

## Dirty Thirty – Europe’s worst climate polluting power stations

| Rank | Name                  | Country        | Fuel             | Commissioning Date            | Parent Company  | Relative Emissions <sup>1</sup> |
|------|-----------------------|----------------|------------------|-------------------------------|-----------------|---------------------------------|
| 1    | Agios Dimitrios       | Greece         | Lignite          | 1984-1986, 1997               | DEH             | 1.350                           |
| 2    | Frimmersdorf          | Germany        | Lignite          | 1957-1970                     | RWE             | 1.270                           |
| 3    | Aboño                 | Spain          | Hard coal        | 1974 & 1985                   | Hidrocantábrico | 1.270                           |
| 4    | Kardia                | Greece         | Lignite          | 1975, 1980-1981               | DEH             | 1.250                           |
| 5    | Jänschwalde           | Germany        | Lignite          | 1976-1989                     | Vattenfall      | 1.200                           |
| 6    | Weisweiler            | Germany        | Lignite          | 1955-1975                     | RWE             | 1.180                           |
| 7    | Neurath               | Germany        | Lignite          | 1972-1976                     | RWE             | 1.150                           |
| 8    | Turow                 | Poland         | Lignite          | 1965-1971, 1998-2004          | BOT GiE S.A.    | 1.150                           |
| 9    | Rodriguez (Puentes)   | Spain          | Lignite          | 1976-1979                     | ENDESA          | 1.150                           |
| 10   | Niederaußem (w/o BoA) | Germany        | Lignite          | 1963-1974                     | RWE             | 1.120                           |
| 11   | Boxberg               | Germany        | Lignite          | 1979-1980, 2000               | Vattenfall      | 1.100                           |
| 12   | Patnow                | Poland         | Lignite          | 1967-1969                     | ZE PAK S.A.     | 1.100                           |
| 13   | Belchatow             | Poland         | Lignite          | 1982-1988                     | BOT GiE S.A.    | 1.090                           |
| 14   | Prunero               | Czech Republik | Lignite          | 1967 & 1968                   | CEZ             | 1.070                           |
| 15   | Sines                 | Portugal       | Hard coal        | 1985-1989                     | EDP             | 1.050                           |
| 16   | Schwarze Pumpe        | Germany        | Lignite          | 1997 & 1998                   | Vattenfall      | 1.000                           |
| 17   | Longannet             | UK             | Hard coal        | 1972-1973                     | SCOTTISH POWER  | 970                             |
| 18   | Compostilla           | Spain          | Hard coal        | 1961, 1965, 1972, 1981 & 1984 | ENDESA          | 960                             |
| 19   | Lippendorf            | Germany        | Lignite          | 1999                          | Vattenfall      | 950                             |
| 20   | Cottam                | UK             | Hard coal        | 1969-1970                     | EDF             | 940                             |
| 21   | Rybnik                | Poland         | Hard coal        | 1972-1978                     | EDF             | 930                             |
| 22   | Ratcliffe             | UK             | Hard coal        | 1968-1970                     | E.ON            | 910                             |
| 23   | Scholven              | Germany        | Hard coal        | 1968-1979                     | E.ON            | 900                             |
| 24   | Jaworzno              | Poland         | Hard coal        | 1977 & 1978                   | PKE S.A.        | 900                             |
| 25   | Brindisi Sud          | Italy          | Coal             | 1991-1993                     | ENEL            | 890                             |
| 26   | Litoral de Almeria    | Spain          | Hard coal        | 1985 & 1997                   | ENDESA          | 870                             |
| 27   | Drax                  | UK             | Hard coal        | 1974-1976, 1984-1986          | AES             | 850                             |
| 28   | Porto Tolle           | Italy          | Oil <sup>2</sup> | 1980-1984                     | ENEL            | 780                             |
| 29   | Torrevaldaliga Nord   | Italy          | Oil <sup>3</sup> | 1984-1986                     | ENEL            | 770                             |
| 30   | Montalto di Castro    | Italy          | Oil and Gas      | 1991-1992, 1995-1998          | ENEL            | 590                             |

Table 1.1.: These 30 power plants are the biggest CO<sub>2</sub> emitting power plants in EU25 countries in absolute terms (million tonnes of CO<sub>2</sub> per year). WWF has ranked the 30 biggest emitters according to their relative emissions.

<sup>1</sup> Grams of CO<sub>2</sub> per Kilowatt hour [g CO<sub>2</sub>/kWh]. Where two plants have the same relative emissions, the plant with the higher absolute emissions (million tonnes CO<sub>2</sub> per year) ranks dirtier.

<sup>2</sup> Conversion to coal planned until 2008

<sup>3</sup> Conversion to coal planned for 3 of 4 units for 2007

## Focus 1) Germany's worst climate polluting power stations

| German Dirty Thirty Ranking | EU25 Dirty Thirty Ranking | Name                   | Fuel      | Commissioning Date | Parent Company | Relative Emissions <sup>1</sup> |
|-----------------------------|---------------------------|------------------------|-----------|--------------------|----------------|---------------------------------|
| 1                           | 2                         | Frimmersdorf           | Lignite   | 1957-1970          | RWE            | 1.270                           |
| 2                           | 5                         | Jänschwalde            | Lignite   | 1976-1989          | Vattenfall     | 1.200                           |
| 3                           | 6                         | Weisweiler             | Lignite   | 1955-1975          | RWE            | 1.180                           |
| 4                           | 7                         | Neurath                | Lignite   | 1972-1976          | RWE            | 1.150                           |
| 5                           | 10                        | Niederaußern (w/o BoA) | Lignite   | 1963-1974          | RWE            | 1.120                           |
| 6                           | 11                        | Boxberg                | Lignite   | 1979-1980, 2000    | Vattenfall     | 1.100                           |
| 7                           | 16                        | Schwarze Pumpe         | Lignite   | 1997 & 1998        | Vattenfall     | 1.000                           |
| 8                           | 19                        | Lippendorf             | Lignite   | 1999               | Vattenfall     | 950                             |
| 9                           | 23                        | Scholven               | Hard coal | 1968-1979          | E.ON           | 900                             |

Table 1.2.: Ranking of Germany's biggest emitting power plants according to their level of efficiency

<sup>1</sup> Grams of CO<sub>2</sub> per Kilowatt hour [g CO<sub>2</sub>/kWh]. Where two plants have the same relative emissions, the plant with the higher absolute emissions (million tonnes CO<sub>2</sub> per year) ranks dirtier.

## Focus 2) Poland's worst climate polluting power stations

| Polish Dirty Thirty Ranking | EU25 Dirty Thirty Ranking | Name      | Fuel      | Commissioning Date   | Parent Company | Relative Emissions <sup>1</sup> |
|-----------------------------|---------------------------|-----------|-----------|----------------------|----------------|---------------------------------|
| 1                           | 8                         | Turow     | Lignite   | 1965-1971, 1998-2004 | BOT GiE S.A.   | 1.150                           |
| 2                           | 12                        | Patnow    | Lignite   | 1967-1969            | ZE PAK S.A.    | 1.100                           |
| 3                           | 13                        | Belchatow | Lignite   | 1982-1988            | BOT GiE S.A.   | 1.090                           |
| 4                           | 21                        | Rybnik    | Hard coal | 1972-1978            | EDF            | 930                             |
| 5                           | 24                        | Jaworzno  | Hard coal | 1977 & 1978          | PKE S.A.       | 900                             |

Table 1.3.: Ranking of Poland's biggest emitting power plants according to their level of efficiency

<sup>1</sup> Grams of CO<sub>2</sub> per Kilowatt hour [g CO<sub>2</sub>/kWh]. Where two plants have the same relative emissions, the plant with the higher absolute emissions (million tonnes CO<sub>2</sub> per year) ranks dirtier.

### Focus 3) Spain's worst climate polluting power stations

| Spanish Dirty Thirty Ranking | EU25 Dirty Thirty Ranking | Name                | Fuel      | Commissioning Date            | Parent Company   | Relative Emissions <sup>1</sup> |
|------------------------------|---------------------------|---------------------|-----------|-------------------------------|------------------|---------------------------------|
| 1                            | 3                         | Aboño               | Hard coal | 1974 & 1985                   | Hidro-cantábrico | 1.270                           |
| 2                            | 9                         | Rodriguez (Puentes) | Lignite   | 1976-1979                     | ENDESA           | 1.150                           |
| 3                            | 18                        | Compostilla         | Hard coal | 1961, 1965, 1972, 1981 & 1984 | ENDESA           | 960                             |
| 4                            | 26                        | Litoral de Almería  | Hard coal | 1985 & 1997                   | ENDESA           | 870                             |

Table 1.4.: Ranking of Spain's biggest emitting power plants according to their level of efficiency

<sup>1</sup> Grams of CO<sub>2</sub> per Kilowatt hour [g CO<sub>2</sub>/kWh]. Where two plants have the same relative emissions, the plant with the higher absolute emissions (million tonnes CO<sub>2</sub> per year) ranks dirtier.

### Focus 4) The UK's worst climate polluting power stations

| UK Dirty Thirty Ranking | EU25 Dirty Thirty Ranking | Name      | Fuel      | Commissioning Date   | Parent Company | Relative Emissions <sup>1</sup> |
|-------------------------|---------------------------|-----------|-----------|----------------------|----------------|---------------------------------|
| 1                       | 17                        | Longannet | Hard coal | 1972-1973            | SCOTTISH POWER | 970                             |
| 2                       | 20                        | Cottam    | Hard coal | 1969-1970            | EDF            | 940                             |
| 3                       | 22                        | Ratcliffe | Hard coal | 1968-1970            | E.ON           | 910                             |
| 4                       | 27                        | Drax      | Hard coal | 1974-1976, 1984-1986 | AES            | 850                             |

Table 1.5.: Ranking of the UK's biggest emitting power plants according to their level of efficiency

<sup>1</sup> Grams of CO<sub>2</sub> per Kilowatt hour [g CO<sub>2</sub>/kWh]. Where two plants have the same relative emissions, the plant with the higher absolute emissions (million tonnes CO<sub>2</sub> per year) ranks dirtier.

### Focus 5) Italy's worst climate polluting power stations

| Italian Dirty Thirty Ranking | EU25 Dirty Thirty Ranking | Name                | Fuel             | Commissioning Date   | Parent Company | Relative Emissions <sup>1</sup> |
|------------------------------|---------------------------|---------------------|------------------|----------------------|----------------|---------------------------------|
| 1                            | 25                        | Brindisi Sud        | Coal             | 1991-1993            | ENEL           | 890                             |
| 2                            | 28                        | Porto Tolle         | Oil <sup>2</sup> | 1980-1984            | ENEL           | 780                             |
| 3                            | 29                        | Torrevaldaliga Nord | Oil <sup>3</sup> | 1984-1986            | ENEL           | 770                             |
| 4                            | 30                        | Montalto di Castro  | Oil and Gas      | 1991-1992, 1995-1998 | ENEL           | 590                             |

Table 1.6.: Ranking of Italy's biggest emitting power plants according to their level of efficiency

<sup>1</sup> Grams of CO<sub>2</sub> per Kilowatt hour [g CO<sub>2</sub>/kWh]. Where two plants have the same relative emissions, the plant with the higher absolute emissions (million tonnes CO<sub>2</sub> per year) ranks dirtier.

<sup>2</sup> Conversion to coal planned until 2008

<sup>3</sup> Conversion to coal planned for 3 of 4 units for 2007