

## Co-production of Pyrolysis Oil in District Heating Plants: Systems Analysis of Dual Fluidized-Bed Pyrolysis with Sequential Vapor Condensation

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Page 5317. The values for "pyrolysis case, wet biomass consumption" in Table 4 were not relevant for the stated unit (kg/s) and the definition of "energy efficiency<sup>b</sup> (%)" was not clear in the version published originally on the web on August 20, 2013, and in issue 9 of 2013 [*Energy Fuels* 2013, 27 (9), 5313–5319]. Table 4 now appears correct (indicated with red lines) in this Addition/Correction as follows:

Table 4. Simulated DH CHP Plant Data for the Base Case and Pyrolysis Case

|                                    | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base case                          |      |      |      |      |      |      |      |      |      |      |      |      |
| Flue gas condenser power (MW)      | 15.6 | 16.0 | 16.8 | 15.2 | 12.6 | 0.0  | 0.0  | 0.0  | 5.0  | 16.3 | 14.6 | 16.1 |
| Turbine condenser power (MW)       | 48.6 | 53.9 | 49.1 | 42.1 | 35.7 | 0.0  | 0.0  | 0.0  | 14.1 | 44.0 | 40.0 | 48.5 |
| Gross electric power prod. (MW)    | 18.2 | 19.6 | 18.8 | 16.6 | 14.2 | 0.0  | 0.0  | 0.0  | 5.7  | 17.3 | 15.8 | 18.6 |
| Wet biomass consumption (kg/s)     | 9.0  | 9.9  | 9.2  | 7.9  | 6.7  | 0.0  | 0.0  | 0.0  | 2.7  | 8.3  | 7.5  | 9.1  |
| Pyrolysis case                     |      |      |      |      |      |      |      |      |      |      |      |      |
| Flue gas condenser power (MW)      | 15.4 | 16.0 | 16.6 | 14.7 | 11.6 | 2.0  | 2.1  | 2.1  | 3.0  | 15.8 | 14.2 | 15.9 |
| Turbine condenser power (MW)       | 49.3 | 54.2 | 49.7 | 43.2 | 37.2 | 10.7 | 10.7 | 10.7 | 16.8 | 44.9 | 41.4 | 49.2 |
| Gross electric power prod. (MW)    | 18.4 | 19.7 | 19.1 | 16.9 | 14.7 | 4.4  | 4.4  | 4.4  | 6.8  | 17.5 | 16.3 | 18.8 |
| Pyrolysis oil production (kg/s)    | 0.8  | 0.3  | 0.7  | 1.4  | 2.0  | 4.8  | 4.8  | 4.8  | 4.2  | 1.2  | 1.6  | 0.7  |
| Wet biomass consumption (kg/s)     | 10.7 | 10.5 | 10.7 | 10.9 | 11.1 | 12.1 | 12.1 | 12.1 | 11.8 | 10.8 | 10.9 | 10.7 |
| Energy efficiency <sup>a</sup> (%) | 83.4 | 82.4 | 82.8 | 83.7 | 84.6 | 73.5 | 73.5 | 73.5 | 84.9 | 84.8 | 83.4 | 82.3 |
| Energy efficiency <sup>b</sup> (%) | 85.0 | 84.2 | 84.6 | 85.3 | 86.0 | 77.9 | 77.9 | 77.9 | 86.3 | 86.1 | 85.1 | 84.2 |

 $<sup>^</sup>a$  Pyrolysis oil production(LHV)/ $\Delta$  Biomass (LHV)



 $<sup>^{</sup>b}$  (Pyrolysis oil production(LHV) +  $\underline{\Delta}$  electric power)/ $\Delta$  Biomass (LHV)