



# GLOBAL COAL RISK ASSESSMENT: DATA ANALYSIS AND MARKET RESEARCH

AILUN YANG AND YIYUN CUI

## KEY FINDINGS

1. According to IEA estimates, global coal consumption reached 7,238 million tonnes in 2010. China accounted for 46 percent of consumption, followed by the United States (13 percent), and India (9 percent).
2. According to WRI’s estimates, 1,199 new coal-fired plants, with a total installed capacity of 1,401,278 megawatts (MW), are being proposed globally. These projects are spread across 59 countries. China and India together account for 76 percent of the proposed new coal power capacities.
3. New coal-fired plants have been proposed in 10 developing countries: Cambodia, Dominican Republic, Guatemala, Laos, Morocco, Namibia, Oman, Senegal, Sri Lanka, and Uzbekistan. Currently, there is limited or no capacity for domestic coal production in any of these countries.
4. Our analysis found that 483 power companies have proposed new coal-fired plants. With 66 proposed projects, Huaneng (Chinese) has proposed the most, followed by Guodian (Chinese), and NTPC (Indian).
5. The “Big Five” Chinese power companies (Datang, Huaneng, Guodian, Huadian, and China Power Investment) are the world’s biggest coal-fired power producers, and are among the top developers of proposed new coal-fired plants.

## CONTENTS

Introduction .....	2
Part I: Proposed Coal-Fired Plants .....	2
Part II: Existing Coal-Fired Plants .....	10
Part III: Global Coal Trade .....	12
Part IV: Coal Finance .....	18
Part V: Data Gap .....	22
Appendix – Complete List of Proposed New Coal-Fired Plants .....	26

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6. State-owned power companies play a dominant role in proposing new coal-fired plant projects in China, Turkey, Indonesia, Vietnam, South Africa, Czech Republic and many other countries.
7. Chinese, German, and Indian power companies are notably increasingly active in transnational coal-fired project development.
8. According to IEA estimates, the global coal trade rose by 13.4 percent in 2010, reaching 1,083 million tonnes.
9. The demands of the global coal trade have shifted from the Atlantic market (driven by Germany, the United Kingdom, France and the United States) to the Pacific market (driven by Japan, China, South Korea, India and Taiwan). In response to this trend, many new infrastructure development projects have been proposed.
10. Motivated by the growing Pacific market, Australia is proposing to increase new mine and new port capacity up to 900 million tonnes per annum (Mtpa) — three times its current coal export capacity.

## INTRODUCTION

Coal-fired power plants are the largest contributor to the greenhouse gas emissions that cause climate change. In 2010, 61 countries produced coal and 104 countries consumed it (Table 1). Global coal production reached 7,228.712 million tonnes that year and coal consumption reached 7,238.028 million tonnes. More than 60 percent of the coal consumed was used to generate power.<sup>1</sup>

This working paper assesses current global coal risks to the climate. It identifies the countries and companies involved in global coal production and consumption, and sheds light on global trends by mapping the proposed new coal power plants and related infrastructure.

The paper is organized into five parts. Part 1 lists the proposed new coal-fired plants around the world, based on available data. Part 2 lists existing coal-fired plants. Part 3 offers an overview of the global coal trade, including analyses of country trends. Part 4 summarizes available studies of coal financing. Part 5 notes data gaps that can be filled by future research.

## PART I: PROPOSED COAL-FIRED PLANTS

### Methodology

To complete the data analysis required for this working paper, the authors collected data from a variety of sources. These include commercially available databases such as Platts and the International Energy Agency (IEA), government and corporate websites, nongovernmental organizations (NGOs) and research institutions, and the media.

When possible, the authors corroborated the data with field knowledge. The authors contacted over 40 researchers, NGOs, and journalists around the world who work closely on coal issues, to help verify data.

The data collected in this working paper reflect the best knowledge of the authors at the time this research was conducted in July 2012. The decision to include a project in this collection does not take into consideration whether the project is officially seeking approval, what the timeline of the project construction is or the likelihood of the project being built eventually.

The inventory of proposed coal-fired plants considered here does not include plants that are already under construction, with two exceptions:

- Construction sometimes begins before a project has secured the approvals or permits needed for full operation. This scenario is common in countries where planning and approval procedures are ambiguous, such as China and India. Often, many approvals or permits are required and the process for granting them is not well coordinated.
- In some countries, such as the United States and the Netherlands, legal decisions concerning proposed coal-fired plants are pending.

Because of differences in administrative structures among countries, this paper does not categorize the status of each proposed project according to a consistent set of definitions. Instead, when describing the status of a project, the paper uses definitions drawn from the specific country context.

Table 1 | Coal Consumption and Production by Country

COUNTRY	TOTAL COAL CONSUMPTION 2010E* (MILLION TONNES)		TOTAL COAL PRODUCTION 2010E** (MILLION TONNES)	
	Amount	Rank	Amount	Rank
China	3319.096	1	3162.193	1
United States	959.113	2	997.125	2
India	658.739	3	570.675	3
Russia	234.370	4	323.904	6
Germany	227.916	5	182.303	8
South Africa	187.055	6	254.727	7
Japan	186.637	7	–	–
Poland	141.856	8	133.220	9
Australia	131.683	9	420.259	4
South Korea	118.380	10	2.084	41
Turkey	98.630	11	71.749	12
Kazakhstan	78.150	12	110.799	10
Taiwan	64.818	13	–	–
Ukraine	64.054	14	54.594	16
Greece	55.461	15	56.520	14
United Kingdom	51.290	16	18.159	24
Czech Republic	50.386	17	55.285	15
Indonesia	49.195	18	336.002	5
Canada	47.121	19	67.894	13
Serbia	37.357	20	37.348	18
Thailand	35.216	21	18.458	23
Bulgaria	32.235	22	29.334	21
Romania	31.980	23	30.831	20
North Korea	27.303	24	31.556	19
Vietnam	23.242	25	44.663	17
Brazil	23.016	26	5.709	33
Italy	21.502	27	0.101	53
Malaysia	21.308	28	2.399	39
Mexico	18.266	29	9.975	27
Estonia	17.950	30	17.934	25
France	17.346	31	0.261	49
Spain	16.990	32	8.431	30
Philippines	16.392	33	6.500	32
Israel	12.285	34	–	–
Netherlands	11.895	35	–	–
Bosnia-Herzegovina	11.095	36	11.019	26
Hungary	10.999	37	9.077	28
Pakistan	10.513	38	3.384	36
Hong Kong	10.324	39	–	–
Mongolia	8.615	40	25.248	22
Chile	7.764	41	0.619	46
Macedonia	7.001	42	6.789	31
Finland	6.914	43	–	–
Slovak Republic	6.575	44	2.379	40
Denmark	6.496	45	–	–
Colombia	5.859	46	74.350	11
Slovenia	5.085	47	4.430	35
Austria	3.364	48	–	–
Uzbekistan	3.357	49	3.300	37
New Zealand	3.184	50	5.330	34
Morocco	3.131	51	–	–
Zimbabwe	3.008	52	2.997	38
Belgium	2.872	53	–	–

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Table 1 | **Coal Consumption and Production by Country (continued)**

COUNTRY	TOTAL COAL CONSUMPTION 2010E* (MILLION TONNES)		TOTAL COAL PRODUCTION 2010E** (MILLION TONNES)	
	Amount	Rank	Amount	Rank
Sweden	2.859	54	–	–
Portugal	2.700	55	–	–
Venezuela	2.653	56	8.792	29
Croatia	1.940	57	–	–
Ireland	1.909	58	–	–
Bangladesh	1.800	59	1.000	44
Argentina	1.709	60	0.082	55
Egypt	1.309	61	0.024	57
Iran	1.185	62	–	–
Guatemala	1.134	63	–	–
Burma	1.013	64	1.345	43
Norway	0.818	65	1.935	42
Peru	0.806	66	0.322	48
Botswana	0.783	67	0.738	45
Dominican Republic	0.781	68	–	–
Mozambique	0.768	69	0.038	56
Kyrgyzstan	0.596	70	0.604	47
Singapore	0.348	71	–	–
Lithuania	0.317	72	–	–
Senegal	0.313	73	–	–
Lebanon	0.293	74	–	–
Georgia	0.233	75	0.213	50
Switzerland	0.228	76	–	–
Tajikistan	0.200	77	0.198	51
Sri Lanka	0.190	78	–	–
Dem. Rep. of Congo	0.150	79	0.133	52
Namibia	0.143	80	–	–
Cambodia	0.138	81	–	–
Nepal	0.135	82	0.016	59
Latvia	0.125	83	–	–
Kenya	0.103	84	–	–
Luxembourg	0.102	85	–	–
Iceland	0.097	86	–	–
Tanzania	0.095	87	0.095	54
Saudi Arabia	0.056	88	–	–
Honduras	0.046	89	–	–
Albania	0.023	90	0.022	58
Cuba	0.023	91	–	–
Bahrain	0.020	92	–	–
Jamaica	0.012	93	–	–
Belarus	0.011	94	–	–
Nigeria	0.009	95	0.008	60
Angola	0.008	96	–	–
Cyprus	0.008	97	–	–
Panama	0.006	98	–	–
Zambia	0.006	99	0.001	61
Costa Rica	0.004	100	–	–
Qatar	0.002	101	–	–
Sudan	0.002	102	–	–
Brunei Darussalam	0.001	103	–	–
Trinidad and Tobago	0.001	104	–	–
World Total	7228.712		7238.028	

\* IEA, 2011. Coal Information 2011. Data reported for the year 2010 in this publication are preliminary and presented as 2010e. Preliminary estimates are based on the submissions received in early 2011 and on quarterly submissions to the IEA from member countries.

\*\* IEA, 2011. Coal Information 2011.

## Overview

By July 2012 the authors of this paper had identified 1,199 proposed new coal-fired plants, with a total installed capacity of 1,401,278 MW. These projects are spread across 59 countries. Table I.1 ranks the countries according to proposed coal-power capacity. A complete list of proposed coal-fired plants is included in the appendix.

Even after years of rapid development, China has a significant number of coal-fired power projects in the pipeline. As of July 2012, China had proposed adding 363 coal-fired plants with a combined capacity exceeding 557,938 MW.<sup>2</sup> China's 12<sup>th</sup> Five-Year-Plan approved 16 giant coal-power bases, mainly in the northern and northwestern provinces of Inner Mongolia, Xinjiang, Shanxi, and Shaanxi. Most of the proposed projects are located near coal mining fields and are spurred by local

Table I.1 | **Summary of Proposed Coal-Fired Plants**

RANK	COUNTRY	TOTAL INSTALLED CAPACITY (MW)	NUMBER OF PROJECTS	RANK	COUNTRY	TOTAL INSTALLED CAPACITY (MW)	NUMBER OF PROJECTS
1	China	557,938	363	30	Serbia	2,150	4
2	India	519,396	455	32	Colombia	2,104	4
3	Russia	48,000	*c.48	33	Botswana	2,100	4
4	Turkey	36,719	49	33	Dominion Republic	2,100	2
5	Vietnam	34,725	30	35	South Korea	2,000	2
6	South Africa	22,633	8	35	Zimbabwe	2,000	1
7	United States	20,236	36	37	Laos	1,878	2
8	Ukraine	14,000	*c.14	38	Greece	1,650	3
9	Poland	12,086	13	39	Kyrgyzstan	1,200	1
10	Germany	12,060	10	40	Tanzania	1,040	4
11	Mongolia	9,660	4	41	Oman	1,000	1
12	Taiwan	8,800	5	42	Namibia	800	1
13	Indonesia	8,360	17	43	Montenegro	730	2
14	Mozambique	6,940	4	44	Peru	720	2
15	Chile	6,742	12	44	Brazil	720	1
16	Pakistan	6,460	2	46	Slovenia	600	1
17	Australia	5,456	9	46	North Korea	600	1
18	Italy	4,170	4	48	Thailand	540	1
19	Romania	4,150	8	49	Croatia	500	1
20	Kazakhstan	*c.4,000	4	49	Kosovo	500	1
21	Philippines	3,915	15	49	Sri Lanka	500	1
22	Bosnia-Herzegovina	3,690	8	52	Guatemala	420	2
23	Cambodia	3,570	5	53	Hungary	400	1
24	Netherlands	3,500	3	54	Tajikistan	300	1
25	Japan	3,200	4	54	Uzbekistan	300	1
26	Czech Republic	2,785	4	54	Zambia	300	1
27	Burma	2,719	7	54	Macedonia	300	1
28	Morocco	2,676	2	58	Senegal	250	1
29	Malaysia	2,600	3	59	Argentina	240	1
30	Bulgaria	2,150	4	Total		1,401,278	1,199

\*Estimated by one coal-fired plant=1,000 MW

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government policies that incentivize integrating the coal mining business and power generation.

To curb coal consumption and reduce pollution, China's 12<sup>th</sup> Five-Year-Plan for the coal industry includes a target to cap the annual domestic coal consumption of 3.9 billion tonnes by 2015.<sup>3</sup> Many observers are skeptical that this target will be reached given that China's 2012 coal consumption is already likely to exceed it.<sup>4</sup> Some industry analysts predict that China's coal demand will reach 4.8 billion tonnes by 2016.<sup>5</sup>

Coal-fired power companies in China have suffered significant financial losses in recent years — a reality that receives little attention outside of China. According to a State Electricity Regulatory Commission report, the top five Chinese power companies lost a total of RMB 15 billion (US\$2.4 billion) in their coal-power generation business in 2011. Chinese power companies face the dual challenges of rising coal prices on the one hand, and a government-imposed electricity price freeze on the other. Investments in new coal-fired plants dropped 26 percent in 2011 to less than half of what they were in 2005.<sup>6</sup> Public opposition to coal-fired plants is increasing and construction of many approved plants has been delayed. It is unlikely that China will realize its coal ambitions.

India's coal-fired power capacity is rapidly expanding, similar to China's experience over the last 10 years. Research conducted for this paper identified 455 proposed new coal-fired power plants in India, with a total installed capacity of 519,396 MW. These projects are spread across 18 states, with the largest concentration in Andhra Pradesh (southeast coast), Chhattisgarh (interior state), Maharashtra (southwest coast), Orissa (northeast coast), Madhya Pradesh (interior state), and Jharkhand (interior state).

However, the realization rate of coal power projects in India tends to be low for a variety of factors including coal availability, land and water resource availability and public resistance. Concerns about land seizures, air and groundwater pollution, the effect of thermal discharges on fisheries, and the displacement of communities have fueled local opposition to coal-fired plants.

## Developers of the Proposed New Coal-Fired Power Plants

In total, 483 power companies are proposing new coal-fired power projects around the world. Table I.2 lists the companies that are proposing more than one new plant.

Most of the top companies are either Chinese or Indian. The top five state-owned power companies in China (Datang, Huaneng, Guodian, Huadian, and China Power Investment—collectively known as “the Big Five”) are involved in 222 proposed projects. All are located in China, except two in Burma. With 47 proposed projects, state-owned NTPC is India's most aggressive coal-fired plant developer, comparable to China's Big Five. However, the share of private companies in India's power sector is significantly increasing and the vast majority of projects in the pipeline are proposed by private corporations.<sup>8</sup>

Chinese coal power developers are already attempting to expand to other Asian countries, including Burma, Cambodia, Laos, Mongolia, North Korea, Pakistan, and Vietnam. In comparison, Indian coal power developers are more inward-looking, although they too are increasingly showing overseas ambitions. For example, Tata recently indicated that it is considering potential projects in Bangladesh, Maldives, Nepal, Pakistan, Sri Lanka, and Turkey.<sup>9</sup>

Transnational coal power developers are more common in Europe. Germany's RWE is proposing new plants in Bulgaria, Germany, the Netherlands, and Poland. E.ON—also German—is proposing projects in Germany, Italy, the Netherlands, and Romania. Italy's Enel is proposing plants in Italy and Romania.

Table I.2 | **Developers of New Coal-Fired Plants**

COMPANY NAME	NUMBER OF PROPOSED COAL-FIRED POWER PLANTS	LOCATION OF PROPOSED PLANTS	OWNERSHIP	HEADQUARTERS LOCATION
Huaneng	66	China, Burma	State-owned	China
Guodian	55	China, Burma	State-owned	China
NTPC	47	India, Sri Lanka	State-owned	India
Datang	43	China	State-owned	China
Huadian	37	China	State-owned	China
China Power Investment	31	China	State-owned	China
Shenhua	19	China, United States	State-owned	China
Luneng	14	China	State-owned	China
Maharashtra State Power Generation Company	14	India	State-owned	India
JSW Group	12	India	Private Sector	India
Andhra Pradesh Power Generation Corporation (APGENCO)	11	India	Private Sector	India
Essar Energy	11	India	Private Sector	India
PLN	11	Indonesia	State-owned	Indonesia
The Reliance Group	11	India	Private Sector	India
Sichuan Beineng	10	China	State-owned	China
Calcutta Electric Supply Corporation (CESC)	9	India	Private Sector	India
KVK energy	9	India	Private Sector	India
Tamil Nadu Generation and Distribution Corporation	9	India	State-owned	India
GMR Energy	8	India	Private Sector	India
Ind-Barath Power	8	India	Private Sector	India
Jindal Steel & Power	8	India, Mozambique	Private Sector	India
Lanco	8	India	Private Sector	India
Neyveli Lignite Corporation	8	India	State-owned	India
Tata Power	8	India	Private Sector	India
Welspun Energy	8	India	Private Sector	India
Adani Power	7	India	Private Sector	India
Chhattisgarh State Power Generation Company	7	India	State-owned	India
Damodar Valley Corporation	7	India	State-owned	India
E.ON	7	Germany, Italy, Netherlands, Romania, Chile	Private Sector	Germany
EVN	7	Vietnam	State-owned	Vietnam
Rajasthan RV Utpadan Nigam	7	India	State-owned	India
Shanxi International Energy	7	China	State-owned	China
State Dev Investment Co. (SDIC)	7	China	State-owned	China
ACB (India)	6	India	Private Sector	India
China Resources Holdings	6	China	State-owned	Hong Kong
Karnataka Power Corporation	6	India	State-owned	India
AES	5	Romania, Vietnam, Chile	Private Sector	United States
CEZ	5	Bosnia-Herzegovina, Czech Republic, Romania	State-owned	Czech Republic
Eskom	5	South Africa	State-owned	South Africa
Gansu Elec. Power Investment Co.	5	China	State-owned	China
Indiabulls Power	5	India	Private Sector	India
M.P. Power Generating Company	5	India	State-owned	India
Ningxia Power Generation Co.	5	China	State-owned	China
RWE	5	Bulgaria, Germany, Netherlands, Poland	Private Sector	Germany
Suryachakra Group	5	India	Private Sector	India
VISA Power	5	India	Private Sector	India
Abhijeet Group	4	India	Private Sector	India
Avantha Power and Infrastructure	4	India	Private Sector	India
Enel	4	Italy, Romania	State-owned	Italy

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Table I.2 | **Developers of New Coal-Fired Plants (continued)**

COMPANY NAME	NUMBER OF PROPOSED COAL-FIRED POWER PLANTS	LOCATION OF PROPOSED PLANTS	OWNERSHIP	HEADQUARTERS LOCATION
EPS	4	Serbia	State-owned	Serbia
GDF Suez	4	Netherlands, Poland, Chile	Private Sector	France
Guangdong Yuedian	4	China	State-owned	China
Gujarat State Electricity Corp	4	India	State-owned	India
Gupta Group	4	India	Private Sector	India
Intra Energy Corporation (IEC)	4	Tanzania	Private Sector	Australia
Jaiprakash Power Ventures	4	India	Private Sector	India
Jindal India Thermal Power	4	India	Private Sector	India
KSK Energy Ventures	4	India	Private Sector	India
HEMA Elektrik A.Ş.	4	Turkey	–	Turkey
Moser Baer Power & Infrastructures	4	India	Private Sector	India
Punjab State Electric Board	4	India	State-owned	India
Singareni Collieries	4	India	State-owned	India
UP Rajya Vidyut Nigam Ltd	4	India	State-owned	India
Adhunik Power and Natural Resources	3	India	Private Sector	India
Anhui Wanneng	3	China	State-owned	China
Bajaj Hindusthan	3	India	Private Sector	India
Dr. RKP Power	3	India	Private Sector	India
Endesa	3	Chile	Private Sector	Spain
Hindalco Industries	3	India	Private Sector	India
Huainan Mining Group	3	China	State-owned	China
Jinbhuvish Power Generations	3	India	Private Sector	India
NEEPCO	3	India	State-owned	India
OPG Power Ventures	3	India	Private Sector	India
PGE	3	Poland	State-owned	Poland
PPC	3	Greece	State-owned	Greece
Punjab State Power Corporation	3	India	Private Sector	India
Simhapuri Energy	3	India	Private Sector	India
Sinohydro Co.	3	China	State-owned	China
SPR Infrastructure India	3	India	Private Sector	India
Uttar Pradesh Power Corporation	3	India	State-owned	India
Uttar Pradesh Rajya Vidyut	3	India	State-owned	India
Vietnam National Oil & Gas Group (PVN)	3	Vietnam	State-owned	Vietnam
Zheneng	3	China	State-owned	China
AES India	2	India	Private Sector	India
Alcantara Group	2	Philippines	Private Sector	Philippines
Alta AS	2	Serbia	Private Sector	Czech Republic
Altona Resources	2	Australia	Private Sector	Australia
Aluminum Co. of China	2	China	State-owned	China
SCS Energy	2	United States	Private Sector	United States
Batı Karadeniz Elektrik Üretim A.Ş.	2	Turkey	–	Turkey
Bihar State Electricity Board	2	India	State-owned	India
Cambodia International Investment Development Group Co Ltd	2	Cambodia	Private Sector	Cambodia
CDEEE	2	Dominican Republic	State-owned	Dominican Republic
China National Coal Group	2	China	State-owned	China
China National Electric Engineering Co., Ltd. (CNEEC)	2	Bosnia-Herzegovina, Laos	State-owned	China
CIC Energy Co.	2	Botswana	Private Sector	British Virgin Islands
CLP Group	2	China, India	Private Sector	Chinese Hongkong
Coastal Energen	2	India	Private Sector	India

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Table I.2 | **Developers of New Coal-Fired Plants (continued)**

COMPANY NAME	NUMBER OF PROPOSED COAL-FIRED POWER PLANTS	LOCATION OF PROPOSED PLANTS	OWNERSHIP	HEADQUARTERS LOCATION
Datong Coal Mine Group	2	China	State-owned	China
Duke Energy	2	United States	Private Sector	United States
Elektroprivreda BiH (EPBiH)	2	Bosnia-Herzegovina	State-owned	Bosnia-Herzegovina
Emba elektrik üretim A.Ş.	2	Turkey	–	Turkey
Empresa Nacional de Electricidad S.A.	2	Chile	Private Sector	Chile
Eroca Group	2	United States	Private Sector	United States
EÜAŞ	2	Turkey	State-owned	Turkey
Facor Power	2	India	Private Sector	India
Far East Holding Group Co., Ltd	2	Laos, Tajikistan	Private Sector	China
Ganga Power & Natural Resources	2	India	Private Sector	India
GECELCA	2	Colombia	State-owned	Colombia
Gujarat Power Corporation	2	India	State-owned	India
Gupta Coalfields & Washeries	2	India	Private Sector	India
GVK	2	India	Private Sector	India
Haryana Power Generation Company	2	India	State-owned	India
Henan Investment Co.	2	China	State-owned	China
Huaibei Mining Group	2	China	State-owned	China
Italian-Thai Development Plc	2	Burma	Private Sector	Thailand
Jain Energy	2	India	Private Sector	India
Jharkhand State Electricity Board	2	India	State-owned	India
Jiangsu Guoxin Investment Group	2	China	State-owned	China
Jingneng Group	2	China	State-owned	China
Jinneng Investment	2	China	State-owned	China
Jiuquan Steel	2	China	State-owned	China
Kineta Power Limited	2	India	Private Sector	India
Korea Western Power Co.	2	South Korea	State-owned	South Korea
LS Power Development	2	United States	Private Sector	United States
MPX	2	Brazil, Chile	Private Sector	Brazil
Nagarjuna Construction Company	2	India	Private Sector	India
Nava Bharat Ventures Ltd	2	India	Private Sector	India
Navayuga Power	2	India	Private Sector	India
Power Company of Karnataka (PCKL)	2	India	State-owned	India
Power Finance Corporation	2	India	State-owned	India
Pragdisa Power Private Ltd	2	India	State-owned	India
Sarikaya Enerji Madencilik Tarım San. ve Tic. A.Ş.	2	Turkey	–	Turkey
Shenneng	2	China	State-owned	China
SN Aboitiz Power Group (SNAP)	2	Philippines	Private Sector	Philippines
SPML	2	India	Private Sector	India
State Grid Energy Development Co.	2	China	State-owned	China
Sterlite Energy	2	India	Private Sector	India
Tauron	2	Poland	State-owned	Poland
Tenaska	2	United States	Private Sector	United States
Thermal Powertech Corporation	2	India	Private Sector	India
Tokyo Electric Company	2	Japan	Private Sector	Japan
Tri-State Generation and Transmission Association	2	United States	Coop	United States
Vinacomin	2	Vietnam	State-owned	Vietnam
VSF Projects	2	India	Private Sector	India
West Bengal Power Development Corp.	2	India	State-owned	India
Xukuang Co.	2	China	State-owned	China
Yushen Coal	2	China	State-owned	China

## PART II: EXISTING COAL-FIRED PLANTS

Table II.1 summarizes global coal power generation in 2009 by country. The three largest coal power producers are China (36.2 percent of the global total), the United States (23.7 percent), and India (7.7 percent).

Table II.1 | **Gross Electricity Production from Combustible Coal in 2009**

RANK	COUNTRY	COAL-FIRED ELECTRICITY PRODUCTION 2009* (TWH)
1	China	2891.66
2	United States	1890.06
3	India	615.46
4	Germany	251.15
5	Japan	247.11
6	South Africa	232.20
7	Australia	201.96
8	South Korea	196.93
9	Russia	156.76
10	Poland	133.42
11	Taiwan	122.16
12	United Kingdom	104.61
13	Canada	91.59
14	Indonesia	64.98
15	Ukraine	60.46
16	Kazakhstan	58.95
17	Turkey	54.23
18	Czech Republic	45.95
19	Italy	39.74
20	Spain	36.16
21	Israel	34.40
22	Greece	34.19
23	Malaysia	32.50
24	Thailand	29.59
25	Mexico	29.06
26	Hong Kong	27.40
27	Serbia	26.86
28	France	25.89
29	Netherlands	24.28
30	Romania	21.75
31	Bulgaria	21.11
32	Denmark	17.69
33	Philippines	16.48
34	Vietnam	14.98

Table II.2 lists the world's 40 largest coal-fired electricity producers. The top five are Chinese state-owned power companies (Datang, Huaneng, Guodian, Huadian, and China Power Investment Group). Together, these companies account for about 40 percent of the total existing electricity market share in China.

RANK	COUNTRY	COAL-FIRED ELECTRICITY PRODUCTION 2009* (TWH)
35	Chile	14.90
36	Portugal	12.90
37	Morocco	11.22
38	Finland	11.13
39	Bosnia-Herzegovina	9.38
40	North Korea	8.03
41	Estonia	7.63
42	Hungary	6.34
43	Brazil	5.45
44	Macedonia	5.31
45	Belgium	5.17
46	Slovenia	5.13
47	Colombia	4.10
48	Mongolia	4.03
49	Ireland	4.01
50	Slovak Republic	3.86
51	Austria	3.76
52	Zimbabwe	3.65
53	New Zealand	2.73
54	Uzbekistan	2.04
55	Dominican Republic	1.94
56	Argentina	1.70
57	Croatia	1.66
58	Peru	0.90
59	Guatemala	0.74
60	Bangladesh	0.64
61	Sweden	0.52
62	Botswana	0.44
63	Kyrgyzstan	0.31
64	Namibia	0.30
65	Tanzania	0.13
66	Pakistan	0.12
67	Norway	0.04
<b>World Total</b>		<b>7991.93</b>

\* IEA, 2011. Electricity Information 2011.

Table II.2 | Top 40 Coal-Fired Electricity Producers

RANK	COMPANY	COUNTRY OF ORIGIN	COUNTRY OF OPERATION	COAL-FIRED CAPACITY (MW)
1	Datang	China	China	81,138
2	Huaneng	China	China	79,550
3	Guodian	China	China	71,287
4	Huadian	China	China	59,940
5	China Power Investment	China	China	43,200
6	Eskom	South Africa	South Africa	34,658
7	NTPC	India	India	28,299
8	RWE	Germany	Germany, United Kingdom, Netherlands	26,097
9	Southern Company	United States	United States	24,918
10	KEPCO	South Korea	South Korea	24,205
11	American Electric Power	United States	United States	23,907
12	Enel	Italy	Italy, Spain, Slovakia, Russia	22,933
13	E.ON	Germany	Western Europe, Russia, United States	19,278
14	Guangdong Yuedian Group	China	China	18,810
15	Zhejiang Provincial Energy Group	China	China	18,290
16	China Resources Group	China	China	17,943
17	Duke Energy	United States	United States	16,983
18	Shenhua Group Corporation	China	China	16,548
19	Tennessee Valley Authority	United States	United States	14,573
20	Vattenfall	Sweden	Denmark, Germany, Poland	12,350
21	GDF Suez + International Power	France, United Kingdom	United Kingdom, Portugal, United States, Australia, Indonesia, China, South America	12,100
22	Polska Grupa Energetyczna (PGE)	Poland	Poland	11,622
23	Ameren	United States	United States	10,015
24	DTEK	Ukraine	Ukraine	9,707
25	MidAmerican Energy	United States	United States	9,494
26	SDIC	China	China	9,320
27	Evonik Industries	Germany	Germany	9,091
28	Taipower	Taiwan	Taiwan	8,800
29	J-Power	Japan	Japan	8,412
30	Edison International	United States	United States	8,395
31	Xcel Energy	United States	United States	8,017
32	CLP Group	Hong Kong	Hong Kong	7,929
33	DominicanResources	United States	United States	7,898
34	NRG Energy	United States	United States	7,585
35	EnBW	Germany	Germany	7,548
36	FirstEnergy	United States	United States	7,457
37	Maharashtra State Electricity Board (MSEB)	India	India	6,800
38	Chugoku EPCo	Japan	Japan	6,353
39	CEZ Group	Czech Republic	Czech Republic	5,940
40	Tauron	Poland	Poland	5,448

Source: Heffa Schücking, Lydia Kroll, Yann Louvel and Regine Richter, 2011. Bankrolling Climate Change: A Look into the Portfolios of the World's Largest Banks, Profundo, urgewald, groundWork, Earthlife Africa Johannesburg and BankTrack.

## PART III: GLOBAL COAL TRADE

### Overview

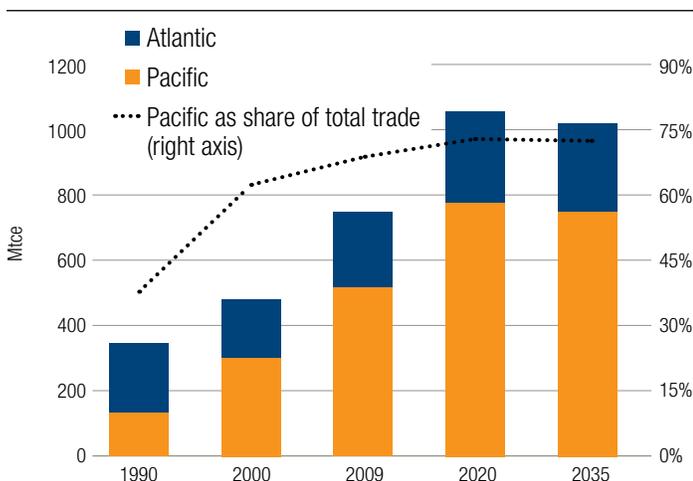
After a slight decline in 2008, the global coal trade has rebounded and continues to grow.<sup>10</sup> In 2010 the global coal trade rose by 13.4 percent, reaching 1,083.1 million tonnes. This growth was fueled by the worldwide economic recovery and China's expanding coal intake;<sup>11</sup> in 2009, China moved from being a long-term net exporter to net importer of coal.<sup>12</sup>

The two primary coal-trade markets—the Pacific and the Atlantic—are characterized by different trends. The Pacific market is expanding rapidly, driven mainly by China and India, but also by the traditional big importers in the region: Japan, Taiwan, and South Korea. Conversely, the Atlantic market has declined due to the economic slowdown and growing social resistance to coal-fired plants in Europe and North America.

Figure III.1 illustrates the growth history and IEA future-demand predictions for the two markets. China and India together imported 267.1 million tonnes of coal in 2010. IEA predicts that China and India will account for 90 percent of the growth in coal demand by 2016. During the same period, demand in the OECD countries will be sluggish, at 0.2 percent per year.<sup>13</sup>

In 2010, the top five coal importers were all in the Pacific market (Table III.1). Japan, Taiwan, and South Korea—the

Figure III.1 | **World Inter-regional Hard Coal Net Trade by Major Region**



Source: IEA, 2011. World Energy Outlook 2011.

Table III.1 | **World Top Coal Import Countries (2010e,\* in million tonnes)**

RANK	COUNTRY	TOTAL COAL IMPORT	TOTAL COAL CONSUMPTION	IMPORT PERCENTAGE OF CONSUMPTION
1	Japan	186.64	186.64	100.0%
2	China	176.96	3319.10	5.3%
3	South Korea	118.59	118.38	100.2%
4	India	90.14	658.74	13.7%
5	Taiwan	69.60	64.82	107.4%
6	Germany	45.73	227.92	20.1%
7	United Kingdom	26.52	51.29	51.7%
8	Russia	19.62	234.37	8.4%
9	France	17.59	17.35	101.4%
10	United States	17.56	959.11	1.8%
11	Spain	12.82	16.99	75.4%
12	Canada	12.64	47.12	26.8%
13	Belgium	2.45	2.87	85.3%

\* Data reported for the year 2010 in this publication are preliminary and presented as 2010e. Preliminary estimates are based on the submissions received in early 2011 and on quarterly submissions to the IEA from member countries.

three traditional big importers—have enormous coal-power generation capacity (Japan ranked fifth, Taiwan eleventh, and South Korea eighth) but almost no domestic coal producing capacities. Together, they imported 374.83 million tonnes of coal in 2010. As pressure mounts to phase out nuclear power—especially in Japan in the wake of the Fukushima accident—Japan and Taiwan's coal imports are likely to continue to grow.

In response to the market shift to more robust Asian demand, all the major exporters are exploring ways to increase their sales in the region. The world's two biggest coal exporters are Australia and Indonesia (Table III.2). Their locations give them a unique advantage in reaching Asian markets, and both are developing new mines and transport infrastructure.

In contrast, other major exporters (including swing suppliers such as South Africa and the United States, and traditional Atlantic market suppliers such as Russia and Colombia) face transport bottlenecks in reaching Asian markets. A growing number of infrastructure projects are addressing these bottlenecks. In addition to the major exporters already mentioned, rising demand from China is fueling the growth of two new exporting countries: Mongolia and North Korea.

Table III.2 | **World Top Coal Export Countries (2010e,\* in million tonnes)**

RANK	COUNTRY	TOTAL COAL EXPORT**	TOTAL COAL PRODUCTION***	IMPORT PERCENTAGE OF CONSUMPTION
1	Australia	297.68	420.26	70.8%
2	Indonesia	286.81	336.00	85.4%
3	Russia	108.96	323.90	33.6%
4	United States	74.13	997.13	7.4%
5	South Africa	69.57	254.73	27.3%
6	Colombia	68.49	74.35	92.1%
7	Canada	33.41	62.94	53.1%
8	Kazakhstan	32.89	110.80	29.7%
9	China	20.06	3162.19	0.6%
10	Poland	10.08	133.22	7.6%
11	Venezuela	6.18	8.79	70.3%
12	Ukraine	6.10	54.59	11.1%
13	India	2.07	570.68	0.4%

\* Data reported for the year 2010 in this publication are preliminary and presented as 2010e. Preliminary estimates are based on the submissions received in early 2011 and on quarterly submissions to the IEA from member countries.

\*\* IEA, 2011. Coal Information 2011.

\*\*\* Ibid.

## Country Analyses

### Australia

Australia exports most of its coal to the Pacific market, specifically China, India, Japan, South Korea, and Taiwan. It exports a small amount of metallurgical coal to Europe and Brazil.<sup>14</sup>

Most exploration is centered in Queensland and New South Wales (NSW). The Bowen Basin in central Queensland is a major export region for coking coal.<sup>15</sup> The utilization rate of export mining capacity in Australia was around 80% in 2010.<sup>16</sup>

Driven by growing Asian demand, 20 new mines began operating in Australia between 2008 and 2010. Chinese and Indian companies are increasing their investments in Australia, also in response to Asian demand. IEA estimates that coal mining projects awaiting approval or under construction in Australia will add over 50 million tonnes of production capacity by 2016. An additional 125 million tonnes per annum (Mtpa) has been announced or planned.<sup>17</sup>

According to experts who have reviewed the companies' proposals, IEA's predicted numbers are far lower than the proposed expansion. In reality, additional production capacity could reach as high as 800 to 900 Mtpa, although such a massive expansion is unlikely. Notably, the Galilee Basin and the Surat Basin in Queensland, the Gunnedah Basin, and the Hunter Valley in NSW are expected to bring vast deposits of steam coal into production between 2013 and 2015.<sup>18</sup>

Australian inland coal is transported to the export terminal by rail. Inland transport costs are moderate compared with other major exporters. Currently, Australia has seven major coal ports in operation: Abbot Point, Hay Point/Dalrymple Bay, Gladstone, and Brisbane, all in Queensland, and Newcastle and Port Kembla in NSW.<sup>19</sup>

Transport facilities development has failed to keep pace with the rapid growth of the coal mining industry. Since 2006, transport bottlenecks have been a growing problem. In Newcastle, rail and port capacity shortages caused severe congestion of coal bulk carriers until 2010. An agreement among the companies involved resolved the problem and port capacity expanded with the construction of a third coal loader at Kooragang Island. Currently, the two coal terminals at Hay Point are struggling with transport bottlenecks.<sup>20</sup>

According to local experts, pending proposals will, theoretically, increase export capacity from 445 to 1289 Mtpa. In Queensland, infrastructure projects include the new Galilee Basin rail line, the new Surat Basin rail link, the Abbott Point coal port expansion, the Dudgeon Point port expansion at Hay Point, the new Balaclava Point Coal Terminal, and the new Wiggins Island Coal Terminal at Gladstone.<sup>21</sup>

A series of "mega mines" have been proposed in the Galilee Basin and this area is expected to become the new frontier for Australian coal exports. Several integrated mine, rail, and port projects have been proposed to control costs. The first project to be approved was the Alpha Coal Project, developed by Gina Rinehart and the Indian conglomerate GVK. It is the most advanced of the Galilee Basin projects and consists of a 30 Mtpa mine, a rail line, and a 60 Mtpa coal export terminal at Abbot Point. GVK will own 79 percent of the Alpha mine and 100 percent of the transport infrastructure. Adani is due to release its environmental impact study for the massive 60 Mtpa Carmichael mine by the end of the September 2012, and its 180 Mtpa coal port expansion at Dudgeon Point is progressing through the approval process.<sup>22</sup>

The new Queensland government recently abandoned the Multi-Cargo Facility proposed for Abbot Point. This will likely accelerate the development of Galilee Basin, because large coal companies are able to build stand-alone coal export terminals more quickly and cheaply than governments. BHP and GVK are now planning two 60 Mtpa coal export terminals, known as T2 and T3, at Abbot Point. Similarly, Adani is planning a 35 Mtpa expansion (known as T0) and Clive Palmer is proposing a 240 Mtpa coal terminal at the site.<sup>23</sup>

Newcastle provides most of the port capacity in NSW. Port Kembla provides back-up infrastructure but has little room for expansion. There are plans to expand the capacity of one of the first two coal terminals at Newcastle, from 77 Mtpa in 2010 to 101 Mtpa after 2012.<sup>24</sup> A third coal terminal with an initial handling capacity of 30 Mtpa, commissioned in late 2010, will reach 53 Mtpa by 2013 and 66 Mtpa in 2015.<sup>25</sup> The Terminal 4 project, slated to begin construction in 2014 or 2015, is designed to increase coal exports by 120 Mtpa. The mines under development at Gunnedah Basin and Hunter Valley are further from the Port of Newcastle and require new rail infrastructure.

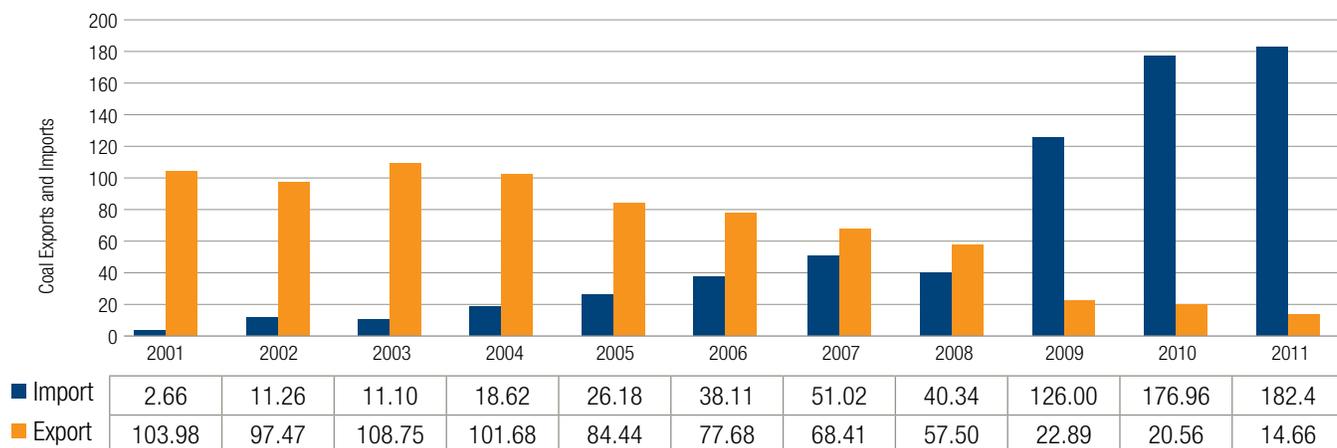
## China

China is the world's largest coal producer and consumer, and a major coal importer and exporter. Driven by its rapid economic growth and high reliance on coal for electricity generation, China's domestic coal production no longer satisfies its coal demand. China became a net coal importer in 2009 (Figure III.2) and overtook Japan as the world largest coal importer in 2011.<sup>26</sup>

The imbalanced geographic distribution of coal production and consumption is a longstanding challenge for China's domestic coal transport. China's coal production is mostly concentrated in its northern and western regions, while demand is centered in the east and along the Pacific coast. Over the past decade, mining activities have moved towards the western inland regions of Inner Mongolia, Shaanxi, Gansu, Qinghai, and Xinjiang provinces, even further from the market.<sup>27</sup>

The capacity of the three existing major rail links that connect the western inland coalfields to the northern coal ports nearly doubled between 2005 and 2010. New rail infrastructure has not yet been built to deliver coal from Xinjiang to the faraway ports.<sup>28</sup> There are seven major ports in northern China from which coal is transported to southern China (Qinhuangdao, Tianjin, Jingtang, Huanghua, Qingdao, Rizhao and Lianyungang).

Figure III.2 | China's Coal Exports and Imports, 2001-2011 (million metric tons)



Source: 2001–2010 data from U. S. EIA, International Energy Statistics, [www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=1&pid=1&aid=3&cid=&syid=2006&eyid=2008&unit=TST](http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=1&pid=1&aid=3&cid=&syid=2006&eyid=2008&unit=TST); 2011 data from [coal.com.cn](http://coal.com.cn), [www.coal.com.cn/Gratis/2012-5-30/ArticleDisplay\\_306261.shtml](http://www.coal.com.cn/Gratis/2012-5-30/ArticleDisplay_306261.shtml)

According to 2011 data, the top 10 countries from which China imports coal are Indonesia, Australia, Vietnam, Mongolia, North Korea, Russia, South Africa, the United States, Canada, and Colombia.<sup>29</sup>

Coal from Russia and Mongolia is mainly imported by rail and road. In 2011, Mongolia became the top coking coal exporter to China, overtaking Australia thanks to its lower prices.<sup>30</sup> Additional transport infrastructure developments have likely been proposed or are already underway, but detailed information is difficult to obtain.

Coal from Canada, Colombia, North Korea, and the United States arrives in China primarily through the seven major northern coal ports (Qinhuangdao, Tianjin, Jingtang, Huanghua, Qingdao, Rizhao, and Lianyungang). These ports are also used to transport coal to southern China, Japan, and South Korea.

The southern coastal areas, in particular Guangdong and Fujian provinces, import coal from Australia, Indonesia, South Africa, and Vietnam. Because of the high cost of transporting coal domestically, it is usually cheaper for Guangdong and Fujian to purchase coal from abroad.<sup>31</sup>

In the north the seven major ports and a number of smaller ones, including Yingkou and Weifang, have announced expansion plans for the 12<sup>th</sup> Five-Year Plan (2011–2015).<sup>32</sup> In the south, three ports (Zhuhai,<sup>33</sup> Fujian,<sup>34</sup> and Meizhou<sup>35</sup>) have also announced expansion plans that could enhance their capacities to accommodate more coal imports.

## Indonesia

Indonesia is the most important supplier of steam coal in the Pacific market and exports to China, India, Japan, South Korea, and Taiwan.<sup>36</sup> Most of coal mines in Indonesia are located on Kalimantan Island and Sumatera Island.

To promote mining development, new policies have been enacted that simplify licensing and clarify responsibilities among central, provincial, and district authorities. The “coal contracts of work” licensing system grants contract holders exploitation rights to a coal deposit for 30 years and royalty payments equal to 13.5 percent of the coal price. With help from the government, coal production has grown remarkably in the past decade.<sup>37</sup> An additional 60 Mtpa of export mining capacity is projected by 2016.<sup>38</sup>

On Kalimantan Island, there are six large deepwater ports: Adang Bay, Banjarmasin, Kotabaru, Pulau Laut, Tanjung

Bara, and Tarahan. Together, they have a total handling capacity of 268 Mtpa. Smaller coal terminals across the country have a total capacity of 60 to 80 Mtpa. So far, physical infrastructure has not constrained exports from Indonesia for two reasons. First, most of the coal deposits that have been developed are close to the coast. Second, domestic coal is transported by road or river, which makes railway construction for coal transport unnecessary.

Adoni Global has announced plans to build a 250-kilometer (km) railway and a port with 60 Mtpa throughput capacity in the Sumatra region.<sup>39</sup> In the long run, inland infrastructure may need to be improved as coal mines further from the coast are exploited.<sup>40</sup> As of now, the flexibility of its inland transport system enables Indonesia to respond faster than its main competitors—Australia and South Africa—to new markets in China and India.<sup>41</sup>

## South Africa

South African coal is cost competitive and the country’s location makes it a convenient swing supplier between the Pacific and the Atlantic markets. South Africa exports coal mainly to Europe (including Belgium, Denmark, France, Germany, Italy, Netherlands, Portugal, Spain, Switzerland, and the United Kingdom), but an increasing share is going to the East (mainly India, but also China, South Korea, Malaysia, Pakistan, and Taiwan). It also supplies a small amount of coal to several countries in the Middle East, Africa, and Latin America.<sup>42</sup>

Most of South Africa’s coal mines are located in the Central Basin.<sup>43</sup> The expanded or recently developed Waterberg, Limpopo, and Soutpansberg Basins will further boost coal production.<sup>44</sup> Total mining capacity may reach 132 Mtpa by 2016, up from 79 Mtpa in 2010.<sup>45</sup>

South Africa’s rail system has long been considered the main constraint on exports. The Richards Bay terminal was recently expanded to handle 91 Mtpa of coal exports, although its real utilization rate is much lower because of the lack of rail capacity to the coast.<sup>46</sup>

Some of the rail system upgrades currently underway are expected to help alleviate these transport constraints.<sup>47</sup> The development of South Africa’s coal transport system has four key components: the Waterberg Feeder line, the coal backbone system through the Mpumalanga and Witbank area, the Richards Bay Coal Terminal coal export line, and the Swazilink system.<sup>48</sup>

## The United States

The United States is an important swing supplier in the global hard coal market. Compared with coal from other major suppliers, U.S. coal has price and quality disadvantages. Nevertheless, the recent demand boom from China and India, as well as the decline in domestic consumption linked to low natural gas prices, has given the United States greater incentive to export.<sup>49</sup>

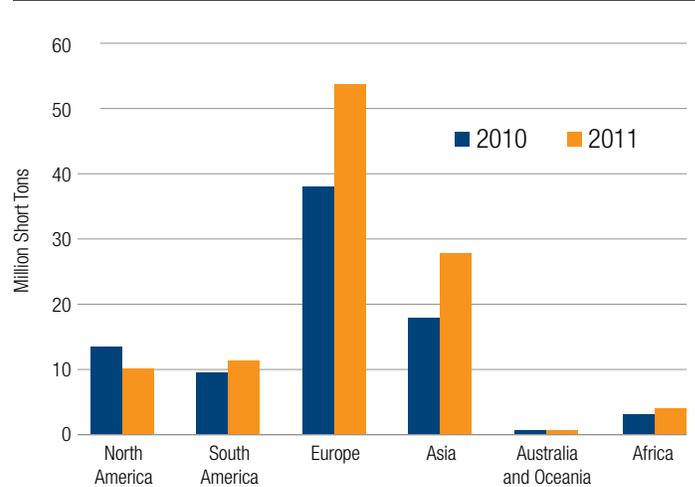
In 2011, U.S. coal exports reached a new high and ranked third globally, below Australia and Indonesia. Exports to both Europe and Asia increased dramatically from 2010 to 2011. In the Atlantic market, supply was inadequate; Russian and Colombian exports were constrained by capacity, and South Africa shifted steam coal exports to Asia. In the Pacific market, the United States filled the gap left by Australian export disruptions from flooding in Queensland.<sup>50</sup>

Currently, hard coal from the Appalachia region accounts for a large portion of U.S. exports. Some high-sulfur steam coal from the Illinois Basin is traded at a lower price than the Appalachian coal.<sup>51</sup> The coal from public land in the Powder River Basin of Montana and Wyoming has attracted interest from companies hoping to transport it by rail to West Coast ports for export to Asia.<sup>52</sup>

In the 1990s, the United States became an important coal supplier and developed its transport infrastructure for export. However, transport costs restrict the competitiveness of U.S. coal in the global market. Rail distances from Central Appalachia to the Atlantic ports run from 600 km to 1,350 km; coal from the Illinois Basin travels around 1,000 km by barge to reach ports on the U.S. Gulf Coast. Inland transport costs are significantly higher in the United States than in other main supply countries, including Australia, Colombia, Indonesia, and South Africa.<sup>53</sup> High transport costs in the United States may create export barriers in the long term.

The majority of U.S. coal exports move through the seaports of the East Coast (Norfolk and Baltimore) and the Gulf Coast (Mobile and New Orleans). Together with Detroit and Seattle, these seaports shipped 94 percent of total U.S. coal exports in 2010.<sup>54</sup> The utilization rate of U.S. export terminals was less than 40 percent in 2009 and about 55 percent in 2010. These low numbers reflect the less competitive supply costs of U.S. coal and less effective coordination between rail and port operators.<sup>55</sup>

Figure III.3 | USA Coal Export, By Region, 2010–2011



Source: U.S. EIA, 2012. USA Coal Consumption Fell while Exports Increased during the Fourth Quarter of 2011, 04/25/2012, 205.254.135.7/todayinenergy/detail.cfm?id=5990

An export hub is planned for the Pacific Northwest to help bring Powder River coal to Asia. The proposed hub will substantially enhance the region's export capacity.<sup>56</sup> Two large port projects have been proposed in Washington State—Longview Terminal and Gateway Pacific Terminal at Cherry Point, near Ferndale. Along with four smaller projects, the proposals in Oregon and Washington will add between 136.8 and 187.8 Mtpa in total export capacity. In addition, 10 proposed terminals, although each small in scale, will together add 95.2 to 152.2 Mtpa in port capacity along the Gulf Coast.<sup>57</sup>

## Russia

In 2010, the largest export destinations for Russian coal were Europe, India, Taiwan, South Korea, Japan, and China.<sup>58</sup> Russia became the world's third largest coal exporter, behind Australia and Indonesia, but it is the top exporter in the Atlantic market. More than half of Russian coal is currently sold to the European Union, but it is expected that exports will shift to the Pacific market, especially China.<sup>59</sup> Russia imports coal primarily from Kazakhstan, at a steady rate of around 20 metric tonnes of coal equivalent per year.

Although the Kuznets Basin dominates current production, growth is expected in the Kansk-Achinsk Basin and Eastern Siberia, to accommodate to increasing demand from Asia.<sup>60</sup>

Long rail distances and inadequate railway capacity have doubled the cost of inland coal transport in Russia over the past few years, making Russian coal less competitive in the global market.<sup>61</sup> From 2008 to 2030, railway infrastructure investments will amount to US\$55.5 billion. Five routes are targeted: the Hinterland connection between Novorossiysk and Tuapse, new rail lines between Ust-Luga and St. Petersburg, connecting mines in the North Ural to Northwest ports, capacity extension in Siberia, and the area around Vanino.<sup>62</sup>

Most of the ports for Russian coal exports are located in three regions: North Russia (the Baltic Sea Ports of Murmansk, Vysotsk, Riga, Ventspils, Tallin, St. Petersburg, and Ust-Luga); South Russia and Ukraine (Mariupol, Tuaspse, and Yuzhny); and Far Eastern Russia (Vostochny, Vanino, and Muchka). Coal exports through the Baltic ports have dropped due to high transit fees levied by the Baltic States, but have increased through the Far East ports.<sup>63</sup> The seaports of Vanino, Vostochny, and Nakhodka serve an important role in maintaining trade with Japan and South Korea.

To respond to strong demand growth in China and India, port capacity in the Far East will be further enhanced. Vanino, the second largest coal port in Russia, will update its handling capacity from 13.5 Mtpa to 18.5 Mtpa by 2013. The port of Posiet is also expanding, from 5 Mtpa to between 7 and 9 Mtpa by the end of 2012. In total, Russian export terminal capacity is projected to increase by about 13 Mtpa over the next five years.<sup>64</sup>

## Kazakhstan

Kazakhstan exports around 30 to 35 percent of its total coal production. Most of Kazakhstan's exported coal is destined for Russia, but some is destined for a small number of European countries.<sup>65</sup>

Kazakhstan has the world's third-largest open pit mine: the Bogatyr mine, in the Ekibastuz Basin in northern Kazakhstan. Bogatyr has a reserve of around 10 billion tonnes of coal. Another massive coal basin is near Karaganda, at the center of the country. With numerous other smaller deposits, Kazakhstan has recoverable coal reserves of around 34 billion tonnes, placing it among the world's top-10 producers. Coal production is expected to reach 134 Mtpa by 2015 and 151 Mtpa by 2020. Exports will increase from the current 20 to 22 Mtpa, to 32 Mtpa in 2014.<sup>66</sup>

Each of Kazakhstan's major coal producing companies has announced plans to increase its output. Bogatyr Coal is planning to nearly double its production by 2020. The energy division of ENRC, Kazakhstan's largest metals company and one of the largest producers of electricity and coal in the country, increased coal production to 20.1 Mtpa in 2010. Between 2011 and 2015, ArcelorMittal, which has eight coalmines in the Karaganda region, is investing some US\$300 million to expand its coal capacity.<sup>67</sup>

## Mongolia

The recent development of coal mining and exporting in Mongolia has significantly boosted its economy. In 2011, 32.99 million tonnes of coal was mined and 25.5 million tonnes exported, making coal the country's leading export product. Recognizing the global demand for coal, especially from Asia, the Mongolian government has prioritized the coal industry for the past several years.<sup>68</sup>

As a landlocked country, Mongolia must build new transport infrastructure to deliver its coal to the Chinese and Russian markets. The Mongolian Government has announced plans to cooperate with the governments of Russia and China to resolve these transport challenges. Russia and Mongolia collaborated on the second phase of a railway project in Mongolia. Russian Railways helps transport Mongolian coal from Naushki station, on the Mongolian border, to Far East ports and other points in the world.<sup>69</sup>

The distance from Mongolia to the Chinese port of Tianjin is much shorter than the distance to the Russian seaports. However, in addition to poor road and rail infrastructure, inadequate border crossing capacity hampers transport from Mongolia to China. In the South Gobi region, coal mined by one of the largest coal companies in Mongolia is transported to China through the Shivee Khuren-Ceke border, where crossing infrastructure was recently expanded.<sup>70</sup>

## North Korea

Most North Korean coal is exported to China.<sup>71</sup> One of North Korea's largest coal mines is located in Jikdong, Suncheon-si, Pyongannam-do, and is managed by the Suncheon District Coal Company and the Ministry of Coal Industry. The mine is designed for a capacity of 1 Mtpa, and the current production is around 30,000 tonnes per annum (tpa). A 100 km railway delivers coal from Suncheon to Nampo Port.<sup>72</sup>

Another mine is located in the Gogeonwon labor district, Kyeongwongun, Hamgyeongbuk-do, and is managed by the Gogeonwon Labor District Coal Company and the Ministry of Coal Industry. It is also designed with a capacity of 1 Mtpa. However, actual annual mining production data from the site are unavailable. This site is connected to Najin Port by a 100 km railway.<sup>73</sup>

## Colombia

Colombia's mining capacity is projected to increase from 79 Mtpa in 2010 to 138 Mtpa by 2016.<sup>74</sup> Like South Africa, Colombia is a major supplier to the Atlantic market, exporting coal to the United States and Europe, particularly the Netherlands. Despite transport barriers, Colombia has become China's tenth largest source of coal imports.

All of Colombia's existing export terminals are situated on the Caribbean coast, leaving an inadequate transport infrastructure to serve the growing Asian market. Until now, the Panama Canal has been a bottleneck in the Pacific route. However, its expansion will be complete by 2014 and the costs of transportation to China and other Pacific buyers will drop significantly. Moreover, a 220 km railway line between the Colombian port city of Cartagena and the Pacific Ocean is under consideration. This rail line would facilitate coal exports to China.<sup>75</sup>

According to the IEA, port capacity bottlenecks could be a limiting factor for Colombian exports over the medium term. Expansions are scheduled for some ports in the Santa Marta and Ciénaga regions. The capacity of Puerto Drummond, where production from the César region is exported, will be increased to 27 Mtpa by 2013 or 2014. The port of Puerto Nuevo near Santa Marta has a targeted capacity of 23 Mtpa by 2013 or 2014. Additionally, the capacity of the railway that links the César deposits to the ports near Ciénaga and Santa Marta will be enhanced from 42 to 44 Mtpa, to 88 Mtpa by the end of 2013.<sup>76</sup> A Brazilian coal mining company is building a new port near Dibulla, with the first-stage capacity of 10 Mtpa to be achieved by 2013 or 2014, and a total capacity of 28 Mtpa by 2016. Around the same time, a new rail line will be built to link four newly developed mines with the new port.<sup>77</sup>

## PART IV: GOAL FINANCE

This section summarizes available studies on coal finance. In recent years, several publications have provided useful overviews of the financing and lending options for coal and its relevant industries. This summary is organized in three parts: the role of international financial institutions in coal finance, the role of commercial banks in coal finance, and other forms of subsidies for coal projects.

### The Role of International Financial Institutions in Coal Finance

International public financial institutions are important and long-time contributors to the coal industry. Since 1994, multilateral development banks (MDBs) and industrialized countries' export credit agencies (ECAs) have helped finance 88 new and expanded coal plants in developing countries, as well as projects in Europe. Together, MDBs and ECAs have provided more than US\$37 billion in direct and indirect financial support for new coal-fired power plants worldwide. The World Bank has actually increased lending for fossil fuel projects and coal plants in recent years.<sup>78</sup> An analysis by the Environmental Defense Fund concludes that the lending strategies of MDBs and ECAs in the energy sector do not sufficiently consider the environmental harm wrought by fossil fuel projects.

Table IV.1 lists the top public international financial institutions (IFIs) that support coal power projects. Table IV.2 lists the top financing countries by rank. Through the Japan Bank for International Cooperation and Nippon Export and Investment Insurance, Japan plays a significant role in funding coal-fired power plants. Japanese investments have targeted developing countries in Asia, notably Indonesia and the Philippines. The United States employs a variety of IFI channels to support coal-fired power plants in developing countries. These include the U.S. Export-Import Bank, the Overseas Private Investment Corporation, the World Bank (the United States is the biggest contributor), and a number of other multilateral public financial institutions to which the United States is a major contributor.<sup>79</sup> Coal-fired power plants sponsored by IFIs are largely concentrated in Asia, in countries such as Indonesia, the Philippines, China, India and Vietnam (Table IV.3).

Figure IV.1 shows the top IFI financers of coal plants in Asia. Figure IV.2 shows the top IFI financers of coal plants in Europe.

Table IV.1 | **Public International Financers of Coal-Fired Power Plants**

PUBLIC FINANCIAL INSTITUTION	COUNTRY OF ORIGIN	TOTAL FINANCING (IN MILLION US\$)	NUMBER OF PROJECTS FINANCED
Japan Bank for International Cooperation (JBIC)	Japan	8,138.65	21
World Bank Group (IBRD/IDA/IFC/MIGA) *	Multilateral	5,315.49	29
Asian Development Bank (ADB)	Multilateral	3,912.95	21
US Export-Import Bank	United States	3,478.80	17
European Investment Bank (EIB)	Multilateral	2,510.94	9
Nippon Export and Investment Insurance (NEXI)	Japan	2,089.48	6
Kreditanstalt für Wiederaufbau (KfW)	Germany	1,769.15	6
China Development Bank	China	1,680.60	3
Euler Hermes	Germany	1,174.14	5
European Bank for Reconstruction and Development (EBRD)	Multilateral	869.39	9
Servizi Assicurativi del Commercio Estero (SACE)	Italy	789.10	2
Export-Import Bank of Korea (Kexim)	Korea	700.00	1
Overseas Private Investment Corporation (OPIC)	United States	685.00	6
Export Credits Guarantee Department (ECGD)	United Kingdom	605.78	2
China Exim Bank	China	580.00	1
Sinosure	China	562.40	1
African Development Bank (AfDB)	Multilateral	500.00	1
Compagnie Francaise d'Assurance pour le Commerce Exterieur (COFACE)	France	474.81	3
Bank of China	China	308.40	2
Korea Export Insurance Corporation (KEIC)	South Korea	300.00	1
Nordic Investment Bank (NIB)	Multilateral	201.81	2
Garanti-instituttet for eksportkreditt (GIEK)	Norway	147.39	1
CESCE	Spain	76.00	1
Export Development Canada (EDC)	Canada	62.27	1
Black Sea Trade and Development Bank (BSTDB)	Multilateral	41.34	2
Geschäftsstelle für die Exportrisikogarantie (ERG)	Switzerland	39.90	1
Netherlands Development Finance Company (FMO)	Netherlands	16.45	1
Deutsche Investitions- und Entwicklungsgesellschaft (DEG)	Germany	13.59	1
<b>Total</b>		<b>37,043.83</b>	<b>156</b>

Note: \*The World Bank Group includes financing from IFC (\$ 2,467 mln, 17 projects), MIGA (\$ 393 mln, 4 projects) and IBRD/IDA (\$ 2,455 mln, 8 projects).

Source: CoalSwarm

## The Role of Commercial Banks in Coal Finance

The world's largest commercial banks continue to invest significantly in the coal industry, from coal mining to coal-fired plants. A study by Profundo, an energy research firm, concludes that "while banks are employing a lot of climate speak, this is more or less a smoke screen to continue their financing of the coal industry. None of the adopted policies focus on what counts: the calculation and publication of banks' 'financed emissions' and the implementation of emissions reduction targets."<sup>80</sup>

Figure IV.3 illustrates the financing provided for coal-fired plants and coal mining globally by the top 20 commercial banks, from 2005 to 2011.

In the past three years, the Rainforest Action Network, the Sierra Club, and BankTrack have published annual report cards that grade U.S. banks according to their financial investments and policies on mountaintop removal and coal-fired plants. The findings suggest that the largest U.S. banks are highly engaged in the coal industry.<sup>81</sup> Banks often do not have policies regard-

Table IV.2 | **Public International Financing for Coal Power, by Providing Countries**

COUNTRIES	TOTAL FINANCING (IN MILLION US\$)	NUMBER OF FINANCING PROJECTS
Multilateral	13,351.91	73
Japan	10,228.13	27
United States	4,163.80	23
China	3,131.40	7
Germany	2,956.88	12
South Korea	1,000.00	2
Italy	789.10	2
United Kingdom	605.78	2
France	474.81	3
Norway	147.39	1
Spain	76.00	1
Canada	62.27	1
Switzerland	39.90	1
Netherlands	16.45	1

Source: CoalSwarm

ing coal finance and when they do, there may be a gap between their policy and practice. None of the eight U.S. banks<sup>82</sup> evaluated has completely excluded mountaintop removal from its financing activities. Although Bank of America, JPMorgan Chase, Citi, Morgan Stanley, and Wells Fargo all signed the “Carbon Principles,”<sup>83</sup> which apply to financing coal-fired plants, they were the top five U.S. banks in coal financing in 2012. As the Rainforest Action Network has noted, “There is no evidence that the Carbon Principles have stopped, or even slowed, financing to carbon-intensive projects.”<sup>84</sup>

In the United Kingdom, the Royal Bank of Scotland has been most heavily involved in financing coal. From 2008 through 2010, it provided €791.8 million to companies that are among the world’s top 20 coal mine operators, and €7,201.8 million to companies that are among the top 20 coal-based electricity generators — a total of almost €8 billion. Ironically, the bank’s public position on coal finance is shifting towards more “climate-consciousness.”<sup>85</sup>

In Australia, Profundo evaluated seven banks based on their investments in coal mining, coal-fired power stations, coal export ports, and renewable energy. Bendigo Bank and Mecu did not provide financing to any of the four sectors from 2006 to 2010. The other five banks —

Table IV.3 | **Public International Financing for Coal Power, by Receiving Countries**

COUNTRIES	TOTAL FINANCE RECEIVED (IN MILLION US\$)
Indonesia	10,264.06
Philippines	6,041.17
China	4,712.84
India	4,325.68
Bulgaria	1,892.68
Germany	1,586.33
South Africa	1,128.62
Vietnam	1,039.13
Morocco	849.70
Poland	813.08
Chile	740.00
Malaysia	736.96
Thailand	681.00
Turkey	659.93
Mexico	611.00
Slovenia	479.76
Ukraine	113.00
Slovakia	87.69
Romania	86.40
Kazakhstan	70.00
Colombia	62.40
Guatemala	32.00
Czech Republic	30.40

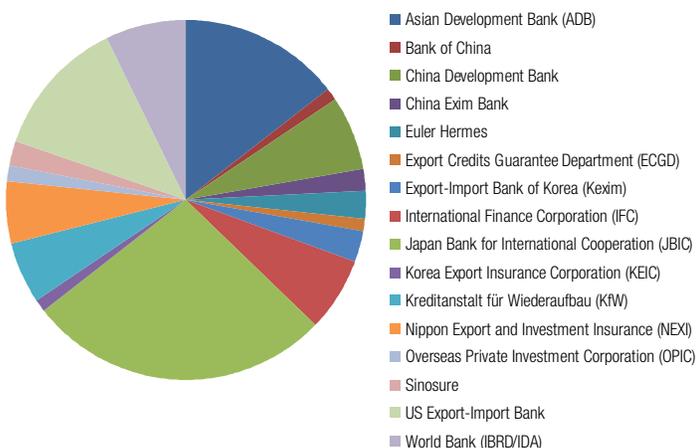
Source: CoalSwarm

Australia and New Zealand Banking, Commonwealth Bank of Australia, National Australia Bank, Suncorp, and Westpac Banking — made a total of \$A 5.5 billion coal-related investments and \$A 783.5 million renewable-related investments during the same period.<sup>86</sup>

### Other Forms of Subsidies for Coal Projects

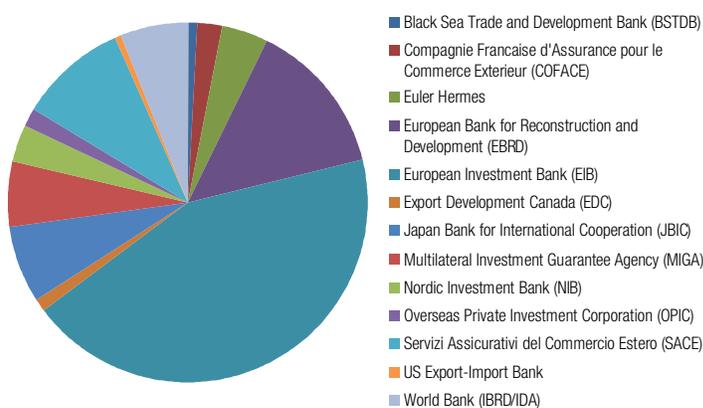
In addition to IFIs and commercial banks, coal is subsidized in many other ways. Common forms include direct subsidies, tax credits, public loan or loan guarantees, favorable accounting treatments, avoided carbon price, and ignored social costs.

Figure IV.1 | **Top International Public Financers of Coal Plants in Asia**



Source: www.CoalSwarm.org

Figure IV.2 | **Top International Public Financers of Coal Plants in Europe\***



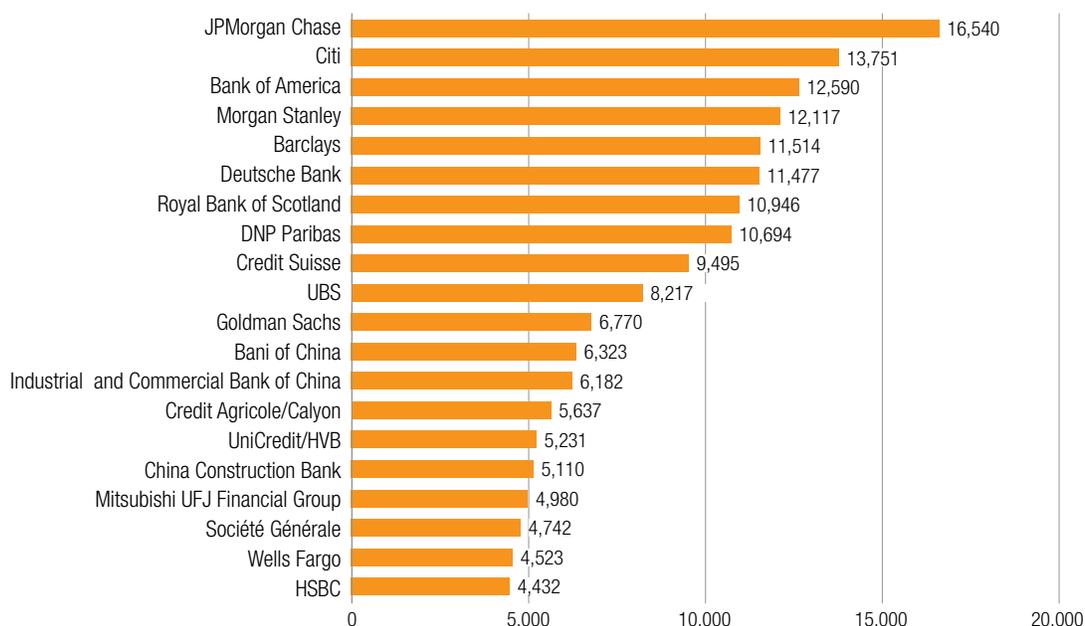
Source: www.CoalSwarm.org

\* Bulgaria, Czech Republic, Germany, Poland, Romania, Slovakia, Slovenia, Turkey and Ukraine.

Direct subsidies for new coal power plants and coal mines are widely applied in the European Union. For example, until 2020, construction of new high-efficiency coal plants with carbon capture and storage implementation can receive financial support of up to 15 percent of total investment.<sup>87</sup> The European Union requires that coun-

tries phase out coal mining subsidies by 2018, but until then, countries including Germany, Poland, Romania, and Spain continue to provide investment aids for coal mining.<sup>88</sup> Poland also provides tax breaks that exempt all coal mining operations from paying for their water use.

Figure IV.3 | **Top 20 Commercial Banks Financing Coal (in million euro, 2005–2011)**



Source: Heffa Schücking, Lydia Kroll, Yann Louvel and Regine Richter, 2011. Bankrolling Climate Change: A Look into the Portfolios of the World's Largest Banks, published by Profundo, urgewald, groundWork, Earthlife Africa Johannesburg and BankTrack.

In the E.U. context, carbon is priced through the E.U. Emission Trading Scheme. However, the power sector has received free allowances, which have contributed to windfall profits. Although free allocation will be replaced by auction in 2013, it is possible that new facilities will be exempt from purchasing the initial allocation for another seven years.<sup>89</sup>

In the United States, domestic coal plant construction and retrofits are subsidized through the Treasury Department, the Department of Energy, and the Department of Agriculture's Rural Utilities Service. For example, states and local public authorities can use federal tax-exempt funding, overseen by the Treasury Department, to finance new coal plant construction and life extension for existing coal plants.<sup>90</sup> A 2011 study found that the utilities/electric industry accounted for 14 percent of federal subsidies, second only to the finance industry. From 2008 to 2010, the industry reported a US\$100 billion profit but as a whole paid only a 3.7 percent tax rate.<sup>91</sup>

Another example of a U.S. subsidy is a federal tax provision that reduces the income and capital gain tax rates for coal mine owners by reclassifying income and capital gains as "royalty." The credit is estimated to have totaled US\$1.17 billion in tax expenditures from 2002 to 2009. Non-standard accounting practices have also favored the U.S. coal industry. By applying percentage depletion, mineral extraction companies are able to predefine a percentage deduction rate of gross income that is usually higher than the actual costs induced by resource depletion.<sup>92</sup>

A broader definition of coal subsidization considers the recognized and unrecognized social cost of extracting and burning coal. Air pollution generated by coal imposes significant costs on human health and the environment. Black lung disease, for example, is caused by inhaling coal dust during mining activities. The National Academy of Sciences calculated the non-climate-related external costs associated with coal electricity generation in the United States at US\$62 billion for 2005.<sup>93</sup> Similarly, the European Environment Agency concluded that air pollution from coal plants cost Europe €112 billion in 2009.<sup>94</sup> A study of China estimated that the external costs of all the coal used in 2007 totaled RMB 1.7 trillion, or 7.1 percent of China's gross domestic production for the same year.<sup>95</sup> Indeed, coal is much more expensive when all the externalities are factored into the equation.

## PART V: DATA GAP

### Data Gap for New Coal-Fired Plants

- For Russia, the authors were only able to obtain the total figure for proposed coal power capacity announced by the Russian Government. Additional efforts are needed to identify particular projects. Researchers may send requests for data to the Russian Energy Forecasting Agency at <http://www.e-apbe.ru/en/contacts>.
- For Ukraine, the authors were only able to find the total figure of proposed coal power capacity announced in the Ukrainian energy policy.
- For Kazakhstan, the authors found only four proposed coal-fired plants. Further efforts should be taken to identify the details of these four projects.
- For Turkey, data about the status of coal-fired plant proposals are missing. According to field knowledge, the Turkey data is not as reliable as the other European country data.
- It is difficult to identify sources of field knowledge in most Central Asian countries (Kazakhstan, Mongolia, Tajikistan, and Uzbekistan) to help verify the data.
- Understanding the approval/permitting process for coal-fired plants is crucial for the development of a country coal strategy. In general, the administrative and legal systems in North America and Europe are more transparent than in other parts of the world, and it is easier for civil society actors to intervene in proposed coal power projects. More research should be carried out on how coal-fired plant projects are approved in countries such as China, where such knowledge is lacking.

### Data Gap for Existing Coal-Fired Plants

- The authors did not consider existing coal-fired plants for specific countries. Complete datasets of existing coal-fired plants are commercially available. Further analysis could help identify the data gaps for existing coal-fired plants.

## Data Gap for Global Coal Trade

- Further research is required to identify the major companies/investors in infrastructure developments for coal trade expansion.
- The proposed capacity of new infrastructure development is significantly bigger than projected demands. Further study should analyze the possibilities and consequences of over-construction.
- Further research is needed to understand how growing coal imports will affect domestic coal markets and coal power developments in countries such as China and India.
- Further research is required to analyze how the reductions in nuclear power in Japan and Taiwan will affect their coal imports. Both countries depend entirely on coal imports for their huge coal power generations.
- Further research is required to identify the source of coal supply for the proposed new coal-fired plants in countries with no domestic coal production capacities. These include Cambodia, Dominican Republic, Guatemala, Laos, Morocco, Namibia, Oman, Senegal, Sri Lanka, and Uzbekistan.

## Data Gap for Coal Finance

- Most of the literature reviewed for this paper was produced by NGOs, including Coalswarm, the Environmental Defense Fund, and the Sierra Club. It would be useful to review industry materials, in order to better understand how the industry views the risks of financing coal development. An understanding of how risks associated with coal finance are assessed by the industry would be especially useful for climate advocates.
- More in-depth research is required to unpack how financing for coal projects works: the elements of a financing package, how public and private banks interact, and what role government plays. A solid understanding of how deals are made is crucial to developing an effective work strategy.
- This paper briefly touches on different forms of subsidies for coal projects. More country-based research is needed to understand how coal is subsidized in a particular country. Further research should also attempt to quantify the size of subsidies. This work could be linked to the ongoing global “phase out fossil fuel subsidies” discussions.
- There is little existing research that examines how coal finance works in India and China—the two fastest growing markets dominated by domestic players. It is not clear to what extent coal-fired plant projects rely on bank financing in these countries. Banks in China and India do not appear vulnerable to the same reputational risks as their international peers. A closer look at the coal financing models in India and China could perhaps shed light on how effective finance campaigning can be organized in these two countries.

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## APPENDIX – COMPLETE LIST OF PROPOSED NEW COAL-FIRED PLANTS

The 12 tables in this appendix are arranged as follows:

TABLE NO.	COUNTRY
A.1	China
A.2	India
A.3	Russia
A.4	Turkey
A.5	Europe (except Russia and Turkey): Germany, Poland, Italy, Bosnia-Herzegovina, Romania, Netherlands, Greece, Czech Republic, Bulgaria, Serbia, Hungary, Ukraine, Montenegro, Slovenia, Croatia, Kosovo
A.6	United States
A.7	Australia
A.8	East Asia (except China): Taiwan, Japan, South Korea, North Korea
A.9	Southeast Asia and South Asia (except India): Vietnam, Philippines, Cambodia, Indonesia, Burma, Malaysia, Laos, Thailand, Pakistan, Sri Lanka
A.10	Central Asia: Mongolia, Kyrgyzstan, Kazakhstan, Tajikistan, Uzbekistan, Oman
A.11	Africa: South Africa, Mozambique, Botswana, Zimbabwe, Morocco, Tanzania, Namibia, Zambia, Senegal
A.12	Latin America: Dominican Republic, Peru, Brazil, Colombia, Guatemala, Chile, Argentina

Table A.1 | Proposed Coal-Fired Power Plants in China

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Anhui <sup>1</sup>	Wanneng Hefei Power Plant	Anhui Wanneng	600	NDRC Permitted
Anhui <sup>2</sup>	Huaibei Guoan Power Plant Phase II	Anhui Wanneng and SDIC	2,000	Permitting
Anhui <sup>3</sup>	Huainan Pingwei Power Plant Phase III	China Power Investment	2,000	Designing
Anhui <sup>4</sup>	Wuhu Power Plant Phase V Unit 2	China Power Investment	600	NDRC Permitted
Anhui <sup>5</sup>	Huaibei Power Plant Unit 8&9	Datang	1,200	Planning
Anhui <sup>6</sup>	Chuzhou Power Plant	Datang	2,000	Permitting
Anhui <sup>7</sup>	Huainan Luohe Power Plant Phase IV	Datang	1,000	Permitting
Anhui <sup>8</sup>	Anhui Bengbu Power Plant Phase II	Guodian	1,320	Permitting
Anhui <sup>9</sup>	Chizhou Jiuhe Power Plant Unit 3&4	Huadian	1,200	Planning
Anhui <sup>10</sup>	Huadian Lu'an Power Plant Unit 5&6	Huadian	2,000	Planning
Anhui <sup>11</sup>	Huadian Liu'an Power Plant Unit 4	Huadian and Liu'an Industrial Investment and Development Ltd.	660	Planning
Anhui <sup>12</sup>	Huaibei Linhuan Power Plant Unit 1&2	Huaibei Mining Group	660	Planning
Anhui <sup>13</sup>	Huainan Fengtai Power Plant Phase II	Huainan Mining Group and Zheneng	1,320	Permitted, Preparing Construction
Anhui <sup>14</sup>	Huainan Tianji Power Plant Phase II	Huainan Mining Group and Shanghai Elec. Power Co.	1,320	MEP Permitted, Tendering
Anhui <sup>15</sup>	Huaneng Chaohu Power Plant Unit 3&4	Huaneng	1,200	Planning
Anhui <sup>16</sup>	Huaneng Huainan-1 Power Plant Unit 1–4	Huaneng	2,400	Planning
Anhui <sup>17</sup>	Huaneng Huainan-2 Power Plant Unit 1–4	Huaneng	2,400	Planning
Anhui <sup>18</sup>	Anhui Xuancheng Power Plant Phase II	SDIC	660	Planning
Anhui <sup>19</sup>	Anqing Laofeng Power Plant Phase II	Shenhua	2,000	Permitting
Anhui <sup>20</sup>	Huaibei Pingshan Power Plant Phase I	Shenneng, Huaibei Mining Group, and Anhui Wanneng	1,320	Permitting, Designing
Anhui <sup>21</sup>	Anqing Power Plant Phase II	Shenhua	2,000	Permitting
Chongqing <sup>22</sup>	Xishui Erlang Power Plant	China Power Investment	2,640	Feasibility Study Permitted, NDRC Permitting
Chongqing <sup>23</sup>	Huadian Fengjie Power Plant	Huadian	1,200	Permitting
Fujian <sup>24</sup>	Datang Ningde Power Plant Phase III	Datang	2,000	Feasibility Study, Tendering
Fujian <sup>25</sup>	Fujian Hongshan Thermal Power Plant Phase III	Fujian Energy Co.	2,000	Planning
Fujian <sup>26</sup>	Fujian Yanshi Power Plant Unit 1&2	Fujian Yanshi Power Gen Co.	600	Planning
Fujian <sup>27</sup>	Fuzhou Kemen Power Plant Phase III	Huadian	2,520	Planning
Fujian <sup>28</sup>	Fuzhou Power Plant Unit 6	Huaneng	600	NDRC Permitted
Gansu <sup>29</sup>	Chinalco Qingyang Zhengning Luochuan Power Generation Units	Aluminum Co. of China	1,200	Planning
Gansu <sup>30</sup>	CPI Wuwei Liangzhou Power Generation Units	China Power Investment	2,000	Planning
Gansu <sup>31</sup>	CPI Jiuquan Jinta Power Plant Phase I	China Power Investment	2,000	Planning
Gansu <sup>32</sup>	CPI Tianshui Qingshui Power Plant	China Power Investment	2,000	Planning
Gansu <sup>33</sup>	Datang Yumen Changma Power Plant	Datang	1,200	Planning
Gansu <sup>34</sup>	Datang 803 Power Plant	Datang	600	Planning
Gansu <sup>35</sup>	Datang Jingtai Power Plant Phase II	Datang	2,000	Planning

continued next page

Table A.1 | **Proposed Coal-Fired Power Plants in China (continued)**

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Gansu <sup>36</sup>	Gansu Elec. Power Investment Datang Yongchang Power Plant	Gansu Elec. Power Investment Co. and Datang	2,000	Planning
Gansu <sup>37</sup>	Gansu Elec. Power Investment SDIC Power Holdings. Zhangye Power Plant	Gansu Elec. Power Investment Co. and SDIC	1,200	Planning
Gansu <sup>38</sup>	Gansu Elec. Power Investment Guazhou Changle Power Plant Phase I	Gansu Elec. Power Investment Co.	2,000	Planning
Gansu <sup>39</sup>	Gansu Elec. Power Investment Ningzhong Power Generation Units	Gansu Elec. Power Investment Co.	2,000	Planning
Gansu <sup>40</sup>	Gepic Changle Power Plant Unit 1&2	Gansu Elec. Power Investment Co.	2,000	Planning
Gansu <sup>41</sup>	Guodian Jiuquan Thermal Power Plant	Guodian	4,000	Planning
Gansu <sup>42</sup>	Guodian Power Wuwei Thermal Power Plant Phase I	Guodian	660	Planning
Gansu <sup>43</sup>	Guodian Jingyuan Power Plant	Guodian	2,000	Feasibility Study
Gansu <sup>44</sup>	Huadian Wuwei Minqin Power Generation Units	Huadian	1,200	Planning
Gansu <sup>45</sup>	Huadian Guazhou Liugou Power Plant Phase I	Huadian	4,000	Planning
Gansu <sup>46</sup>	Huaneng Xifeng Thermal Power Plant	Huaneng	600	Planning
Gansu <sup>47</sup>	Huaneng Pingliangzhuang Langhandian Power Plant	Huaneng	2,000	Planning
Gansu <sup>48</sup>	Huaneng Pingliang Lingtai Power Generation Units	Huaneng	2,000	Planning
Gansu <sup>49</sup>	Huaneng Pingliang Power Plant Phase III	Huaneng	2,000	Planning
Gansu <sup>50</sup>	Huaneng Qingyang Zhengning Power Plant Phase I	Huaneng	2,000	Planning
Gansu <sup>51</sup>	Huaneng Tianshui Maijiqu Power Plant Phase I	Huaneng	700	Planning
Gansu <sup>52</sup>	Huaneng Huanxian Power Plant Phase I	Huaneng	2,000	Planning
Gansu <sup>53</sup>	Jiugang Luneng Jiuquan Suzhou Jiajiu Coal-Power Base Power Generation Units Phase I	Jiuquan Steel and Luneng	1,200	Planning
Gansu <sup>54</sup>	Jiugang Pingliang Jingchuanxian Waste Coal Thermal Power Plant Phase I	Jiuquan Steel	600	Planning
Gansu <sup>55</sup>	Sinohydro Jinta Power Plant	Sinohydro Co.	2,000	Planning
Gansu <sup>56</sup>	Sinohydro Huating Power Plant Phase II	Sinohydro Co.	2,000	Planning
Gansu <sup>57</sup>	Sinohydro Chongxin Power Plant Phase II	Sinohydro Co.	2,000	Permitting
Guangdong <sup>58</sup>	Datang Huayin Dongwan Sanlian Thermal Power Plant	Datang, Dongwan Dongtang Co. Ltd. and Dongwan Dianhua Shiye Ltd.	700	Permitting
Guangdong <sup>59</sup>	Guangdong Yuedian Dapu Power Plant	Guangdong Yuedian	1,200	MEP Permitting
Guangdong <sup>60</sup>	Guangdong Yuedian Huilai Power Plant Phase I Unit 3&4	Guangdong Yuedian	2,000	MEP Permitting, Tendering
Guangdong <sup>61</sup>	Bohe Power Plant	Guangdong Yuedian	2,000	Permitting, Tendering
Guangdong <sup>62</sup>	Huaneng Shantou Haimen Power Plant Phase II Unit 4	Huaneng	1,000	Protest, Temporarily Stopped
Guangdong <sup>63</sup>	Nanhai-1 Power Plant Phase III	Kingsun Power	400	Planning
Guangdong <sup>64</sup>	Shaoguan Power Plant	Shaoguan Yuejiang Power Ltd.	2,400	Tendering, Permitting
Guangdong <sup>65</sup>	Shenhua Guohua Yangjiang Power Plant Phase I	Shenhua	2,000	Feasibility Study
Guangxi <sup>66</sup>	Dadong Power Plant	China Southern Grid	120	Planning
Guangxi <sup>67</sup>	Fangchenggang Power Plant Phase II	CLP Group and CEEC Guangxi Water, Elec. Power Construction Group	1,320	Planning

continued next page

Table A.1 | Proposed Coal-Fired Power Plants in China (continued)

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Guangxi <sup>68</sup>	Heshan Power Plant Unit 11	Datang	600	Planning
Guangxi <sup>69</sup>	Chongzuo Power Plant	Guodian	1,200	Planning
Guangxi <sup>70</sup>	Guodian Nanning Power Plant Phase II	Guodian	2000	Planning
Guangxi <sup>71</sup>	Guigang Power Plant Unit 3&4	Huadian	1,320	Planning
Guangxi <sup>72</sup>	Beihai Bebuwan Power Plant Phase II	SDIC	1320	Permitting
Guangxi <sup>73</sup>	Shenhua Guohua Guangtou Beihai Power Plant	Shenhua	2,000	Permitting
Guizhou <sup>74</sup>	CPI Guizhou Qianxi Power Plant Phase II	China Power Investment	1,320	Feasibility Study, Permitting
Guizhou <sup>75</sup>	CPI Guizhou Qianbei Power Plant	China Power Investment	1,320	Feasibility Study, Tendering
Guizhou <sup>76</sup>	Guizhou Bijie Coal Power Base	Chongqing Energy Investment Co. and China Resources Holdings	6,600	Planned, Site Selection
Guizhou <sup>77</sup>	Datang Pannan Power Plant Unit 5&6	Datang	1,320	Permitting
Guizhou <sup>78</sup>	Guizhou Faer Power Plant Unit 5&6	Guangdong Yuedian	1,200	Planning
Guizhou <sup>79</sup>	Guodian Anshun Power Plant Phase III	Guodian	1,320	Permitting
Guizhou <sup>80</sup>	Huadian Anshun Power Plant	Huadian	1,200	Planning
Hainan <sup>81</sup>	Guodian Hainan Southwest Power Plant	Guodian	700	Site Selection
Hebei <sup>82</sup>	Hebei Datang Weixian Power Plant	Datang	1,200	Planning
Hebei <sup>83</sup>	Hebei Weizhou Power Plant Unit 1&2	Hebei Weizhou Power Resources	1,320	Planning
Hebei <sup>84</sup>	Caofeidian Power Plant Phase I	Huadian	2,000	Feasibility Study Permitted
Hebei <sup>85</sup>	Huadian Shijiazhuang Power Plant Unit 9&10	Huadian	700	Planning
Heilongjiang <sup>86</sup>	Heilongjiang Suihua Thermal Power Plant	Datang	700	Announced
Heilongjiang <sup>87</sup>	Guodian Longxing Dahezhen Power Generation Units	Guodian	4,000	Planning
Heilongjiang <sup>88</sup>	Guodian Longxing Qixinghe South Power Generation Units	Guodian	2,000	Planning
Heilongjiang <sup>89</sup>	Harbin-1 Thermal Power Plant Phase II	Huadian	600	Planning
Heilongjiang <sup>90</sup>	Hegang Power Plant Unit 4&5	Huaneng	1,200	Planning
Heilongjiang <sup>91</sup>	Luneng Baoqing Chaoyang Coal Mine Power Plant Phase I & II	Luneng	5,200	Planning
Heilongjiang <sup>92</sup>	Luneng Baoqing Dahezhen Coal Mine Power Plant	Luneng	4,000	Planning
Heilongjiang <sup>93</sup>	Luneng Baoqing Qixinghe South Coal Mine-2 Power Plant	Luneng	4,000	Planning
Henan <sup>94</sup>	Gongyi-2 Power Plant Unit 3&4	Banpu Power Co.	200	Planning
Henan <sup>95</sup>	Gucheng Power Plant Unit 3&4	China Resources Holdings	2,000	Planning
Henan <sup>96</sup>	Datang Gongyi Power Plant	Datang	1,200	Permitting
Henan <sup>97</sup>	Hebi Fenghe-4 Power Plant Unit 1&2	Henan Investment Co. and Hebi Coal Group	2,000	Planning
Henan <sup>98</sup>	Xinxiang Zhongyi Power Plant	Henan Investment Co. and Yunneg	1,200	Financed
Henan <sup>99</sup>	Henan Xinwang Power Plant Unit 1&2	Henan Xinwang Power Co.	270	Planning
Hubei <sup>100</sup>	Xisai Shan Power Plant Phase II Unit 4	Huadian and Meiya Power (Korea)	680	NDRC Permitted
Hubei <sup>101</sup>	Huaneng Huazhong Power Plant Unit 1–4	Huaneng	1,200	Planning
Hubei <sup>102</sup>	Ezhou Power Plant Unit 5&6	Hubei Energy Co.	2,000	Preparing Construction

continued next page

Table A.1 | **Proposed Coal-Fired Power Plants in China (continued)**

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Hunan <sup>103</sup>	Huadian Changde Power Plant Phase I	Huadian and Shaanxi Coal and Chemical Industry Group Co.	1,320	Permitting
Hunan <sup>104</sup>	Huaneng Yuezhou Power Plant	Huaneng	4,000	Feasibility Study
Hunan <sup>105</sup>	Zhuzhou Youxian Power Plant Phase II	Datang	1,200	Planning
Hunan <sup>106</sup>	Shenhua Guohua Yongzhou Power Plant Phase I	Shenhua	2,000	Feasibility Study Permitted
Inner Mongolia <sup>107</sup>	Baolixixin Zhongnengguie Power Generation Units	Baolixixin Co.	600	Planning
Inner Mongolia <sup>108</sup>	CPI Huolinhe Region Micro-Grid Low Quality Coal Power Plant	China Power Investment	1,050	Planning
Inner Mongolia <sup>109</sup>	CPI Xing'an Meng Wulanhaote Power Plant	China Power Investment	2,000	Planning
Inner Mongolia <sup>110</sup>	Cpi Huolinhe Coal Mine Power Plant Phase II	China Power Investment	1,200	Planning
Inner Mongolia <sup>111</sup>	CPI Chifeng Yuanbaoshan Power Plant Phase Iv	China Power Investment	2,000	Planning
Inner Mongolia <sup>112</sup>	CPI Mengdong Energy Chifeng New City Region	China Power Investment	600	Planning
Inner Mongolia <sup>113</sup>	CPI Chifeng Balinyou Qi Daban Power Plant Phase II	China Power Investment	2,000	Planning
Inner Mongolia <sup>114</sup>	CPI Baiyinhua Power Plant Phase I	China Power Investment	1,200	Planning
Inner Mongolia <sup>115</sup>	CPI Baiyinhua Industrial Park Self-Supply Power Plant Phase I	China Power Investment	270	Planning
Inner Mongolia <sup>116</sup>	Huarun Jinneng Dengkou Power Plant Phase II	China Resources Holdings	1,320	Planning
Inner Mongolia <sup>117</sup>	Huarun Tongliao Naiman Power Plant	China Resources Holdings	600	Planning
Inner Mongolia <sup>118</sup>	Datang Wulate Middle Qi Jinquan Power Plant	Datang	4,000	Planning
Inner Mongolia <sup>119</sup>	Datang Bayan Nur Wuyuan Power Plant	Datang	1,200	Planning
Inner Mongolia <sup>120</sup>	Datang Intl. Hailar Power Plant Phase I	Datang	1,200	Planning
Inner Mongolia <sup>121</sup>	Datang Intl. Hulunber Power Plant Phase I	Datang	1,200	Planning
Inner Mongolia <sup>122</sup>	Datang Xilinhaote Waste Coal Power Plant	Datang	600	Planning
Inner Mongolia <sup>123</sup>	Datang Xiwu Qi Wujianfang Power Plant	Datang	1,320	Planning
Inner Mongolia <sup>124</sup>	Datang Xiwu Qi Wujianfang Waste Coal Power Plant	Datang	600	Planning
Inner Mongolia <sup>125</sup>	Datang Chifeng Keshiketeng Power Plant Phase I	Datang	2,000	Planning
Inner Mongolia <sup>126</sup>	Datang Chifeng Fulong Thermal Power Plant	Datang	600	Planning
Inner Mongolia <sup>127</sup>	Datang Duolun Power Plant Phase I	Datang	2,400	Planning
Inner Mongolia <sup>128</sup>	Datang Xilinhaote Power Plant Phase I	Datang	1,320	Planning
Inner Mongolia <sup>129</sup>	Datang Beineng Tuoketuo Power Plant Phase V	Datang and Sichuan Beineng	1,200	Planning
Inner Mongolia <sup>130</sup>	Datang International Zhunger Al-Si-Ti Project Air-Cool Power Generation Units	Datang	600	Planning
Inner Mongolia <sup>131</sup>	Datang Keshiketeng Power Plant Unit 1&2	Datang	2,000	Planning
Inner Mongolia <sup>132</sup>	Inner Mongolia Zhunger Zhujiaping Power Plant Phase I	Guangdong Huaxia Energy Investment Ltd. and Shanghai Chengrui Investment Ltd.	1,200	Feasibility Study
Inner Mongolia <sup>133</sup>	Guodian Mengneng Bayan Nur Nongken Power Plant	Guodian	1,320	Planning
Inner Mongolia <sup>134</sup>	Guodian Mengneng Al Self-Supply (Donghe Thermal) Power Plant Phase I	Guodian	600	Planning
Inner Mongolia <sup>135</sup>	Guodian Mengneng Elunchun Power Generation Units	Guodian	600	Planning

continued next page

Table A.1 | Proposed Coal-Fired Power Plants in China (continued)

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Inner Mongolia <sup>136</sup>	Guodian Mengneng Hulunber Yakeshi Power Generation Units Phase I	Guodian	600	Planning
Inner Mongolia <sup>137</sup>	Guodian Mengneng Xinbarhuzuo Qi Nuomenhan Power Plant Phase I	Guodian	1,200	Planning
Inner Mongolia <sup>138</sup>	Guodian Tongliao Naiman Menglong Power Plant	Guodian	1,200	Planning
Inner Mongolia <sup>139</sup>	Guodian Mengneng Xing'an Meng Youzhong Power Plant	Guodian	1,320	Planning
Inner Mongolia <sup>140</sup>	Guodian Mengneng Xing'an Thermal Power Plant Phase II	Guodian	600	Planning
Inner Mongolia <sup>141</sup>	Guodian Mengneng Xing'an Meng Youqian Qi Guiliuhe Huowulukou Power Plant Phase I	Guodian	1,320	Planning
Inner Mongolia <sup>142</sup>	Guodian Mengneng Alashan Left Qi Wusitai Power Plant Phase II	Guodian	1,200	Planning
Inner Mongolia <sup>143</sup>	Guodian Chifeng Yuanbaoshan Power Generation Units	Guodian	600	Planning
Inner Mongolia <sup>144</sup>	Guodian Mengneng Chifeng Keshiketeng Thermal Power Plant	Guodian	600	Planning
Inner Mongolia <sup>145</sup>	Guodian Xilinhaote Power Plant Phase II & III	Guodian	1,800	Planning
Inner Mongolia <sup>146</sup>	Guodian Chifeng Lindong Power Generation Units Phase I	Guodian	2,000	Planning
Inner Mongolia <sup>147</sup>	Guodian Mengneng Xilinguole Wulagai Power Plant Phase I	Guodian	1,320	Planning
Inner Mongolia <sup>148</sup>	Guodian Zhunger Youyi Power Plant	Guodian	1,320	Planning
Inner Mongolia <sup>149</sup>	Guodian Mengneng Dafanpu Power Plant	Guodian	3,800	Planning
Inner Mongolia <sup>150</sup>	Guodian Zhunger Changtan Power Plant Phase I	Guodian	1,200	Planning
Inner Mongolia <sup>151</sup>	Erdos Cahasu Power Plant Unit 1&2	Guodian	1,320	Planning
Inner Mongolia <sup>152</sup>	Erdos Yinjinhuolo Power Plant Unit 1&2	Guodian	1,320	Planning
Inner Mongolia <sup>153</sup>	Guodian Dongsheng Thermal Power Plant Unit 3&4	Guodian	600	Planning
Inner Mongolia <sup>154</sup>	Mengneng Wulate Front Qi Power Plant	Guodian	600	Planning
Inner Mongolia <sup>155</sup>	Bayan Nur Wulate Middle Qi Power Plant	Huadian	800	Planning
Inner Mongolia <sup>156</sup>	Huadian Baotou Donghua Thermal Power Plant Phase II	Huadian	2,000	Planning
Inner Mongolia <sup>157</sup>	Huadian Baotou Hexi Power Plant Phase II	Huadian	2,000	Planning
Inner Mongolia <sup>158</sup>	Huadian Baotou Tuyou Power Plant Phase I	Huadian	1,200	Planning
Inner Mongolia <sup>159</sup>	Huadian Power Generation Units	Huadian	6,000	Planning
Inner Mongolia <sup>160</sup>	Huadian Wuhai City Wuda Thermal Power Plant	Huadian	1,200	Planning
Inner Mongolia <sup>161</sup>	Huadian Baiyinhua Jinshan Power Plant Phase II	Huadian	1,320	Planning
Inner Mongolia <sup>162</sup>	Huadian Hubei Energy Zhunger Shierliancheng Power Plant	Huadian and Hubei Energy	2,640	Planning
Inner Mongolia <sup>163</sup>	Huadian Zhunger Dalu Waste Coal Power Plant Phase I	Huadian	600	Planning
Inner Mongolia <sup>164</sup>	Erdos Shuangxin Power Plant Unit 5&6	Huadian	1,200	Planning
Inner Mongolia <sup>165</sup>	Huaneng Beifang Bayan Nur Linhe Thermal Power Plant Phase II	Huaneng	600	Planning

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Table A.1 | **Proposed Coal-Fired Power Plants in China (continued)**

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Inner Mongolia <sup>166</sup>	Huaneng Beifang Wulate Front Qi Wulashan Power Plant Phase Iv	Huaneng	1,200	Planning
Inner Mongolia <sup>167</sup>	Huaneng Beifang Helin Power Plant Phase II	Huaneng	2,000	Planning
Inner Mongolia <sup>168</sup>	Huaneng Beifang Hohhot Jinqiao Thermal Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>169</sup>	Huaneng Beifang Hohhot Tuzuo Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>170</sup>	Huaneng Beifang Baotou No.1 Thermal Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>171</sup>	Huaneng Beifang Baotou No.2 Thermal Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>172</sup>	Huaneng Yimin Power Generation Phase Iv	Huaneng	2,000	Planning
Inner Mongolia <sup>173</sup>	Huaneng Manzhouli Low-Heat-Coal Power Plant	Huaneng	400	Planning
Inner Mongolia <sup>174</sup>	Huaneng Yakeshi Huliuhe Power Plant	Huaneng	400	Planning
Inner Mongolia <sup>175</sup>	Huaneng Beifeng And Beineng Chenbarhu Qi Baorixile Power Plant	Huaneng and Sichuan Beineng	2,400	Planning
Inner Mongolia <sup>176</sup>	Huaneng Beifang Yakeshi Huihuhe Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>177</sup>	Huaneng Shenneng Manzhouli Zhalaunor Power Generation Units Phase I	Huaneng and Shenneng	1,200	Planning
Inner Mongolia <sup>178</sup>	Huaneng Keyouqian Qi Debosi Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>179</sup>	Huaneng Beifang Tongliao Zhalute Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>180</sup>	Huaneng Beifang Wuhai Thermal Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>181</sup>	Beifang Wuhai Haibowan Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>182</sup>	Huaneng Beifang Xilinguole Wulagai Power Plant Phase I & II	Huaneng	5,200	Planning
Inner Mongolia <sup>183</sup>	Huaneng Beifang Xilinhaote-3 Thermal Power Plant	Huaneng	600	Planning
Inner Mongolia <sup>184</sup>	Huaneng Beifang Chifeng Keshiketeng Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>185</sup>	Huaneng Neimenghuadian Xilinguole Shangdu Power Plant Phase Iv	Huaneng	1,320	Planning
Inner Mongolia <sup>186</sup>	Huaneng Beifang Bayanbaolige Power Plant Phase I & II	Huaneng	2,640	Planning
Inner Mongolia <sup>187</sup>	Huaneng Beifang Inner Mongolia Huadian Zhunger Weijiamao Power Plant Phase II	Huaneng and Huadian	2,000	Planning
Inner Mongolia <sup>188</sup>	Huaneng Beifang Zhunger Heidaigou Coal Mine Power Plant Phase I	Huaneng	2,000	Planning
Inner Mongolia <sup>189</sup>	Huaneng Beifang Zhunxing Coal Mine Power Plant Phase I	Huaneng	1,200	Planning
Inner Mongolia <sup>190</sup>	Huaneng Hailar Power Plant Unit 4&5	Huaneng	400	Planning
Inner Mongolia <sup>191</sup>	Huaneng Beifang East Hailar Power Plant	Huaneng	1,200	Planning
Inner Mongolia <sup>192</sup>	Huolinhe Zhanute Power Plant Unit 1–4	Inner Mongolia Huolinhe Coal	800	Planning
Inner Mongolia <sup>193</sup>	Hengwang Power Plant	Inner Mongolia Wulahot Hengwang	400	Planning
Inner Mongolia <sup>194</sup>	Jingmei Wuhai Jinghai Waste Coal Power Plant Phase II	Jingmei Group	600	Planning
Inner Mongolia <sup>195</sup>	Wulate Middle Qi Jinqian Power Plant	Jingneng	2,400	Planning
Inner Mongolia <sup>196</sup>	Jingneng Tongliao Naiman Power Plant Phase I	Jingneng	1,200	Planning

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Table A.1 | Proposed Coal-Fired Power Plants in China (continued)

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Inner Mongolia <sup>197</sup>	Luneng Dayan Power Plant	Luneng	1,200	Planning
Inner Mongolia <sup>198</sup>	Luneng Chen Qi Wanshan Hushan Coal Mine Power Plant	Luneng	3,600	Planning
Inner Mongolia <sup>199</sup>	Luneng Hailar Xiertala Power Plant	Luneng	1,200	Planning
Inner Mongolia <sup>200</sup>	Luneng Ewenke Power Plant Phase II	Luneng	2,000	Planning
Inner Mongolia <sup>201</sup>	Luneng Yannan Power Plant Phase I	Luneng	600	Planning
Inner Mongolia <sup>202</sup>	Luneng Fengfeng Zhaganzhuoer Power Plant Phase I	Luneng and Jinzhong Energy Fengfeng Co.	1,320	Planning
Inner Mongolia <sup>203</sup>	Luneng Duolun Power Plant Phase I	Luneng	2,000	Planning
Inner Mongolia <sup>204</sup>	Shenhua Shendong Wulate Middle Qi Jinquan Industrial Park Power Plant Phase I	Shenhua	1,320	Planning
Inner Mongolia <sup>205</sup>	Shenhua Guohua Shenbarhu Qi Baorixile Hulunber Power Plant Phase II	Shenhua	1,200	Planning
Inner Mongolia <sup>206</sup>	Shenhua Guohua Xilaifeng Power Plant (Wuhai Waste Coal Power Plant) Phase II	Shenhua	400	Planning
Inner Mongolia <sup>207</sup>	Shenhua Shengli Power Plant Phase I	Shenhua	1,200	Planning
Inner Mongolia <sup>208</sup>	Shenhua Zhunneng Waste Coal Power Plant Phase II	Shenhua	600	Planning
Inner Mongolia <sup>209</sup>	Beineng Wulanchabu Fengzhen Power Plant Phase Iv	Sichuan Beineng	1,320	Planning
Inner Mongolia <sup>210</sup>	Beineng Wulanchabu Chahar Youyihou Qi Pingdiquan Power Plant	Sichuan Beineng	600	Planning
Inner Mongolia <sup>211</sup>	Beineng Yuquan Thermal Power Plant Phase I	Sichuan Beineng	600	Planning
Inner Mongolia <sup>212</sup>	Beineng Wulanchabu Liangcheng County Daihai Power Plant Phase III	Sichuan Beineng	1,200	Planning
Inner Mongolia <sup>213</sup>	Beineng Shenyang Construction Inv. Xinbarhuzuo Qi Argong Hulunber Power Plant	Sichuan Beineng and Shenyang Construction Investment Co.	2,400	Planning
Inner Mongolia <sup>214</sup>	Beineng Chifeng Wengniute Qi Hongshan Power Plant Phase I	Sichuan Beineng	1,200	Planning
Inner Mongolia <sup>215</sup>	Beineng Zhunger Suanlagou Power Plant Phase II & III	Sichuan Beineng	5,200	Planning
Inner Mongolia <sup>216</sup>	Beineng Zhunger Dalu Power Plant Phase I	Sichuan Beineng	600	Planning
Inner Mongolia <sup>217</sup>	State Grid Baiyanhua Power Plant Phase I	State Grid Energy Development Co.	2,000	Planning
Inner Mongolia <sup>218</sup>	Ganqimaodu Processing Industrial Park Power Plant	Unknown	600	Planning
Inner Mongolia <sup>219</sup>	Hangjin Rear Qi Menghai Industrial Park	Unknown	2,400	Planning
Jiangsu <sup>220</sup>	Guoxin Dafeng Power Plant Unit 1–4	China National Coal Group	4,000	Planning
Jiangsu <sup>221</sup>	Datang Xutang Power Plant Unit 5&6	Datang	2,000	Planning
Jiangsu <sup>222</sup>	Taizhou Power Plant Phase II	Guodian	2,000	NDRC Permitted
Jiangsu <sup>223</sup>	Huaneng Nanjing Thermal Power Plant	Huaneng	100	Permitting
Jiangsu <sup>224</sup>	Dafeng Port Power Plant	Jiangsu Guoxin Investment Group	2,000	Planning
Jiangsu <sup>225</sup>	Jiangsu Sheyanggang Power Plant	Jiangsu Guoxin Investment Group and Yancheng City Thermal Power Company	600	NDRC Permitted
Jiangxi <sup>226</sup>	Datang Fuzhou Power Plant	Datang	2,000	Permitting, Tendering

continued next page

Table A.1 | Proposed Coal-Fired Power Plants in China (continued)

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Jiangxi <sup>227</sup>	Guodian Jiujiang Power Plant	Guodian	600	NDRC Permitted
Jiangxi <sup>228</sup>	Anyuan Power Plant	Huaneng	1,200	NDRC Permitted
Jiangxi <sup>229</sup>	Shenhua Guohua Jiujiang Coal Reserve (Transport) Power Integrated Project Phase I	Shenhua	2,000	Permitting
Jilin <sup>230</sup>	CPI Baicheng Power Plant Unit 3–6	China Power Investment	4,000	Planning
Jilin <sup>231</sup>	Datang Changshan Power Plant Unit 11	Datang	660	Planning
Jilin <sup>232</sup>	Huaneng Jiutai Power Plant Phase II	Huaneng	1,200	Permitting
Jilin <sup>233</sup>	Dunhua Power Plant Unit 1&2	Huaneng	700	Planning
Liaoning <sup>234</sup>	Fengcheng Shouguang Power Plant Unit 1&2	Datang	700	Planning
Liaoning <sup>235</sup>	Anshan North Power Plant Unit 1–4	Guodian	1,200	Planning
Liaoning <sup>236</sup>	Anshan South Power Plant Unit 1–4	Guodian	1,200	Planning
Ningxia <sup>237</sup>	CPI Ningxia “West-To-East” Power Plant	China Power Investment	6,000	Planning
Ningxia <sup>238</sup>	CPI Ningxia Power Generation Zaoquan Power Plant Phase I	China Power Investment and Ningxia Power Generation Co.	1,200	Planning
Ningxia <sup>239</sup>	CPI Guodian Qingtongxia Al. Industry Self-Supply Power Plant Phase II	China Power Investment and Guodian	600	Planning
Ningxia <sup>240</sup>	Cpi Zhongwei Thermal Power Plant Phase I	China Power Investment	660	Planning
Ningxia <sup>241</sup>	CPI Linhe Power Station Unit 3	China Power Investment	330	Planning
Ningxia <sup>242</sup>	Guodian Shizuishan Power Plant	Guodian	1,200	Planning
Ningxia <sup>243</sup>	Guodian Yinglite East Ningxia Thermal Power Plant	Guodian	660	Planning
Ningxia <sup>244</sup>	Guodian Wuzhong Thermal Power Plant	Guodian	700	Planning
Ningxia <sup>245</sup>	Guodian Shizuishan Dawukou Waste Coal Power Plant	Guodian	600	Planning
Ningxia <sup>246</sup>	Guodian Fangjiazhuang Power Plant Phase I	Guodian	2,000	Planning
Ningxia <sup>247</sup>	Huadian Ningxia Power Generation Zhongning Power Plant Phase II	Huadian and Ningxia Power Generation Co.	2,000	Planning
Ningxia <sup>248</sup>	Huadian Lingwu Power Plant Phase III	Huadian	2,000	Planning
Ningxia <sup>249</sup>	Huadian Yongli Power Plant Phase I	Huadian	2,000	Planning
Ningxia <sup>250</sup>	Huaneng Ningxia Power Generation Weizhou Waste Coal Power Plant	Huaneng and Ningxia Power Generation Co.	600	Planning
Ningxia <sup>251</sup>	Huaneng Luoshan Power Plant Phase I	Huaneng	1,200	Planning
Ningxia <sup>252</sup>	Huaneng Wuzhong Taiyangshan Waste Coal Power Plant	Huaneng	700	Planning
Ningxia <sup>253</sup>	Huaneng Qingtongxia Daba Power Plant Phase IV	Huaneng	2,000	Planning
Ningxia <sup>254</sup>	Luneng Majiatan Power Plant	Luneng	3,600	Planning
Ningxia <sup>255</sup>	Luneng Yuanyanghu Power Plant Phase II	Luneng	2,000	Planning
Ningxia <sup>256</sup>	Ningxia Power Generation Maliantai Power Plant Phase II & III	Ningxia Power Generation Co.	3,200	Planning
Ningxia <sup>257</sup>	Ningxia Power Generation Liupanshan Thermal Power Plant Phase II	Ningxia Power Generation Co.	660	Planning
Ningxia <sup>258</sup>	Shenhua Lingzhou Power Plant	Shenhua	2,400	Planning
Ningxia <sup>259</sup>	Shenhua East Ningxia Power Plant Phase II & III	Shenhua	4,000	Planning

continued next page

Table A.1 | Proposed Coal-Fired Power Plants in China (continued)

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Qinghai <sup>260</sup>	CPI Xining Power Plant	China Power Investment	1,320	Tendering, Permitting
Qinghai <sup>261</sup>	Huaneng Minhe Power Plant	Huaneng	5,200	Feasibility Study
Shaanxi <sup>262</sup>	Chinalco Yulin Coal-Power Aluminum Business Chain	Aluminum Co. Of China	1,200	Planning
Shaanxi <sup>263</sup>	Binlong Power Plant Unit 1–2	Binlong Mining Co.	400	Planning
Shaanxi <sup>264</sup>	Datang Fugu Coal-Power Integration Project Self-Supply Power Plant	Datang	400	Planning
Shaanxi <sup>265</sup>	Datang Yulin Fugu Xiwangzhai Waste Coal Power Plant	Datang	600	Planning
Shaanxi <sup>266</sup>	Datang Yan'an Power Plant	Datang	600	Planning
Shaanxi <sup>267</sup>	Datang Hanzhong Power Plant	Datang	1,200	Feasibility Study
Shaanxi <sup>268</sup>	Datang Baoji Thermal Power Plant	Datang	1,200	Permitting
Shaanxi <sup>269</sup>	Guodian Xi'an Xijiao Thermal Power Plant	Guodian	700	MEP Permitting
Shaanxi <sup>270</sup>	Guodian Yulin Jingbian Power Plant	Guodian	6,000	Planning
Shaanxi <sup>271</sup>	Guodian Hengshan Waste Coal Power Plant	Guodian	600	Planning
Shaanxi <sup>272</sup>	Huadian Yuheng Power Plant Phase II & III	Huadian	6,000	Planning
Shaanxi <sup>273</sup>	Huadian Yuheng Waste Coal Power Plant Phase I	Huadian	600	Planning
Shaanxi <sup>274</sup>	Huadian Shiquan Power Plant Phase I&II	Huadian and Shaanxi Coal and Chemistry Industry Group Co. Ltd.	4,000	NDRC Permitted
Shaanxi <sup>275</sup>	Huadian Ankang Power Plant	Huadian	2,000	Permitting
Shaanxi <sup>276</sup>	Huaneng Tongchuan Power Plant Phase II	Huaneng	2,000	Planning
Shaanxi <sup>277</sup>	Huaneng Yan'an Power Plant Phase I & II	Huaneng	3,200	Planning
Shaanxi <sup>278</sup>	Huaneng Fugu Duanzhai Power Plant	Huaneng	8,000	Planning
Shaanxi <sup>279</sup>	Huaneng Yulin Jingbian Power Plant Phase I	Huaneng	2,000	Planning
Shaanxi <sup>280</sup>	Huaneng Duanzhai Power Plant Unit 1&2	Huaneng	2,000	Planning
Shaanxi <sup>281</sup>	Huaneng Qinling Power Plant Unit 9&10	Huaneng	1,200	Feasibility Study
Shaanxi <sup>282</sup>	Luneng Fugu Power Plant Phase II	Luneng	2,000	Planning
Shaanxi <sup>283</sup>	Huangling-2 Power Plant Unit 3&4	Northwest China Elec Power	600	Planning
Shaanxi <sup>284</sup>	Fugu Qingshuichuan Waste Coal Power Plant	Shaanxi Coal and Chemical Industry Group Co.	600	Planning
Shaanxi <sup>285</sup>	Hongliulin Waste Coal Power Plant	Shaanxi Coal and Chemical Industry Group Co.	600	Planning
Shaanxi <sup>286</sup>	Huangling Waste Coal Power Generation And Utilization Proejct	Shaanxi Coal and Chemical Industry Group Co.	600	Planning
Shaanxi <sup>287</sup>	Shaanxi Youser Yulin Al-Mg Alloy Project Phase II	Shaanxi Non-Ferrous Metals Holding Group Co.	660	Planning
Shaanxi <sup>288</sup>	Shaanxi Investment Fugu Qingshuichuan Power Plant II	Shaanxi Provincial Investment Group Co.	2,000	Planning
Shaanxi <sup>289</sup>	Shenhua Shendong Power Dianta Waste Coal Power Plant	Shenhua	600	Planning
Shaanxi <sup>290</sup>	Shenhua Shendong Coal Shenmu Daliuta Thermal Power Plant	Shenhua	600	Planning
Shaanxi <sup>291</sup>	Shenhua Shendong Coal Daliuta Waste Coal Power Plant	Shenhua	600	Planning

continued next page

Table A.1 | **Proposed Coal-Fired Power Plants in China (continued)**

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Shaanxi <sup>292</sup>	Shenhua Shendong Power Fugu Guojiawan Waste Coal Power Plant Phase II	Shenhua	600	Planning
Shaanxi <sup>293</sup>	Shenhua Guohua Shenmu Jinjie Power Plant Phase III	Shenhua	4,000	Planning
Shaanxi <sup>294</sup>	Fugu Huangfuchuan Waste Coal Power Plant	Unknown	600	Planning
Shaanxi <sup>295</sup>	Shenfu Economic Development Zone Jinjie Thermal Power Plant	Unknown	600	Planning
Shaanxi <sup>296</sup>	Shenmu Thermal Power Plant	Unknown	600	Planning
Shaanxi <sup>297</sup>	Wubao Henggou Waste Coal Power Plant	Unknown	300	Planning
Shaanxi <sup>298</sup>	Zichang Waste Coal Power Plant	Unknown	300	Planning
Shaanxi <sup>299</sup>	Yushen Coal Yulin Beijiao Thermal Power Plant Phase I & II	Yushen Coal	1,800	Planning
Shaanxi <sup>300</sup>	Yushen Coal Yulin Shanghe Thermal Power Plant	Yushen Coal	600	Planning
Shandong <sup>301</sup>	Chiping Haoji Power Plant Unit 1&2	Chiping Haoji	1,400	Planning
Shandong <sup>302</sup>	Datang Dongying Power Plant Phase I	Datang	2,000	Permitting
Shandong <sup>303</sup>	Feixian Power Plant Unit 3–6	Guodian	4,000	Planning
Shandong <sup>304</sup>	Guodian Binzhou Boxing Power Plant Unit 1&2	Guodian	2,000	Planning
Shandong <sup>305</sup>	Huadian Laizhou Power Plant Unit 3&4	Huadian	2,078	Planning
Shandong <sup>306</sup>	Huaneng Laiwu Thermal Power Plant Phase III	Huaneng	200	Designing
Shandong <sup>307</sup>	Dongying Shengli Thermal Power Plant Phase III	Shengli Petroleum Administration and A Large National Power Company	600	NDRC Permitted
Shandong <sup>308</sup>	Heze Huarun Power Plant Unit 3&4	China Resources Holdings	1,200	Planning
Shandong <sup>309</sup>	Huaneng Jiaxiang Power Plant Unit 3&4	Huaneng	1,360	Planning
Shandong <sup>310</sup>	Binzhou Works Power Plant Unit 9–10	Shandong Weiqiao Alum & Power	1,320	Planning
Shanghai <sup>311</sup>	Shanghai Shidongkou No.1 Power Plant	Huaneng	2,520	Permitting
Shanxi <sup>312</sup>	Pingshuo Waste Coal Power Plant	China National Coal Group	1,200	Feasibility Study, Tendering
Shanxi <sup>313</sup>	CPI Houma Power Plant	China Power Investment	600	Permitted, Financing Failure, Construction Discontinued
Shanxi <sup>314</sup>	CPI Shanxi Pianguan Coal Power Integrated Project	China Power Investment	2,000	Permitting
Shanxi <sup>315</sup>	Tashan Waste Coal Power Plant	Datang and Datong Coal Mine Group	1,320	Feasibility Study
Shanxi <sup>316</sup>	Datang Taier Power Plant Unit 1&2	Datang	1,320	Planning
Shanxi <sup>317</sup>	Yuanping Xuangang Power Plant Phase II	Datong Coal Mine Group	1,320	Feasibility Study Permitted
Shanxi <sup>318</sup>	Shanxi Guodian Rongda Coal Power Integrated Project	Guodian and Huozhou Coal Power Co.	2,000	NDRC Permitting
Shanxi <sup>319</sup>	Datong Hudong Power Plant	Guodian	2,000	Permitting
Shanxi <sup>320</sup>	Yuxian Coal Power Integrated Project	Shanxi International Energy	2,000	Permitting
Shanxi <sup>321</sup>	Gaoping Power Plant	Shanxi International Energy	1,200	Permitting
Shanxi <sup>322</sup>	Liulin Liansheng Waste Coal Power Plant Phase I	Shanxi International Energy	300	Permitting
Shanxi <sup>323</sup>	Changzhi Waste Coal Power Plant	Shanxi International Energy	1,200	Announced
Shanxi <sup>324</sup>	Jincheng Waste Coal Power Plant	Shanxi International Energy	1,200	Announced

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Table A.1 | Proposed Coal-Fired Power Plants in China (continued)

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Shanxi <sup>325</sup>	Gucheng Power Plant	Shanxi International Energy	2,000	Permitting
Shanxi <sup>326</sup>	Hepo Power Plant	Shanxi International Energy	600	Tendering, Permitting
Shanxi <sup>327</sup>	Dongshan Mine Power Plant Unit 1&2	Shanxi Intl Elec Group Co.	700	Planning
Sichuan <sup>328</sup>	Guangyuan Power Plant	Datang	4,000	NDRC Permitting, Tendering
Sichuan <sup>329</sup>	Chengdu Jintang Power Plant Unit 3&4	Guodian	2,000	Permitting
Sichuan <sup>330</sup>	Gongcxian Power Plant Unit 3&4	Huadian	2,000	Planning
Sichuan <sup>331</sup>	Fukang Yongxiang Power Plant Unit 1–5	Sichuan Yongxiang Co.	1,750	Planning
Tianjin <sup>332</sup>	Tianjin Guodian Beitang Thermal Power Plant Phase I	Guodian and Jinneng Investment	600	MEP and NDRC Permitted
Tianjin <sup>333</sup>	Tianjin Beijiang Power Plant Phase II	SDIC and Jinneng Investment	2,000	MEP Permitted
Xinjiang <sup>334</sup>	Huawei Hetian City Power Plant Phase II	Beijing Huawei Hetian Investment Ltd. and Zhongmu Co.	600	Planning
Xinjiang <sup>335</sup>	Jimusaer County Color Bay Power Plant Phase I	China Power Investment	2,000	Permitting
Xinjiang <sup>336</sup>	Qitai County Army General Temple Power Plant Phase I	China Power Investment	2,000	Permitting
Xinjiang <sup>337</sup>	Qitai County Jiji Lake Power Plant Phase I	China Power Investment	2,000	Permitting
Xinjiang <sup>338</sup>	CPI And Lu'an Dananhu Power Plant	China Power Investment and Lu'An	1,320	Planning
Xinjiang <sup>339</sup>	CPI Xinjiang Wujiaqu Power Plant Phase I	China Power Investment	1,320	Feasibility Study, Tendering
Xinjiang <sup>340</sup>	CPI Xinjiang Shanshan Power Plant	China Power Investment	700	Permitting
Xinjiang <sup>341</sup>	Hami Dananhu Coal Power Project	Datang	2,000	Permitting, Tendering
Xinjiang <sup>342</sup>	Guodianxukuang Dananhu Power Plant	Guodian and Xukuang Co.	2,000	Preparing Construction
Xinjiang <sup>343</sup>	Beitun Power Plant Unit 3&4	Guodian	700	Planning
Xinjiang <sup>344</sup>	Hongyangchi-1 Power Plant Unit 12&13	Guodian	660	Planning
Xinjiang <sup>345</sup>	Guodian Bachu Thermal Power Plant	Guodian	700	Feasibility Study and MEP Permitted
Xinjiang <sup>346</sup>	Hongyanchi-2 Power Plant 5&6	Huadian	660	Planning
Xinjiang <sup>347</sup>	Huadian Changji-1 Power Plant Unit 3&4	Huadian	250	Planning
Xinjiang <sup>348</sup>	Huaneng Heavy Industrial Park Power Plant	Huaneng	1,320	Planning
Xinjiang <sup>349</sup>	Huaneng Fuhai Thermal Power Plant Phase I	Huaneng	700	Planning
Xinjiang <sup>350</sup>	Huaneng Turpan Unit 3&4	Huaneng	1,200	Planning
Xinjiang <sup>351</sup>	Xinjiang Bingtuan Nongyishi Alaerxinhu Thermal Power Plant Phase II	Nongyishi Power	700	MEP Permitting
Xinjiang <sup>352</sup>	SDIC Dananhu Power Plant	SDIC	1,320	Planning
Xinjiang <sup>353</sup>	SDIC Yining County Power Project	SDIC	660	Planning
Xinjiang <sup>354</sup>	State Grid Energy Dananhu Power Plant	State Grid Energy Development Co.	2,000	Planning
Xinjiang <sup>355</sup>	Beisantai Ind Park Power Plant Unit 1&2	Wintime Energy Co.	300	Planning
Xinjiang <sup>356</sup>	Xinjiang Kuche Ehuobulake Coal Mine Power Plant	Xukuang Co.	1,320	Feasibility Study Permitted
Xinjiang <sup>357</sup>	Akesu Power Plant Phase II	Xuzhou Mining Group Co.	1,320	Planning
Yunnan <sup>358</sup>	Diandong Yuwang Power Plant Phase II Unit 3&4	Huaneng	1,200	Planning
Zhejiang <sup>359</sup>	Huarun Cangnan Power Plant Phase I	China Resources Holdings	2,000	NDRC Permitted, Tendering

continued next page

Table A.1 | Proposed Coal-Fired Power Plants in China (continued)

PROVINCE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Zhejiang <sup>360</sup>	Huaneng Changxing Thermal Power Plant	Huaneng	1,320	Permitting
Zhejiang <sup>361</sup>	Changxing ZSEP Unit 1&2	Zhejiang Southeast Elec Power	600	Planning
Zhejiang <sup>362</sup>	Liuheng Power Plant	Zheneng	2,000	NDRC Permitted, Tendering
Zhejiang <sup>363</sup>	Taizhou-2 Power Plant	Zheneng	2,000	NDRC Permitted, Preparing Construction
<b>Total</b>			<b>557,938</b>	

## ENDNOTES FOR TABLE A.1

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Table A.2 | Proposed Coal-Fired Plants in India

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Andhra Pradesh	Adilabad Power Station Unit 1	Singareni Collieries	600	Construction
Andhra Pradesh	Adilabad Power Station Unit 2	Singareni Collieries	600	Early development
Andhra Pradesh	Adilabad Power Station (Shalivahana Power Corp.)	Shalivahana Power Corp.	300	Uncertain
Andhra Pradesh	Ankulapatur Power Station Phase I	VSF Projects	350	Construction
Andhra Pradesh	Ankulapatur Power Station Phase II	VSF Projects	135	Proposed
Andhra Pradesh	Bander Power Station Phase I	Thermal Powertech Corporation	660	Construction
Andhra Pradesh	Bander Power Station Phase II	Thermal Powertech Corporation	660	Construction
Andhra Pradesh	Budele Power Station	Indu Projects Limited	1,000	Unconfirmed
Andhra Pradesh	Damodaram Sanjeevaiah Thermal Power Station (Krishnapatnam)	Andhra Pradesh Power Generation Corporation (APGENCO)	1,600	Construction
Andhra Pradesh	Dr. RKP Power Ankulapatur Power Station Phase I	Dr. RKP Power	130	Advanced development
Andhra Pradesh	Dr. RKP Power Ankulapatur Power Station Phase II	Dr. RKP Power	300	Advanced development
Andhra Pradesh	Gopuwanipalam Mega Thermal Power Project (Chinnapuram, Machilipatnam)	Nagarjuna Construction Company	1,980	Unconfirmed
Andhra Pradesh	Gudur Thermal Power Project (Momidi) Phase I	Pragdisa Power Private Ltd	1,320	Proposed
Andhra Pradesh	Gudur Thermal Power Project (Momidi) Phase II	Pragdisa Power Private Ltd	1,320	Proposed
Andhra Pradesh	Gunipudi Power Station (STEAPL proposal)	Suryachakra Group	1,320	Advanced development
Andhra Pradesh	Hindupur Power Station	Sheshadri Power & Infrastructure	1,320	Unconfirmed
Andhra Pradesh	Jaipur Power Station	Singareni Collieries	600	Construction
Andhra Pradesh	Jharapudi Power Station	Suryachakra Group	140	Unconfirmed
Andhra Pradesh	Kakatiya Thermal Power Project Stage-II	Andhra Pradesh Power Generation Corporation (APGENCO)	600	Construction
Andhra Pradesh	Kineta Power Stage I (Krishnapatnam)	Kineta Power Limited	1,320	Advanced development
Andhra Pradesh	Kineta Power Stage II (Krishnapatnam)	Kineta Power Limited	660	Proposed
Andhra Pradesh	Komarada Power Station	Alfa Infraprop Pvt. Ltd.	2,640	Proposed
Andhra Pradesh	Kotapally Power Station (SKIL Group)	SKIL Group	600	Unconfirmed
Andhra Pradesh	Kothagudem TPS expansion	Andhra Pradesh Power Generation Corporation (APGENCO)	800	Proposed
Andhra Pradesh	Krishnapatnam Navayuga thermal Station Phase I	Navayuga Power	1,320	Advanced development
Andhra Pradesh	Krishnapatnam Navayuga thermal Station Phase II	Navayuga Power	660	Proposed
Andhra Pradesh	Latchayapeta Power Station	NCS Sugars Ltd.	600	Proposed
Andhra Pradesh	Lovapalem Power Station	My Home Power Ltd.	1,000	Unconfirmed
Andhra Pradesh	Meenakshi Energy Thermal Power Project Phase-II	Meenakshi Energy	1,320	Proposed
Andhra Pradesh	Muthukur Mandal Power Station (Painampuram)	Nelcast Energy Corporation Ltd	1,320	Early development
Andhra Pradesh	NCC Vamsadhara Mega Power Project	Nagarjuna Construction Company	1,960	Unconfirmed
Andhra Pradesh	Ontimavadi Power Station	GMR Energy	6,300	Proposed

continued next page

Table A.2 | **Proposed Coal-Fired Plants in India (continued)**

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Andhra Pradesh	Paloncha Power Station expansion #1	Nava Bharat Ventures Ltd	150	Construction
Andhra Pradesh	Paloncha Power Station expansion #2	Nava Bharat Ventures Ltd	150	Proposed
Andhra Pradesh	Pegadapalli (Jaipur Mandal) Power Station	Singareni Collieries	600	Construction
Andhra Pradesh	Pentakota Power Station (Srinivasam Energy)	Srinivasam Energy Limited	1,320	Unconfirmed
Andhra Pradesh	Pudimadaka Ultra Mega Power Project	NTPC	4,000	Advanced development
Andhra Pradesh	Ramagundam Stage-IV	NTPC	1,000	Early development
Andhra Pradesh	Rayalaseema Thermal Power Project Stage-IV (Unit 6)	Andhra Pradesh Power Generation Corporation (APGENCO)	600	Advanced development
Andhra Pradesh	Saggonda power station	Andhra Sugars	120	Proposed
Andhra Pradesh	Sattupally Thermal Power Station	Andhra Pradesh Power Generation Corporation (APGENCO)	600	Early development
Andhra Pradesh	Sigma Infrarop Power Station (Khamman)	Sigma Infrarop Ltd	2,640	Unconfirmed
Andhra Pradesh	Simhadri Power Station Unit 4	NTPC	500	Proposed
Andhra Pradesh	Sompeta Power Station (Suryachakra)	Suryachakra Group	1,200	Unconfirmed
Andhra Pradesh	Sri Damodaram Sanjeevaiah (Krishnapatnam) Thermal Power Station	Andhra Pradesh Power Generation Corporation (APGENCO)	1,600	Construction
Andhra Pradesh	Srikakulam Thermal Power Station	Andhra Pradesh Power Generation Corporation (APGENCO)	2,400	Early development
Andhra Pradesh	Thamminapatnam Power Station (Simhapuri) Phase-I	Simhapuri Energy	300	Construction
Andhra Pradesh	Thamminapatnam Power Station (Simhapuri) Phase-II	Simhapuri Energy	300	Construction
Andhra Pradesh	Thamminapatnam Power Station (Simhapuri) Phase-III	Simhapuri Energy	1,320	Construction
Andhra Pradesh	Vadarevu Ultra Mega Power Project Stages II-III	Andhra Pradesh Power Generation Corporation (APGENCO)	2,400	Proposed
Andhra Pradesh	Varadevu Ultra Mega Power Project Stage I	Andhra Pradesh Power Generation Corporation (APGENCO)	1,600	Early development
Andhra Pradesh	VBF Ferro Alloys Bodepalli plant	VBC Ferro Alloys	120	Proposed
Andhra Pradesh	Vijayawada Thermal Power Station (IGCC)	Andhra Pradesh Power Generation Corporation (APGENCO)	182	Early development
Andhra Pradesh	Vijayawada Thermal Power Station expansion	Andhra Pradesh Power Generation Corporation (APGENCO)	800	Proposed
Andhra Pradesh	Vikas Power Thermal Plant	Vikas Power	540	Proposed
Andhra Pradesh	Welspun Andhra Pradesh project	Welspun Energy	1,320	Early development
Assam	Bongaigaon Power Station Stage I	NTPC	750	Construction
Assam	Bongaigaon Power Station Stage II	NTPC	250	Proposed
Assam	Borgolai Power Station	Assam Power Projects Development Company Ltd	250	Proposed
Assam	Margherita Power Station	NEEPCO and APGCL	480	Proposed
Assam	Naitor Power Station	Globe Power & Steel	1,320	Proposed
Bihar	Banka Power Project	Abhijeet Group	3,960	Uncertain

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Table A.2 | Proposed Coal-Fired Plants in India (continued)

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Bihar	Barauni Power Station expansion	Bihar State Electricity Board	500	Early development
Bihar	Barh I Power Station	NTPC	1,980	Construction
Bihar	Barh II Power Station	NTPC	1,320	Construction
Bihar	Bhagalpur Power Project	Ganga Power & Natural Resources	2,640	Early development
Bihar	Buxar Thermal Power Station (Chausa)	Buxar Bijlee Company	1,320	Early development
Bihar	Indragacchi Power Station	India Power Corporation	1,320	Early development
Bihar	Jagdishpur Power Station Stage 1	AES India	1,320	Early development
Bihar	Jagdishpur Power Station Stage 2	AES India	1,320	Proposed
Bihar	Kahalgaon Super Thermal Power Plant St-III Extension	NTPC	500	Proposed
Bihar	Kiul Thermal Power Project (Lakhisarai)	Mirach Power Pvt. Ltd	1,320	Proposed
Bihar	Kochar power Power Station	Triton Energy Ltd.	1,320	Proposed
Bihar	Lakhisarai Power Station (SPML)	SPML	1,200	Proposed
Bihar	Lakhisarai Thermal Power Station (Kajara)	Lakhisarai Bijlee	1,320	Advanced development
Bihar	Meherpur Power Station	Usha Martin	1,200	Uncertain
Bihar	Muzaffarpur Power Station extension	Bihar State Electricity Board	390	Construction
Bihar	Nabinagar (Majhiyan) Super Thermal Power Project	Nabinagar Power Generating Company	1,980	Advanced development
Bihar	Nabinagar Thermal Power Project	NTPC and Ministry of Railways	1,000	Construction
Bihar	Pirpainti Power Station (CESC)	CESC	2,000	Early development
Bihar	Pirpainti Thermal Power Station	Pirpainti Bijlee Company	1,320	Early development
Bihar	Prabhawati Nagar Power Station	Arrissan Power Limited	1,320	Early development
Bihar	Sirdala power station	Global Powmin	2,640	Early development
Chhattisgarh	Amarkantak Thermal Power Project Phase II (Pathadi) Unit 3	Lanco	660	Construction
Chhattisgarh	Amarkantak Thermal Power Project Phase II (Pathadi) Unit 4	Lanco	660	Construction
Chhattisgarh	Amoda Power Station	DCM Shriram Consolidated	600	Early development
Chhattisgarh	Athena Chhattisgarh Power Station	Athena Chhattisgarh Power Limited	1,200	Advanced development
Chhattisgarh	Avantha Bhandar Power Station	Avantha Power and Infrastructure	1,200	Early development
Chhattisgarh	BALCO Korba Power Station expansion	Bharat Aluminium Company	1,200	Construction
Chhattisgarh	Balpur Power Station	Jain Energy	1,200	Early development
Chhattisgarh	Baradarha Power Station	DB Power	1,200	Advanced development
Chhattisgarh	Bhaiso Power Station (Janjgir-Champa) Phase 1	KVK Power & Infrastructure Pvt. Ltd.	600	Early development
Chhattisgarh	Bhaiso Power Station (Janjgir-Champa) Phase 2	KVK Power & Infrastructure Pvt. Ltd.	600	Proposed
Chhattisgarh	Bhaiyathan Thermal Power Project	Indiabulls Power and Chhattisgarh State Power Generation Company	1,320	Early development
Chhattisgarh	Bhandhakhar Power Station	Maruti Clean Coal and Power	300	Advanced development
Chhattisgarh	Bhengari Power Station	Mahavir Global Coal Limited (MGCL)	540	Proposed
Chhattisgarh	Bhushan Steel Chhattisgarh project	Bhushan Steel	1,000	Proposed

continued next page

Table A.2 | **Proposed Coal-Fired Plants in India (continued)**

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Chhattisgarh	Birra Thermal Power Project	Moser Baer Power & Infrastructures	1,320	Early development
Chhattisgarh	Bunji Bundeli Thermal Power Project	Chhattisgarh State Power Generation Company	500	Early development
Chhattisgarh	Chakabura Power Station expansion Unit 2	ACB (India)	135	Construction
Chhattisgarh	Champa Adhunik Power Station	Adhunik Power and Natural Resources	1,320	Proposed
Chhattisgarh	Champa Power Project	ACB (India)	1,200	Early development
Chhattisgarh	Chandan Nagar Power Station	IFFCO Chhattisgarh Power	1,000	Proposed
Chhattisgarh	Chhattisgarh GMR Power Station Phase I	GMR Energy	1,370	Advanced development
Chhattisgarh	Chhattisgarh GMR Power Station Phase II	GMR Energy	685	Early development
Chhattisgarh	Dhardai Power Station	JSW ISPAT Steel	1,200	Unconfirmed
Chhattisgarh	Facor Power Chhattisgarh Power Project	Facor Power	600	Early development
Chhattisgarh	Godhna Power Station	Karnataka Power Corporation	1,600	Proposed
Chhattisgarh	Gorra Thermal Power Plant	Patni Power Projects	540	Proposed
Chhattisgarh	IFFCO-CSPGCL Thermal Power Project	Chhattisgarh State Power Generation Company	1,320	Early development
Chhattisgarh	Janjgir power station	Karnataka Power Corporation	1,200	Proposed
Chhattisgarh	Kasaipalli power station	Aryan Coal Benefications	270	Proposed
Chhattisgarh	Khamhar power station	AES Chhattisgarh Energy	1,440	Proposed
Chhattisgarh	Korba South Thermal Power Project Unit 1	Chhattisgarh State Power Generation Company	500	Early development
Chhattisgarh	Korba South Thermal Power Project Unit 2	Chhattisgarh State Power Generation Company	500	Early development
Chhattisgarh	Korba West (Hasdeo Thermal Power Station) Extension	Chhattisgarh State Power Generation Company	500	Construction
Chhattisgarh	KSK Mahanadi Power Project	KSK Energy Ventures	3,600	Construction
Chhattisgarh	KSK Narmada Power Project	KSK Energy Ventures	1,800	Early development
Chhattisgarh	Kukurda Power Station	JSW Energy	1,320	Early development
Chhattisgarh	Kukurda Power Station	JSW Energy	1,320	Advanced development
Chhattisgarh	Lanco Chhattisgarh Thermal Power Project	Lanco	2,000	Proposed
Chhattisgarh	Lara Integrated Thermal Power Project 1-2	NTPC	1,600	Advanced development
Chhattisgarh	Lara Integrated Thermal Power Project 3-4	NTPC	1,600	Proposed
Chhattisgarh	Lara Integrated Thermal Power Project 5	NTPC	800	Proposed
Chhattisgarh	Marwa Power Station	Chhattisgarh State Power Generation Company	1,000	Construction
Chhattisgarh	Moser Baer Captive Power Project	Moser Baer Power & Infrastructures and PTC India	150	Early development
Chhattisgarh	Pathadi Power Station	Lanco and KVK	1,320	Construction
Chhattisgarh	Raigarh Power Project (TRN/ACB)	ACB (India)	600	Advanced development
Chhattisgarh	Raigarh Power Station (SKS Ispat)	SKS Ispat and Power	1,200	Early development
Chhattisgarh	Raigarh Project (Jindal)	Jindal Power	1,320	Advanced development

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Table A.2 | Proposed Coal-Fired Plants in India (continued)

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Chhattisgarh	Raigarh Project (VISA Power)	VISA Power	1,200	Advanced development
Chhattisgarh	Raikheda Power Station	GMR Energy	1,370	Construction
Chhattisgarh	Ratija Power Project Phase I	ACB (India)	50	Construction
Chhattisgarh	Ratija Power Project Phase II	ACB (India)	50	Early development
Chhattisgarh	Sapnai Power Station	Topworth Energy	1,260	Early development
Chhattisgarh	Sapos Power Station (BEC Power)	BEC Power	500	Early development
Chhattisgarh	Sapos Power Station (Suryachakra)	Suryachakra Group	1,320	Advanced development
Chhattisgarh	Sipat I Power Station expansion, Unit 2	NTPC	660	Construction
Chhattisgarh	Sipat I Power Station expansion, Unit 3	NTPC	660	Construction
Chhattisgarh	Surguja Ultra Mega Power Project	not selected	4,000	Uncertain
Chhattisgarh	SV Power project (Renki) Phase II	KVK	300	Early development
Chhattisgarh	Tamnar II Project	Jindal Power	2,400	Advanced development
Gujarat	Akrimota Power Project expansion	Gujarat Mineral Development Corporation	250	Unconfirmed
Gujarat	Amreli Power Station	Avantha Power and Infrastructure	1,320	Proposed
Gujarat	Bhadreshwar Thermal Power Project (Adani)	Adani Power	3,300	Proposed
Gujarat	Bhavnagar Power Station	Gujarat Power Corporation	375	Advanced development
Gujarat	Bherai Power Station	VISA Power	1,320	Early development
Gujarat	Dahej Power Station (JSW Energy)	JSW Energy	2,400	Proposed
Gujarat	Dholera Power Plant	Gujarat State Electricity Corp	1,600	Proposed
Gujarat	Dhuvaran Super Thermal Power Project	NTPC	1,320	Proposed
Gujarat	Gujarat Power Project (Valia)	Neyveli Lignite Corporation	500	Proposed
Gujarat	Hazira II Power Plant	Essar Energy	270	Construction
Gujarat	Jamnagar Complex Power Station	Reliance Industries	1,000	Proposed
Gujarat	Mundra Thermal Power Project (Adani) Phase III Unit 6	Adani Power	660	Construction
Gujarat	Mundra Thermal Power Project (Adani) Phase IV Unit 7	Adani Power	660	Construction
Gujarat	Mundra Thermal Power Project (Adani) Phase IV Unit 8-9	Adani Power	660	Construction
Gujarat	Okha Power Station	SPR Infrastructure India	2,640	Early development
Gujarat	Pipavav Power Station	Torrent Power and Gujarat Power Corporation	2,000	Early development
Gujarat	Salaya I Power Plant	Essar Energy	1,200	Construction
Gujarat	Salaya II Power Plant	Essar Energy	1,320	Construction
Gujarat	Salaya III Power Plant	Essar Energy	600	Construction
Gujarat	Sikka Thermal Power Station Units 3-4	Gujarat State Electricity Corp	500	Construction
Gujarat	Suryachakra Captive Power Plant	Suryachakra Group	200	Early development
Gujarat	Tata Mundra Ultra Mega Power Project 2-3	Tata Power	1,600	Construction
Gujarat	Tata Mundra Ultra Mega Power Project 4-5	Tata Power	1,600	Advanced development

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Table A.2 | **Proposed Coal-Fired Plants in India (continued)**

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Gujarat	Ukai Thermal Power Station Unit 6	Gujarat State Electricity Corp	500	Construction
Gujarat	Wanakbori Thermal Power Station Unit 8	Gujarat State Electricity Corp	800	Early development
Haryana	Deenbandhu Chhotu Ram Thermal Power Plant expansion	Haryana Power Generation Company	660	Proposed
Haryana	Indira Gandhi Super Thermal Power Project Unit 3	NTPC	500	Construction
Haryana	Jhajjar Power Station	CLP India	1,320	Construction
Haryana	Mahatma Gandhi Thermal Power Project Unit 2	Haryana Power Generation Company	660	Proposed
Jharkhand	Baranda Power Station	JSW Energy	1,620	Early development
Jharkhand	Bhagalpur Power Station	Gagan Power & Natural Resources	1,320	Early development
Jharkhand	Bokaro A Thermal Power Station	Damodar Valley Corporation	600	Proposed
Jharkhand	Bokaro Steel City Thermal Power Station expansion	Damodar Valley Corporation	500	Proposed
Jharkhand	Chandil Singh Power Station	HDIL Energy	1,320	Unconfirmed
Jharkhand	Chandwa Power Project Phase I	Abhijeet Group	1,080	Construction
Jharkhand	Chandwa Power Project Phase II	Abhijeet Group	675	Early development
Jharkhand	Chandwa Power Project Phase III	Abhijeet Group	660	Early development
Jharkhand	Dumka Power Station (CESC) Phase I	CESC	600	Early development
Jharkhand	Dumka Power Station (CESC) Phase I	CESC	660	Proposed
Jharkhand	Dumka Project	Jindal Power	1,300	Early development
Jharkhand	Godda Project	Jindal Power	660	Advanced development
Jharkhand	Gumla Power Station (Kamdara)	Jharkhand State Electricity Board	1,320	Early development
Jharkhand	Jamshedpur Kandra Power Station Stage III	Adhunik Power and Natural Resources	540	Proposed
Jharkhand	Jamshedpur Kandra Power Station Stages I and II	Adhunik Power and Natural Resources	540	Construction
Jharkhand	Jharkhand Aluminium Power Station	Hindalco Industries	900	Early development
Jharkhand	Jharkhand project	Jindal Power	2,640	Proposed
Jharkhand	Kamdara Power Station	Jharkhand State Electricity Board	1,320	Construction
Jharkhand	Koderma Thermal Power Station Unit 2	Damodar Valley Corporation	500	Construction
Jharkhand	KVK Jharkhand Project	KVK Nilachal Power Pvt. Ltd.	1,000	Early development
Jharkhand	Maithon Right Bank Thermal Power Station Phase II	Damodar Valley Corporation and Tata Power	1,600	Early development
Jharkhand	Malaxmi Mega Thermal Power Project (Thakurbari)	Malaxmi	2,640	Unconfirmed
Jharkhand	Patratu Power Station (Jinbhuvish Energy)	Jinbhuvish Energy (East)	1,320	Proposed
Jharkhand	Rahem Power Station	Gupta Energy	1,000	Unconfirmed
Jharkhand	Sahibganj Power Station	Madhucon Projects	1,320	Early development
Jharkhand	Saraikela Power Station	Kohinoor Power	215	Construction
Jharkhand	Tilaiya Ultra Mega Power Project 1-5	Reliance Power	3,300	Early development
Jharkhand	Tilaiya Ultra Mega Power Project 6	Reliance Power	660	Early development

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Table A.2 | Proposed Coal-Fired Plants in India (continued)

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Jharkhand	Tiruldih Power Project	Tata Power	1,980	Early development
Jharkhand	Tori I Power Plant	Essar Energy	1,200	Construction
Jharkhand	Tori II Power Plant	Essar Energy	600	Construction
Jharkhand	Visa Power Jharkhand project	VISA Power	2,640	Early development
Jharkhand	Welspun Energy Parbahal Thermal Power Plant	Welspun Energy	1,980	Early development
Karnataka	Bellary Thermal Power Station 3	Karnataka Power Corporation	700	Proposed
Karnataka	Edlapura Power Station	Karnataka Power Corporation	800	Proposed
Karnataka	Ghataprabha Power Station	Power Company of Karnataka (PCKL)	1,320	Early development
Karnataka	Gulbarga Power Station	Power Company of Karnataka (PCKL)	1,320	Early development
Karnataka	Hassan Power Station	Hassan Thermal Power (P) Ltd	1,000	Early development
Karnataka	Jewargi Power Station	Jewargi Power Pvt Ltd.	1,320	Proposed
Karnataka	JSW Vijayanagar Power Station expansion	JSW Energy	660	Advanced development
Karnataka	Kadechur Power Station	Atlas Power India	1,320	Early development
Karnataka	Karnataka Gupta Power Station	Gupta Power	1,320	Unconfirmed
Karnataka	Kudgi Super Thermal Power Project Stage I	NTPC	2,400	Advanced development
Karnataka	Kudgi Super Thermal Power Project Stage II	NTPC	1,600	Early development
Karnataka	Mangoli Power Station	Flamingo Energy Ventures	1,320	Early development
Karnataka	Mulwad Power Station	Luxor Energy	1,320	Early development
Karnataka	Udupi Power Units 3 & 4	Lanco	1,320	Early development
Karnataka	Vadlur Power Station	Surana Power Ltd	420	Advanced development
Karnataka	Vantamuri Power Station	Shree Renuka Energy	1,050	Early development
Karnataka	Yedlapur Thermal Station	Karnataka Power Corporation	850	Advanced development
Karnataka	Yeramarus Thermal sStation	Karnataka Power Corporation	850	Advanced development
Kerala	Kasargod Power Station	Kerala State Industrial Development Corp.	2,400	Early development
Madhya Pradesh	Anuppur Power Station (Newzone)	New Zone India	1,320	Early development
Madhya Pradesh	Anuppur Thermal Power Project Phase 1	Moser Baer Power & Infrastructures	1,200	Construction
Madhya Pradesh	Anuppur Thermal Power Project Phase 2	Moser Baer Power & Infrastructures	1,320	Early development
Madhya Pradesh	Banas Thermal Power project (Anuppur)	KVK Power & Infrastructure Pvt. Ltd.	1,320	Proposed
Madhya Pradesh	Bansagar Power Station	MPTradco	1,600	Early development
Madhya Pradesh	Barethi Super Thermal Power Project	NTPC	3,960	Early development
Madhya Pradesh	Bina Refinery Power Station	Bharat Oman Refinery	99	Construction
Madhya Pradesh	Bina Thermal Power Project	Jaiprakash Power Ventures	1,250	Construction
Madhya Pradesh	Chitrangi Power Project	Reliance Power	3,960	Advanced development
Madhya Pradesh	Dada Dhuniwale Thermal Power Project	M.P. Power Generating Company	1,600	Early development
Madhya Pradesh	Gadarwara Power Station (BLA)	BLA Power	140	Advanced development
Madhya Pradesh	Gadarwara Super Thermal Power Project	NTPC	1,320	Early development
Madhya Pradesh	Jabalpur Thermal Power Project	VISA Power	1,320	Early development
Madhya Pradesh	Jaypee Nigrie Super Thermal Power Project	Jaiprakash Power Ventures	1,320	Advanced development

continued next page

Table A.2 | Proposed Coal-Fired Plants in India (continued)

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Madhya Pradesh	Jhabua Power Seoni Power Station Phase 1	Avantha Power and Infrastructure	600	Construction
Madhya Pradesh	Jhabua Power Seoni Power Station Phase 2	Avantha Power and Infrastructure	600	Advanced development
Madhya Pradesh	Katni Power Station	Welspun Energy	1,980	Advanced development
Madhya Pradesh	Khargaone Power Station	NTPC	Unknown	Proposed
Madhya Pradesh	Madhya Pradesh Jain Energy Power Station (Birhulee)	Jain Energy	1,320	Early development
Madhya Pradesh	Mahan Aluminium Power Station	Hindalco Industries	900	Construction
Madhya Pradesh	Mahan I Power Plant	Essar Energy	1,200	Construction
Madhya Pradesh	Mahan II Power Plant	Essar Energy	600	Proposed
Madhya Pradesh	Maharjapur Power Station	Sudama Mahavir Power	1,320	Early development
Madhya Pradesh	Sasan Ultra Mega Power Project 1-2	Reliance Power	1,320	Construction
Madhya Pradesh	Sasan Ultra Mega Power Project 3	Reliance Power	660	Construction
Madhya Pradesh	Sasan Ultra Mega Power Project 4-5	Reliance Power	1,320	Construction
Madhya Pradesh	Sasan Ultra Mega Power Project 6	Reliance Power	660	Construction
Madhya Pradesh	Satpura Thermal Power Station Units 10-11	M.P. Power Generating Company	500	Construction
Madhya Pradesh	Shahdol Power Station (Formerly SJK Powergen)	GMR Energy	1,370	Early development
Madhya Pradesh	Shahpura Power Station	MP Power Trading Company Limited	1,500	Early development
Madhya Pradesh	Shree Singaji Thermal Power Project Stage I Unit 1	M.P. Power Generating Company	600	Construction
Madhya Pradesh	Shree Singaji Thermal Power Project Stage I Unit 2	M.P. Power Generating Company	600	Construction
Madhya Pradesh	Shree Singaji Thermal Power Project Stage II	M.P. Power Generating Company	1,320	Proposed
Madhya Pradesh	Sidhi Power Project	ACB (India)	1,200	Advanced development
Madhya Pradesh	Vindhyachal-IV Power Station Unit 11	NTPC	500	Construction
Madhya Pradesh	Vindhyachal-IV Power Station Unit 12	NTPC	500	Construction
Madhya Pradesh	Vindhyachal-V Power Station	NTPC	500	Proposed
Madhya Pradesh	Welspun Amla Power Station	Welspun Energy	1,320	Early development
Madhya Pradesh	Welspun Energy Anuppur Thermal Power Plant	Welspun Energy	1,980	Early development
Madhya Pradesh	Welspun Mega Industrial & Energy Park	Welspun Energy Park Pvt. Ltd.	5,280	Early development
Maharashtra	Amravati Thermal Power Project Phase I	Indiabulls Power	1,350	Construction
Maharashtra	Amravati Thermal Power Project Phase II	Indiabulls Power	1,320	Proposed
Maharashtra	Bela Power Station	Ideal Energy Projects	270	Construction
Maharashtra	Bela Power Station (Mantri Power)	Mantri Power	540	Unconfirmed
Maharashtra	Bhadravati Power Station (Ispat)	JSW ISPAT Steel	2,000	Proposed
Maharashtra	Bhadravati Power Station (MIDC)	Maharashtra Industrial Development Corporation	1,320	Early development
Maharashtra	Bhusawal Thermal Power Station Unit 6	Maharashtra State Power Generation Company	660	Advanced development
Maharashtra	Bijora Power Station	Jinbhuvish Power Generations	1,260	Advanced development

continued next page

Table A.2 | Proposed Coal-Fired Plants in India (continued)

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Maharashtra	Butibori Power Station	Reliance Power	600	Construction
Maharashtra	Chandrapur CESC Power Station (Tadali)	CESC	600	Construction
Maharashtra	Chandrapur Gupta Power Station Stage 2	Gupta Energy	540	Advanced development
Maharashtra	Chandrapur Gupta Power Station Stage I	Gupta Energy	120	Construction
Maharashtra	Chandrapur Thermal Power Station Unit 8	Maharashtra State Power Generation Company	500	Construction
Maharashtra	Chandrapur Thermal Power Station Unit 9	Maharashtra State Power Generation Company	500	Construction
Maharashtra	Coastal Maharashtra Project Phase I	Tata Power	1,600	Advanced development ON HOLD
Maharashtra	Coastal Maharashtra Project Phase II	Tata Power	800	Proposed ON HOLD
Maharashtra	Dahanu Power Station Upgrade	Reliance Infrastructure Limited	1,200	Uncertain
Maharashtra	Devgad UMPP	NTPC	4,000	Uncertain
Maharashtra	Dhakore Power Station	Ind-Barath Power	1,050	Unconfirmed
Maharashtra	Dhariwal Power Station	Haldia Energy	600	Advanced development
Maharashtra	Dhopave Coal Plant (NTPC)	NTPC	1,600	Proposed
Maharashtra	Dhopave Thermal Power Station (Mahagenco) Unit 1-3	Maharashtra State Power Generation Company	1,980	Advanced development
Maharashtra	Dondaicha Thermal Power Station Stage I (Units 1 and 2)	Maharashtra State Power Generation Company	1,320	Advanced development
Maharashtra	Dondaicha Thermal Power Station Stage II (Unit 3-5)	Maharashtra State Power Generation Company	1,980	Proposed
Maharashtra	EMCO Energy Warora Power Project	EMCO Energy	600	Construction
Maharashtra	Ghugus Power Station Phase I	Gupta Coalfields & Washeries	120	Advanced development
Maharashtra	Ghugus Power Station Phase II	Gupta Coalfields & Washeries	540	Proposed
Maharashtra	GMR Energy Coal Plant	GMR Energy	1,800	Unconfirmed
Maharashtra	Hari Hareshwar Power Station (Vesavi and Bankot)	Hari Hareshwar Power Company	1,600	Proposed
Maharashtra	Khursapar Power Station	Lenexis Energy	1,320	Early development
Maharashtra	Khutafali (Kolura) Power Station	Jinbhuvish Power Generations	1,320	Early development
Maharashtra	Kinebodi Power Station	Nandal Enterprises	750	Early development
Maharashtra	Koradi Thermal Power Station 10	Maharashtra State Power Generation Company	660	Construction
Maharashtra	Koradi Thermal Power Station 8	Maharashtra State Power Generation Company	660	Construction
Maharashtra	Koradi Thermal Power Station 9	Maharashtra State Power Generation Company	660	Construction
Maharashtra	Lanco Vidarbha Thermal Power	Lanco	1,320	Advanced development
Maharashtra	Latur Power Station	Maharashtra State Power Generation Company	1,320	Proposed
Maharashtra	Madhekar Power Station	Patni Energy	405	Unconfirmed
Maharashtra	Mauda-I STPP (Nagpur)	NTPC	1,000	Construction

continued next page

Table A.2 | **Proposed Coal-Fired Plants in India (continued)**

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Maharashtra	Mauda-II STPP (Nagpur)	NTPC	1,320	Early development
Maharashtra	Mendki Thermal Power Project	Maharashtra State Power Generation Company	1,320	Proposed
Maharashtra	Nardana Power Station (Vaghode)	Shirpur Power	300	Advanced development
Maharashtra	Nasik Thermal Power Project (Indiabulls)	Indiabulls Power	1,350	Early development
Maharashtra	Nasik Thermal Power Station (Sinnar) Expansion	Maharashtra State Power Generation Company	1,320	Early development
Maharashtra	Paras Power Station extension	Maharashtra State Power Generation Company	660	Proposed
Maharashtra	Parli Thermal Power Station Unit 8	Maharashtra State Power Generation Company	350	Construction
Maharashtra	Rampur Coal Plant	Finolex	1,000	Proposed
Maharashtra	Solapur Power Station	NTPC	1,320	Advanced development
Maharashtra	Tiroda Thermal Power Project Phase I and II	Adani Power	1,980	Construction
Maharashtra	Tiroda Thermal Power Project Phase III	Adani Power	1,320	Early development
Maharashtra	Welspun Maxsteel Power Station	Welspun Energy	330	Early development
Meghalaya	Garo Hills Power Station	NEEPCO	500	Early development
Meghalaya	West Khasi Hills Power Station	NEEPCO	240	Proposed
Orissa	Aditya Aluminium Power Station	Hindalco Industries	900	Construction
Orissa	Angul I Power Station (Derang) Unit 1	Jindal India Thermal Power	600	Construction
Orissa	Angul I Power Station (Derang) Unit 2	Jindal India Thermal Power	600	Construction
Orissa	Angul I Power Station (Derang) Unit 3	Jindal India Thermal Power	600	Construction
Orissa	Angul II Power Station (Derang)	Jindal India Thermal Power	1,320	Construction
Orissa	Angul Steel Power Station	Jindal Steel & Power	810	Construction
Orissa	Babandh Power Station	Lanco	1,320	Construction
Orissa	Balangir Power Station	Sahara India Power Corporation	1,320	Early development
Orissa	Baragaon Power Station	Jinbhuvish Power Generations	1,320	Early development
Orissa	Basundhara Power Station	Mahanadi Coalfields Limited	1,600	Early development
Orissa	Bhubaneshwar Jasper power station	Bhubaneshwar Power	135	Proposed
Orissa	Brahmani power project	NTPC & Coal India	2,000	Proposed
Orissa	Choudwar power station	Indian Metals & Ferro	120	Advanced development
Orissa	Cuttack power station (KVK Nilachal) Phase I	KVK	350	Construction
Orissa	Cuttack power station (KVK Nilachal) Phase II	KVK	700	Proposed
Orissa	Cuttack power station (VISA Power)	VISA Power	1,320	Proposed
Orissa	Darlipali Super Thermal Power Station	NTPC	1,600	Advanced development
Orissa	Dhenkanal Power Station	CESC	1,000	Proposed
Orissa	Gajmara Super Thermal Power Station	NTPC	1,600	Advanced development
Orissa	Ganjam Power Station	SPR Infrastructure India	2,640	Early development
Orissa	Ghogarpalli Ultra Mega Power Project	Power Finance Corporation	4,000	Proposed
Orissa	IB Thermal Power Station Expansion	Orissa Power Generation Corporation	1,320	Advanced development

continued next page

Table A.2 | Proposed Coal-Fired Plants in India (continued)

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Orissa	Jharsuguda Ind-Barath Power Station Phase I	Ind-Barath Power	700	Advanced development
Orissa	Jharsuguda Ind-Barath Power Station Phase II	Ind-Barath Power	660	Proposed
Orissa	Jharsuguda Sterlite Power Station Unit 4	Sterlite Energy	600	Construction
Orissa	Jr Power Project	KSK Energy Ventures	1,980	Early development
Orissa	Kamalanga Power Station Phase I	GMR Energy	1,050	Construction
Orissa	Kamalanga Power Station Phase II	GMR Energy	350	Advanced development
Orissa	Kishore Nagar Coal-to-Liquids Project	Jindal Steel & Power	1,350	Proposed
Orissa	Malibrahmani Power Station	Monnet Power Company	1,005	Advanced development
Orissa	Naraj Marthapur Power Project	Tata Power	660	Proposed
Orissa	Navabharat II Power Station	Essar Energy	1,200	Proposed
Orissa	Navabharat Power Station	Essar Energy	1,050	Construction
Orissa	Neulapoi Power Station (Dhenkanal)	CESC	1,200	Early development
Orissa	Paradip Power Plant	Essar Energy	120	Construction
Orissa	Pitamohul Power Station	Ind-Barath Power	1,320	Proposed
Orissa	Randia Power Station	Facor Power	100	Construction
Orissa	Rengali Power Station	Neyveli Lignite Corporation	2,000	Proposed
Orissa	Sakhigopal Ultra Mega Power Project	Power Finance Corporation	4,000	Proposed
Orissa	Sri Ramchandrapur Power Project	Dr. RKP Power	120	Proposed
Orissa	Srirampur Coal-to-Liquids Project	Strategic Energy Technology Systems	Unknown	Proposed
Orissa	Sundargarh Ultra Mega Power Project (Lankahuda)	NTPC	4,000	Proposed
Orissa	Talcher Super Thermal Power Station second expansion	NTPC	1,320	Proposed
Orissa	Talcher Thermal Power Station first expansion	NTPC	500	Proposed
Orissa	Wardha Naini Power Project	KSK Energy Ventures	1,800	Early development
Punjab	Gidderbaha Power Station	Punjab State Electric Board	2,640	Uncertain
Punjab	GNDTP Bathinda extension Stage II	Punjab State Electric Board	500	Proposed
Punjab	Gobindpura Power Station	Indiabulls Power	1,320	Proposed
Punjab	Goindwal Sahib Thermal Power Plant	GVK	600	Construction
Punjab	Goindwal Sahib Thermal Power Plant expansion	GVK	1,320	Proposed
Punjab	Mukerian Power Station	Punjab State Power Corporation	1,320	Early development
Punjab	Rajpura Thermal Power Project (Nalash)	Punjab State Power Corporation	1,320	Construction
Punjab	Rajpura Thermal Power Project (Nalash) phase II	Punjab State Power Corporation	700	Proposed
Punjab	Ropar Thermal Plant expansion	Punjab State Electric Board	1,320	Proposed
Punjab	Talwandi Sabo Power Project Units 1-3	Sterlite Energy	1,980	Construction
Punjab	Guru Hargobind (Lehra Mohabbat) Power Station Stage III	Punjab State Electric Board	500	Proposed
Rajasthan	Banswara Thermal Power Station	Rajasthan RV Utpadan Nigam	1,320	Early development
Rajasthan	Bikaner Power Station	OM Metals Infracore and SPML	70	Early development
Rajasthan	Bithnok Thermal Power Project	Neyveli Lignite Corporation	250	Advanced development

continued next page

Table A.2 | **Proposed Coal-Fired Plants in India (continued)**

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Rajasthan	Chhabra Power Station Unit 3-4 expansion	Rajasthan RV Utpadan Nigam	1,320	Advanced development
Rajasthan	Chhabra Power Station Unit 5-6 expansion	Rajasthan RV Utpadan Nigam	1,320	Early development
Rajasthan	JSW Barmer (Jalipa Kapurdi) Power Station Units 5-8	JSW Energy	540	Construction
Rajasthan	JSW Barmer (Jalipa Kapurdi) Power Station Units 9-10	JSW Energy	270	Construction
Rajasthan	Kalisindh Thermal Power Station	Rajasthan RV Utpadan Nigam	1,200	Construction
Rajasthan	Kalisindh Thermal Power Station Stage II	Rajasthan RV Utpadan Nigam	1,320	Proposed
Rajasthan	Kawai Thermal Power Project	Adani Power	1,320	Advanced development
Rajasthan	Suratgarh Super Thermal Power Station Unit 7-8	Rajasthan RV Utpadan Nigam	1,320	Early development
Rajasthan	Suratgarh Super Thermal Power Station Unit 9-10	Rajasthan RV Utpadan Nigam	1,320	Early development
Tamil Nadu	Chennai Power Station II	OPG Power Ventures	77	Construction
Tamil Nadu	Chennai Power Station III	OPG Power Ventures	160	Advanced development
Tamil Nadu	Chennai Power Station III additional expansion	OPG Power Ventures	80	Proposed
Tamil Nadu	Cheyur Ultra Mega Power Project	Coastal Tamil Nadu Power	4,000	Proposed
Tamil Nadu	Cuddalore SRM Power Station	SRM Energy	1,980	Proposed
Tamil Nadu	Ennore SEZ Super Critical Thermal Power Project (Vayalur)	Tamil Nadu Generation and Distribution Corporation	1,600	Proposed
Tamil Nadu	Ennore Thermal Power Station expansion	Tamil Nadu Generation and Distribution Corporation	1,200	Proposed
Tamil Nadu	Jayamkondam Power Station	Neyveli Lignite Corporation	1,600	Proposed
Tamil Nadu	Marakkanam Super Thermal Power Project	NTPC	4,000	Proposed
Tamil Nadu	Mettur Thermal Power Station Stage III	TANGEDCO	600	Construction
Tamil Nadu	Nagai Power Project (Nagapattinam)	KVK Energy	300	Proposed
Tamil Nadu	New Neyveli Thermal Power Station	Neyveli Lignite Corporation	1,000	Proposed
Tamil Nadu	Neyveli TPS-II Expansion Unit 2	Neyveli Lignite Corporation	250	Construction
Tamil Nadu	North Chennai Thermal Power Station - Stage-II Unit 1	Tamil Nadu Generation and Distribution Corporation	600	Construction
Tamil Nadu	North Chennai Thermal Power Station - Stage-II Unit 2	Tamil Nadu Generation and Distribution Corporation	600	Construction
Tamil Nadu	Savarimangalam Power Station	SPR Infrastructure India	2,640	Early development
Tamil Nadu	Thoothukudi Power Station (IBPGL) expansion	Ind-Barath Power	63	Proposed
Tamil Nadu	Thoothukudi Power Station (IBTPL Hanakon replacement)	Ind-Barath Power	300	Early development
Tamil Nadu	Tirunelveli Power Station	India Cements	50	Proposed
Tamil Nadu	Tuticorin Power Station (Coastal Energen)	Coastal Energen	1,200	Construction
Tamil Nadu	Tuticorin Power Station (Coastal Energen) Phases II and III	Coastal Energen	1,600	Proposed
Tamil Nadu	Tuticorin Power Station (Ind-Barath) Phase I	Ind-Barath Power	660	Advanced development
Tamil Nadu	Tuticorin Power Station (Ind-Barath) Phase II	Ind-Barath Power	660	Proposed

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Table A.2 | Proposed Coal-Fired Plants in India (continued)

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Tamil Nadu	Tuticorin Thermal Power Project	Tamil Nadu Generation and Distribution Corporation and Neyveli Lignite Corp	1,000	Construction
Tamil Nadu	Udangudi Power Station	Tamil Nadu Generation and Distribution Corporation and Bharat Heavy Electricals Limited	1,600	Advanced development
Tamil Nadu	Uppur Power Station (Thiruvadana)	Tamil Nadu Generation and Distribution Corporation	1,600	Early development
Tamil Nadu	Vallur I Phase II	NTPC and Tamil Nadu Generation and Distribution Corporation	500	Construction
Tamil Nadu	Vallur I Power Station	NTPC and Tamil Nadu Generation and Distribution Corporation	1,000	Construction
Uttar Pradesh	Amauli Fatehpur Power Station	Uttar Pradesh Power Corporation and Neyveli Lignite Corporation	2,000	Proposed
Uttar Pradesh	Anpara-D Power Station Unit II	UP Rajya Vidyut Nigam Ltd	500	Construction
Uttar Pradesh	Anpara-E Power Station	UP Rajya Vidyut Nigam Ltd	1,320	Proposed
Uttar Pradesh	Auraiya Unitech Power Station	Unitech Machines	250	Proposed
Uttar Pradesh	Bara Thermal Power Project Phase I	Jaiprakash Power Ventures	1,980	Construction
Uttar Pradesh	Bara Thermal Power Project Phase II	Jaiprakash Power Ventures	1,320	Proposed
Uttar Pradesh	Bargarh Power Station	Bajaj Hindusthan	1,980	Early development
Uttar Pradesh	Barkera Mill Power Station	Bajaj Hindusthan	80	Proposed
Uttar Pradesh	Bhogipur Power Station	Lanco	2,640	Early development
Uttar Pradesh	Bilhour Super Thermal Power Plant	NTPC	1,320	Early development
Uttar Pradesh	Chola Power Station	Tata Power	1,320	Proposed
Uttar Pradesh	Dopaha Thermal Power Plant	Uttar Pradesh Power Corporation	1,980	Early development
Uttar Pradesh	Fatehpur Power Station	Uttar Pradesh Power Corporation	1,320	Proposed
Uttar Pradesh	Feroz Gandhi Unchahar Power Project Stage IV	NTPC	500	Proposed
Uttar Pradesh	Harduaganj TPS Extn - Stage III (Kasimpur)	Uttar Pradesh Rajya Vidyut	660	Proposed
Uttar Pradesh	Jawaharpur Thermal Project	Jawaharpur Vidyut Utpadan Nigam	1,320	Proposed
Uttar Pradesh	Karchana Thermal Power Project	Jaypee Group	1,980	Proposed
Uttar Pradesh	Lalitpur Power Project (Mirchawar)	Bajaj Hindusthan	1,980	Early development
Uttar Pradesh	Meja Thermal Power Project	NTPC and Uttar Pradesh Rajya Vidyut	1,320	Construction
Uttar Pradesh	NCTPP IGCC demonstration (Dadri)	NTPC	100	Proposed
Uttar Pradesh	Obra Thermal Station extension	UP Rajya Vidyut Nigam Ltd	1,600	Proposed
Uttar Pradesh	Panki Thermal Power Station extension	UP Rajya Vidyut Nigam Ltd	250	Proposed
Uttar Pradesh	Parichha Power Station	Uttar Pradesh Rajya Vidyut	500	Construction
Uttar Pradesh	Rihand III Power Station Unit 5	NTPC	500	Construction
Uttar Pradesh	Rihand III Power Station Unit 6	NTPC	500	Construction
Uttar Pradesh	Rosa Phase II Power Station (Unit 4)	Reliance Power	300	Construction
Uttar Pradesh	Singrauli Super Thermal Power Station Stage III	NTPC	500	Proposed

continued next page

Table A.2 | **Proposed Coal-Fired Plants in India (continued)**

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Uttar Pradesh	Tanda Power Station Expansion	NTPC	1,320	Proposed
Uttar Pradesh	Welspun Energy Mirzapur Power Station	Welspun Energy	1,320	Early development
Uttar Pradesh	Welspun Ghazipur Project	Welspun Energy	1,320	Proposed
West Bengal	Bakreswar Thermal Power Station Unit 6	West Bengal Power Development Corp.	660	Proposed
West Bengal	Balagarh Power Station	CESC	1,320	Proposed
West Bengal	Durgapur Projects Limited Power Station 7A Extension	Durgapur Projects Limited	300	Proposed
West Bengal	Durgapur Steel City Power Station Unit 2	Damodar Valley Corporation	500	Construction
West Bengal	Haldia Energy Power Station Phase II	CESC	600	Construction
West Bengal	Haldia Energy Power Station Phase II	CESC	1,400	Proposed
West Bengal	Larsen & Tubro Power Station	Larsen & Tubro	3,200	Proposed
West Bengal	Raghunathpur Thermal Power Station Phase I	Damodar Valley Corporation	1,200	Construction
West Bengal	Raghunathpur Thermal Power Station phase II	Damodar Valley Corporation	1,320	Proposed
West Bengal	Sagardighi Thermal Power Station Phase II	West Bengal Power Development Corp.	1,000	Advanced development
West Bengal	Salboni 1 (CPP-IV)	JSW Bengal Steel	300	Construction
West Bengal	Salboni 2	JSW Energy	660	Advanced development
West Bengal	Salboni 3	JSW Energy	660	Advanced development
<b>Total</b>			<b>519,396</b>	

Source: [www.sourcewatch.org/index.php?title=Category:Proposed\\_coal\\_plants\\_in\\_India](http://www.sourcewatch.org/index.php?title=Category:Proposed_coal_plants_in_India).

Table A.3 | Proposed Coal-Fired Plants in Russia

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Russia	Unknown	Unknown	Unknown	26,000-48,000	Total additional capacity by 2030

Table A.4 | Proposed Coal-Fired Plants in Turkey

COUNTRY	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Turkey	Koyunağılı Milhalıççık Eskişehir/ Yunus Emre Termik Santrali	Adalurya Elektrik A.Ş., Czech companies Ferrit, BTG Energy and Vitkovice Power Engineering	300	Permitted
Turkey	Bolu ili, Göynük ilçesi	Aksa Göynük Enerji Üretim A.Ş.	275	Permitted
Turkey	Sinop ili, Gerze ilçesi	Anadolu Termik Santralleri A.Ş.	1,020	Applying for permits
Turkey	Adana ili, Yumurtalık ilçesi	Atagür Enerji Üretim İnşaat ve Ticaret Anonim Şirketi	1,480	Applying for permits
Turkey	Zonguldak ili, Ereğli ilçesi, Kireçli koyu mevkii / Kireçlik Termik Santrali	Batı Karadeniz Elektrik Üretim A.Ş.	1,200	Applying for permits
Turkey	Bartın ili, Amasra ilçesi, Gömü köyü mevkii /Bartın Termik Santrali	Batı Karadeniz Elektrik Üretim A.Ş.	1,200	Applying for permits
Turkey	Çankırı ili, Orta ilçesi / Orta Anadolu Termik Santrali	Bereket Enerji Üretim A.Ş.	137	Applying for permits
Turkey	Mersin ili, Gülnar ilçesi	Buğra Enerji Üretimi A.Ş.	373	Applying for permits
Turkey	Çankırı	Çalık NTF Elektrik Üretim	170	Permitted
Turkey	Çanakkale ili, Biga ilçesi, Karabiga beldesi	Cenal Elektrik Üretim A.Ş.	1,380	Applying for permits
Turkey	Adana ili, Yumurtalık ilçesi	Diler Elektrik Üretim A.Ş.	600	Applying for permits
Turkey	Kırklareli ili, demirköy ilçesi, begendik köyü	Emba Elektrik Üretim A.Ş.	1,232	Applying for permits
Turkey	Adana ili, yumurtalık ilçesi, Sugözü köyü	Emba Elektrik Üretim A.Ş.	1,232	Applying for permits
Turkey	İzmir İli, Aliağa İlçesi	Enka Enerji Üretim A.Ş.	800	Permitted
Turkey	Samsun ili, Havza ilçesi, Kalete Tepe mevkii	Enyat Enerji Yatırımları ve Elektrik Üretim Ticaret Ltd. Şti.	150	Applying for permits
Turkey	AFSIN-ELBISTAN-C	EÜAŞ	1,400	Announced
Turkey	AFSIN-ELBISTAN-D	EÜAŞ	1,200	Announced
Turkey	Çanakkale ili, Lapseki ilçesi "Kirazlıdere Termik Santrali"	Filiz Enerji Madencilik Tarım Sanayi ve Ticaret A.Ş.	610	Applying for permits
Turkey	Şİzmir ili, Aliağa ilçesi, Habaş Termik Santrali	Habaş Sanai ve Tıbbi Gazlar İstihsal Endüstrisi A.Ş.	618	Applying for permits
Turkey	Adana ili, Ceyhan ilçesi	Hakan Madencilik ve Elektrik Üretim Sanayi Ticaret A.Ş.	110	Permitted
Turkey	Amasra, Bartın	HEMA Elektrik A.Ş., China's Aviation Industry	1,320	Applying for permits
Turkey	Zonguldak, Kandilli	HEMA Elektrik A.Ş.	1,320	Applying for permits
Turkey	Kırklareli, İgneada	HEMA Elektrik A.Ş.	1,200	Permitted
Turkey	Amasra, Bartın	HEMA Elektrik A.Ş.	1,111	Permitted
Turkey	Adana ili, Yumurtalık ilçesi	İC İctaş Elektrik Üretim A.Ş.	600	Applying for permits
Turkey	İzmir İli, Aliağa İlçesi	İzdemir Enerji Elektrik Üretim A.Ş.	350	Permitted

continued next page

Table A.4 | **Proposed Coal-Fired Plants in Turkey (continued)**

COUNTRY	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Turkey	Hatay ili, Dört Yol ilçesi, Yeni yurt mevkii	Kamertan Madencilik ve Elektrik Üretim Anonim Şirketi	330	Applying for permits
Turkey	Balıkesir İli, Bandırma ilçesi	Karat Elektrik Üretim ve Ticaret A.Ş.	1,200	Applying for permits
Turkey	Konya ili, Ilgın ilçesi	Konya Ilgın Elektrik Üretim ve Ticaret Ltd Şti	500	Applying for permits
Turkey	Tekirdağ İli Malkara İlçesi İbrice Mevkii / Lüminer	Lüminer Enerji Elektrik Üretim Anonim Şirketi	180	Applying for permits
Turkey	Zonguldak ili, Çatalağzı beldesi	Modern Enerji Elektrik Üretimi Otoprodüktör Grubu A.Ş.	320	Applying for permits
Turkey	İzmir İli Kınık İlçesi/eynez termik santrali	Polyak Eyz Enerji Üretim Madencilik Sanayi ve Ticaret Anonim Şirketi	660	Applying for permits
Turkey	Çanakkale ili, Biga ilçesi / Karaburun-2 Termik Santrali	Sarıkaya Enerji Madencilik Tarım San. ve Tic. A.Ş.	670	Applying for permits
Turkey	Çanakkale ili, Biga ilçesi / Karaburun Termik Santrali	Sarıkaya Enerji Madencilik Tarım San. ve Tic. A.Ş.	137	Applying for permits
Turkey	Hatay ili, Erzin ilçesi, Aşağı Burnaz mevkii	Selena Elektrik Üretim Anonim Şirketi	936	Permitted
Turkey	Şizmir ili, Aliağa mevkii 600 Mw Socar Power Termik Santrali	Socar Power Enerji Yatırımları Anonim Şirketi	610	Applying for permits
Turkey	Adana ili, Yumurtalık İlçesi, Gölovası, Ada Enerji Santrali	Suez Güney Enerji Üretim A.Ş.	1,340	Applying for permits
Turkey	Mersin ili, Silifke ilçesi, Yeşilovacık beldesi / Yeşilovacık Termik Santrali	Tabiat Enerji Üretim A.Ş.	1,320	Applying for permits
Turkey	Sivas ili, Kangal ilçesi, Etyemez Köyü Mevkii	Tam Enerji Üretim A.Ş.	100	Permitted
Turkey	Tufanbeyli	Teyo yatırım, Weiqu Energy Investment	600	Applying for permits
Turkey	Balıkesir İli, Gönen İlçesi	TGR Enerji, Russian Inter Rao Ues	300	Applying for permits
Turkey	Hatay İskenderun	Tosyalı Elektrik Üretim A.Ş.	1,236	Applying for permits
Turkey	Bursa, Keles	Unknown	450	Announced
Turkey	Elazığ ili, Kovancılar ilçesi, Yarımca beldesi	Yıldırım Enerji Yatırımları A.Ş.	200	Applying for permits
Turkey	İskenderun	Yıldırım Enerji Yatırımları A.Ş. Ve SGP (ÇİN), Chinese SHENHUA GUOHUA POWER (SGP)	2,000	Applying for permits
<b>Total</b>			<b>36,719</b>	

Table A.5 | Proposed Coal-Fired Plants in Europe (except Russia and Turkey)

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Germany	Unknown	Datteln	E.ON	1,070	Under construction
Germany	Nordrhein-Westfalen	Lünen	Trianel Power	810	Under construction
Germany	Sachsen-Anhalt	Arneburg	RWE	1,600	Announced
Germany	Nordrhein-Westfalen	Niederaußem (Bergheim)	RWE	2,000	Applying for permits
Germany	Schleswig-Holstein	Brunsbüttel	SWS	1,820	Applying for permits
Germany	Nordrhein-Westfalen	Marl	Infracor	900	Announced
Germany <sup>1</sup>	Sachsen-Anhalt	Profen	Mibrag	660	Applying for permits
Germany	Niedersachsen	Stade	E.ON	1,100	Applying for permits
Germany	Niedersachsen	Stade	Dow Chemical	1,000	Applying for permits
Germany	Hessen	Staudinger	E.ON	1,100	Applying for permits
Poland	Unknown	Opole 5 & 6	PGE	1,800	Applying for permits
Poland <sup>2</sup>	Unknown	Turow	PGE	460	Announced
Poland <sup>3</sup>	Unknown	Kozienice	ENEA	1,000	Permitted
Poland	Unknown	Wola (Silesia)	RWE and Kompania Weglowa	900	Announced
Poland	Unknown	Rybnik	EDF	910	Under construction
Poland	Unknown	Siechnice	Kogeneracja S.A.	120	Permitted
Poland	Unknown	Gubin	PGE	2,700	Applying for permits
Poland <sup>4</sup>	Unknown	Ostroleka	ENERGA	1,000	Permitted
Poland <sup>5</sup>	Unknown	Jaworzno 3	Tauron	910	Permitted
Poland <sup>6</sup>	Unknown	Tychy	Tauron	120	Applying for permits
Poland <sup>7</sup>	Unknown	Łęczna (Stara Wieś-Stasin)	GDF -Suez	766	Applying for permits
Poland	Unknown	Zabrze CHP	Fortum	350	Announced
Poland <sup>8</sup>	Unknown	Polnoc	Kulczyk Investments	1,050	Applying for permits
Italy	Sardinia	Fiume Santo	E.ON	410	Permitted,
Italy <sup>9</sup>	Veneto	Porto Tolle	Enel	1,980	Applying for permit
Italy <sup>10</sup>	Vallegia di Quillano	Vado Ligure	Tirreno Power	460	Applying for permit
Italy	Calabria	Saline Joniche	Repower and Hera	1,320	Applying for permits
Bosnia-Herzegovina	Republika Srpska	TPP Stanari	Dongfang Electric Corp and EFT	410	Permitted
Bosnia-Herzegovina <sup>11</sup>	Federation BiH	Bugojno 1	Unknown	300	Applying for permits
Bosnia-Herzegovina <sup>12</sup>	Federation BiH	Kongora	Unknown	550	Applying for permits
Bosnia-Herzegovina <sup>13</sup>	Federation BiH	Kamengrad G1	Unknown	430	Announced
Bosnia-Herzegovina <sup>14</sup>	Republika Srpska	Ugljevik 3	Comsar Energy Republika Srpska and RiTE Ugljevik	660	Applying for permits

*continued next page*

Table A.5 | **Proposed Coal-Fired Plants in Europe (except Turkey and Russia) (continued)**

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Bosnia-Herzegovina	Federation BiH	Kakanj G8	Elektroprivreda BiH (EPBiH) and CNEEC?	230	Applying for permits
Bosnia-Herzegovina <sup>15</sup>	Federation BiH	Tuzla G7	Elektroprivreda BiH (EPBiH)	450	Applying for permits
Bosnia-Herzegovina <sup>16</sup>	Republika Srpska	TPP Gacko 2	CEZ and EPRS	660	Announced
Romania	Galati	Galati	Enel	800	Applying for permits
Romania	Deva, Hunedoara	Electrocentrale Deva	SC Electrocentrale DEVA SA	450	Announced
Romania	Doicesti, Dambovita	Doicesti	SC Doicesti and China Huadian Engineering Co.	500	Announced
Romania	Braila	Braila Power	Enel/EON and SE Braila	800	Announced
Romania	Paroseni, Hunedoara	Paroseni	Electrocentrale SA (Termoelectrica)	200	Announced
Romania <sup>17</sup>	Rovinari, Gorj	Rovinari	SC Complexul Energetic Rovinari	500	Announced
Romania	11 km from Craiova (Isalnita)	Craiova II/Isalnita	CEZ, Edison, AES	500	Announced
Romania	Unknown	Halanga, Dr. Turnu Severin	RAAN (Romag-Termo CHPP Romania)	400	Announced
Netherlands <sup>18</sup>	Rotterdam	Maasvlakte Port	E.ON and GDF Suez	1,100	Under construction
Netherlands <sup>19</sup>	Rotterdam	Maasvlakte Port	GDF Suez	800	Under construction
Netherlands <sup>20</sup>	Eemshaven	Eemshaven	RWE and Essent	1,600	Under construction
Greece <sup>21</sup>	Ptolemaida	Ptolemaida V	PPC	600	Permitted
Greece	Unknown	Meliti II, Florina	PPC	450	Applying for permits
Greece	Unknown	Agios Dimitrios 6/ Ptolemais	PPC	600	Announced
Czech Republic	Bilina	Ledvice	CEZ	660	Under construction
Czech Republic	Kadan	Prunerov	CEZ	750	Permitted
Czech Republic	Unknown	Kladno	Alpiq	175	Permitted
Czech Republic	Unknown	Mostecka	CZ Coal	1,200	Announced
Bulgaria	Mendikarovo	Maritsa Iztok-4	RWE and MIM	800	Unclear
Bulgaria	Unknown	Lom	Enemona	500	Announced
Bulgaria	Unknown	Bobov Dol	Energia MK	400	Announced
Bulgaria <sup>22</sup>	Unknown	Maritsa-Iztok-2	BEH	450	Applying for permits
Serbia <sup>23</sup>	Unknown	Kolubara B	EDF/Edison and EPS	750	Applying for permits
Serbia	Unknown	Stavalj	Alta AS and EPS	350	Announced
Serbia <sup>24</sup>	Unknown	Nicola Tesla B3 (TENT B3)	EPS	700	Announced
Serbia <sup>25</sup>	Stavalj	Coal-fired Plant	EPS and Alta (Czech)	350	Planned
Hungary <sup>26</sup>	Unknown	Mecsek Hills UCG	Wildhorse Energy	400	Applying for permits
Ukraine <sup>27</sup>	Unknown	tbd	tbd	14,000	Announced
Montenegro <sup>28</sup>	Pljevlja	Pljevlja II	EPCG	230	Unclear
Montenegro	Unknown	Maoce	tbd	500	Announced
Slovenia	Sostanj	Sostanj-6	TES (HSE)	600	Delayed owing to no final loan guarantee
Croatia <sup>29</sup>	Plomin Luka	Plomin C	HEP	500	Applying for permits
Kosovo <sup>30</sup>	Unknown	Kosovo C	KEK	500	Announced
Macedonia <sup>31</sup>	Bitola	Bitola TPP 4th Unit	Unclear, but ECRD is doing some background research	300	Planned
<b>Total</b>				<b>65,421</b>	



Table A.6 | **Proposed Coal-Fired Plants in the United States**

STATE	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
AK	Alaska - Cook Inlet Region Inc. Underground Coal Gasification Project	Cook Inlet Region Inc.	100	Uncertain
AK	Alaska - Fairbanks Coal-to-Liquids	Fairbanks Economic Development Corp.	60-200	Uncertain
AR	Arkansas – Hempstead (AEP)	American Electric Power/Southwestern Electric Power Company	600	Active
CA	California - Hydrogen Energy	Hydrogen Energy International, LLC (SCS Energy)	390	Active
CO	Colorado - Tri-State Colorado Power Project	Tri-State Generation & Transmission Association	500	Uncertain
GA	Georgia - Washington County Power Station	Power4Georgians LLC	850	Active
ID	Idaho - Power County Advanced Energy Center	Southeast Idaho Energy (SIE) Power County Advanced Energy Center (PCAEC)	520	Uncertain
IL	Illinois - Taylorville Energy Center	Tenaska/Erora Group/ Christian County Generation	770	Active
IN	Indiana - Duke Energy's Edwardsport plant	Duke Energy	630	Active
IN	Indiana - Indiana Gasification	Leucadia/Indiana Gasification, LLC/E3 Gasification	134	Upcoming
KS	Kansas - Holcomb/ Tri-State	Sunflower Electric Power Corp./Tri-State Generation and Transmission Association	895	Active
KY	Kentucky-J K Smith	Kentucky Pioneer Energy, LLC	278	Active
KY	Kentucky - Cash Creek IGCC	Erora Group	770	Upcoming
KY	Kentucky-Black Stallion Energy Center	Black Stallion Energy Center	660	Active
MI	Michigan - Wolverine Power Plant	Wolverine Power Cooperative	600	Active
MN	Minnesota – Mesaba Energy Iron Range Project (IGCC)	Excelsior Energy	603	Active
MO	Missouri-University of Missouri	University of Missouri	108.5	Active
MS	Mississippi – Mississippi Power Ratcliffe IGCC Plant - Kemper	Southern Company/Mississippi Power Company	582	Active
NC	North Carolina - Cliffside	Duke Energy	800	Progressing
ND	North Dakota - South Heart Coal	Great Northern Project Development/South Heart Coal	175	Active
ND	North Dakota - Spiritwood Station	Great River Energy	99	Progressing
ND	North Dakota – American Lignite Co's Coal-to-Liquids plant	American Lignite Co. (North American Coal Corp. and Headwaters, Inc.)	150	Uncertain
NJ	New Jersey-PureGen One/Linden IGCC	SCS Energy	750	Active
PA	Pennsylvania - Greene Energy Resource Recovery Project	Wellington Development	580	Active
SD	South Dakota - Hyperion Energy Center	Hyperion Refining, LLC	200	Active
TX	Texas - Summit Power/Texas Clean Energy Project	Summit Power Group	400	Active
TX	Texas- Coletto Creek Expansion	South Texas Electric Cooperative/ International Power	650	Progressing
TX	Texas – Limestone III	NRG Energy	744	Progressing
TX	Texas - Sandy Creek	LS Power Development/Dynegy/Sandy Creek Energy Associates	800	Active
TX	Texas- Trailblazer Energy Center	Tenaska	900	Active
TX	Texas - Las Brisas	Chase Power/Las Brisas Energy Center, LLC	1,320	Active
TX	Texas - White Stallion Energy Center	White Stallion Energy Center, LLC	1,320	Active
VA	Virginia - Cypress Creek Power Station	Old Dominican Electric Cooperative	1,500	Active
WA	Robinson Power Company LLC	Robinson Power Company LLC	132	
WY	Wyoming - Medicine Bow	DKRW & SNC	200	Active
WY	Wyoming - Two Elk	North American Power Group	325	Active
<b>Total</b>			<b>20,096-20,236</b>	

Source: EIA, <http://www.eia.gov/electricity/data/eia860/index.html>; Sourcewatch, [http://www.sourcewatch.org/index.php/Category:Proposed\\_coal\\_plants\\_in\\_the\\_United\\_States](http://www.sourcewatch.org/index.php/Category:Proposed_coal_plants_in_the_United_States).

Table A.7 | Proposed Coal-Fired Plants in Australia

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Australia <sup>1</sup>	Latrobe Valley, Victoria	HRL	HRL	600	Active
Australia <sup>2</sup>	NWS	Bayswater	Macquarie Generation	2,000	Active, but unlikely to happen
Australia <sup>3</sup>	Permian Arckaringa Basin, SA	Arckaringa Phase 1&2	Altona Resources and CNOOC New Energy Investment	560	Active, but unlikely to happen
Australia <sup>4</sup>	Permian Arckaringa Basin, SA	Arckaringa Phase 3	Altona Resources	280	Active, but unlikely to happen
Australia <sup>5</sup>	Queensland	Galilee Phase 1&2	Galilee Power	900	Active, but unlikely to happen
Australia <sup>6</sup>	Surat Basin, Qld	Wandoan Power Project	Xstrata and GE Energy	400	Active, but unlikely to happen
Australia <sup>7</sup>	Kingston, SA	FuturGas Project	Hybrid Energy Australia and Strike Oil	300	Active, but unlikely to happen
Australia <sup>8</sup>	Collie, WA	Bluewaters Power Station Expansion Stages 3&4	Griffin Energy	416	Active, but unlikely to happen
Australia <sup>9</sup>	Unknown	Walloway Basin power station	Linc Energy	Unknown	Active, but unlikely to happen
<b>Total</b>				<b>5,456</b>	

## ENDNOTES FOR TABLE A.7

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Table A.8 | **Proposed Coal-Fired Plants in East Asia (except China)**

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Taiwan <sup>1</sup>	Unknown	Taichung Power Plant Expansion	Unknown	1,600	To be completed by 2016.
Taiwan <sup>2</sup>	Kaohsiung	Kaohsiung Dalin Thermal Power Plant Expansion	Taiwan Power Company	1,600	Expansion plan cut from 4 units to 2 units
Taiwan <sup>3</sup>	Unknown	Shen-ao Power Plant Expansion	Unknown	1,600	To be commissioned by 2013
Taiwan <sup>4</sup>	Mitsubishi Heavy Industries Taiwan	Linkou Thermal Power Plant Expansion	Unknown	2,400	First estimated to be commissioned in 2015; second in 2016; third in 2020
Taiwan <sup>5</sup>	Unknown	Changkung Thermal Power Plant	Unknown	1,600	Unknown
Japan	Ibaraki	Hitachinaka Unit2	Tokyo	1,000	Under construction
Japan	Fukushima	Hirono Unit6	Tokyo	600	Under construction
Japan	Unknown	Matsuura Unit2	Kyusyu	1,000	Under construction
Japan	Hiroshima	Takehara New Unit 1	J-Power	600	Planning
South Korea <sup>6</sup>	Taeon-gun, Chungcheongnam-do, 100km southwest of Seoul	Taeon TPP unit 9	Korea Western Power Co.	1,000	To be commissioned in June, 2016
South Korea <sup>7</sup>	Taeon-gun, Chungcheongnam-do, 100km southwest of Seoul	Taeon TPP unit 10	Korea Western Power Co.	1,000	To be commissioned in Dec. 2016
North Korea <sup>8</sup>	Rason Special Economic Zone	Unknown	A Chinese company	600	Feasibility studies completed, plan to start construction in 2013
<b>Total</b>				<b>14,600</b>	

## ENDNOTES FOR TABLE A.8

- [http://en.wikipedia.org/wiki/Taichung\\_Power\\_Plant](http://en.wikipedia.org/wiki/Taichung_Power_Plant).
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Table A.9 | Proposed Coal-Fired Plants in Southeast Asia and South Asia (except India)

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Vietnam	Nam Dinh Province (North Vietnam)	Nam Dinh Thermal Power Plant	Teakwang	2,400	Under construction
Vietnam	Tra Vinh Province (South Vietnam)	Duyen Hai 1 Thermal Power Plant	EVN and Dong Phuong Power Group from China	1,245	Under construction
Vietnam <sup>1</sup>	Soc Trang Province (South Vietnam)	Long Phu 1 Coal-fired Power Plant Project	Vietnam National Oil & Gas Group (PVN)	1,200	Under construction
Vietnam <sup>2</sup>	Unknown	Quyhn Lap 1 Thermal Power Plant	Vinacomin	1,200	Under construction
Vietnam	Hai Phong City (North Vietnam)	Hai Phong 2	Unknown	600	Under construction
Vietnam	Unknown	Vung Ang 1 Thermal Power Plant	EVN EPC: Lilama	1,200	Under construction
Vietnam	Quang Ninh Province (North Vietnam)	Mong Duong 1	EVN	1,080	Under construction
Vietnam	Quang Ninh Province (North Vietnam)	Mong Duong 2	AES - TKV Mong Duong Co. Ltds, established with members of AES Group (United States) (51%), Posco Power (South Korea) (30%) và CIC Group (China) (19%). EPC with Doosan Heavy Industries Vietnam Co. Ltd and the member companies	1,200	Under construction
Vietnam	Quang Ninh Province (North Vietnam)	Quang Ninh 2 Thermal Power Plant	Unknown	600	Under construction
Vietnam	Quang Ninh Province (North Vietnam)	Mao Khe Thermal Power Plant	Vinacomin	440	Under construction
Vietnam	Unknown	Vinh Tan 1 & 2	EVN	3,600	Under construction
Vietnam	Thanh Hoa Province (North Vietnam)	Nghi Son 1	EVN EPC: Lilama	600	Under construction
Vietnam	Thai Nguyen Province (North Vietnam)	An Khanh	Business corporation	100	Under construction
Vietnam	Soc Trang Province (South Vietnam)	Long Phu 2 Coal-fired Power Plant Project	Vietnam National Oil & Gas Group (PVN)	1,200	Approved
Vietnam	Soc Trang Province (South Vietnam)	Long Phu 3 Coal-fired Power Plant Project	Vietnam National Oil & Gas Group (PVN)	2,000	Approved
Vietnam	Hai Duong Province (North Vietnam)	Hai Duong	Unknown	1,200	Approved
Vietnam	Unknown	Thai Binh 1	Unknown	600	Approved
Vietnam	Unknown	Vung Ang 2	Unknown	1,200	Approved
Vietnam	Unknown	Quang Trach 1	Unknown	1,200	Approved
Vietnam	Unknown	Nghi Son 1, 2	Unknown	1,200	Approved
Vietnam	Unknown	Mao Khe	Unknown	440	Approved
Vietnam	Tra Vinh Province (South Vietnam)	Duyen Hai 2	EVN	Unknown	Approved
Vietnam	Tra Vinh Province (South Vietnam)	Duyen Hai 3	EVN	1,200	Approved

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Table A.9 | **Proposed Coal-Fired Plants in Southeast Asia and South Asia (except India) (continued)**

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
<b>Vietnam</b>	Unknown	Vinh Tan 2	Unknown	Unknown	Approved
<b>Vietnam</b>	Unknown	Cam Pha 3	Unknown	500	Being planned
<b>Vietnam</b>	Unknown	Hai Phong 3	Unknown	2,400	Being planned
<b>Vietnam</b>	Unknown	Quang Tri	Unknown	1,200	Being planned
<b>Vietnam</b>	Unknown	Vung Ang 3	Unknown	2,400	Being planned
<b>Vietnam</b>	Unknown	Thai Binh 2	Unknown	1,200	Being planned
<b>Vietnam</b>	Unknown	Van Phong	Unknown	1,320	Being planned
<b>Philippines<sup>3</sup></b>	Subic Bay	Redondo Peninsula Energy power plant	Meralco Power Generation Corporation (MPGC) , Therma Power Inc (TPI) and Taiwan Cogeneration Corporation (TCC)	600	Scheduled to start in early 2012.
<b>Philippines</b>	Zamboanga	Unknown	Alcantara	100	Unknown
<b>Philippines</b>	Sarangani	Unknown	Alcantara	200	Unknown
<b>Philippines</b>	Davao				
	Unknown	Aboitiz	300	Unknown	
<b>Philippines</b>	Concepcion	Unknown	Palm Concepcion Power Corp, a subsidiary of publicly listed A. Brown Co. Inc.	200	Unknown
<b>Philippines</b>	Subic	Unknown	Aboitiz	300	Unknown
<b>Philippines</b>	Mariveles, Bataan	Unknown	GN Power	600	Unknown
<b>Philippines</b>	Pagbilao, Quezon	Unknown	Unknown	300	Unknown
<b>Philippines</b>	Concepcion, Iloilo	Unknown	Unknown	100	Unknown
<b>Philippines</b>	Iloilo City	Unknown	Unknown	165	Unknown
<b>Philippines</b>	Naga, Cebu	Unknown	Unknown	100	Unknown
<b>Philippines</b>	Toledo, Cebu	Unknown	Unknown	200	Unknown
<b>Philippines</b>	Masinloc, Zambales	Unknown	Unknown	300	Unknown
<b>Philippines</b>	Olongapo, Zambales	Unknown	Unknown	300	Unknown
<b>Philippines</b>	Sultan Kudarat	Unknown	Unknown	150	Unknown
<b>Cambodia<sup>4</sup></b>	Unknown	Unknown	Leader Universal Holdings, a Malaysian company	100	Unknown
<b>Cambodia<sup>5</sup></b>	Coastal province of Preah Sihanouk	Unknown	Cambodia International Investment Development Group Co, Ltd	700	To be commissioned in 2015
<b>Cambodia<sup>6</sup></b>	Coastal province of Preah Sihanouk	Unknown	Chinese company Erdos Electrical Power & Metallurgical Co.	700	Unknown
<b>Cambodia<sup>7</sup></b>	Koh Kong province	Unknown	Cambodian and Thai joint venture firm	1,800	Conducting feasibility study
<b>Cambodia<sup>8</sup></b>	Preah Sihanouk province	Unknown	Cambodia International Investment Development Group Co Ltd and a Chinese Company	270	Unknown
<b>Indonesia<sup>9</sup></b>	West Java	PLTU Indramayu	PLN (State Owned)	1,000	To be built from 2012–2016

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Table A.9 | Proposed Coal-Fired Plants in Southeast Asia and South Asia (except India) (continued)

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
<b>Indonesia</b>	North Sumatera	PLTU Pangkalan Susu	PLN (State Owned)	400	Unknown
<b>Indonesia</b>	Central Kalimantan	PLTU Sampit	PLN (State Owned)	50	To be built from 2015
<b>Indonesia</b>	West Kalimantan	PLTU Parit Baru	PLN (State Owned)	100	Unknown
<b>Indonesia</b>	South Sulawesi	PLTU Takalar	PLN (State Owned)	200	Unknown
<b>Indonesia</b>	East Kalimantan	PLTU East Kalimantan (Peaking)	PLN (State Owned)	100	Unknown
<b>Indonesia</b>	West Java	PLTU Muara Tawar Add On 2,3,4	PLN (State Owned)	150	Unknown
<b>Indonesia</b>	Bali	PLTU Bali Timur	Build in cooperation with private	200	Unknown
<b>Indonesia</b>	East Java	PLTU Madura	Build in cooperation with private	400	Unknown
<b>Indonesia</b>	Bangka Belitung	PLTU Bangka	Build in cooperation with private	60	Unknown
<b>Indonesia</b>	East Kalimantan	PLTU Kaltim	Build in cooperation with private	200	Unknown
<b>Indonesia</b>	South Kalimantan	PLTU Kalsel	Build in cooperation with private	200	Unknown
<b>Indonesia</b>	South East Sulawesi	PLTU Kendari	Build in cooperation with private	50	Unknown
<b>Indonesia</b>	Central Java	PLTU Jawa Tengah Baru	State/PLN	2,000	To be built from 2013–2019
<b>Indonesia</b>	West Java	PLTU Jawa Barat Baru	State/PLN	1,000	To be built from 2015–2019
<b>Indonesia</b>	Banten	PLTU Bojanegara	State/PLN	1,500	To be built from 2012–2015
<b>Indonesia</b>	Banten	PLTU Bojonegara	State/PLN	750	Be built from 2015–2018
<b>Burma</b>	Unknown	Unknown	Unknown	Unknown	Unknown
<b>Burma</b>	Unknown	Unknown	A Korean Company	Unknown	Unknown
<b>Burma<sup>10</sup></b>	Unknown	Kalewa power station	China Guodian Corporation and Tun Thwin Mining Co., Ltd	600	Unknown
<b>Burma<sup>11</sup></b>	Unknown	Htantabin power station	Huaneng Lancangjiang Hydropower Co., Ltd of China and Htoo Trading Co., Ltd. of Burma	270	Unknown
<b>Burma<sup>12</sup></b>	Unknown	Rangoon Division power station	Unknown	1,080	Unknown
<b>Burma<sup>13</sup></b>	Thagara in Tanintharyi Region	Dawei power station	Thailand company: Italian-Thai Development Plc	400	Under consideration
<b>Burma<sup>14</sup></b>	40 kms north of Thailand's Chiang Rai border in Burma	Mai Khot power station	the Thai company: Italian-Thai Development Plc	369	Unknown
<b>Malaysia</b>	Perak at Manjung	Manjung Power Station	TNB Janamanjung Sdn Bhd, Tenaga Nasional Bhd	An additional 1,000 to 2,295	Unknown
<b>Malaysia</b>	Johor at Pontian	Tanjung Bin Power Station	Tanjong Bin Power Sdn Bhd, a subsidiary of Malakoff	An additional 1,000 to 2,100	Unknown

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Table A.9 | **Proposed Coal-Fired Plants in Southeast Asia and South Asia (except India) (continued)**

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
<b>Malaysia</b> <sup>15</sup>	Sarawak	Balingian Coal-Fired Power Plant		600	Under Environmental Impact Assessment
<b>Laos</b> <sup>16</sup>	Unknown	Laos Hongsa Coal Fired Power Plant	China National Electric Engineering Co., Ltd.	1,878	Under construction, to be completed in 2015
<b>Laos</b> <sup>17</sup>	Unknown	Unknown	Far East Holding Group Co., Ltd	Unknown	Unknown
<b>Thailand</b> <sup>18</sup>	Unknown	Unknown	National Power Supply (NPS)	540	Unknown
<b>Pakistan</b> <sup>19</sup>	Thar Coalfields in Sindh	Phase I and Phase II	Sindh government and Engro Power Gen	5,200	Unknown
<b>Pakistan</b> <sup>20</sup>	Unknown	Converting Bin Qasim Power Plant into a coal-fired generation plant	The Karachi Electric Supply Company (KESC) and Bright Eagle Enterprises (BEE), a Hong Kong-based investment company sponsored by Chinese and Korean investors	1,260	The second phase of the feasibility study is underway
<b>Sri Lanka</b> <sup>21</sup>	Sampur, Trincomalee district of Eastern Province	Unknown	National Thermal Power Corporation (NTPC) of India and Ceylon Electricity Board	500	Construction will begin in 2012
<b>Total</b>				<b>65,267</b>	

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Table A.10 | Proposed Coal-Fired Plants in Central Asia

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Mongolia <sup>1</sup>	Northwestern Hovsgol Province	Mogoin gol power station	Yuanda Group, New Asia Mining Group, The Chinese company, CMEC Corporation	60	To be commissioned by early 2012
Mongolia <sup>2</sup>	Unknown	The Shivee-Ovoo power station	Unknown	4,800	To be commissioned by 2015
Mongolia <sup>3</sup>	Unknown	The Tavan Tolgoi power station	Unknown	300	Under construction
Mongolia <sup>4</sup>	On the eastern side of the city	The Ulaanbaatar Thermal Power Plant No. 5	Unknown	4,500	Scheduled to start in 2013 (first section will be completed in 2015, second section in 2020)
Kyrgyzstan <sup>5</sup>	Kavaksky lignite basin	Kara-Keche coal-fired power station	Unknown	At least 1,200	Planning
Kazakhstan <sup>6</sup>	Unknown	Ekibastuz GRES-2 Power Plant Expansion	Unknown	1,000 (estimate)	Unknown
Kazakhstan <sup>7</sup>	Unknown	Ekibastuz-1 Upgrade	Unknown	1,000 (estimate)	Unknown
Kazakhstan <sup>8</sup>	near Lake Balkhash	A new Coal-fired Power Plant	Unknown	1,000 (estimate)	Unknown
Kazakhstan <sup>9</sup>	Unknown	Small Coal-fired Thermal Power Plants	Unknown	1,000 (estimate)	Unknown
Tajikistan <sup>10</sup>	In the country's far north, not far from the Kyrgyz border	Coal-fired Power Station	A Malaysian company: HOS International Trading (PTY) of Malaysia	300	Unknown
Uzbekistan <sup>11</sup>	In southern Surkhandarya Oblast bordering Afghanistan	Unknown	Uzbek state company Uzbekenergo	300	Unknown
Oman <sup>12</sup>	Duqm, Al Wusta	Al-Duqum Independent Water and Power Project	Oman Power and Water Procurement Company	1,000	To be completed in Jan 2016
<b>Total</b>				<b>16,460</b>	

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Table A.11 | **Proposed Coal-Fired Plants in Africa**

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
South Africa	Witbank	Khanyisa Coal Fired power Station	Anglo American	450	Final Environmental Impact Assessment underway. Possible part of the Integrated Resource Plan (IRP) for electricity
South Africa	Witbank/Delmas	FBC	KiPower and Kuyusa Mining	600	Just starting Environmental Impact Assessment process. Possible part of IRP
South Africa	Unknown	Coal 3	Eskom	4,800	Not currently in energy planning (IRP). SA 2012 Budget mentioned possibility, indicated ZAR 200bn price tag
South Africa	Unknown	IRP Planned Coal Fire	Unknown	6,250	To be completed in 2030, starting in 2014
South Africa	Witbank, Vaal	IRP RTS Camden, Grootvlei, Komati	Eskom	1,463	To be completed in 2013, started in 2010
South Africa	Waterberg	Medupi	Eskom	4,332	To be completed in 2017, starting in 2013. New, part of IRP
South Africa	Delmas	Kusile	Eskom	4,338	To be completed in 2020, starting in 2017. New, part of IRP
South Africa <sup>1</sup>	Majuba	Majuba Power Station UCG demonstration plant	Eskom	100-400	To be completed in 2015, started in 2011
Mozambique	Unknown	Moatize Power Plant	Vale	600	To be completed in 2015. Studies under way for 2000MW
<b>Mozambique</b>					
	Unknown	Benga Power Plant	Riversdale	600	To be completed in 2015. Studies under way for 2000MW
Mozambique	Unknown	Mozambique Backbone	Cesul	3,100	To be completed in 2017
Mozambique	Tete	Thermal Coal	Jindal Steel & Power	2,640	Initial studies only
Botswana <sup>2</sup>	Unknown	Morupule Power Station Expansion Morupule B	Botswana Power Corporation (BPC)	300	Under construction, to be completed in June, 2015
Botswana <sup>3</sup>	Unknown	Mmamabula Export Power project	CIC Energy and Vitol	1,200	Not started
Botswana <sup>4</sup>	Near the Mmamabula coal field	Mookane Domestic Power Project (MDPP)	CIC Energy, Golden Concord Holdings Limited (GCL)	300	Unknown
Botswana <sup>5</sup>	May be anywhere	Unknown	Unknown	300	Botswana Power Corporation to open up for tenders end of 2012, due by 2018/2019
Zimbabwe <sup>6</sup>	In the Lusulu coal fields at Binga, in the Matabeleland North province of Zimbabwe	Unknown	Unknown	2,000	To be completed in 2016
Morocco <sup>7</sup>	Safi	Safi power station	Electricité de France	1,320	Unknown
Morocco <sup>8</sup>	Jorf Lasfar	Jorf Lasfar coal fired power plant unit 5 unit 6	Jorf Lasfar Energy	1,356	To be completed in 2013
Tanzania <sup>9</sup>	Near Mbalawala mine	Unknown	Australia's Intra Energy Corporation (IEC)	120	Unknown
Tanzania <sup>10</sup>	Mbeya	Unknown	Australia's Intra Energy Corporation (IEC)	400	Between 2013 to 2018

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Table A.11 | Proposed Coal-Fired Plants in Africa (continued)

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Tanzania <sup>11</sup>	Dar es Salaam	Unknown	Australia's Intra Energy Corporation (IEC)	400	Between 2013 to 2019
Tanzania <sup>12</sup>	Near the Tancoal Mine in the Ngaka coalfields at Mbinga district, Ruvuma region, in the southwest Tanzania	Unknown	Intra Energy Corporation subsidiary in Tanzania, Intra Energy Tanzania (IETL), TANESCO	120	Unknown
Namibia <sup>13</sup>	Arandis	Erongo Coal-fired Power Station	NamPower	150-800	Environmental Impact Assessment underway
Zambia <sup>14</sup>	Unknown	Unknown	Maamba Collieries, majority owned by Singaporean miner Nava Bharat Pte and the government of Zambia	300	Pushed back to 2015 due to delay on environmental approvals. Newly approved, starting early construction.
Senegal <sup>15</sup>	Sendou	Unknown	SENELEC and Korea Electric Power Corp (KEPCO)	250	To be completed in 2015
<b>Total</b>				<b>37,789–38,739</b>	

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Table A.12 | Proposed Coal-Fired Plants in Latin America

COUNTRY	LOCATION	PLANT	DEVELOPER	CAPACITY (MW)	STATUS
Dominican Republic <sup>1</sup>	Manzanillo, Montecristi	Unknown	CDEEE	1,500	Unknown
Dominican Republic <sup>2</sup>	Unknown	Unknown	CDEEE	600	Unknown
Peru <sup>3</sup>	Unknown	Unknown	Fenix Power	520	Due to start operation in 2013
Peru <sup>4</sup>	Eten, Lambayeque	Unknown	Cobra and Enersa	200	Unknown
Brazil <sup>5</sup>	Sao Goncalo do Amarante, Ceara state	Porto do Pecem I	MPX Energia SA and EDP Energias no Brasil	720	Unknown
Colombia <sup>6</sup>	Norte de Santander	Termotasajero II	Hyundai Corporation: South Korean engineering, procurement and construction (EPC) contractor Hyundai Engineering Co., Ltd. and Babcock Wilcox & Co. / Babcock & Wilcox Power Generation Group Inc.	1,616	Assigned
Colombia <sup>7</sup>	Córdoba (Puerto Libertador)	Gecelca 32	Unknown	250	Assigned
Colombia <sup>8</sup>	Córdoba (Puerto Libertador)	Gecelca 3	Unknown	150	Assigned
Colombia <sup>9</sup>	Magdalena	Termonorte	Producción de Energía S.A.S E.S.P	88	Assigned
Guatemala <sup>10</sup>	La Democracia, Escuintla	Unknown	Unknown	120	Expected to begin operations in Jan 2013
Guatemala <sup>11</sup>	Puerto Quetzal.	Unknown	Jaguar Energy Guatemala	300	Commercial operations due to begin in 2013
Chile <sup>12</sup>	Octava	Bocamina II power station	Empresa Nacional de Electricidad S.A. ENDESA (Enel)	370	Under qualification
Chile	Tercera	Central Termoeléctrica Punta Alcalde	Empresa Nacional de Electricidad S.A. ENDESA (Enel)	Unknown	Under qualification
Chile	III región	Castilla	E.ON & MPX	2,100	Approved but not yet built
Chile	II región	Cochrane	AES Gener	560	Approved but not yet built
Chile	V región	Energía Minera	Codelco	1,050	Approved but not yet built
Chile	III región	Guacolda V	AES Gener	152	Approved but not yet built
Chile	II región	Infraestructura Energética	Suez Energy	750	Approved but not yet built
Chile	II región	Kelar	BHP Billinton	500	Approved but not yet built
Chile	VII región	Los Robles	AES Gener	750	Approved but not yet built
Chile	I región	Pacífico	Río Seco	350	Approved but not yet built
Chile	I región	Patache	Endesa (Enel)	110	Approved but not yet built
Chile	VIII región	Pirquenes	S.W. Business	50	Approved but not yet built
Argentina <sup>13</sup>	Río Turbio, Santa Cruz	Río Turbio Thermal Power Plant	A group of private companies	240	Unknown
<b>Total</b>				<b>13,046</b>	

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## ABOUT THE AUTHORS

**Ailun Yang** is a Senior Associate with the Climate and Energy Program at WRI, where she leads the efforts to build the case for low-carbon development in a number of major developing countries with a focus on China. She holds a Master's degree in Finance from the University of Manchester, and a Master's degree in Sociology from Goldsmiths College, University of London. Contact: [ayang@wri.org](mailto:ayang@wri.org)

**Yiyun Cui** is an intern in WRI's Climate and Energy Program. She is pursuing her PhD in Environmental Policy in the School of Public Policy, University of Maryland, College Park. Contact: [rcui@wri.org](mailto:rcui@wri.org)

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### **Solutions to Urgent Sustainability Challenges**

WRI's transformative ideas protect the earth, promote development and advance social equity because sustainability is essential to meeting human needs today, and fulfilling human aspirations tomorrow.

### **Practical Strategies for Change**

WRI spurs progress by providing practical strategies for change and effective tools to implement them. We measure our success in the form of new policies, products, and practices that shift the ways governments work, businesses operate, and people act.

### **Global Action**

We operate globally because today's problems know no boundaries. We are avid communicators because people everywhere are inspired by ideas, empowered by knowledge, and moved to change by greater understanding. We provide innovative paths to a sustainable planet through work that is accurate, fair, and independent.

