# Biomass for Electricity Generation

**Table 7. Assumptions for the Cost and Performance of Biomass Integrated Gasification Combined-Cycle Generating Plants**

| Attribute | Value |
|---|---|
| On-Line Year | 2005 |
| Plant Unit Size | 100 megawatts |
| Construction Lead Time | 4 years |
| Overnight Cost (2000 Dollars) | $1,536 per kilowatt |
| Project Contingency Factor[a] | 1.07 |
| Technological Optimism Factor[b] | 1.05 |
| Total Project Cost in 2000, Reference Case (2000 Dollars)[c] | $1,725 per kilowatt |
| Total Project Cost in 2020, Reference Case (2000 Dollars)[d] | $1,303 per kilowatt |
| Variable Operations and Maintenance Cost | $0.0029 per kilowatthour |
| Fixed Operations and Maintenance Cost | $44.95 per kilowatt |
| Heat Rate | 8,911 Btu per kilowatthour |
| Project Life | 30 years |
| Production Tax Credit[e] | $0.0261 per kilowatthour |

[a]Project contingency factor.
[b]Technological optimism factor is applied to the first four units of a new, unproven design. It reflects the demonstrated tendency to underestimate actual costs of a first-of-a-kind unit.
[c]Total project cost = (Overnight cost) × (Project contingency factor) × (technological optimism factor).
[d]Total project cost reductions occur due to learning.
[e]The production tax credit is applicable for plants coming on line on or before 2003 and remains in effect for 10 years.
Sources: NEMS input file ECPDAT.TXT and AEO2002 National Energy Modeling System, run AEO2002.D102001B.