

# Just-in-Time Training for the Renewable Energy Job Sector



**RENEWABLE ENERGY  
TRAINING CENTER**

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# Renewable Energy Training Center *Programs at MSC*



- ⦿ US DOL \$2M grant (3 yrs.)
  - > K-12 education & outreach
  - > Displaced worker training
  - > Workshops, short courses, online and dual-credit courses
  - > **NEW (this Fall) 2-yr A.A.S. degree in renewable energy technology**



# Meeting NYS Renewable Energy Industry's Needs: *educators, workforce, economic development, employers, small business, farmers,...*



# MSC's RETC offers over \$400K in **scholarships** for:



- ⦿ RETC workshops (**50-95% of cost**)
- ⦿ Renewable energy degree programs (**\$2200/yr**)
- ⦿ Renewable energy credit courses (pre-college students - **\$300/course**)
- ⦿ In-service teacher training (K-12) – (**e.g., \$300 in supplies with training!**)

# A.A.S. Program



- ⦿ Applied, “hands-on”
- ⦿ Courses in electrical theory, analysis techniques, biofuels, wind, solar PV, solar thermal, and micro hydro
- ⦿ Students will be prepared for working safely, site assessment, residential installations, troubleshooting, and maintenance.

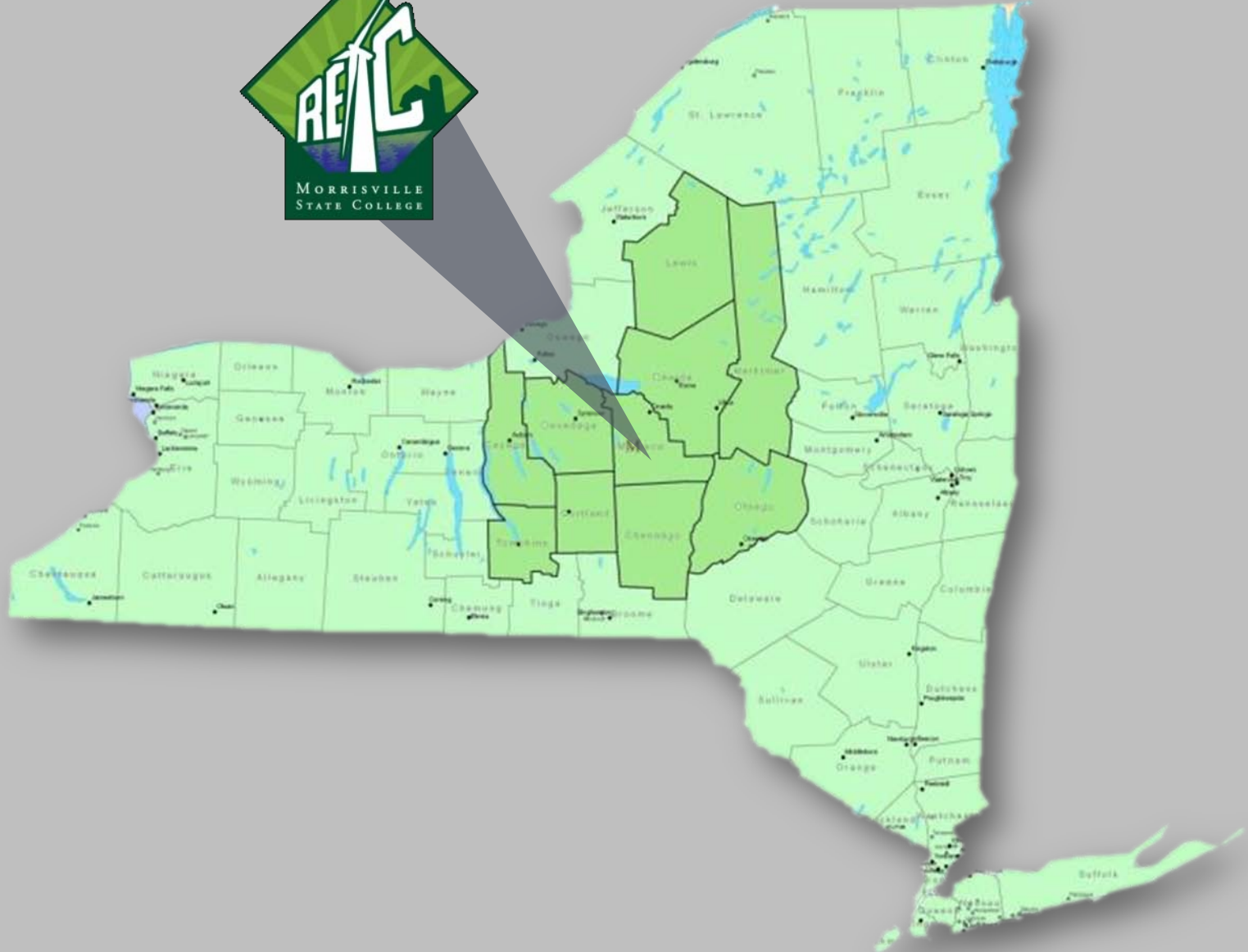
# MSC's RETC Resources

On-site learning labs and  
dedicated faculty and staff



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# The Training Center – Location



# The Training Center – Shannon Hall





# RETC Staff



# Anaerobic Digester



# Anaerobic Digester



# Biofuels Research: *Algae*



[www.solaroasis.com](http://www.solaroasis.com)



# Aquaculture, Hydroponics, & Energy

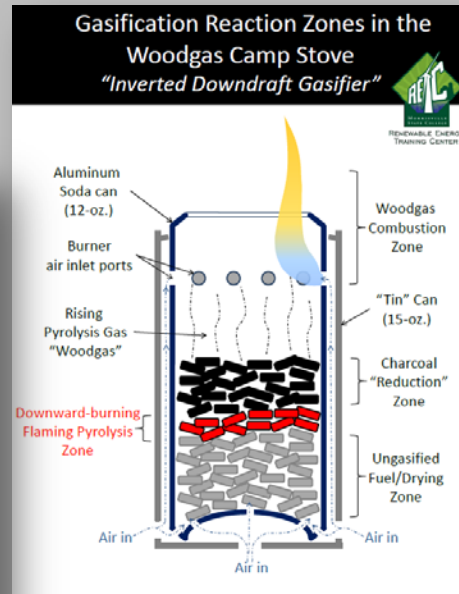


# Biodiesel from Dining Hall Fryer Oil

- ⦿ Campus dining facilities use 2500 gal. of oil per year
- ⦿ Processor capacity:
  - > 50 gal. per batch  
(1 batch per week)
- ⦿ Operated by students
- ⦿ Future use of biodiesel:  
greenhouse heating,  
tractors,...



# Gasifier (wood gasification)



# Bergey Excel 10 kW Turbine





# Meteorological Tower



# Indoor Climbing Tower (Shannon Hall)

- ⦿ Safety training - working at heights
  - > Safety gear
  - > Climbing
  - > Tools



# Fenner Wind Farm

*(10 mi. from MSC campus)*



# Micro hydroelectric



*Galbreath Farm*

North St., Morrisville, NY

6-12 gpm, 41 ft. head, ~60 watts

# Recent Training



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# Summer Youth Employment



# 2009 Professional Development Conference For Agricultural Educators

Oswegatchie Educational Center, Croghan, New York





# Solar Power as Renewable Energy

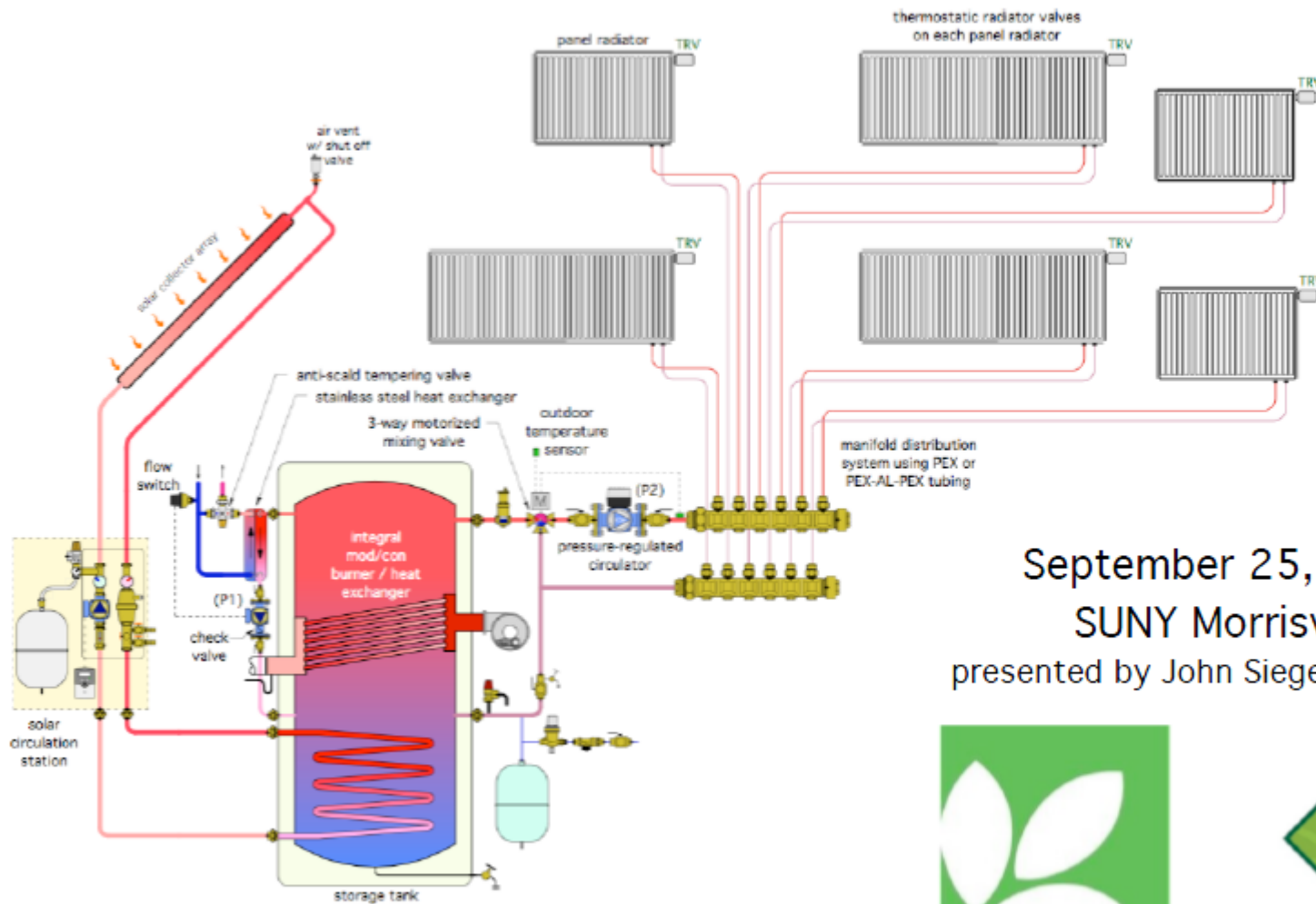
# PV Installer's Courses



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# Fundamentals of Solar Thermal Systems



September 25, 2009  
SUNY Morrisville  
presented by John Siegenthaler, P.E.



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# Solar Thermal (Hot Water) Installation Lab



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# Short Courses at MSC



- ◎ Solar thermal

- Advanced design course  
– Oct. 23, 2009

- ◎ Geothermal heat pumps –  
Nov. 13, 2009



<http://retc.morrisville.edu>

# Upcoming Training



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# Future Technical Short Courses



- ⦿ More solar PV (?)
- ⦿ More solar thermal
- ⦿ Micro Hydroelectric
- ⦿ Small Wind Energy Technician Training (SWETT)
- ⦿ Anaerobic Digester Training (with Cornell)
- ⦿ Wood gasification

<http://retc.morrisville.edu>

# Future Workshop Topics



- ⦿ For Homeowners, Small Business, Farmers:
  - > Energy Efficiency
  - > Wind
  - > Solar PV
  - > Solar thermal
  - > Biodiesel
  - > Geothermal
  - > Microhydro

# Upcoming Online Course



## ◎ RENG 102 - Renewable Energy Resources

- > Survey course of renewable energy resources with a strong focus on energy efficiency
- > **Reminder: Scholarships!**

<http://retc.morrisville.edu>



# Contact Information



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