  - \$2.50 billion in loans



## **Waste Heat Recovery Program (EISA Section 451)**

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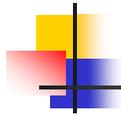
- Industrial waste heat can be recovered for use as heat or conversion to cooling or electricity
- Survey and registry of opportunities for energy recycling
- Dissemination of information
- Waste energy recovery grants
  - \$10 per MegaWatt-hour of electricity
  - \$2.93 per million Btu of heat



## Tax provisions -- depreciation

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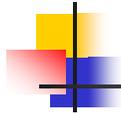
- Tax depreciation provides taxpayers an annual deduction against income to reflect the loss of asset value over time
- Modified Accelerated Cost Recovery System (MACRS) sets the current rules for federal tax depreciation
- 20-year MACRS depreciation is generally required for district energy assets



## Depreciation

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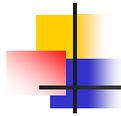
- IDEA advocates 5-year depreciation for district energy assets
- Why?
  - Critical difference in investment decisions for this capital-intensive, low-carbon energy strategy
  - Tax code is clearly used to achieve public policy goals
  - Encourage substitution of capital for energy consumption



## Tax exempt bonding

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- U.S.C. 26 Section 142 provides for tax-exempt bonds for financing facilities with public benefits, including “local district heating or cooling facilities”
- Current definition is limited to distribution systems
- IDEA advocates that eligibility for tax exempt bonds be expanded to include district energy plant and building connection assets as well as distribution piping

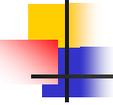


## Tax exempt bonding

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### Why?

- Potential plant investments provide key opportunities for increased efficiency, use of renewable energy and reduced carbon emissions
- Equipment for connecting buildings to district energy systems is an essential element in these systems
- By reducing interest costs, tax-exempt financing reduces debt service costs and thus stimulates increased application of these low-carbon systems and the public benefits they provide



## Thermal energy production tax credits

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- U.S.C. 26 Section 45 provides a production tax credit (PTC) for renewable generation of electricity using certain renewable resources
- 2.1 cents per kWh for wind, geothermal and 'closed-loop' bioenergy (dedicated energy crops)
- 1.0 cents per kWh for 'open-loop' biomass, incremental hydropower, small irrigation systems, landfill gas and municipal solid waste
- IDEA advocates that a tax credit also be provided for production of renewable **thermal** energy, at the same rates and terms provided for electricity

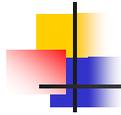


## Thermal energy production tax credits

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### Why?

- By limiting renewable energy incentives to electricity only, we limit our ability to shift to a low-carbon sustainable future
- There are substantial opportunities to expand the use of renewable energy resources to meet thermal needs
- Renewable thermal energy PTC would provide an extremely important incentive to invest in these systems, accelerating our nation's transition to a low-carbon future



## Climate Change Legislation

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- Proper design of cap-and-trade system is critical to avoid perverse results
- District energy affects multiple sectors beyond the district energy plant boundaries
  - Buildings
  - Power generation



## Climate Change Legislation

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### Recommendations

- Regulate natural gas and fuel oil emissions upstream
- Energy sector allowances should be allocated based on total useful energy output, including both power and heat from CHP
- Where “low-carbon generation” is defined, the emissions criterion should be established in pounds of greenhouse gases per unit of total useful energy (both electrical and thermal)
- District energy and CHP should be included in clean energy funding created through auctions and receive allowance allocations from for clean energy

**Thanks for your attention!**  
**Questions?**

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