

Reasons to Consider Biomass For Combined Heat and Power

Biomass Combined Heat and Power for Delmarva

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Today's Audience Represents Multiple Perspectives

- The biomass supplier - the forest landowner, farmer, forest product industry
- The potential biomass user - government facility, food processor, hospital, campus
- The key public and private stakeholders - banker, permit granting agency, the neighbor

Advantages of Biomass Fuels

- Stable lower cost alternative to propane and fuel oil
- Comes from local sources - helps to create new local jobs – its reliable and secure
- Provides a new market for forest landowners and farmers
- It's renewable and carbon neutral

Disadvantages of Biomass Fuels

- Storage and handling – require more space, truck traffic, potential new source for air emissions
- Higher initial capital cost for equipment
- New fuel – will require learning by staff – not well understood by permit agencies, bankers, or neighbors
- Procurement and supply infrastructure not well established

Biomass CHP

Fair and balanced fuel supply and price

- Biomass fuels compete well with propane and fuel oil – at \$40 to \$70 per ton farmers and forest landowners may be willing to expand forest management activities or explore new dedicated energy crops
- The size of CHP facilities (in contrast to electric generation plants) are better suited to local supply

Fuel Comparisons

\$ per million BTU

- Propane (\$2.41 per gallon) \$33.30
- # 2 Fuel Oil (\$2.36 per gallon) \$19.92
- Wood Pellets (\$175 per ton) \$17.27
- Coal (\$185 per ton) \$10.03
- Green woodchips (\$50 per ton) \$7.94
- Switchgrass and Willow ???

Biomass CHP

Regulators and the public should keep an open mind and weigh the benefits vs. the costs

- Biomass is renewable and carbon neutral
- Biomass CHP can help reduce electric demand in transmission constrained areas
- Biomass fuel markets support working landscapes and create new local jobs
- Biomass CHP can provide communities with secure energy for critical facilities

Biomass CHP

- A CHP application that uses 5000 tons of wood chips annually would reduce 3400 tons of carbon dioxide per year (compared to oil)
- One new job is created for every 1000 tons of biomass demand that is created
- Critical facilities (hospitals, fire, emergency management) that have biomass CHP are secure and “on-line”
- Biomass CHP can avoid the cost and delay of new transmission lines

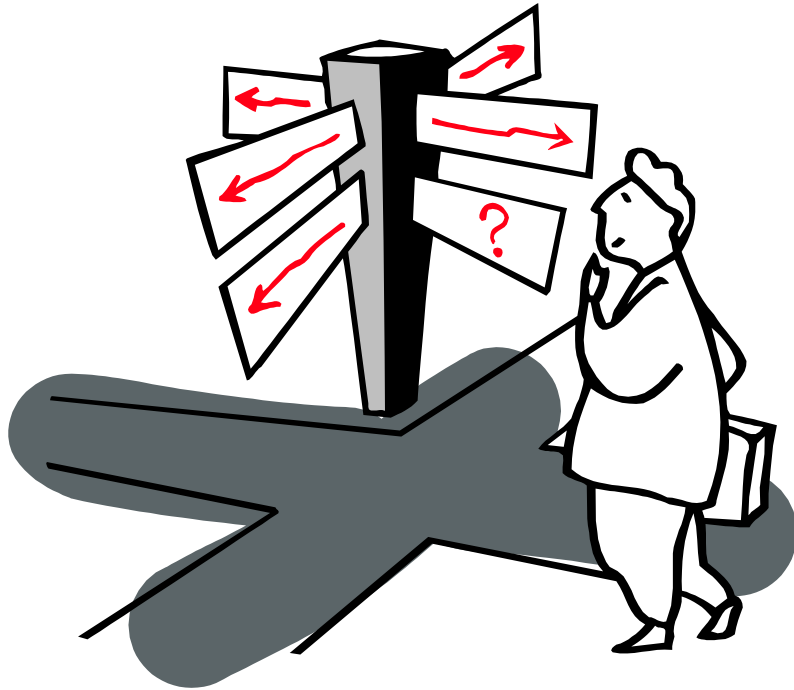
Biomass CHP

A stable, competitive, and reliable choice

- What may appear to be significant challenges may in fact be real opportunities to improve facilities and be more competitive
- Biomass facilities are good neighbors supporting new rural businesses, renewable energy, and reducing greenhouse gases
- Biomass prices historically have been more stable and are lower than fuel oil and propane

Biomass CHP

A stable, competitive, and reliable choice



- Technology is proven and reliable and new technology is on the horizon
- It saves \$\$\$
- There is plenty of fuel
- You won't be the first – there is plenty of experience and help available