

Status of Regional Biomass Projects

NECA's Annual Renewable Energy Conference

Dale Raczynski, P.E. , Principal
Epsilon Associates, Inc.

March 5, 2009

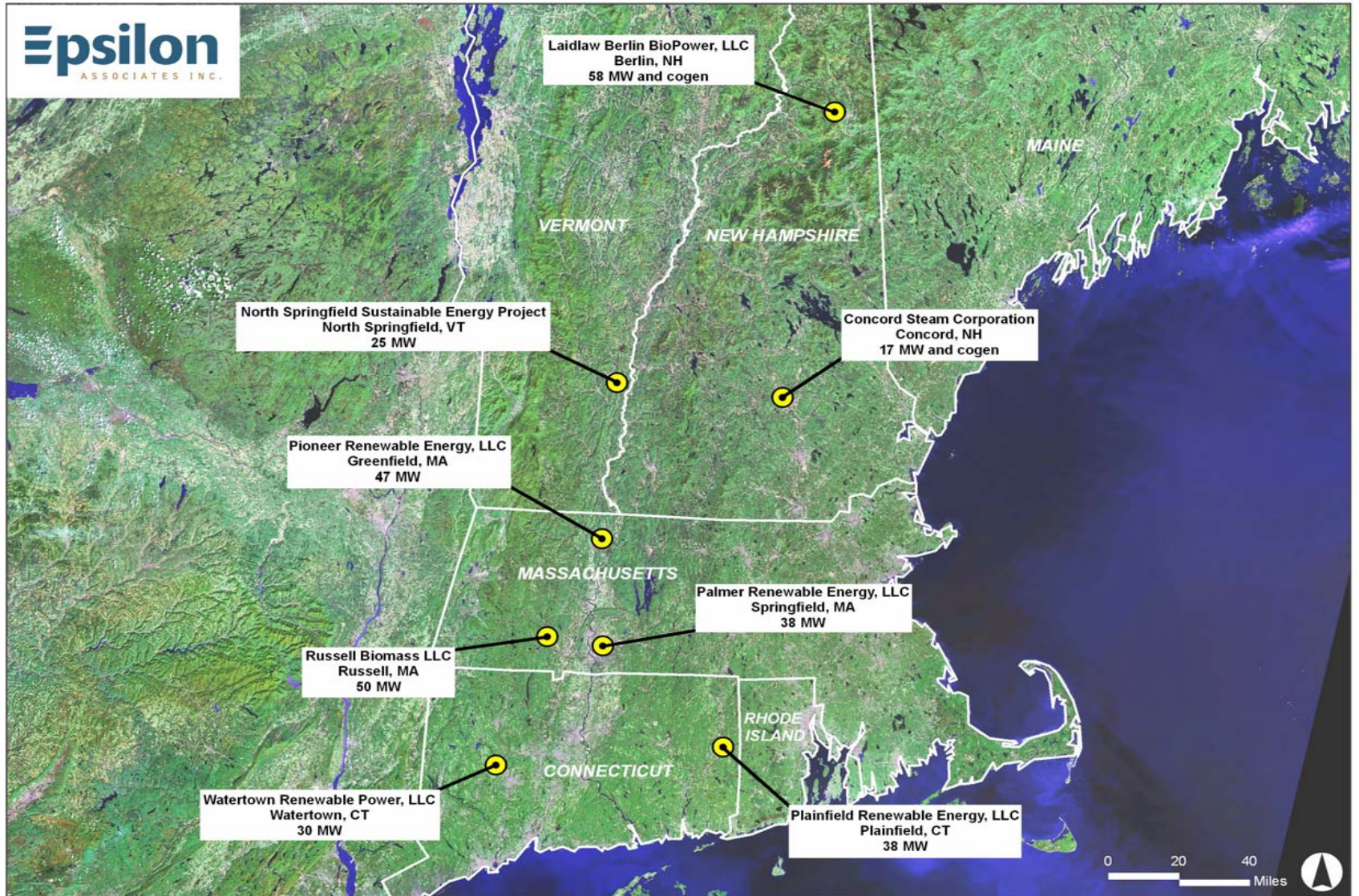


Overview

- At least 10 very active projects in development over 10 MW in size in New England; another 10 in various levels of lower activity
- About 20 existing plants over 10 MW in New England, some retrofitted with NOx control to gain REC's, some newer plants recently built (PSNH – 50 MW)
- Most existing and most new projects using “clean wood.”
- A few existing and a few new plan to use “recycled wood” including construction & demolition wood
- Siting is key for new projects – zoning, highway access, transmission, water supply

Sample List of Active Projects in Various Stages of Development

- Massachusetts
 - Russell Biomass LLC, Russell, MA – 50 MW
 - Palmer Renewable Energy, LLC, Springfield, MA – 38 MW
 - Pioneer Renewable Energy, LLC, Greenfield, MA – 47 MW
- Connecticut
 - Watertown Renewable Power, LLC, Watertown, CT -30 MW
 - Plainfield Renewable Energy, LLC, Plainfield, CT – 38 MW
- New Hampshire
 - Laidlaw Berlin BioPower, LLC, Berlin, NH – 58 MW and cogen
 - Concord Steam Corporation, Concord, NH -17 MW and cogen
- Vermont
 - **North Springfield Sustainable Energy Project, North Springfield, VT -25 MW**



- Russell Biomass – 50 MW- former Westfield Paper Co. site in Russell, MA –started development 1/2005 – clean wood only
 - Stoker Boiler/ESP/RSCR or BFB/FF/RSCR, Air Permit issued 12/30/08, appealed
 - MEPA process- ENF/DEIR/FEIR completed 3/2008
 - Wet cooling, avg of 660,000 gpd water from Westfield River, Water Management Act permit issued 7/2008, appealed
 - 5 mile transmission line – EFSB approval
 - DTE (blanket) Zoning Exemption Petition Denial – 8/2008, reapplied for height and setback relief – granted 2009
 - Alternative road access still being considered to avoid Main Street (32 houses).
 - Developer hopes to complete all permitting by 12/09 (5 years)

- Palmer Renewable – 38 MW- Palmer Paving site in Springfield, MA – started development 6/2006 – mostly recycled C&D wood
 - Stoker Boiler/Scrubber/FF/RSCR, Air Permit Application 11/2008 – permit expected mid 2009; dry cooling, process water from City of Springfield
 - MEPA process- ENF - 4/30/08 – MEPA completed 6/6/2008
 - Transmission line adjacent to site
 - City Special Permit approved 10/15/08; City Zoning Board of Appeals Approval of Building and Stack Height 11/25/08
 - Beneficial Use Determination Application early 2009 – based on testing program 3-5/2007 at existing C&D processor
 - Developer expects to complete all permitting in 2009 – (3+ years)

- Pioneer Renewable – 47 MW- Mackin Construction (gravel operation). site in Greenfield, MA –started development 6/2008 – clean wood only
 - Stoker Boiler/ESP/SCR
 - wet cooling, net of 660,000 gpd water from Greenfield POTW, reclaimed water, 5 mile pipeline to site – process water from on-site well
 - Transmission line – adjacent to site
 - Permitting starting in first half 2009
 - Detailed design and start construction 2010
 - Operational by 2013

- Watertown Renewable – 30 MW- greenfield site in Watertown, CT – started development 2007 – clean wood only
 - BFB “Gasification” Boiler/FF/SCR, Air Permit Application early 2007 – permit expected early 2009; wet cooling – city water
 - CSC Petition filed 8/06, approved 6/07
 - Transmission line 1/4 mile from site
 - Lessons learned – site selection key, good road access with minimal residential impacts, nearby transmission, local acceptance
 - Developer hopes to complete all permitting by mid/09 (2+ years), project financed by 12/09

- Plainfield Renewable – 38 MW- brownfield site in Plainfield, CT – started development 2004 – mostly recycled wood (C&D)
 - BFB “Gasification” Boiler/SNCR/Scrubber/FF, Air Permit Application 9/2007 – permit 2008; net 530,000 gpd from Quinebaug River, about 3 miles from site
 - CSC Petition filed 11/07, approved 5/08
 - Transmission line 1/3 mile from site
 - Solid Waste, Air, Water Withdrawal permits all appealed in 2008, 8 days of hearings in 8-9/08 – Appeals denied to be signed any day.
 - Developer hopes to complete all permitting by early/09 (5+ years), project financed in 2009
 - Lessons learned – thick skin, perseverance

Laidlaw Berlin BioPower, LLC, former Fraser Paper Mill, Berlin, NH – 58 MW and cogen steam to Fraser Paper in Gorham, NH – started development early 2008 – clean wood only

- Existing Recovery Boiler convert to BFB/FF/SCR; wet cooling
- Transmission line – presumed adjacent to site
- NH Site Evaluation Committee Application to be filed in 2009, approval expected in 2010
- Developer expects to complete all permitting in early 2010 (2 years)

Concord Steam Corporation, Concord, NH – existing 1980 converted wood fired boilers to be replaced at a new location in Concord to serve district heating in city, and cogenerate 17 MW – clean wood only – development started early 2008

- Stoker/ESP/SCR; wet cooling pond, water from Merrimack River
- Air permit application – 3/2008, draft issued 1/2009
- CSC expects to complete all permitting in 2009 (1.5-2 years)
- North Springfield Sustainable Energy Project – 25 MW- existing industrial park in North Springfield, – clean wood only – started discussions with Town in 2007, but only recently announced, expects to be operating by 2013

- Questions?
- Contact: Dale Raczynski (978-793-0693)
draczyns@epsilonassociates.com

