



Alternative Energy Sources for Water & Wastewater Facilities

Rhode Island League of Cities and Towns
Annual Convention
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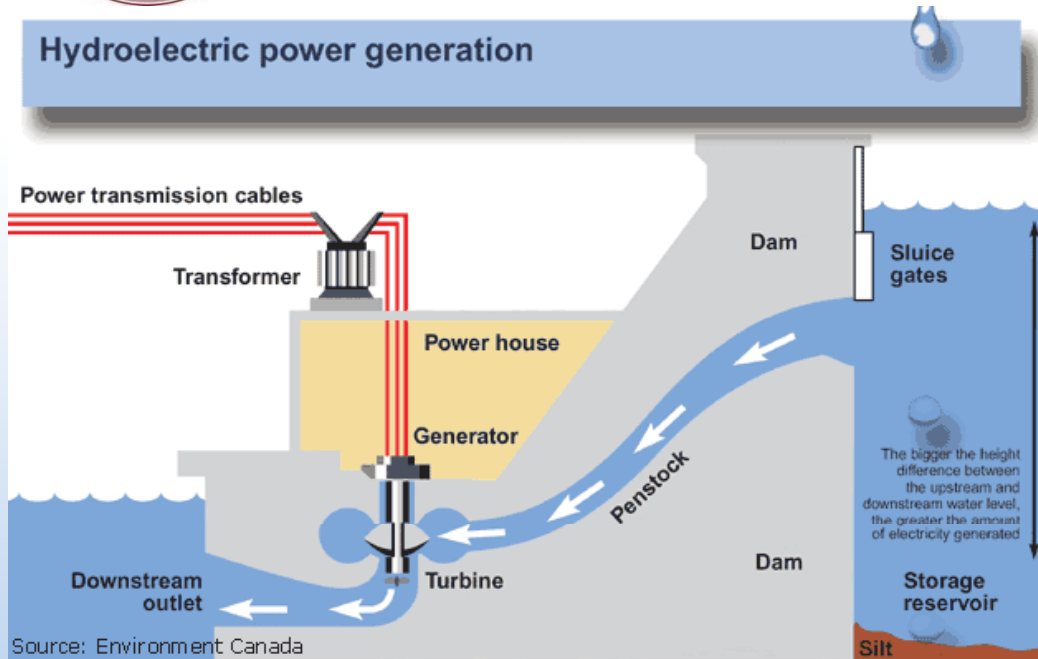


Renewable Energy Alternatives

- Hydrodynamic – Electricity or Direct Use
- Geothermal – Groundwater Closed Loop/Open Loop or Constant Thermal Source
- Solar- Photovoltaic



HYDROELECTRIC ENERGY



Source: Environment Canada





TORRINGTON WATER COMPANY: HYDRO PUMP PROJECT



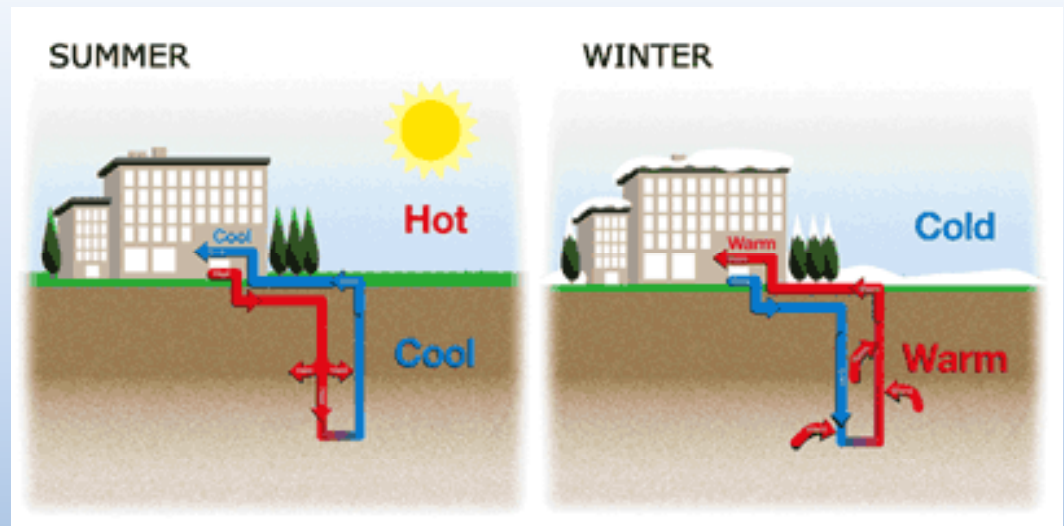
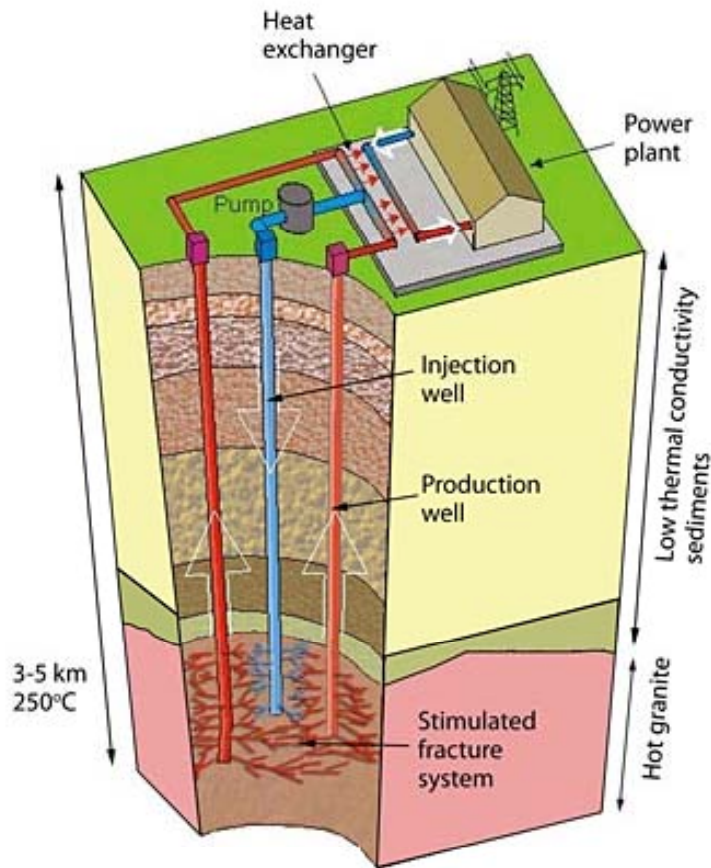
The Torrington Water Company's Hydropump, installed and operating. Note the custom made mounting assembly designed by AVI International in Torrington.



Construction of the bypass pipes needed to direct raw water to the basement of the pumping station. Virtually all of the installation was accomplished by Torrington Water Company employees.



GEO THERMAL ENERGY





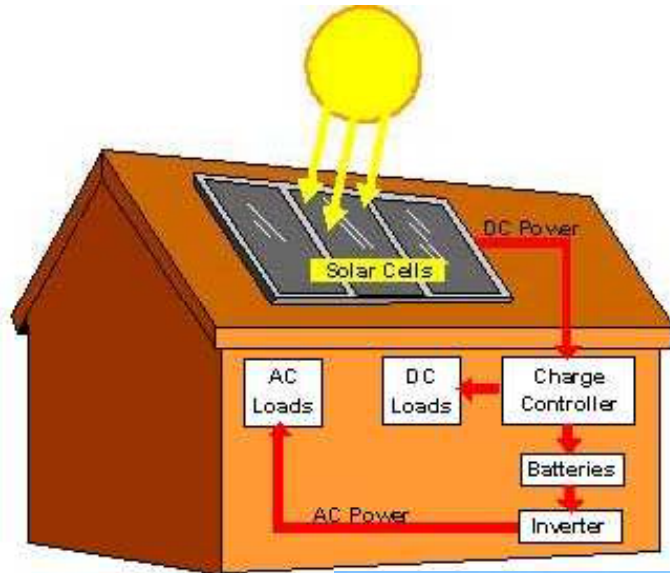
Litchfield WWTF

Heat Pump System





SOLAR ENERGY







Key Technical Parameters

- Is there a need?
 - Is your system a major power or heat user?
- Proximity to the power grid
- Land Availability
- Ability to permit and interconnect in a timely manner



Key Financial /Institutional Issues

- Is Net Metering allowed?
 - Yes – with some restrictions
- Ability to transfer generation credits to multiple accounts
 - Yes – Municipal and Farm
- Magnitude of the Financial Incentives- Federal and State



Federal Incentives

- 30% Grant Expired at the end of 2011
- 30% Tax Credit through 2016
- Accelerated Depreciation
- Private Entities and Developers can access Tax Credits



Rhode Island Incentives

- Incentive Program revamped in 2011
 - Distributed Generation Standard Contracts
 - Renewable Energy Class Goals
 - RI Renewable Energy Fund (RI REF)



Rhode Island Incentives

- Distributed Generation Standard Contracts (DGSC)
 - Set Rates for PV
 - 10-150kw
 - 151-500kw
 - 501-5,000kw
 - Wind (all sizes)



Rhode Island Incentives

- Renewable Energy Goals Set
 - 2011 5mw
 - 2012 20mw
 - 2013 30mw
 - 2014 40mw (total capacity)



Rhode Island Incentives

- DGSC
 - 15 yr term
 - Fixed rate
- Rates can be adjusted based on level of activity
- Small projects <500kw
 - First come first serve basis
- Large Projects based on lowest pricing.



Rhode Island Incentives

- Renewal Energy Fund Grants/Loans

Eligible Entities via RIEDC

- Non Profit Housing
- Municipal Government
- Businesses and Educational Institutions
- Pre Development Consultant Feasibility Program available to all above classes.



Rhode Island Incentives

- RI REF Collects and Disburses \$2 – 2.4M a year
- Application deadlines are in March and September
- Key Goals of the Program
 - Job retention/creation
 - Business attraction and development
 - Overall economic development



Rhode Island Incentives

- Net metering – up to 5mw
 - Some restrictions
- Municipal Entities can utilize a third party developer
- Farm based systems can also receive credit for multiple meters.



Rhode Island Incentives

- Standard for Net Meter Connection
(similar to MA)
- Simple Contract Format
- 15 Year Term
 - Allows for ease of financing



Benefits of Private Developer

- No up-front cost
- Predictable cost of electricity over 15 years
- No need to deal with complex system design and permitting process
- No operating and maintenance responsibilities
- Net metering credit for electrical usage



Developer Agreements

- Electricity price (\$/KWH)
- Annual price increase factor
- Maximum price
- Land lease amount
- Termination schedule
- Buy-out provisions/costs



Resources

- Database of State Incentives for Renewables and Efficiency www.dsireusa.org
- www.ripuc.state.ri.us
- www.riedc.com/business-services/renewable-energy
- www.riseo.state.ri.us



Questions...

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