

Country: **Turkey**

Total number of plants: 1  
 with co-firing: 0  
 fossil fuels for co-firing:

| Locations (+database No.): |
|----------------------------|
| Kosekoy (154).             |

| Year of construction | No. |       |
|----------------------|-----|-------|
| before 1995          | 0   | 0 %   |
| 1995 - 2000          | 1   | 100 % |
| after 2000           | 0   | 0 %   |
| unknown              | 0   | 0 %   |

| Type of power generation | No. |       | Fuels                        | No.* |       |
|--------------------------|-----|-------|------------------------------|------|-------|
| Steam turbine:           | 1   | 100 % | Woodchips (forest residues): | 0    | 0 %   |
| Steam engine:            | 0   | 0 %   | Woodchips (saw industry):    | 0    | 0 %   |
| Organic rankine cycle:   | 0   | 0 %   | Paper sludge:                | 1    | 100 % |
| Stirling engine:         | 0   | 0 %   | Waste wood:                  | 0    | 0 %   |
| Hot air engine:          | 0   | 0 %   | Bark:                        | 0    | 0 %   |
| Gas engine:              | 0   | 0 %   | Peat:                        | 0    | 0 %   |
| Gas turbine:             | 0   | 0 %   | Straw:                       | 0    | 0 %   |
| Other (or n.a.):         | 0   | 0 %   | Other (or n.a.):             | 0    | 0 %   |

| Character of plants   | No. |       | Electric power | No. |       |
|-----------------------|-----|-------|----------------|-----|-------|
| Testing plants:       | 0   | 0 %   | <1MW:          | 0   | 0 %   |
| Pilote plants:        | 0   | 0 %   | 1MW - <5MW:    | 0   | 0 %   |
| Demonstration plants: | 0   | 0 %   | 5MW - 20MW:    | 1   | 100 % |
| Commercial plants:    | 1   | 100 % | >20MW:         | 0   | 0 %   |
| unknown:              | 0   | 0 %   | unknown:       | 0   | 0 %   |

\* ) double counting possible because some CHP plants might use more than one fuel

Name: Izaydas

Database No. 154

| <b>Basic Info</b>     |                           |
|-----------------------|---------------------------|
| Country:              | Turkey                    |
| Location:             | Kosekoy                   |
| Character of plant:   | Commercial plant          |
| Owner:                | Greater zmit Municipality |
| Contact Person:       | n.a.                      |
| Telephone:            | +90/ 262/ 3865304         |
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| email:                | him@izaydas.com.tr        |
| webpage:              | www.izaydas.com.tr        |
| Year of construction: | 1996                      |

| <b>Technology</b>                   |                         | <b>Fuel</b>               |              |
|-------------------------------------|-------------------------|---------------------------|--------------|
| Type of power generation:           | Steam turbine           | Total fuel input:         | n.a. t/a     |
| Electric power:                     | 5 MW <sub>el</sub>      | Tot. lower heating value: | n.a. kWh/kg  |
| Thermal power:                      | n.a. MW <sub>th</sub>   | Moisture content:         | 11,5 % wet   |
| Co-firing:                          | N                       |                           |              |
| Fuel conversion:                    | Combustion              | Type of fuel 1:           | Paper sludge |
| Annual production electricity:      | 59,4 GWh/a              | Share of fuel 1:          | 100 %        |
| Annual production heat:             | 44,6 GWh/a              | Input of fuel 1:          | n.a. t/a     |
| Electric efficiency:                | 20 %                    |                           |              |
| Thermal efficiency:                 | 20 %                    | Type of fuel 2:           | -            |
| Total efficiency:                   | 40 %                    | Share of fuel 2:          | - %          |
| Ratio electricity/ heat:            | 1,00                    | Input of fuel 2:          | - t/a        |
| Fuel power:                         | n.a. MW <sub>fuel</sub> |                           |              |
| <i>Boiler (if steam technology)</i> |                         | Type of fuel 3:           | -            |
| Steam mass flow:                    | n.a. t/h                | Share of fuel 3:          | - %          |
| Steam temperature:                  | n.a. °C                 | Input of fuel3:           | - t/a        |
| Steam pressure:                     | n.a. bar                |                           |              |

| <b>Costs</b>                  |                            | <b>Emissions</b>                |                          |
|-------------------------------|----------------------------|---------------------------------|--------------------------|
| Investment costs:             | 273 Mio €                  | CO:                             | 4 mg/Nm <sup>3</sup>     |
| Spec.investment costs (elec): | 54,6 Mio€/MW <sub>el</sub> | NO <sub>x</sub> :               | 194,4 mg/Nm <sup>3</sup> |
| Fuel costs:                   | 500 €/t                    | Particles:                      | 0,49 mg/Nm <sup>3</sup>  |
| Subsidies:                    | n.a. Mio €                 | C <sub>x</sub> H <sub>y</sub> : | 0,59 mg/Nm <sup>3</sup>  |
| Number of employes:           | 250                        | SO <sub>2</sub> :               | 6,72 mg/Nm <sup>3</sup>  |

Source:

project partner

n.a.... not available