Boom and Bust

TRACKING THE GLOBAL COAL PLANT PIPELINE

Christine Shearer, Nicole Ghio, Lauri Myllyvirta, and Ted Nace





ABOUT COALSWARM

CoalSwarm, a project of Earth Island Institute, is a network of researchers seeking to develop collaborative infor-

mational resources on coal impacts and alternatives. Current projects include identifying and mapping proposed and existing coal projects worldwide, including plants, mines, and infrastructure. <u>www.coalswarm.org</u>.



ABOUT THE SIERRA CLUB

The Sierra Club is America's largest and most influential grassroots environmental organization, with more than 2.4 million members and supporters.

In addition to helping people from all backgrounds explore nature and our outdoor heritage, the Sierra Club works to promote clean energy, safeguard the health of our communities, protect wildlife, and preserve our remaining wild places through grassroots activism, public education, lobbying, and legal action. For more information, visit <u>www.sierraclub.org</u>.

ABOUT THE GLOBAL COAL PLANT TRACKER

The Global Coal Plant Tracker identifies, maps, describes, and categorizes every known coal-fired generating unit proposed since January 1, 2010. Developed by the research group CoalSwarm, the tracker uses public sources to document each plant and is designed to support longitudinal monitoring. The following people participated in plant-by-plant research: Elena Bixel, Bob Burton, Gregor Clark, Joshua Frank, Ted Nace, Christine Shearer, Adrian Wilson, and Aigun Yu. Additional wiki editing and fact checking was provided by Christine Law, Iris Shearer, Austin Woerner, and Yvette Zhu. The tracker architect and project manager was Ted Nace. Web/GIS programming was done by Tom Allnutt and Gregor Allensworth of GreenInfo Network, with support from Tim Sinnott of GreenInfo Network.

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EXECUTIVE SUMMARY

From 2005 to 2012, worldwide coal-fired generating capacity boomed, growing at three times the previous pace. The increase in the global coal fleet was twice the size of the entire existing U.S. coal fleet. That boom is now busting. In India, projects shelved or cancelled since 2012 outnumber project completions by six to one, and new construction initiations are at a near-standstill. In both Europe and the U.S., the coal fleet is shrinking, with retirements outnumbering new plants. China faces a looming glut in coal-fired generating capacity, with plant utilization rates at a 35-year low.

Bad news for coal builders is good news for the climate and public health. Because coal is the most carbon-intensive fossil fuel and coal plants have a long lifespan, growth in coal capacity has major implications for climate stability. In addition to its effect on climate, pollution from coal combustion is responsible for an estimated 800,000 premature deaths each year.

This report provides the results of a worldwide survey completed in January 2015 by the Global Coal Plant Tracker. It includes the following conclusions:

Boom is turning to bust. After a period of extraordinary growth, worldwide coal plant construction has slowed rapidly due to increasingly effective citizen opposition, competition from renewables, and economic restructuring. Since 2010, two plants have been shelved or cancelled worldwide for every plant completed. In Europe, South Asia, Latin America, and Africa, the failure-tocompletion rate is 4:1 or higher. The amount of new coal-fired generating capacity in the proposal pipeline worldwide dropped from 1,401 GW in 2012 to 1,080 GW in 2014, a 23 percent decline.

- The proposed coal plant pipeline remains highly dangerous. Even if the trend of two coal plant proposals halted for every one plant built continues, the remaining one-third will use up nearly all of the available carbon budget for avoiding the internationally recognized 2°C warming threshold. Stronger efforts are needed to curb new coal capacity.
- China faces a capacity glut. In 2014, China recorded a 1.6 percent decline in power generation from coal, and the overall utilization rate for thermal plants declined to 54 percent, the lowest level in over three decades. Although coal capacity additions fell by half from 2006 to 2014, China needs to cancel more proposed coal plants to avoid large amounts of stranded or underutilized coalfired capacity.
- India's coal boom has withered. Grassroots citizen opposition, coal supply issues, and other problems have caused financing for new coal plants to dry up. Although 69 GW of capacity is still under construction due to a surge in construction starts prior to 2012, less than 10 GW of new construction has started since mid-2012. For every project

completed in India since mid-2012, six projects have been shelved or cancelled. Nevertheless, approximately 300 GW of capacity remains in planning, a potentially dangerous carbon bomb.

- In the United States and the European Union, coal capacity continues a long-term decline. From 2003 to 2014, the amount of coal-fired generating capacity retired in the US and the EU exceeded new capacity by 22 percent. With most new capacity plans halted and large amounts of capacity slated for retirement, reductions in coal capacity are expected to accelerate.
- Some countries are defying the slowdown. Concentrations of proposed new coal-fired generating capacity can still be found in Turkey, Vietnam, Indonesia, Poland, and the Balkans.

The <u>Global Coal Plant Tracker</u> identifies, maps, describes, and categorizes every known coal-fired generating unit proposed since January 1, 2010. Developed by the research group CoalSwarm, the tracker uses public sources to document each plant and is designed to support longitudinal monitoring.

PART I GLOBAL RESULTS

INTRODUCTION

Carbon dioxide emissions from coal are the largest contributor to global climate change. From 2004 to 2013, increased coal utilization outweighed all other sources combined, producing 62 percent of global carbon dioxide emissions growth from fossil fuels and cement (Global Carbon Project 2014). Due to the long lifespan of coal plants, typically 40 years or more, large coal capacity additions represent a particularly serious threat to climate stability. In addition to greenhouse gases, fine particle pollution from coal causes an estimated 800,000 premature deaths annually.¹ Valuations of climate and health effects, along with other external costs such as water pollution, agricultural losses, and damage to natural ecosystems, place the actual cost of coal-fired electricity generation to society at two to four times market price (Epstein 2011, Auffhammer 2011, Muller et al. 2011, Shindell 2015). The economic damage from one tonne of CO₂ emissions has recently been estimated at US\$242 (Moore and Diaz 2015); a typical coal plant generates about 4.4 million tonnes of CO₂ per year.²



Figure 1. Worldwide Coal-Fired Generation Net Capacity Additions, 1980-1993

Source: Platts WEPP January 2015 and CoalSwarm analysis

^{1.} China: 670,000 premature deaths annually (Abrams 2014); India: 80,000–115,000 (Goenka and Guttikunda 2013); United States: 13,200 (Schneider and Banks 2010); European Union plus Serbia, Croatia, and Turkey: 23,300 (Jensen 2013).

^{2.} Assumes 1000 MW, 58% capacity factor, supercritical combustion (9080 Btu/kWh), subbituminous coal (211.9 pounds of carbon dioxide per million Btu).

Figure 2. Comparison of Global Coal-Fired Generating Capacity Increase to U.S. Coal-Fired Generating Capacity



NEW COAL PLANTS 2005 TO 2013

The pace of net coal capacity additions (new capacity minus retired capacity) worldwide remained around 20 GW to 25 GW per year for over two decades, then abruptly tripled during the period 2005 to 2012 before receding in 2013 (see Figure 1). From 2005 through 2013, approximately 722 GW of new capacity was added to the coal fleet. Even accounting for retirements of 96 GW during the period, the increase in global coal-fired generating capacity of 626 GW was nearly twice the size of the entire U.S. coal fleet (see Figure 2).

Will the downturn in construction continue? What will happen next? Given the urgency of climate and public health concerns, developing better data on the plant building pipeline and insights into its future trajectory are high priorities.

THE GLOBAL COAL PLANT TRACKER

To address the need for more complete data, CoalSwarm developed the Global Coal Plant Tracker, released in November 2014 and updated in January 2015 on EndCoal.org, a website sponsored by 52 citizen groups. The tracker pools data on proposed coal plants worldwide, providing detailed information in map and tabular form for 3,900 generating units in the developmental pipeline since January 1, 2010.³ Each project is linked to a footnoted wiki page curated by CoalSwarm.

This report summarizes the findings of the tracker. Appendix A explains the tracker architecture and methodology. Appendix B shows national totals for existing coal capacity worldwide. Appendix C provides a full list of proposed coal projects by country and links each project to a wiki page containing project data, including size, location, map or aerial photograph, sponsorship, developmental status, and general background.

GLOBAL RESULTS: PROPOSED CAPACITY AND CAPACITY UNDER CONSTRUCTION

In 2012 the World Resources Institute published Global Coal Risk Assessment: Data Analysis and Market Research, the first comprehensive survey of proposed coal plants worldwide (Yang and Cui 2012). WRI's report identified 1,401 GW of proposed pre-construction coal-fired capacity. The results of the Global Coal Plant Tracker show 1,083 GW of proposed pre-construction capacity worldwide in 2014, a reduction of 23 percent from 2012 to 2014. The biggest differences are in India, which declined from 519 GW to 297 GW, and in China, which declined from from 558 GW to 496 GW. In addition, the tracker identified 276 GW under construction.

Although "top line" figures of proposed capacity are useful, it is also important to know what share of the total is represented by projects that are being actively developed and what share consists of projects that are more speculative. In order to accomplish this closer analysis, the Global Coal Plant Tracker assigns one of seven developmental status categories to each project.

^{3.} Only locations with 100 MW or more of proposed capacity are included in the tracker. Facilities whose end product is electricity are covered; facilities producing synthetic fuels are not.

For category definitions, see Appendix A. Based on these status categories, projects being actively developed amounted to 635 GW of capacity, whereas projects of a more speculative or contingent nature amounted to 448 GW.

REGIONAL DISTRIBUTION

As shown in Figure 4, coal plant construction is concentrated in Asia, including 50.4 percent in East Asia, 25.2 percent in South Asia, 10.5 percent in Southeast Asia, 6.6 percent in Europe (including Turkey and non-EU Europe), 4.6 percent in Africa, and 2.7 percent in other regions.

Figure 3. Comparison of WRI 2012 and Global Coal Plant Tracker 2014



Sources: WRI, "Global Coal Risk Assessment," 2012; Global Coal Plant Tracker, 2014



Figure 4. Regional Distribution of Coal Plant Construction, 2014

Table 1 tells the same story in a different way. It ranks the entities building coal plants over the period 2010–2014, including both countries and sub-national units. As shown in the table, five Chinese provinces have built more coal-fired generating capacity since 2010 than any country other than China or India. Indeed, Jiangsu province has built nearly as much coal capacity as the United States and the European Union combined. All but three of the top 20 locations of completed coal plants in the period 2010–2014 were Chinese provinces or Indian states.

Table 1. Top 20 Locations of Completed Coal Plants, 2010–2014 (MW)

Rank	Entity	New Coal Power Capacity 2010–2014
1	Jiangsu (China)	24,160
2	Xinjiang (China)	20,250
3	Inner Mongolia (China)	19,810
4	Guangdong (China)	18,262
5	Henan (China)	14,430
6	United States	14,067
7	Shanxi (China)	13,940
8	Maharashtra (India)	11,644
9	Anhui (China)	11,440
10	European Union	11,068
11	Gujarat (India)	10,240
12	Indonesia	9,159
13	Shandong (China)	8,858
14	Madhya Pradesh (India)	8,060
15	Ningxia (China)	7,940
16	Chhattisgarh (India)	7,775
17	Liaoning (China)	7,300
18	Hubei (China)	7,000
19	Odisha (India)	6,890
20	Zhejiang (China)	6,870

Source: Global Coal Plant Tracker, January 2015

Looking ahead, the regional distribution of projects that are the most advanced and thus likely to move forward is shifting toward South Asia and Europe/Turkey.

Figure 5. Regional Distribution of Projects in the Most Active Developmental Categories (Pre-permitted development and Permitted)



Source: Global Coal Plant Tracker, January 2015

Table 2. Proposed Global Coal-Fired Generating Capacity, 2014: Regional Totals (MW)

Region	Announced	Pre-permit development	Permitted	Construction
East Asia	226,432	235,209	49,860	138,917
South Asia	94,337	149,991	75,973	69,471
Southeast Asia	55,525	20,850	18,555	28,934
Europe/Turkey	36,217	49,650	5,807	18,102
Africa and Middle East	20,425	6,042	11,118	12,764
Latin America	2,400	3,012	1,450	3,335
Eurasia	11,210	1,530	700	2,690
United States and Canada	0	3,985	400	1,430
Australia	1,640	1,050	0	0
Total	448,186	471,319	163,863	275,643

Source: Global Coal Plant Tracker, January 2015

Table 3. Proposed Global Coal-Fired Generating Capacity: Regional Totals (Units)

Country/Region	Announced	Pre-permit development	Permitted	Construction
East Asia	298	335	109	249
South Asia	109	226	113	140
Southeast Asia	74	57	32	88
Europe/Turkey	51	72	13	33
Africa and Middle East	29	18	27	22
Latin America	6	7	6	14
Eurasia	16	5	5	9
United States and Canada	0	6	1	3
Australia	5	2	0	0
Total	588	726	306	557

RATE OF PROJECT FAILURE

To better monitor the coal plant pipeline, the Global Coal Plant Tracker includes retrospective data on the outcomes of coal projects proposed between January 1, 2010 and late 2014. During that period 356 GW was completed, the majority of which was in China and India. During the same period 708 GW of coal capacity was shelved or cancelled.

Figure 6. Outcomes of Coal Projects Under Development, 2010–2014



Source: Global Coal Plant Tracker, January 2015

Although the worldwide rate of failure was approximately two projects halted for every project completed, failure rates varied widely, as shown in Table 4. Underlying the simple 2:1 ratio of coal plants halted to those completed are large regional differences due to factors such as grassroots opposition, the rise of competitive renewable power sources, public policy initiatives, and even political scandals.

In East Asia, roughly one project was shelved or cancelled for every project completed. In other regions the ratio of projects halted to projects completed was higher. In Eurasia, Africa, the Middle East, and Australia, 41,504 MW of capacity was halted while only 1,883 MW of capacity was completed.

In India the rate of failure tripled after 2012. From 2010–2012 two projects were halted for every project completed. From 2012–2014 period more than six projects were halted for every project completed. (For further details, see "South Asia" in Part II of this report.)

Region	Halted (Shelved or Cancelled)	Completed	Ratio of Halted to Completed
East Asia	194,625	227,650	1:1
South Asia	313,420	80,340	4:1
Europe/Turkey	96,600	14,599	7:1
United States and Canada	23,653	14,677	2:1
Southeast Asia	22,260	13,701	2:1
Latin America	17,890	4,016	4:1
Other	41,504	1,883	22:1
World total	709,952	356,866	2:1

Table 4. Outcome of Coal-Fired Capacity in the Developmental Pipeline Since January 1, 2010 (MW)

Source: Global Coal Plant Tracker, January 2015

(Note: Since 2012 the India ratio has increased to 6:1. See discussion under "South Asia" in Part II)

CLIMATE IMPACTS

Because coal is the most carbon-intensive fossil fuel and coal plants have a long lifespan, growth in coal capacity has major implications for climate stability. From 2004 to 2013, increased coal utilization outweighed all other sources combined, producing 62 percent of global carbon dioxide emissions growth from fossil fuels and cement (Global Carbon Project 2014). The International Energy Agency has found that coal use must peak by 2020 to limit global warming to 2°C above pre-industrial levels (IEA 2011), while a recent *Nature* study concluded that over 80 percent of current coal reserves must remain unused to allow a 50 percent chance of staying within 2°C warming (McGlade and Ekins 2015).

In 2014 the Intergovernmental Panel on Climate Change suggested that in order for there to be a betterthan-even chance of avoiding more than a 2°C global temperature rise, CO_2 emissions between 2011 and 2050 should be limited to 870 and 1,240 billion tonnes (Gt) (Edenhofer et al. 2014). Some scientists even argue that the 2°C target is too high to prevent irreversible climate effects like permafrost melt and sea level rise, or to protect fragile ecosystems such as coral reefs and polar regions (Rockström et al. 2009, Hansen et al. 2008). Future CO_2 emissions over the lifetime of the world's existing infrastructure were estimated at about 500 Gt in 2009 (Davis et al. 2010) and increased to 729 Gt in 2014 (Raupach et al. 2014).⁴ This means that, unless infrastructure is decommissioned early, most of the permissible "carbon budget" is taken up by infrastructure already built.

The addition of new coal-fired capacity would significantly increase global CO_2 emissions. As shown in Table 5, coal capacity currently under construction will add another 49 Gt CO_2 over its 40-year lifetime. If the remaining proposed plants (Announced, Pre-permit development, and Permitted) follow the recent worldwide rate of about two projects halted for every project completed (Figure 3), another 64 Gt CO_2 will be emitted.

Unless the worldwide cancelation rate for proposed projects observed since 2010 (two projects halted for each project built) can be substantially increased by advocates, capacity currently under construction or proposed will add 113 Gt of additional CO_2 to the atmosphere, singlehandedly pushing emissions dangerously close to the lower end of the 2°C carbon budget (870 Gt).

4. Part of the increase was due to extending the average lifetime of the power plants from around 35 years to 40 years.

Table 5. Lifetime CO ₂ Output of Proposed Global Coal-Fired Generating	g Capacity: Regional Totals (Million Tonnes)
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Region	Announced	Pre-permit development	Permitted	Construction
East Asia	40,244	41,504	8,802	24,436
South Asia	17,001	26,842	13,551	12,480
Southeast Asia	10,037	3,777	3,333	5,330
Europe/Turkey	6,657	8,868	1,070	3,188
Africa & Middle East	3,722	1,089	2,021	2,209
Latin America	440	545	265	608
Eurasia	2,021	279	128	493
United States and Canada	0	673	8	231
Australia	297	190	0	0
Total	80,420	83,767	29,179	48,974

Source: Global Coal Plant Tracker, January 2015

Note: Assumes 40 year plant lifetimes

PART II REGIONAL DISCUSSION

EAST ASIA



OVERVIEW

Since it accounts for roughly half of existing and proposed coal-fired generating capacity worldwide, East Asia is of paramount importance for understanding the trajectory of global coal. The region's major industrial powers—China, Japan, South Korea—rank #1, #6, and #10 respectively among the top ten countries of the world, as measured by existing coal-fired generating capacity. China, of course, dominates the region, as shown in Table 6.

CHINA

China uses coal for more than 70 percent of its energy and in 2013 was the world's largest coal producer and importer (WCA 2013). The country's coal burning alone currently makes up 20 percent of the world's CO_2 emissions (Biello 2014). While China has accounted for 84 percent of the growth in world coal consumption since 2000 (Cornot-Gandolphe 2014), the pace of construction has been declining since peaking in 2006. As shown in Figure 7, net coal capacity additions dropped from 78 GW in 2006 to 36 GW in 2013. In 2014 additions were 39 GW (Myllyvirta 2015).

Figure 7. China Annual Power Grid Capacity Additions 2001–2013, Net Retirements (GW)



Sources: Platts WEPP, Global Wind Energy Council, China National Energy Administration

Table 6. Proposed Coal-Fired Generating Capacity in East Asia (MW)

Despite its relative decline since 2006, the sheer size of China's coal boom is such that if the country's provinces were independent countries, five of them (Jiangsu, Xinjiang, Inner Mongolia, Guangdong, and Henan) would rank as the leading builders of coal generating capacity in the 2010–2014 period covered by the Global Coal Plant Tracker (see Table 1).

Given the massive size of the coal plant building boom that took place in China over the past decade, a concern is whether China's "coal industrial complex"including construction companies, financiers, turnkey operators, equipment manufacturers, and diplomatic support-will look elsewhere for business, spilling into neighboring economies even as construction slows in China itself. As shown in Table 7, China's plant building capabilities are indeed being applied outside the country's borders, not only in neighboring Asian economies but as far afield as Romania, Malawi, and the United States. Note that this table represents only a partial list. A survey of 90 projects under construction in India showed 51 projects deploying equipment from India's state-owned Bharat Heavy Electricals (BEHL), 39 deploying equipment from Chinese companies, and five deploying equipment from other sources (Central Electricity Authority 2014).

Country	Announced	Pre-permit development	Permitted	Construction
China	218,310	229,960	48,060	116,610
South Korea	100	0	0	14,840
Taiwan	0	1,600	800	6,400
Japan	8,022	3,649	1,000	767
North Korea	0	0	0	300
Total	226,432	235,209	49,860	138,917

Source: Global Coal Plant Tracker

Within China, the following policy trends are playing a significant role in determining future coal capacity: (1) Small Plant Replacement Policy, (2) air pollution mitigation, (3) economic restructuring, (4) expanding renewable, gas, nuclear, and hydro power sources, (5) climate policies, (6) energy efficiency initiatives, and (7) shifts in the regional distribution of generating capacity.

Small Plant Replacement Policy

Since the beginning of the 11th Five Year Plan in 2006, the central government has sought to link the building of larger, more efficient coal plants to the closure of smaller, less efficient ones. Estimates of the amount of capacity retired vary. Platts lists 29 GW of capacity retired for specific years from 2000 through 2014 and an additional 22 GW of capacity retired with years unspecified, for a total of 51 GW. Sylvie Cornot-Gandolphe of Oxford Institute for Energy Studies estimated the total retired from 2006 to 2012 to be 100 GW (Cornot-Gandolphe 2014). In general, the amount of coal added at a particular location is significantly greater than the amount retired. A typical example is the Longquan Kim Hyung power station, in which two 660 MW units with ultra-supercritical technology replaced four subcritical units of 135 MW each. The policy has helped the government reach its goal of improving the average efficiency of the country's coal fleet: China reduced the average grams of coal per kWh from 370 gce/kWh to 321 gce/kWh between 2000 and 2014, a 13.2 percent improvement. Given that 89 percent of China's capacity is younger than 20 years, and 76 percent is larger than 300 MW, it is becoming progressively more difficult to find old, small, inefficient plants to replace (Cornot-Gandolphe 2014).

Country	Project	Country	Project
Bangladesh	Kalapara power station	Pakistan	Bin Qasim power station (Asiapak/Dongfang)
	<u>Maheshkahli power station (Huadian)</u>		Port Qasim Burj power station
Belarus	Lelchitsy power station	Romania	Rovinari Power Station
Bosnia & Herzegovina	Stanari Thermal Power Plant	Serbia	Kolubara B Power Station
Burma	Kalewa power station		TPP Kostolac Power Plant
	<u>Tigyit power plant</u>		<u>TPP Nikoa Tesla Power Plant</u>
Cambodia	Sihanoukville CID power station	Turkey	İskenderun power station
India	<u>Sasan Ultra Mega Power Project</u>		ZETES power station
Indonesia	<u>Banko Tengah power plant</u>	United States	Texas Clean Energy Project
	Purwakarta Indorama power station	Vietnam	Duyen Hai Power Generation Complex
Iran	Tabas power station		Kien Luong power station
Kyrgystan	Bishkek CHP power station		Vinh Tan power station
Malawi	Malawi Power Station		<u>Vung Ang 1 Thermal Power Plant</u>

Table 7. Partial List of International Coal Projects Under Development with Chinese Financial or Technical Support

Source: CoalSwarm, "International Chinese coal projects," 2015, at http://bit.ly/1wShrPN

Air Pollution Mitigation

Levels of air pollutants are high in cities throughout China. Of 74 Chinese cities monitored by the central government, only three met health-based air quality recommendations by the World Health Organization (Wong 2014). Coal is the predominant contributor to the country's air pollution problems. Emissions from coal burning have been linked to 670,000 premature deaths per year (Abrams 2014). Acid rain afflicts large portions of the country, and China's sulfate emissions now reach the western United States (Lin et al. 2014).

China's Emission Standard of Air Pollutants for Thermal Power Plants, updated in 2011, tightened limits for thermal power plants and lowered the acceptable concentrations of soot, sulfur dioxide, nitrogen oxides, and mercury. The standards applied to all new coal plants in 2012 and will apply to all existing coal plants in China by 2014–5. Plants not in compliance may be subject to closure.

In September 2013 China announced its Airborne Pollution Action Plan, which will set provincial air pollution or total coal use caps. To help mitigate air pollution some major cities are moving coal-fired industry outside their borders to other areas of China.

Coal Use and Economic Growth Come Uncoupled

In recent months there has been an event of potentially major significance: coal consumption in China has dropped during the same period that economic activity has risen. Data for 2014 showed economic growth of 7.3 percent coinciding with a reduction in coal consumption, including coal use outside the power sector, of 2.9 percent (National Bureau of Statistics 2015). Within the power sector, the amount of electricity generated from coal fell by 1.6 percent in 2014 (Myllyvirta 2015). Given the central role that coal has in the narrative of Chinese economic expansion in recent decades, and the crucial importance of China's coal use for the global environment, any such decoupling of coal use from economic output is good news for the immediate health of China's population and for the long-term prospects for controlling climate change (Myllyvirta 2014, Buckley 2015).

The shift towards a slowing in coal use had already been observed. In the decade up to 2011, demand for coal in China grew by 10 percent annually, then slowed to between 4 and 6 percent annually in 2012 and 2013. More importantly, a gap was opening up between the growth of the economy and the growth of coal consumption. But few expected to see coal consumption actually start to decline, at least not any time soon. In seeking to explain why coal was so rapidly losing its grip on China's economy, analysts cited a confluence of factors, including the impact of energy efficiency initiatives, structural economic changes away from energy-intensive heavy industry, and growth in wind, solar, gas, nuclear, and hydro electricity generation capacity (Buckley 2015, Myllyvirta 2014).

Renewables in particular appear to be gaining momentum. As shown in Figure 7, new solar, wind, and hydro capacity allowed China to maintain its overall generating capacity growth from 2006 to 2013 while steadily shrinking the share of that growth produced by coal. In 2013, new solar, wind, and hydro capacity for the first time surpassed net coal capacity increases. Renewable investments are paid for in part by a small fee for every kilowatt-hour of electricity sold in the country. Support will likely grow as new climate policies are proposed and go into effect (John 2014).

Stranded Assets

With electricity demand cooling and coal's role declining even more quickly, the large amount of coal-fired capacity under construction and in the pre-construction developmental pipeline presents a paradox. Already, utilization rates for coal-fired generation have shown a steep decline, from an estimated 60 percent in 2011 to 54 percent in 2014 (Buckley 2015, Myllyvirta 2015). None of the other major coal users with similarly low utilization rates are seeking major expansions in their coal-fired generating capacity. Indeed, the United States, with a 56.8 percent utilization rate in 2012, is planning a major contraction in its coal fleet (CoalSwarm 2015a, Sierra Club 2015).

Faced with shrinking demand for coal-fired electricity, China appears to have two options: either curtail further capacity additions or face the prospect of underutilized or stranded assets.

Climate Policies

Recent developments in China's domestic climate policies and international climate commitments promise to place further pressure to curb expansion of the country's coal-fired generating capacity. In an agreement with the US, China announced in November 2014 its intention to peak its CO_2 emissions and increase its share of non-fossil energy sources to at least 20 percent by 2030. The Chinese government has also committed to reducing its CO_2 emissions per economic unit at least 40 percent by 2020 (CAT 2014).

To achieve its recent carbon reduction pledges, China will have to build as much non-coal energy capacity in the next 10 years as it has built coal-fired power plants in the last 10 years—as much as 1,000 GW worth of alternatives to coal (Biello 2014).

The central government is considering a countrywide price on CO_2 as part of a national cap-and-trade market in greenhouse gas pollution in the coming years, possibly as early as 2016. This could help create the economic incentives needed to meet the country's climate goals.

Regional Factors

The central government has laid out plans to restrict the building of new coal plants in and around prosperous coastal cities, with cities such as Beijing planning to close all coal plants by 2017. However, coal-based development has been increasing in the country's interior.

As shown in Table 8 and Table 9, construction from 2010 to 2014 was distributed relatively evenly in Western, Eastern, and Central China. However, for projects currently in the active pipeline (pre-permit development and permitted), the emphasis has shifted heavily toward the Western region, especially Inner Mongolia, Xinjiang, Shaanxi, and Gansu.

Table 8. Proposed Coal Plants in China by Province (MW)

Province	Announced	Pre-permit development	Permitted	Construction	Newly Operating 2010–2014	Region
Anhui	6,000	18,640	1,320	5,980	11,440	Central
Chongqing	6,240	1,800	0	3,420	2,980	Western
Fujian	4,600	8,640	0	4,000	5,360	East Coast
Gansu	6,620	15,300	3,320	1,300	5,900	Western
Guangdong	15,900	5,500	1,920	9,350	18,262	East Coast
Guangxi	0	6,540	2,000	4,720	4,080	Western
Guizhou	2,520	11,640	1,320	6,940	6,360	Western
Hainan	0	0	0	700	700	East Coast
Hebei	2,100	700	0	6,600	6,160	East Coast
Heilongjiang	1,200	1,900	700	1,050	4,100	Northeast
Henan	12,700	9,060	0	6,460	14,430	Central
Hubei	9,320	8,480	0	1,400	7,000	Central
Hunan	10,000	6,000	0	5,120	2,520	Central
Inner Mongolia	27,480	29,360	2,700	4,640	19,810	Western
Jiangsu	11,040	9,800	0	4,700	24,160	East Coast
Jiangxi	6,000	4,000	0	3,320	3,960	Central
Jilin	3,960	1,670	700	1,360	6,100	Northeast
Liaoning	8,200	1,500	600	600	7,300	Northeast
Ningxia	2,000	19,590	0	1,400	7,940	Western
Qinghai	2,520	3,340	0	700	700	Western
Shaanxi	25,220	3,200	5,400	3,030	6,370	Western
Shandong	9,470	17,400	2,500	6,600	8,858	East Coast
Shanghai	0	0	0	0	2,000	East Coast
Shanxi	13,120	15,320	23,560	5,960	13,940	Central
Sichuan	0	5,200	0	270	3,000	Western
Tianjin	700	400	0	2,600	1,650	East Coast
Xinjiang	23,280	24,980	2,020	17,150	20,250	Western
Yunnan	2,400	0	0	600	3,000	Western
Zhejiang	5,720	0	0	6,640	6,870	East Coast
Total	218,310	229,960	48,060	116,610	225,200	

Source: Global Coal Plant Tracker, January 2015

Table 9. Proposed Coal Plants in China by Region (MW)

Region	Newly Operating (2010–2014)	Current Developmental Pipeline	Change
East Coast	74,020	46,860	-37%
Central	53,290	86,380	62%
Northeast	17,500	7,070	-60%
Western	80,390	137,710	71%

OTHER EAST ASIAN COUNTRIES: JAPAN, TAIWAN, SOUTH KOREA, NORTH KOREA

Although each of East Asia's three industrial powers— Japan, South Korea, and Taiwan—already has large amounts of coal-fired electrical capacity in place, all three show continued growth. As can be seen in Table 6, capacity under development totals 13 GW in Japan, 15 GW in South Korea, and 9 GW in Taiwan.

Globally, the three economies rank 4th, 7th, and 9th respectively in coal consumption, and each is a major importer, as all three countries have little domestic fossil fuel resources and high per-capita energy demand (BP 2014).

Japan's spending on coal rose 17 percent to nearly US\$12 billion annually in the three years following the 2011 Fukushima nuclear disaster. Japan's 48 nuclearpower plants, which provided over a quarter of the country's electricity, are currently offline. The federal government is encouraging utilities to build more coal-fired capacity in the aftermath of the earthquake by loosening environmental regulations (EIA 2014). A 1000 MW expansion of the coal-fired Hirono power station is being proposed at the site of the Fukushima nuclear plant. The government also said it would step up its financial support of coal-fired power plants in developing nations that utilize Japanese-sourced ultra-supercritical combustion (Iwata 2014). However, the Japanese government is also two years into what is currently the world's largest solar capacity buildout (by value), with approved plans for 72 GW of solar in place. Japan may also begin a progressive nuclear facility restart as early as 2015 for the 49 GW of nuclear capacity that is currently idle.

Half of Taiwan's electricity demand is provided by coal, and the country consumed about 65 million tonnes of coal in 2013, all imported. Taiwan's electricity generation has grown 26 percent in the past decade (EIA 2014). The country is home to the world's largest coal-fired plant, <u>Taichung power station</u>, with a capacity of about 5,500 MW. Plant owner Taipower has said there is an expansion plan to build two new 800 MW units at the power station.

South Korea uses coal for 65 percent of its electricity needs and nuclear power for 30 percent. In 2012 Korea Electric Power Corp., the country's electricity monopoly, said it may increase coal imports to replace nuclear power altogether (EIA 2014). Although some of the coal plants tout "green" features such as biomass cofiring, the additional coal capacity will make it difficult for the country to meet its stated 2009 goal of reducing carbon emissions 30 percent by 2020.

North Korea relies on two domestic sources of commercial energy for most of its needs: coal and hydropower. The country has about 3,500 MW of coal generating capacity (Platts 2014). Most of its coal plants are decades-old subcritical units of 50 to 100 MW. The government is currently constructing the 300 MW <u>Kangdong power station</u>.

SOUTHEAST ASIA



OVERVIEW

Development of large amounts of coal-fired generating capacity is a relatively recent phenomenon in Southeast Asia. As shown in Appendix B, only Indonesia (at #12) ranks among the top 20 countries worldwide in terms of existing coal-fired generation capacity. However, as shown in Tables 2 and 3, Southeast Asia is now among the most active regions worldwide in building and developing new coal capacity. Currently the 29 GW under construction in the region ranks it third worldwide and amounts to approximately ten percent of the global total of 276 GW. Table 10 provides a country-by-country breakdown. It shows that Vietnam (17 GW under construction) and Indonesia (5 GW under construction) are the two leading builders of coal plants in Southeast Asia, accounting for 77 percent of the regional total.

SOUTHEAST ASIA: VIETNAM

With over 17 GW of capacity in construction, Vietnam is currently the third largest builder of coal plants in the world. An additional 16 GW of capacity is permitted. Coal-fired plants currently account for 37 percent of Vietnam's total electricity generation capacity, but would provide 60 percent by 2020, according to the Vietnam Energy Association (EIA 2014).

Vietnam mined over 41 million tonnes of coal in 2012, more than half of which was domestically consumed. Vietnam also imports a small amount of coal. However, the country expects to steadily increase its coal imports, as domestic coal production is slowing down while numerous new coal-fired power plants are planned to go online (Khanh 2014). New plants include the 2,400 MW <u>Vũng Áng power station</u>. The country anticipates power demand to more than triple between 2011 and 2020 (EIA 2014).

SOUTHEAST ASIA: INDONESIA

Indonesia is currently the world's largest exporter of thermal coal, with roughly 75 percent of coal production leaving the country, primarily to Asia (EIA 2014). While the country has recently proposed over 32 GW of new coal-fired plants, only 6.7 GW of capacity is permitted or under construction. There is organized resistance to coal plant construction, such as the proposed 2,000 MW <u>Central Java Power Project</u>, which has been delayed indefinitely due to sustained public opposition to the plant and a refusal by local landowners to sell their land for the project. The power station is being developed by a Japanese-led consortium and is being considered for funding by the Japan Bank for International Cooperation (JBIC).

Table 10. Proposed Coal-Fired Generating Capacity in Southeast Asia (MW)

Country	Announced	Pre-permit development	Permitted	Construction
Vietnam	28,020	0	16,200	17,090
Indonesia	15,570	10,300	1,620	5,116
Malaysia	300	2,600	0	3,080
Laos	0	0	0	1,878
Philippines	450	5,410	735	1,770
Myanmar	7,585	600	0	0
Thailand	3,600	1,940	0	0
Total	55,525	20,850	18,555	28,934

SOUTHEAST ASIA: CAMBODIA, LAOS, MYANMAR, THAILAND

Thai authorities have said they are considering increasing coal-fired generation as a means of reducing the country's dependency on natural gas imports for electricity generation. However, while over 5.5 GW of coal capacity has been proposed in the country, none has gained permitting.

Thailand has also proposed coal plants in neighboring countries for power use in Thailand. <u>Hongsa power</u> <u>station</u> is a 1,800 MW mine-mouth power station under construction in Laos. Under the terms of a 2009 agreement, nearly 1,500 MW would be exported for electricity use in Thailand. The power stations has faced public opposition from local residents.

In Cambodia, the 1,800 MW <u>Laem Yai Saen power</u> <u>station</u> and the 200 MW <u>Pailin power station</u> were proposed for exporting coal-fired electricity to Thailand. Both were later cancelled. Cambodia's only coal plant is the 100 MW <u>Sihanoukville CEL power station</u>, commissioned in 2014.

Thailand has also proposed the 400 MW <u>Mai Khot</u> <u>power station</u> and the 2,000 MW <u>Tanintharyi power</u> <u>station</u> in Myanmar for primarily Thai energy use. China has also tried to locate coal plants in Myanmar: China Guodian has co-sponsored the 600 MW <u>Kalewa</u> <u>power station</u> to fuel a Chinese copper mine. At the end of 2014 Myanmar authorities announced 41 new power projects to be built from 2016 to 2031, twelve of which would be coal-fired (Kyaw 2014). As of January 2015, the Global Coal Plant Tracker does not include these additional projects, and they have not reached the permitting stage.

SOUTHEAST ASIA: MALAYSIA AND THE PHILIPPINES

Malaysia's electricity demand is mostly met by natural gas and to a lesser extent coal (IEA 2014). Its existing coal plants, however, are large and growing. The 2,100 MW <u>Manjung power station</u> is currently being doubled in size, while the 2,100 MW <u>Tanjung Bin power station</u> is being expanded by 1,000 MW.

The Philippines consumed roughly 18 million tonnes of coal in 2013, almost half of which was mined domestically (EIA 2013). As part of a plan to increase the country's power capacity, over 8.3 GW of new coal capacity is in various stages of development. Many of the proposals have faced strong local and legal opposition, such as the 600 MW <u>Subic power station</u>, the construction of which has been delayed due to violations of its environmental permit.

SOUTH ASIA



OVERVIEW

South Asia is the second largest arena of coal plant construction activity in the world, with 27 percent of all capacity under construction globally. As discussed below, most construction activity was initiated prior to 2012; subsequent construction starts have dwindled significantly. As shown in Table 11 below, the overwhelming share of construction activity within the region is located in India. Pakistan, Bangladesh, and Sri Lanka all have significant amounts of proposed capacity, but most of those projects remain at an early stage in the development process.

SOUTH ASIA: INDIA

Since 2010, 79,440 MW of new coal-fired capacity has been completed in India, raising the country's coalfired generating capacity to 164,953 MW. An additional 69,471 MW is under construction, distributed throughout all regions of the country but with particular concentrations near Nagpur in eastern Maharashtra, near Singrauli at the border of eastern Madhya Pradesh and Uttar Pradesh, near Korba and Raigarh in Chhattisgarh, near Angul in Odisha, and near Tuticorin in Tamil Nadu.

As for additional capacity under development, estimates have varied widely over the past five years. In 2011 a study by Prayas Energy Group found that 512,652 MW of proposed coal-fired generating capacity had received either preliminary or final approval from the Ministry of Environment, Forests and Climate Change, an amount more than five times the installed capacity at the time. Prayas warned that the situation was overheated and would end with "stranded assets of plant and transmission facilities" and impacts that "will be borne to a significant extent by the common people, the country and the environment." (Dharmadhikary and Dixit 2011)

To assess the nature of India's coal plant boom, CoalSwarm conducted a plant-by-plant examination of proposed coal plants in India in early 2012. The survey found 509,876 MW of coal capacity in various stages of development: 157,182 MW Announced, 152,652 MW in Pre-permit Development, 51,520 MW Permitted, 103,292 MW in Construction, and 45,230 MW Shelved. In mid-2014, the results of a new survey by CoalSwarm of Indian coal plant development revealed that the amount of coal-fired generating capacity completed declined by 10 percent from the 2010–2012 period to the 2012–2014 period, from 41,758 MW to 37,682 MW. Comparing the same two periods, capacity cancelled or shelved increased from 71,650 MW to 229,947 MW. From the beginning of 2010 to mid 2012, the ratio of plants halted to plants completed was nearly 2:1; from mid 2012 to mid 2014, the ratio increased to more than 6:1. In other words, for every coal plant completed during the most recent two-year period, six plants have been shelved or cancelled.

Meanwhile, the amount of capacity under construction dropped from 103,292 MW in 2012 to 69,471 MW in 2014, a decline of 33 percent.

Overall, only 9,536 MW actually entered construction during the period from mid-2012 to mid 2014, just two percent of the 512,652 MW of proposed coal capacity identified in 2011 by Prayas. The paltry amount of capacity actually being implemented is strong evidence that banks and other financial gate-keepers have become hesitant to finance coal projects in India. This hesitancy derives from a confluence of negative factors, including the following: (1) citizen opposition, which appears to be effective in blocking projects even at advanced stages of development, (2) ongoing coal shortages due to Coal India's inability to meet production targets, (3) very low operating efficiency for India Railways in actually freighting coal on time

Table 11. Proposed Coal-Fired Generating Capacity in South Asia (MW)

Country	Announced	Pre-permit development	Permitted	Construction
India	75,820	145,276	75,973	69,471
Bangladesh	6,637	4,715	0	0
Pakistan	7,580		0	0
Sri Lanka	4,300	0	0	0
South Asia	94,337	149,991	75,973	69,471

and as specified, (4) the Coalgate scandal, (5) upheaval in the international coal markets, (6) competition from renewables, and (7) a hugely ineffective transmission and distribution grid (with electricity loss rates regularly exceeding 25%).

Citizen Opposition

Perhaps the most significant headwind facing builders of coal plants in India has been citizen opposition. A survey of 40 locations of proposed coal plants where protest has occurred since 2010 showed 16 locations with cancellations and 6 locations with units shelved, a 55 percent failure rate for projects with active opposition (CoalSwarm 2014). Most of that opposition has arisen at the grassroots level due to concerns over displacement of farming communities by power plant siting; impacts of fly ash and other pollutants on agriculture, fisheries, and public health; water pollution; competition over water between irrigation and thermal plant cooling; and effects of mines on forest lands. Protesters have employed an array of methods, including rallies, court challenges, blockades, hunger strikes, self-immolation, and marches. At least 13 deaths and scores of injuries have been reported among anti-coal protesters (CoalSwarm 2014).

Coal Production and Transportation Difficulties

State-owned Coal India provides 80 percent of the country's coal, and the company's inability to meet its production targets has resulted in widely reported impacts on power plants nationwide. During the April-September 2014 period, production fell short of the company's 220 million tonne target by more than 9 million tonnes, and the Central Electricity Authority reported that 60 of the country's 103 power plants had less than a week's supply of coal on hand (Das 2014).

Table 12. Proposed Coal-Fired Generating Capacity in India: State Breakdown (MW)

State	Announced	Pre-permit development	Permitted	Construction
Chhattisgarh	4,570	10,950	3,490	14,365
Maharashtra	2,160	8,790	3,390	10,070
Bihar	4,870	13,860	5,780	6,520
Odisha	1,700	6,240	1,820	5,860
Karnataka	7,980	4,210	5,940	5,350
Madhya Pradesh	0	19,320	12,120	4,320
Andhra Pradesh	14,160	17,776	8,050	3,660
Uttar Pradesh	3,840	14,240	3,300	3,410
Tamil Nadu	5,180	6,220	1,820	3,300
West Bengal	4,000	9,210	17,810	3,190
Jharkhand	15,820	13,920	6,003	2,846
Punjab	500	3,340	0	1,860
Telangana	4,000	800	120	1,800
Gujarat	6,260	11,420	3,440	1,570
Assam	0	500	0	750
Rajasthan	120	4,480	2,890	600
Haryana	660	0	0	0
Total	75,820	145,276	75,973	69,471

Coalgate

Further increasing supply concerns was the widening political scandal known as Coalgate, involving allegations of corrupt practices affecting the central government's allocation of coal blocks during the period 2004 to 2009. The scandal emerged in 2012 with a Central Bureau of Investigation probe following a complaint lodged by the opposition BJP. In March 2014 the Comptroller and Auditor General issued a draft report estimating the windfall gain for recipients of coal blocks at US\$170 billion, a figure later scaled down to US\$29 billion. Although initially investigators tended to portray the allocation problem as a matter of inefficiency, the scandal soon began to include allegations of corruption against a number of officials and companies (Inamdar 2015).

In September 2014 the Supreme Court of India issued a final verdict, cancelling 214 out of 218 coal blocks allocated since 1993 (Venkatesan 2013). Following the verdict, a process was established to re-auction coal blocks affected by the scandal. Blocks in the initial phase would be designated for state-owned entities; in subsequent phases private companies would also be included.

Imports and Investments in Overseas Mines

Even before Coalgate one banker in 2011 described the cascading effects of poor domestic coal supplies as follows: "Thousands of crores have been invested in generating plants that are about to come on stream and will not have enough coal to allow them to function at their optimal capacity. This has all kinds of potential knock-on effect. As cash generation will decline, debt servicing capacity shrinks, banks will have to either restructure loans or they will have less capital to fund growth. As banks become nervous on funding such projects, they are not financing to build more capacities." (Lall 2011)

Faced with such uncertainties, sponsors of new coal plants have sought to expand imports either by direct purchases from existing overseas mines or by investing in new mines and export infrastructure. The sidebar "Indian Company Investments in Overseas Mines" provides a summary of these initiatives in Australia, Mozambique, and Indonesia. As described in the sidebar, some of the most ambitious of these projects, including GVK Power and Infrastructure's plan to purchase mines in Queensland and Lanco Infratech's plans to quadruple the output of Griffin Coal's mines in Western Australia, have fallen on difficulties and are not moving forward.

For the past several years coal plants based on imported coal have confronted higher prices than originally expected, due especially to a September 2011 action by the Indonesian government setting a floor price for the country's coal exports benchmarked to the prevailing global seaborne market price. The boost in the price of imported coal placed the finances of the massive Tata Mundra Ultra Mega Power Project and other ultra-mega projects in jeopardy; the projects had won approval by committing to sell power at fixed rates. Although Tata initially received approval for increased tariffs, that approval was overturned by the Indian Supreme Court in September 2014 (Ghio 2014).

Despite such difficulties, thermal coal imports to India have continued to rise, reaching 163 million tonnes in 2014, a 22 percent increase over 2013 ("Coal Imports" 2015).

INDIAN COMPANY INVESTMENTS IN OVERSEAS COAL MINES

AUSTRALIA

Galilee and Abbot Point: In August 2010 Adani Group bought the Galilee coal tenement in Australia, with plans of mining up to 60 million tonnes of coal per year. In May 2011 the Adani Group paid US\$1.829 billion for the Abbot Point Coal Terminal in North Queensland, and in 2014 Adani won approval for the Carmichael Coal Project and a rail link to transport the coal to Abbot Point for export. The approval is facing three legal challenges, including improper consideration of the project's full climate impacts. In November 2014 Adani signed a memorandum of understanding with the State Bank of India for a loan of up to US\$1 billion to finance the project. In January 2015, Adani awarded a US\$2 billion contract to an Australian engineering firm for development of the Galilee Basin mines, with production set for 2017. However, major banks including Deutsche Bank, Royal Bank of Scotland, HSBC, Barclays, Citigroup, Goldman Sachs, and JPMorgan Chase have stated they will not finance the project, and reports increasingly question its financial viability (Milman, 2014). Additionally, in Janurary 215 Queensland elected a new Labor government on a platform of halting any taxpayer funds going towards the project.

Western Australia: In March 2011 Lanco Infratech

bought <u>Griffin Coal</u>'s Western Australia coal mines, with plans to increase the mines' production four-fold to over 15 million tonnes per annum, in addition to adding rail linkages and expanding the Bunbury port. However, by 2014 Lanco had entered financial difficulties and was seeking outside investors to purchase a stake in its Australian mining and port ventures, raising questions over their long-term viability.

Queensland: In mid-June 2011 GVK Power and

Infrastructure purchased two of Hancock Coal's thermal coal mines in Queensland for US\$2.4 billion. The two mines have a capacity of 30 million tonnes per annum each, and have shared mine infrastructure, rail, and port facilities. The financial viability of the projects has been questioned due to declining coal prices, and in December 2014 Societe Generale, one of GVK's lenders, withdrew its support.

MOZAMBIQUE

Tete Province: In August 2009, <u>Coal India Africana</u> <u>Limitada</u>, a subsidiary of <u>Coal India</u>, obtained a 5-year license for exploration and development of two coal blocks in Tete Province. The deposits were later found to be of low-quality.

Beira port: Essar Energy has said it plans for coal from its captive coal mines in Indonesia and Mozambique to be used for the <u>Salaya power plant</u> in Gujarat, India. In April 2014, Essar announced plans for a new US\$25 million coal terminal at Beira port in northern Mozambique.

Benga coal mine: Mumbai-based Tata Steel was a 35 percent joint venture partner with <u>Rio Tinto Coal</u>. <u>Mozambique</u> in the development of the <u>Benga coal mine</u>, initially expected to produce 4.5 million tonnes of coal annually for export via the <u>Sena railway</u> to <u>Beira port</u>. In July 2014 Rio Tinto sold 65 percent of its share in the Benga mine for US\$50 million to India's International Coal Ventures Limited, which plans to expand mine production. In November 2014, the first shipment of coking coal from the Benga mine reached Vizag port in India, destined for the Steel Authority of India Limited.

INDONESIA

Tata and Bumi Resources: In March 2007 <u>Tata Power</u> purchased a 30 percent stake in two coal mines owned by <u>Bumi Resources</u> for approximately US\$1.3 billion. The mines were to supply 10 million tonnes of coal per annum to India. In 2014 Tata Power sold its entire 30 percent stake in one of the mines for US\$500 million, and 5 percent of its stake in the other mine for US\$250 million due to losses at its Tata Mundra Power Station which the mines were supposed to supply.

Tata and BSSR: In November 2012 <u>Tata Power</u> bought a 26 percent stake in <u>PT Baramulti Suksessarana</u> in Indonesia, which co-owns approximately 1 billion tonnes of coal resources in South and East Kalimantan. As part of the deal, Tata plans to purchase 10 million tonnes of coal per annum for supply to India.

SOUTH ASIA: SRI LANKA, BANGLADESH, AND PAKISTAN

Outside India, governments in the three South Asia countries of Sri Lanka, Pakistan, and Bangladesh are all seeking to expand coal-fired generating capacity, but so far little of that effort has translated into projects in construction or in the latter stages of development. In Pakistan, the government announced that it planned to build the 6,600 MW <u>Gadani Power Park</u> with Chinese debt financing on the coast north of Karachi; however, the project was abandoned in January 2015 due to lack of investor interest. In Sri Lanka, the third 300 MW unit of the <u>Lakvijaya Power Plant</u> was completed in September 2014; other projects proposed for the country are in the inception stage.

Japan, China, India, and Malaysia have all been involved in working with the government of Bangladesh to develop coal-fired generating capacity, including two projects in the southwestern Khulna division. Bangladesh's Power Development Board and India's state-owned NTPC have been developing the 1,320 <u>Rampal Plant</u>. The project has drawn massive international and domestic protest, including a five-day march with thousands of participants from the capital city of Dhaka to Rampal. The Rampal plant would sit near the Sundarbans, which in addition to being a World Heritage site is also critical to protecting tens of thousands of Bangladeshis from deadly storm surges. In the southeastern coastal area known as Cox's Bazar, the <u>Maheshkhali power complex</u> is being organized by the Bangladesh Power Development Board. It includes 6,000 MW of coal-fired generation capacity and 3,000 MW of gas-fired power capacity at Maheshkhali Upazila, with support from China Huadian Corporation and Chinese banks. In March 2014, the Japan International Cooperation Agency committed to lending US\$4.53 billion in support of a <u>1,200 MW coal plant at</u> <u>Matarbari</u>, also part of the Maheshkhali complex.

Most Bangladesh coal plants plan to use imported coal. Efforts to develop a domestic coal supply source at the <u>Phulbari Coal Project</u> have faced stiff local resistance since a 2006 rally in which three protesters were killed.

AUSTRALIA



OVERVIEW

Currently Australia is not an active arena for the development of coal-fired generating capacity. As shown in Table 2, no plants have been built in the country in recent years, and none is in construction or permitted. According to the Australian Energy Market Operator, the National Energy Market is in a state of oversupply by 7,650 to 8,950 MW, with available capacity exceeding peak demand by close to 30 percent (Australia Energy Market Operator 2014). Among those projects that do remain in the developmental pipeline, none shows a high likelihood of moving forward in the near future. The country was, however, the world's second largest exporter of thermal coal in 2013, behind Indonesia (WCA 2013).



OVERVIEW

Africa and the Middle East account for about five percent of coal capacity under construction worldwide. As shown in Table 13, capacity is under development in 19 countries; only six countries have projects in the construction stage. Two coal plants in South Africa, which is already seventh in the world in existing coal-fired generating capacity, account for 70 percent of new capacity under construction in the region.

COUNTRY NOTES

Of the 42 GW of existing coal-fired generation capacity in Africa and the Middle East, all but 6 GW are located in South Africa, a major producer both of coal and of electric power (WEO 2014, Annexes). Two very large complexes, Medupi Power Station (4,864 MW) and Kusile Power Station (4,864 MW), account for all of South Africa's current construction activity. In North Africa, 1,386 MW of capacity is under construction at Morocco's Safi power station. Elsewhere in Africa, new projects are in pre-permit development (5,312 MW) or permitted (10,800 MW) in Botswana, South Africa, Zimbabwe, Mozambique, Namibia, Tanzania, Guinea, Kenya, Malawi, Nigeria, and Senegal. Other projects in South Africa and the Middle East have been announced but have not received further development attention.

Country	Announced	Pre-permit development	Permitted	Construction
South Africa	4,765	3,165	0	9,828
Morocco	0	0	318	1,386
Iran	0	0	0	650
Kenya	0	0	1,000	600
Botswana	300	300	300	450
Zambia	1,300	0	0	300
Zimbabwe	3,200	600	4,600	0
Malawi	0	120	2,300	0
Tanzania	0	350	1,200	0
Mozambique	1,500	182	900	0
Namibia	0	0	250	0
Guinea	0	0	250	0
Nigeria	2,200	1,200	0	0
Senegal	350	125	0	0
Egypt	1,950	0	0	0
Ghana	1,900	0	0	0
Israel	1,260	0	0	0
United Arab Emirates	1,200	0	0	0
Democratic Republic of Congo	500	0	0	0
Total	20,425	6,042	11,118	12,764

Table 13. Proposed Coal-Fired Generating Capacity in Africa and the Middle East (MW)

LATIN AMERICA AND THE CARIBBEAN



OVERVIEW

With its abundant supplies of hydroelectric power, Latin America and the Carribbean make relatively little use of coal for electricity generation. Colombia is the only major miner of coal (81 million tonnes in 2013), but most Colombian coal (74 million tonnes per year) is exported (WCA 2013). Across Latin America, there is only 6 GW of coal-fired power generation (IEA 2014, p. 620). As shown in Table 14, a total of 3,335 MW of new coal-fired power capacity is under construction in seven countries, while 3,012 MW is in pre-permit development and 1,450 is permitted.

COUNTRY NOTES

Currently there are active proposals in Brazil, Chile, Colombia, the Dominican Republic, Guatemala, and Mexico. Since the beginning of 2010, over 4,000 MW of new projects have been completed across the region, but over four times that much capacity (17,890 MW) has been shelved or cancelled, most notably in Chile, where an opposition campaign against the 2,100 MW <u>Castilla power station</u> culminated in a Supreme Court decision ending the project on environmental grounds.

Table 14. Proposed Coal-Fired Generating Capacity in Latin America and the Caribbean (MW)

Country	Announced	Pre-permit development	Permitted	Construction
Dominican Republic	300	240	0	770
Mexico	0	0	0	651
Chile	0	402	1,200	624
Brazil	0	1,750	0	600
Colombia	500	0	250	330
Argentina	0	0	0	240
Guatemala	0	300	0	120
Venezuela	1,600	0	0	0
Panama	0	320	0	0
Total	2,400	3,012	1,450	3,335



UNITED STATES AND CANADA

OVERVIEW

Despite earlier projections of a major boom in coal plants and an increase in exports, coalfired generating capacity in both the United States and Canada is on the decline. Plans to export over 100 million tons annually from the coal fields of the Powder River Basin to Asia via West Coast terminals have been blocked by an aggressive citizen campaign and failures to achieve financial closure. Meanwhile, coal production in the historic mining region of Appalachia is rapidly dwindling.

UNITED STATES

The decades from 1950 to 1990 were the heyday of coal-fired power plant construction in the United States. Today, the median plant is over 40 years old. Efforts during the Bush Administration to reinvigorate this fleet of aging coal burners with hundreds of new plants ran into a firestorm of opposition by environmental groups. Of 151 proposed coal projects still proposed in 2007, only 41 were built, and only a very few remain in development today (CoalSwarm 2013).

The United States has proposed a rule that essentially requires any new coal plant to have carbon capture and storage (CCS) technology (EPA 2013). Although the process is partially developed—oil companies may pipe gas underground for enhanced oil recovery—its implementation in the electric sector appears to be stymied by prohibitive costs. The last coal plant to start construction in the United States, the controversial Kemper IGCC project, has seen repeated cost revisions. As of January 2015, the price tag for the 600 MW project stood at US\$6.1 billion, over US\$10,000 per MW. Another CCS proposal, the 400 MW Texas Clean Energy Project, is now estimated to cost US\$2.2 billion. In January 2015 the Department of Energy cancelled its support for the 200 MW FutureGen project in Illinois, leading to its cancelation.

Rather than building new coal plants, US utilities are on a rapid pace to retire the dirtiest units in the fleet. The Sierra Club, which has led the campaign to accelerate plant retirements, tracks 77 GW retired or announced to stop burning coal out of 343 GW formerly installed (Sierra Club 2015). Overall, as shown in Table 16, the amount of capacity retired since 2003 has exceeded the amount added by 23 percent.

Table 15: Proposed Coal-Fired Generating Capacity in the United States and Canada (MW)

Country	Announced	Pre-permit development	Permitted	Construction
United States	0	2,985	400	1,430
Canada	0	1,000	0	0
Total	0	3,985	400	1,430

Source: Global Coal Plant Tracker, January 2015

Table 16: Capacity additions and retirements in the United States, 2003–2014 (MW)

Year	Capacity added	Capacity retired	Net gain/loss
2003	95	1,689	-1,594
2004	545	715	-170
2005	455	444	11
2006	597	710	-113
2007	1,490	2,879	-1,389
2008	1,717	989	728
2009	3,224	1,128	2,096
2010	4,984	896	4,088
2011	3,295	2,717	578
2012	3,965	6,803	-2,838
2013	925	5,710	-4,785
2014	99	1,562	-1,463
Total	21,391	26,244	-4,853

Source: Platts WEPP, December 2014

Meanwhile, the share of electricity generated from coal in the US dropped from about 50 percent in 2004 to 39 percent in 2013 (EIA 2014). Reasons for the decline in coal capacity and generation include grassroots opposition to coal plants; a flat electricity demand profile over 2007–2014; implementation of long-pending coal regulations on aging coal plants, such as the Mercury and Air Toxics Standards; increased domestic supply and use of natural gas; and increased utilization of wind and solar power.

Market competitiveness is the key to any successful energy source that wishes to play in the diverse patchwork of regulated and unregulated markets in the United States. The factors noted above make it prohibitively difficult for coal to operate without significantly internalizing the costs of its carbon and mercury pollution, which in turn makes it difficult for coal to compete. While carbon capture and sequestration (CCS) technologies are being developed, their expense and ongoing technological feasibility concerns warrant skepticism. Further, CCS technologies do not address the whole host of environmental and health risks associated with coal mining, transport, and waste disposal. Alternatively, states from California to Iowa to Georgia have repeatedly proven that cost-effective clean energy alternatives like wind, solar, and energy efficiency provide a market-ready alternative to unproven technologies like CCS.

The US EPA has been moving forward with carbon pollution standards for existing power plants, designed to limit the power sector's carbon emissions by at least 30 percent by 2030. In November 2014 the US announced a target to reduce greenhouse gas emissions economy-wide by up to 28 percent below 2005 levels in 2025, which would require an even larger percentage reduction in the electric sector.

CANADA

Canada's 9,176 GW of coal-fired generating capacity rank it 20th in the world. The country's coal reserves are the world's fifth largest. At the end of 2014, the province of Ontario, home to 40 percent of Canada's population, completed a 10-year program to entirely phase out coal-fired electricity, which previously had provided a quarter of the province's power (Reitenbach 2013).

Currently, the only coal plant under development in Canada is the <u>Bow City Power station</u>, a 1,000 MW proposal in Alberta featuring carbon capture and storage. Project plans also include a 4.1 million-tonne-per-year surface coal mine.

EURASIA



OVERVIEW

Over 16 GW of new coal capacity is proposed in Eurasia, although most are nascent proposals that have yet to seek permitting. Most of the proposed new capacity is in the Russian Republic, which leads in new coal construction, and Mongolia, where nearly 5 GW has been proposed to power neighboring China. Many of the proposed coal projects in Eurasia include increased development of the region's coal deposits. **RUSSIA**

Russia has 77 coal plants (EIA 2014), and 2,480 MW of new capacity is under construction. Most of the new coal construction consists of additions to already existing power stations, including a new 800 MW unit at the 1,600 MW <u>Berezovskaya power station</u>, a new 660 MW unit at the 2,000 MW <u>Troitskaya GRES power station</u>, and two 225 MW units at the 1,285 MW <u>Cherepetskaya</u> <u>power station</u>. Russia is estimated to have the world's second-largest recoverable coal reserves, at an estimated 157 billion tonnes (EIA 2014), and is looking to expand its coal exports (Slivyak and Podosenova 2013).

BELARUS, KAZAKHSTAN, MONGOLIA, UZBEKISTAN, KYRGYZSTAN

The government of Belarus has expressed interest in mining the country's coal reserves as an alternative to the natural gas and oil supplied from Russia that fuel the country's thermal plants (IEA 2014). One proposal is the <u>Lelchitsy power station</u>, a 400 MW plant that would also include a brown coal mine. Chinese investors may co-develop the project.

Approximately 85 percent of Kazakhstan's installed generating capacity was coal-fired in 2011, with the remaining 15 percent hydropower (EIA 2013).

Table 17. Proposed Coal-Fired Generating Capacity in Eurasia (MW)

Coal-fired power plants are concentrated in the north of the country, near its coal-producing regions. The 1,320 MW <u>Balkhash power station</u> and an addition to the 1,000 MW <u>Ekibastuz-2 power station</u> have been proposed for decades but are delayed due to difficulties in securing funding. The only coal plant proposed in neighboring Uzbekistan is a 300 MW addition to the recently updated 2,100 MW <u>Novo-Angren power station</u>. The power station is fueled by the nearby Angren coal mine.

Mongolia has proposed over 7.5 GW of new coal capacity, although the majority (5.6 GW) has yet to seek permitting. The country has large coal deposits; most production is exported to neighboring China. The largest proposed coal plant is the 4,800 MW <u>Shivee-Ovoo</u> <u>power station</u>, which would be fueled by a nearby coal mine and would export 4,000 MW of its power to China. Proposed in 2008, the project has yet to move forward. Another proposal is the mine-mouth <u>Tavan</u> <u>Tolgoi power station</u>, which would supply power to a nearby gold and copper mine.


OVERVIEW

The region of Europe and Turkey represents a study in contrasts. Despite reports of a "coal renaissance," the European Union continues on a decade-long contraction in its coal-fired generating capacity, and the IEA has called claims of a resurgence a "dream" (IEA 2014). Expansion is still proposed in the Balkans and in Turkey, where the amount of proposed capacity is the third largest globally, exceeded only by China and India. Many of Turkey's projects will be fueled by indigenous lignite mining. Bosnia & Herzegovina, Kosovo, Serbia, and Ukraine also contain large deposits of lignite coal, and proposed coal plants in the region often include new or expanded coal mining of the deposits. China has emerged as a large funder of these new projects.

Opposition to new coal projects has been widespread and effective across Europe and Turkey, with seven projects shelved or cancelled in the region for every project completed since the beginning of 2010 (see Table 4).

TURKEY

Over 65 GW of new coal capacity is proposed in Turkey, the most of any country in the European region and the third most globally. Many of the proposed coal projects depend on mining the country's domestic coal resources, which currently supply about 75 percent of Turkey's coal use (EIA 2014). The 5,000 MW Konya Karapınar power station would utilize lignite coal reserves in Konya Province. Another proposal is the addition of up to 7,000 MW of new coal plants at the Afsin-Elbistan power complex, including development of associated coal mines. Both have been proposed by an international consortium. Other coal proposals in the country have been delayed due to public opposition and legal challenges, such as the 1,320 MW Cenal power station and the 900 MW Selena power station.

BOSNIA & HERZEGOVINA, KOSOVO, SERBIA, UKRAINE

Nearly 4 GW of new coal plants or additions to existing plants are proposed in Bosnia & Herzegovina, based on local lignite (IEA 2014). Proposed plant projects include <u>Ugljevik 3 power station</u>, 750 new MW at the <u>Tuzla Thermal Power Plant</u>, which was first commissioned in 1959, and 600 new MW at the <u>Kakanj</u> <u>Thermal Power Plant</u>, first commissioned in 1956. Chinese companies have expressed interest in building these new units, while the China Development Bank is financing the <u>Stanari Thermal Power Plant</u>, currently under construction.

One of the most contested coal projects in the region and globally is the 600 MW <u>Kosovo C power station</u>, which include plans to mine in the Sibovc lignite field. The World Bank stated in 2013 that it would restrict its financing of coal to regions of energy poverty without alternatives. Critics of the project cite reports showing alternatives to the Kosovo C project exist and are calling on the World Bank to follow its own policy to consider these options (Friedman 2011).

Serbia also contains large deposits of lignite coal, providing the main fuel for its power plants (IEA 2014). In 2014 China agreed to finance expansion of

Country	Announced	Pre-permit development	Permitted	Construction
Turkey	19,084	38,784	2,537	5,035
Bosnia & Herzegovina	1,420	550	1,650	300
Serbia	2,870	350	0	0
Ukraine	2,135	0	0	0
Albania	0	0	0	0
Georgia	0	0	0	0
Kosovo	0	600	0	0
FYRO Macedonia	300	300	0	0
Montenegro	610	220	0	0
Norway	0	0	0	0
Total	26,419	40,804	4,187	5,335

Table 18. Proposed Coal-Fired Generating Capacity in Turkey and non-EU Europe (MW)

Source: Global Coal Plant Tracker, January 2015

the <u>TPP Kostolac Power Plant</u> and the nearby Drmno coal mine. China also expressed interest in funding the proposed <u>Kolubara B power station</u>, including development of the nearby Radljevo coal mine.

More than half of Ukraine's primary energy supply comes from its uranium and coal resources. Ukraine has 2.1 GW of proposed coal capacity, mainly to upgrade and replace existing power stations. Proposals include 675 new MW at the <u>Dobrotvir power station</u> and 800 new MW at the <u>Burshtynskaya power station</u>. Both power stations were first built in the 1960s.

EU28 COUNTRIES

Over 33 GW of new coal capacity is proposed in the European Union, but despite the seemingly large amount of proposed coal capacity, recent history (see Table 4) shows that Europe has one of the highest ratios of coal plants halted to coal plants completed. Moreover, as in the United States, the overall coal fleet is shrinking as plants are being retired in the European Union at a faster than they are being added. As shown in Table 19, retired capacity since 2003 exceeds new capacity by 3,112 MW, or 22 percent.

Table 19: Coal capacity additions and retirements in the European Union, 2003–2014 (MW)

Year	Capacity added	Capacity retired	Net gain/loss
2003	1,594	2,887	-1,293
2004	163	755	-593
2005	362	959	-597
2006	135	250	-115
2007	33	524	-491
2008	1,182	594	588
2009	610	136	474
2010	1,411	100	1311
2011	913	1,262	-349
2012	2,953	2,460	493
2013	1,646	6,918	-5,272
2014	3,467	735	2,732
Total	14,469	17,580	-3,112

Source: Platts WEPP, December 2014

Among members of the EU, Poland has the most proposed coal capacity with over 13.4 GW, followed by Germany with nearly 7 GW, and the UK with 2.3 GW. In total, 33 GW is proposed in the EU, including 13 GW under construction. The proposed plants could make it difficult for the European Council to meet its recent 2014 goal of at least 40 percent emissions reductions 1990 levels by 2030 (CAT 2014).

Poland is the second largest coal producer in Europe, behind Germany. The country uses nearly all the coal it mines, and coal-fired power plants represent 75 percent of the country's electricity capacity (EIA 2013). The Polish leadership has opposed the strengthening of EU carbon limits as the country expands its own domestic coal infrastructure (Lewis 2011). Coal projects under construction include a 1,800 MW expansion of the <u>Opole Power Station</u> and a new 1,075 MW unit at the <u>Kozienice Power Station</u>. Permitted projects include a 450 MW addition to the <u>Turów power station</u>; plans also include development of lignite coal mines in the area. Coal provided about 24 percent of Germany's total primary energy consumption in 2012, and the country was the world's eighth-largest producer of coal that year (EIA 2014). Germany currently has over 5 GW of coal capacity under construction. Another 3 GW of proposed coal capacity have been shelved. Meanwhile, the country has embarked on an ambitious Energy Transition, with a goal of 60 percent renewable energy use by 2050. The 36 GW of solar power developed by 2014 is among the highest in the world (*Solar* 2015).

Proposed coal plants in the UK would have CCS technology; several have been shelved due to lack of funding. Those remaining include the <u>White Rose</u> <u>CCS Project</u> at the Drax power station, the <u>Teeside</u> <u>IGCC power station</u>, and the <u>North Killingholme IGCC</u> <u>Project</u>.

Coal projects under construction in the EU include the 1,600 MW <u>Eemshaven Power Station</u> in the Netherlands and a new 750 MW unit at the <u>Prunéřov power</u> <u>station</u> in the Czech Republic. Permitted coal units include a 500 MW expansion of the <u>Plomin power</u> <u>station</u> in Croatia and a 660 MW addition of the <u>Ptolemaida power station</u> in Greece.

Table 20. Proposed Coal-Fired Generating Capacity in the European Union (MW)

Country	Announced	Pre-permit development	Permitted	Construction
Germany	0	1,580	0	5,372
Poland	5,833	3,350	460	3,785
Netherlands	0	0	0	1,600
Czech Republic	0	0	0	1,410
Slovenia	0	0	0	600
Greece	0	440	660	0
Croatia	0	0	500	0
United Kingdom	850	1,466	0	0
Romania	1,075	600	0	0
Bulgaria	0	560	0	0
Italy	1,240	450	0	0
Hungary	0	400	0	0
Spain	800	0	0	0
Total	9,798	8,846	1,620	12,767

Source: Global Coal Plant Tracker, January 2015

REFERENCES

- Abrams, Lindsay. "China's Lethal Coal Dependency: 670,000 Deaths Linked to Air Pollution in 2012," November 13, 2014. <u>http://www. salon.com/2014/11/13/chinas_lethal_coal_</u> <u>dependency_670000_deaths_linked_to_air_</u> <u>pollution_in_2012/</u>.
- Auffhammer, Maximilian. Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use. National Academies Press, 2011. <u>http://</u> <u>www8.nationalacademies.org/onpinews/newsitem.</u> <u>aspx?RecordID=12794</u>.
- Australia Energy Market Operator. *Electricity Statement of Opportunities,* August 2014. <u>http://bit.ly/168Gp7G</u>.
- Biello, David. "Can China Cut Coal?" *Scientific American*, November 25, 2014. <u>http://blogs.</u> <u>scientificamerican.com/observations/2014/11/25/</u> <u>can-china-cut-coal/</u>.
- BP. "Coal." *BP Statistical Review of World Energy,* June 2014. <u>http://bit.ly/1ye2g7G</u>.
- Buckley, Tim. "China's Declining Coal Dependence Is Evident in the Data." Institute for Energy Economics and Financial Analysis, January 6, 2015. <u>http://www.ieefa.org/010615/</u>.
- Chen, Yuyu, Avraham Ebenstein, Michael Greenstone, and Hongbin Li. "Evidence on the Impact of Sustained Exposure to Air Pollution on Life Expectancy from China's Huai River Policy." *Proceedings of the National Academy of Sciences* 110, no. 32 (2013): 12936–41.
- Central Electricity Authority (India). "Monthly Report on Broad Status of Thermal Power Projects in the Country," November 2014. <u>http://www.cea.nic.in/</u> <u>reports/proj_mon/broad_status.pdf</u>.

Climate Action Tracker (CAT). "China, US and EU Post-2020 Plans Reduce Projected Warming," December 8, 2014. <u>http://climateactiontracker.org/news/178/</u> <u>China-US-and-EU-post-2020-plans-reduce-</u> projected-warming.html.

- "Coal Imports Jump 19% in 2014: Reports." The Economic Times, January 7, 2015. http://economictimes.indiatimes.com// articleshow/45791467.cms.
- CoalSwarm. "Estimating carbon dioxide emissions from coal plants." *SourceWatch*, January 2015. <u>http://www.sourcewatch.org/index.php/Estimating_</u> <u>carbon_dioxide_emissions_from_coal_plants</u>.
- ——. "International Chinese Coal Projects." Source-Watch, January 2015. <u>http://www.sourcewatch.org/</u> index.php/International_Chinese_coal_projects.
- ——. "What Happened to the 151 Proposed Coal Plants?" SourceWatch, December 2013. <u>http://www.sourcewatch.org/index.php/What_happened_to_the_151_proposed_coal_plants%3F.</u>
- Cornot-Gandolphe, Sylvie. *China's Coal Market: Can Beijing Tame "King Coal.*" Oxford Institute for Energy Studies, December 2014.
- Das, Krishna N. "Severe Coal Shortage at Indian Power Plants Hits Industries." *Reuters*. October 10, 2014. <u>http://www.reuters.com/article/2014/10/10/indiacoal-powerstation-idUSL3N0S51UO20141010.</u>
- Davis, Steven J, Ken Caldeira, and H Damon Matthews. "Future CO₂ Emissions and Climate Change from Existing Energy Infrastructure." *Science* 329, no. 5997 (2010): 1330–33.

Dharmadhikary, Shripad, and Shantanu Dixit. Thermal Power Plants on The Anvil: Implications and Need for Rationalisation. Prayas Energy Group, 2011. http://bit.ly/1zLB9EI.

Edenhofer, Ottmar, Ramón Pichs-Madruga, Youba Sokona, E Farahani, S Kadner, K Seyboth, A Adler, I Baum, S Brunner, and P Eickemeier. "Climate Change 2014: Mitigation of Climate Change." Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. UK and New York, 2014.

Energy Information Administration (EIA). *Canada*. Washington D.C., September 30, 2014. <u>http://www.eia.gov/countries/cab.cfm?fips=ca</u>.

—. Germany. Washington D.C., April 2014. <u>http://</u> www.eia.gov/countries/country-data.cfm?fips=gm.

-----. *Indonesia*. Washington D.C., March 5, 2014. http://www.eia.gov/countries/cab.cfm?fips=id.

-----. Japan. Washington D.C., July 31, 2014. <u>http://</u> www.eia.gov/countries/cab.cfm?fips=ja.

- —. Net Generation by Energy Source: Total (All Sectors), 2004-October 2014. Electric Power Monthly, October 2014.
- -----. Philippines. Washington D.C., May 30, 2013. http://www.eia.gov/countries/country-data. cfm?fips=rp.
- -----. Poland. Washington D.C., May 30, 2013. <u>http://</u> www.eia.gov/countries/country-data.cfm?fips=pl.
- - —. South Korea, April 1, 2014. <u>http://www.eia.gov/</u> <u>countries/cab.cfm?fips=ks</u>.
- ------. *Taiwan*. Washington D.C., September 2014. <u>http://www.eia.gov/countries/country-data.</u> <u>cfm?fips=tw</u>.
 - —. Thailand. Washington D.C., November 2014. http://www.eia.gov/countries/country-data. <u>cfm?fips=th</u>.

- -----. Turkey. Washington D.C., April 17, 2014. <u>http://</u> www.eia.gov/countries/cab.cfm?fips=tu.
- ——. Ukraine. Washington D.C., March 2014. <u>http://</u> www.eia.gov/countries/country-data.cfm?fips=up.
- ——. Vietnam. Washington D.C., November 2014. <u>http://www.eia.gov/countries/country-data.</u> <u>cfm?fips=vm</u>.
- Environmental Protection Agency (EPA). Proposed Carbon Pollution Standard for New Power Plants. Washington D.C., 2013. <u>http://l.usa.gov/lzLBck7</u>.
- Epstein, Paul. "Mining Coal, Mounting Costs: The Life Cycle Consequences of Coal." Annals of the New York Academy of Sciences 1219 (2011): 92.
- Fleischman, Lesley, Rachel Cleetus, Jeff Deyette, Steve Clemmer, and Steve Frenkel. "Ripe for Retirement: An Economic Analysis of the US Coal Fleet." *The Electricity Journal* 26, no. 10 (2013): 51–63.
- Friedman, Lisa. "U.S. on Both Sides of New Battle Over Assistance to 'Ugly' Coal-Fired Power Plant." *The New York Times*, July 11, 2011. <u>http://nyti.ms/1zLBk35</u>.
- Ghio, Nicole. "No Greenlight for Expansion of IFC-Funded Tata Mundra Coal Plant." *Sierra Club Compass,* September 5, 2014. <u>http://bit.ly/1Akw1qL</u>.
- Global Carbon Project. "Fossil fuel and cement production emissions by fuel type." *Global Carbon Budget 2014.* September 5, 2014 <u>http://1.usa.</u> gov/1DMb9IT.
- Goenka, Debi, and Sarath Guttikunda. "Coal Kills: An Assessment of Death and Disease Caused by India's Dirtiest Energy Source." Urban Emissions, the Conservation Action Trust, and Greenpeace India Report, 2013.

Hansen, James, Makiko Sato, Pushker Kharecha, David Beerling, Robert Berner, Valerie Masson-Delmotte, Mark Pagani, Maureen Raymo, Dana L Royer, and James C Zachos. "Target Atmospheric CO₂: Where Should Humanity Aim?" *The Open Atmospheric Science Journal* 2 (2008): 217–31.

Inamdar, Nikhil. "7 Things You Wanted to Know about 'Coalgate.'" *Business Standard*, October 15, 2013. <u>http://bit.ly/1zVmAbZ</u>.

- International Energy Agency (IEA). *Medium-Term Coal Market Report 2014*. December, 2014.
- ——. World Energy Outlook, 2011.
- ——. World Energy Outlook, 2014.
- Iwata, Mari. "Japan to Step Up Support for Overseas Use of Coal." Washington Street Journal, July 23, 2014. <u>http://on.wsj.com/lzLBsj3</u>.
- Jensen, Génon K, Editor. *The Unpaid Health Bill: How Coal Power Plants Make Us Sick*. Health and Environmental Alliance, 2013.
- John, Adrian. "Can China Reduce Its Addiction to Coal Power?" *Asian Power*, March 13, 2014. <u>http://bit.</u> <u>ly/lzLBtDs</u>.
- Khanh, Vu Trong. "Vietnam Coal Imports Poised for Possible Early Start." *Washington Street Journal*, August 14, 2014. <u>http://on.wsj.com/1zLBDut</u>.
- Kyaw, Khine. "Myanmar Plans 41 New Power Plants in 15 Years." *The Nation*, November 3, 2014. <u>http://bit.ly/1zLBIOQ</u>.
- Lall, Rajiv. "No Loans to Thermal Power Projects." *TheTimes of India*, December 21, 2011. <u>http://bit.ly/</u><u>xnckH1</u>.
- Lewis, Barbara. "Coal-Reliant Poland Says Apt to Lead EU at Durban." *Reuters*, December 2, 2011. <u>http://reut.rs/1zLBOWR</u>.
- Lin, Jintai, Da Pan, Steven J Davis, Qiang Zhang, Kebin He, Can Wang, David G Streets, Donald J Wuebbles, and Dabo Guan. "China's International Trade and Air Pollution in the United States." *Proceedings of the National Academy of Sciences* 111, no. 5 (2014): 1736–41.
- McGlade, Christophe, and Paul Ekins. "The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2°C." *Nature* 517, no. 7533 (January 8, 2015): 187–90.
- McGregor, Richard. "750,000 a Year Killed by Chinese Pollution." *Financial Times*, July 2, 2007.

- Milman, Oliver. "US banks vow not to fund Great Barrier Reef coal port, say activists," *The Guardian*, October 27, 2014. <u>http://www.theguardian.com/</u> <u>environment/2014/oct/28/us-banks-vow-not-to-</u> <u>fund-great-barrier-reef-coal-port-say-activists</u>.
- Moore, Frances C. and Delavene B. Diaz. "Temperature impacts on economic growth warrant stringent mitgation policy." *Nature Climate Change*, 2015; DOI:10.1038/nclimate2481.
- Moore, Malcolm. "China's 'Airpocalypse' Kills 350,000 to 500,000 Each Year," *Telegraph*, January 7, 2014. <u>http://bit.ly/1zLD7oz</u>.
- Motlagh, Jason. "How Not to Love Nature: Shove a Coal Plant Next to Earth's Biggest Mangrove Forest." *Time*, September 26, 2013. <u>http://world.time.com/</u> <u>2013/09/26/how-not-to-love-nature-shove-a-coal-</u> <u>plant-next-to-earths-biggest-mangrove-forest/?</u> <u>goback=.gde_3667510_member_277387958#%21</u>.
- Muller, Nicholas Z., Robert Mendelsohn, and William Nordhaus. "Environmental Accounting for Pollution in the United States Economy." *American Economic Review* 101, no. 5 (2011): 1649–75.
- Myllyvirta, Lauri. "China's Coal Use Actually Falling Now for the First Time This Century." *Energydesk*, October 22, 2014. <u>http://bit.ly/1zLD9wP</u>.
- Myllyvirta, Lauri. "Comment: New coal power plants in China – a (carbon) bubble waiting to burst." *Energydesk*. February 23, 2015. <u>http://bit.ly/1zb3kGE</u>.
- National Bureau of Statistics (China). "2014年国民经济 和社会发展统计公报." (2014 National Economic and Social Development Statistics Bulletin), February 26, 2015. <u>http://www.stats.gov.cn/tjsj/zxfb/201502/</u> <u>t20150226_685799.html</u>.
- National Energy Administration (China). "National Energy Board released the total electricity consumption in 2014." January 16, 2015. <u>http://</u> www.nea.gov.cn/2015-01/16/c_133923477.htm.
- Ottery, Christine. "Map: Health Impact of China's Coal Plants." *Energydesk*, December 12, 2013. <u>http://bit.ly/1zLDb81</u>.

- Platts. World Electric Power Plants Database. New York, NY, September 2014.
- Raupach, Michael R., Steven J. Davis, Glen P. Peters, Robbie M. Andrew, Josep G. Canadell, Philippe Ciais, Pierre Friedlingstein, Frank Jotzo, Detlef P. van Vuuren, and Corinne Le Quere. "Sharing a Quota on Cumulative Carbon Emissions." *Nature Climate Change* 4, no. 10 (October 2014): 873–79.
- Reitenbach, Gail. "Ontario Goes Coal-Free in a Decade." *Power*, May 1, 2013. <u>http://bit.ly/14Uc8cd</u>.
- Rockström, Johan, Will Steffen, Kevin Noone, Åsa Persson, F Stuart Chapin, Eric F Lambin, Timothy M Lenton, Marten Scheffer, Carl Folke, and Hans Joachim Schellnhuber. "A Safe Operating Space for Humanity." *Nature* 461, no. 7263 (2009): 472–75.
- Shindell, Drew T. "The Social Cost of Atmospheric Release." *Climatic Change*, February 26, 2015. <u>http://link.springer.com/article/10.1007%2Fs10584-015-1343-0</u>.
- Schneider, Conrad, and Jonathan Banks. The Toll from Coal: An Updated Assessment of Death and Disease from America's Dirtiest Energy Source. Clean Air Task Force, 2010. <u>http://www.catf.us/resources/</u> <u>publications/view/138</u>.
- Sierra Club. "Victories." January 2015. <u>http://content.</u> <u>sierraclub.org/coal/victories</u>.
- "Solar Power by Country." Wikipedia, January 1, 2015. <u>http://en.wikipedia.org/w/index.php?title=Solar_power_by_country&oldid=637766961</u>.
- Slivyak, Vladimir, and Olga Podosenova. The Russian Coal Industry: An Environmental and Social Disaster. Heinrich Böll Foundation, June 2013. <u>http://below2c.files.wordpress.</u> <u>com/2013/06/russian-coal-industry-preliminaryenglish-version.pdf</u>.
- "Tata Power sells mine in Indonesia for \$500 mn." Business Standard, February 1, 2014. <u>http://</u> www.business-standard.com/article/companies/ tata-power-sells-mine-in-indonesia-for-500-mn-114013101338_1.html.

- Venkatesan, J. "We Should Liberate CBI from Interference, Says Supreme Court." *The Hindu*. April 30, 2013. <u>http://bit.ly/1Dv6IjE</u>.
- Wong, Edward. "Most Chinese Cities Fail Minimum Air Quality Standards, Study Says." *The New York Times*, March 27, 2014. <u>http://nyti.ms/1Dv6CZi</u>.
- World Coal Association (WCA). *Coal Statistics*. London, United Kingdom, 2013. <u>http://www. worldcoal.org/resources/coal-statistics/</u>.
- Yang, Ailun, and Yiyun Cui. Global Coal Risk Assessment: Data Analysis and Market Research. World Resources Institute working paper, 2012. http://pdf.wri.org/global_coal_risk_assessment.pdf.

APPENDIX A TRACKER ARCHITECTURE AND METHODOLOGY

ARCHITECTURE

CoalSwarm's <u>Global Coal Plant Tracker</u> uses a twolevel system for organizing information. Summary information is maintained in Google sheets, with a separate sheet for each country (outside India and China) and for each state or province (inside India and China). Each worksheet row tracks an individual coal plant unit. A wiki page is then created for each power station within SourceWatch. When information about a proposed power station changes, the changes are made to both the spreadsheet and wiki page.

METHODOLOGY

Preliminary lists of plants in each country were gathered from public and private data sources including Global Energy Observatory, CARMA, BankTrack's "Dirty Deals" list, Wikipedia, Enipedia, SourceWatch, WRI's "Global Coal Risk Assessment" report (2012), Platts UDI World Energy Power Plant database, Industcards "Power Plants Around the World Photo Gallery," India Central Electricity Authority's "Monthly Report on Broad Status of Thermal Power Projects in the Country," National Integrated Resource Plans, reports by state-owned and private utilities, and national-level trackers by environmental advocates (US: Sierra Club; Turkey: Kara Atlas; Germany: Deutsche Umwelthilfe). For each project in China, the English name was converted to Chinese characters. For all countries, alternate names for projects were also recorded.

For each project location, a wiki page was created on the Center for Media and Democracy's SourceWatch wiki. Wiki pages provided a repository for in-depth information including project background, financing, environmental impacts, coal types and sources, public opposition, aerial photographs, videos, links to permits, coordinates, and maps. Under standard wiki convention, each piece of information is linked to a published reference, such as a news article, company report, or regulatory permit.

In order to ensure data integrity in the open-access wiki environment of SourceWatch, CoalSwarm researchers review all edits of project wiki pages by unknown editors, an infrequent occurrence.

For each proposed coal plant unit, one of the following status categories was assigned:

- **Announced:** Proposed plants that have appeared in corporate or government plans but have not yet moved actively forward by applying for permits or seeking land, coal, or financing. Typically such a project is the "Phase II" at a location where "Phase I" is currently under development.
- Pre-permit development: Plants that are seeking environmental approvals and pursuing other developmental steps such as securing land and water rights. In India, this means that a "Terms of Reference" has been received from the Ministry of Environment, Forests and Climate Change (MoEF). In China, this means a feasibility study has been completed.

- **Permitted:** All necessary environmental approvals have been received but the project has not yet begun construction. In India, this means a project has received an "Environmental Clearance" permit from the MoEF. In China, this means a plant has received a permit from the National Development and Reform Commission (NDRC), allowing for construction.
- **Construction:** Site preparation and other development and construction activities are underway.
- Shelved: In the absence of an announcement that the sponsor is putting its plans on hold, a project is considered "shelved" if there are no reports of activity over a period of two years.
- Cancelled: In the absence of a cancellation announcement, a project is considered "cancelled" if there are no reports of activity over a period of four years.
- **Operating:** The plant has been formally commissioned.

Once wiki pages were created and summary data sets compiled, they were circulated for review to researchers familiar with local conditions and languages.

CARBON DIOXIDE EMISSIONS

For each coal plant unit, the tracker calculates carbon dioxide emissions based on the following:

- unit capacity;
- emission factor (pounds of carbon dioxide per million Btu) for each type of coal;
- heat rate for each combustion technology (Btu/ kWh), adjusted for quality of coal;
- capacity factor based on the 2012 worldwide average of 58.2 percent (IEA 2014).

Further details can be found at CoalSwarm, "Estimating carbon dioxide emissions from coal plants," SourceWatch, January 2015, at <u>http://bit.ly/1jP1Lrw</u>.

REGIONAL ORGANIZATION

The main regions are East Asia, Southeast Asia, Australia, South Asia, Africa and Middle East, Europe (including Turkey), Eurasia, United States and Canada, and Latin America and the Caribbean. Eurasia comprises members of the Eurasian Economic Union plus Mongolia and Uzbekistan. Europe comprises the European Union and non-EU Europe, defined as members of the Council of Europe not included in the Eurasia region.

MAPPING

To allow easy public access to the results, CoalSwarm worked with GreenInfo Network to develop a mapbased and table-based interface using the Leaflet Open-Source JavaScript library.

APPENDIX B EXISTING COAL PLANTS

Rank	Country	MW
1	China	832,696
2	USA	322,491
3	India	164,953
4	Germany	54,388
5	Russia	48,656
6	Japan	41,750
7	South Africa	38,402
8	Poland	32,196
9	Australia	28,116
10	South Korea	26,944
11	Ukraine	24,781
12	Indonesia	22,853
13	England & Wales	18,359
14	Taiwan	17,717
15	Turkey	13,838
16	Kazakhstan	11,548
17	Italy	11,345
18	Spain	10,942
19	Czech Republic	9,388
20	Canada	9,176
21	Malaysia	7,929
22	Romania	7,076
23	Vietnam	6,026
24	Bulgaria	5,823
25	France	5,819
26	Thailand	5,656

Rank	Country	MW
27	Thailand	5,656
28	Philippines	5,619
29	Mexico	5,400
30	Greece	5,127
31	Israel	4,900
32	Netherlands	4,866
33	Chile	4,582
34	Serbia	4,417
35	Denmark	3,600
36	North Korea	3,565
37	Brazil	3,386
38	Finland	3,347
39	Uzbekistan	2,500
40	Scotland	2,406
41	Morocco	1,885
42	Portugal	1,878
43	Bosnia & Herzegovina	1,750
44	Moldova	1,610
45	Austria	1,351
46	Kosovo	1,288
47	Hungary	1,184
48	Colombia	1,182
49	Zimbabwe	1,118
50	Slovakia	1,105
	All Others	10,639
	World	1,858,499

Source: Platts WEPP, September 2014

APPENDIX C PROPOSED COAL-FIRED POWER PLANTS

This table lists 2,177 coal-fired generating units in the developmental pipeline, as documented by the Global Coal Plant Tracker in January 2015. The table includes 588 units in the Announced category, 726 projects in the Pre-Permit Development category, 306 projects in the Permitted category, and 557 projects in the Construction category. Each unit is linked to a footnoted page on the SourceWatch wiki containing additional information including coordinates, sponsor, background, status, and background. Further information, including summary tables and information on projects completed or cancelled/shelved since January 1, 2010, is available from the Global Coal Plant Tracker website, located at EndCoal.org.

Unit (Click to open wiki page)	MW	Status	Location
Argentina			
Río Turbio power station Unit 1 Río Turbio power station Unit 2	120 120	Construction Construction	Santa Cruz Santa Cruz
Australia			
Galilee Basin Power Project Unit 1 Galilee Basin Power Project Unit 2 Galilee Power project Unit 1 Galilee Power project Unit 2 Moray power station Arckaringa Coal-to-Liquids and Power Project Phase I Arckaringa Coal-to-Liquids and Power Project Phase II SEAPED briquette and power plant	400 400 450 450 150 560 280 0	Announced Announced Pre-permit development Pre-permit development Pre-permit development Announced Announced Announced	Queensland Queensland Queensland Queensland Queensland South Australia South Australia Victoria
Bangladesh			
Bhola power station (S Alam) Boalkhali power station (Beximco) BPDB/TNB Joint Venture coal plant Unit 2 BPDB/TNB Joint Venture coal plant Unit 1 Chittagong power station (S Alam) Unit 1 Chittagong power station (S Alam) Unit 2 Maheshkhali power station (Huadian) Unit 1 Maheshkhali power station (Huadian) Unit 2 Maheshkhali power station (KEPCO) Matarbari power station Unit 1 Matarbari power station Unit 2 Mawa power station Unit 2 Mawa power station Barapukuria Coal Power Plant, Unit 3 Khulna power station Unit 1 Rampal power station Unit 1 Kalapara power station Unit 2 Kalapara power station Unit 1 Kalapara power station Unit 2	217 540 660 660 660 660 1320 600 600 660 250 565 660 660 660 660 660	Announced Announced Pre-permit development Pre-permit development Announced Announced Announced Pre-permit development Pre-permit development Pre-permit development Pre-permit development Pre-permit development Announced Announced	Barisal Chittagong Chittagong Chittagong Chittagong Chittagong Chittagong Chittagong Chittagong Chittagong Chittagong Dhaka Dinajpur Khulna Khulna Patuakhali Patuakhali
Bosnia & Herzegovina			
Banovici power station Bugojno Thermal Power Project Unit 1 Kakanj Thermal Power Plant Unit 8 Kakanj Thermal Power Plant Unit 9 Kongora Thermal Power Plant Unit 1 Kongora Thermal Power Plant Unit 2 Tuzla Thermal Power Plant Unit 7 Tuzla Thermal Power Plant Unit 8 Gacko Thermal Power Plant Unit 8 Gacko Thermal Power Plant 1 Miljevina power station Unit 1 Stanai Thermal Power Plant	300 300 300 275 275 450 300 300 110 300	Permitted Announced Permitted Announced Pre-permit development Pre-permit development Permitted Announced Announced Announced Construction	FBIH FBIH FBIH FBIH FBIH FBIH Republica Srpska Republika Srpska Republika Srpska
Ugljevik-3 power station Unit 1 Ugljevik-3 power station Unit 2 Miljevina power station Unit 2	300 300 110	Permitted Permitted Announced	Republika Srpska Republika Srpska Republika Srpska

Unit (Click to open wiki page)	MW	Status	Location
Botswana			
Mookane Domestic Power Project Sese Integrated Power Project Unit 1 Sese Integrated Power Project Unit 2 Mmamantswe Coal Project	300 150 150 300	Announced Pre-permit development Pre-permit development Permitted	Central North East North East Gabarone
Brazil			
Maranhão São Luís power station Barcarena Vale power station Unit 1 Barcarena Vale power station Unit 2 Açu power project Unit 2 Açu power project Unit 3	350 300 300 700 700	Pre-permit development Construction Construction Pre-permit development Pre-permit development	Maranhão Pará Pará Rio de Janeiro Rio de Janeiro
Bulgaria			
Maritsa Iztok-2 power station Unit 9 Maritsa Iztok-2 power station Unit 10	280 280	Pre-permit development Pre-permit development	Galabovo Galabovo
Canada			
Bow City Power Project Unit 1 Bow City Power Project Unit 2	500 500	Pre-permit development Pre-permit development	Alberta Alberta
Chile			
Pacífico power station Unit 1 Pacífico power station Unit 2 Patache power station Cochrane power station Unit 1 Cochrane power station Unit 2 Huasco power station Unit 5 Punta Alcalde power station Unit 1 Punta Alcalde power station Unit 2 Santa María power station Unit 2	175 175 110 236 236 152 370 370 402	Permitted Permitted Permitted Construction Construction Permitted Permitted Pre-permit development	I Region I Region I Region II Region III Region III Region III Region VII Region
Giilla			
Anhui Xuancheng 2 Anhui Xuancheng 2 Anhui Xuancheng 3 Anhui Xuancheng 4 Chizhou Jiuhua 3 Chizhou Jiuhua 4 Pingwei-III No 1 Pingwei-III No 2 Datang Huainan Tianjia'an power plant unit 15	660 660 1000 1000 1000 1000 1000 1000	Pre-permit development Construction Announced Announced Announced Construction Construction Pre-permit development	Anhui Anhui Anhui Anhui Anhui Anhui Anhui Anhui
Datang Huainan Tianjia'an power plant unit 16 Datang Chuzhou 1 Datang Chuzhou 2 Datang Ma'anshan Dangtu power station Unit 3 Datang Ma'anshan Dangtu power station Unit 4 Fuyang power station phase II Unit 1 Fuyang power station phase II Unit 2 Hefei Lujiang power station Unit 1	1000 1000 1000 1000 660 660 1000	Pre-permit development Pre-permit development Pre-permit development Pre-permit development Pre-permit development Pre-permit development Pre-permit development	Anhui Anhui Anhui Anhui Anhui Anhui Anhui Anhui

Unit (Click to open wiki page)	MW	Status	Location
Hefei Luijang power station Unit 2	1000	Pre-permit development	Anhui
Huadian Lu'An 5	1000	Pre-permit development	Anhui
Huadian Lu'An 6	1000	Pre-permit development	Anhui
Huadian Wuhu 3	1000	Announced	Anhui
Huadian Wuhu 4	1000	Announced	Anhui
Huaibei Guo'An 3	1000	Pre-permit development	Anhui
Huaibei Guo'An 4	1000	Pre-permit development	Anhui
Huaibei Pingshan 1	660	Construction	Anhui
Huaibei Pingshan 2	660	Construction	Anhui
Huainan Luone /	1000	Pre-permit development	Annul
Huanong Chaohu 3	660	Permitted	Annui
	1000	Construction	Annui
Lixin Banji 2	1000	Construction	Anhui
Tongling Guodian-2 No 1	1000	Pre-permit development	Anhui
Tongling Guodian-2 No 2	1000	Pre-permit development	Anhui
Tongling Wanneng-3 No 2	1000	Pre-permit development	Anhui
Anwen Songzao 3	660	Construction	Chongqing
Anwen Songzao 4	660	Construction	Chongqing
Chongqing Longqiao 2	50	Construction	Chongqing
Chongqing Longqiao 3	50	Construction	Chongqing
Chongqing Longqiao 4	80	Announced	Chongqing
Chongqing Longqiao 5	80	Announced	Chongqing
Chongqing Longqiao 6	80	Announced	Chongqing
Shuanghuai 5	1000	Announced	Chongqing
Shuanghuai 6	1000	Announced	Chongqing
Huadian Fengjie 1	600	Pre-permit development	Chongqing
Nantong Coal Wasto 1	800	Pre-permit development	Chongqing
Nantong Coal Waste 2	300	Pre-permit development	Chongging
Wanzhou 1	1000	Construction	Chongging
Wanzhou 2	1000	Construction	Chongqing
Wanzhou 3	1000	Announced	Chongqing
Wanzhou 4	1000	Announced	Chongaing
Wanzhou 5	1000	Announced	Chongqing
Wanzhou 6	1000	Announced	Chongqing
Datang Ningde 5	1000	Pre-permit development	Fujian
Datang Ningde 6	1000	Pre-permit development	Fujian
Fujian Hongshan 3	1000	Construction	Fujian
Fujian Hongshan 4	1000	Construction	Fujian
Fujian Hongshan 5	1000	Announced	Fujian
Fujian Hongshan 6	1000	Announced	Fujian
Fujian Yanshi 1	300	Announced	Fujian
Fujian Yanshi 2	300	Announced	Fujian
Fuzhou Kemen 5	1000	Pre-permit development	Fujian
Huadian Shaowu power station Unit 1	1000	Pre-permit development	Fujian
Huadian Shaowu power station Unit 2	660	Pre-permit development	Fujian
Luovuan 1	660	Pre-permit development	Fujian
Luovuan 2	660	Pre-permit development	Fujian
Luoyuan Bay 1	1000	Construction	Fujian
Luoyuan Bay 2	1000	Construction	Fujian
Luoyuan Bay 3	1000	Announced	Fujian
Luoyuan Bay 4	1000	Announced	Fujian
Meizhou Wan 3	1000	Pre-permit development	Fujian
Meizhou Wan 4	1000	Pre-permit development	Fujian
CPI Tianshui Qingshui power station Unit 1	1000	Announced	Gansu
CPI Tianshui Qingshui power station Unit 2	1000	Announced	Gansu
CPI Wuwei Liangzhou station Unit 2	1000	Pre-permit development	Gansu
CPI Wuwei Liangzhou station Unit 1	1000	Pre-permit development	Gansu
Datang 803 No 3	300	Construction	Gansu
Datang 803 No 4	300	Construction	Gansu
Datang Jingtai 3	1000	Pre-permit development	Gansu
Datang Jingtai 4	1000	Pre-permit development	Gansu
Gansu Balyin 1 Canau Paivin 2	350	Construction	Gansu
Gansu Elec. Power Investment Guazhou Changle power	330	CONSULCTION	Gansu
station Unit 1	1000	Pre-permit development	Gansu

Unit (Click to open wiki page)	MW	Status	Location
Gansu Elec. Power Investment Guazhou Changle power	1000	Pre-permit development	Gansu
Gansu Elec. Power Investment Ningzhong Power Generation Units	1000	Pre-permit development	Gansu
Gansu Elec. Power Investment Ningzhong Power Generation Units	1000	Pre-permit development	Gansu
Zhangye 3	660	Announced	Gansu
Zhangye 4	660	Announced	Gansu
Guodian Jingyuan Power Plant Unit 1	1000	Pre-permit development	Gansu
Guodian Jingyuan Power Plant Unit 2	1000	Pre-permit development	Gansu
Suddian Yuzhong power station Unit 1	350	Permitted	Gansu
Huadian Tianshui Cogen unit 1	350	Pre-permit development	Gansu
Huadian Tianshui Cogen unit 2	350	Pre-permit development	Gansu
Huaneng Pingliangzhuang Langhandian Power Plant	2000	Announced	Gansu
Huaneng Tianshui Maijiqu Power Plant Phase I	700	Announced	Gansu
Huaneng Xifeng Thermal Power Plant	300	Permitted	Gansu
Huanong Xifeng Thermal Power Plant	300	Permitted	Gansu
Huaneng Zhengning 1	660	Permitted	Gansu
Jugang Pingliang Jingchuanxian Waste Coal Thermal	000		
Power Plant Phase I Jiugang Pingliang Jingchuanxian Waste Coal Thermal	300	Announced	Gansu
Power Plant Phase I	300	Announced	Gansu
Shandan power station Unit 1	300	Pre-permit development	Gansu
Shandan power station Unit 2	300	Pre-permit development	Gansu
Sinohydro Chongxin power station Unit 3	1000	Pre-permit development	Gansu
Sinchydro Huating Power Plant Phase II Unit 1	1000	Pre-permit development	Gansu
Sinohydro Huating Power Plant Phase II Unit 2	1000	Pre-permit development	Gansu
Nuwei Cogen 1	350	Permitted	Gansu
Nuwei Cogen 2	350	Permitted	Gansu
Dongguan Taiyangzhou IGCC with CO2 Capture Project	800	Pre-permit development	Guangdong
Baosteel Zhanjiang 2	350	Construction	Guangdong
Xijiang 1 Xijiang 2	660 660	Permitted	Guangdong
Xingning 3	350	Announced	Guangdong
Xingning 4	350	Announced	Guangdong
CPI Guangdong Jieyang Qianzhan Power Plant Unit 1	1000	Pre-permit development	Guangdong
CPI Guangdong Jieyang Qianzhan Power Plant Unit 2	1000	Pre-permit development	Guangdong
CPI Guangdong Jieyang Qianzhan Power Plant Unit 3	1000	Announced	Guangdong
CPI Guangdong Jieyang Qianzhan Power Plant Unit 4 Datang Huayin Dongguan Sanlian Thermal Power Plant Jnit 1	1000 350	Announced Pre-permit development	Guangdong Guangdong
Datang Huayin Dongguan Sanlian Thermal Power Plant	350	Dre normit development	Guanadana
eizhou 1	1000	Construction	Guangdong
Leizhou 2	1000	Construction	Guangdong
Pinghai 3	1000	Announced	Guangdong
Pinghai 4	1000	Announced	Guangdong
Shajiao-A No 6	1000	Announced	Guangdong
Shajiao-A No 7	1000	Announced	Guangdong
Shaoguan 2 No 2	600	Construction	Guangdong
Zhongshan 5	300	Construction	Guangdong
Zhongshan 6	300	Construction	Guangdong
_ufeng Jiahuwan 1	1000	Pre-permit development	Guangdong
_ufeng Jiahuwan 2	1000	Pre-permit development	Guangdong
Maoming Bohe 1	1000	Construction	Guangdong
Maoming Bohe 2	1000	Construction	Guangdong
Shanwel Halfeng 1	1000	Construction	Guangdong
Shanwei Haifeng 3	1000	Announced	Guangdong
Shanwei Haifeng 4	1000	Announced	Guanadona
Shanwei Honghaiwan 5	1000	Announced	Guangdong
Shanwei Honghaiwan 6	1000	Announced	Guangdong
Shanwei Honghaiwan 7	1000	Announced	Guangdong
Shanwei Honghaiwan 8	1000	Announced	Guangdong
Snennua Guonua Yangjiang Power Plant Phase I	2000	Announced	Guangdong
Yudean Danu 1	600	Construction	Guandong
radouri Dapu i	000	Constitucion	Guunguung

Unit (Click to open wiki page)	MW	Status	Location
Yudean Dapu 2	600	Construction	Guangdong
Zhanjiang Donghai power station, Unit 1	600	Announced	Guangdong
Zhanjiang Donghai power station, Unit 2	600	Announced	Guangdong
Baise Smelter 1	350	Construction	Guangxi
Baise Smelter 2	350	Construction	Guangxi
Beihai Bebuwan 3	660	Pre-permit development	Guangxi
Beihai Bebuwan 4	660	Pre-permit development	Guangxi
Fangchenggang Qisha 3	660	Construction	Guangxi
Fangchenggang Qisha 4	660	Construction	Guangxi
Guangtou Beihai 1	1000	permitted	Guangxi
Guangtou Beihai 2	1000	permitted	Guangxi
	350	Construction	Guangxi
Guangxi Luznai 2	350	Construction Dro normit development	Guangxi
Chongzuo 2	000 600	Pre-permit development	Guangxi
Guodian Nanning 3	1000	Pre-permit development	Guangxi
Guodian Nanning 4	1000	Pre-permit development	Guangxi
Guodian Yongfu 5	350	Pre-permit development	Guangxi
Guodian Yongfu 6	350	Pre-permit development	Guangxi
Guigang 3	660	Pre-permit development	Guangxi
Guigang 4	660	Pre-permit development	Guangxi
Qinzhou 3	1000	Construction	Guangxi
Qinzhou 4	1000	Construction	Guangxi
Nanzhou 1	660	Pre-permit development	Guizhou
Nanzhou 2	660	Pre-permit development	Guizhou
Cpi Guizhou Qianxi Power Plant Phase II, Unit 1	660	Pre-permit development	Guizhou
Cpi Guizhou Qianxi Power Plant Phase II, Unit 2	660	Pre-permit development	Guizhou
Datang Xingren power Plant Unit 1	660	Pre-permit development	Guizhou
Datang Xingren power Plant Unit 2	660	Pre-permit development	Guiznou
Datang Xingren power Plant Unit 3	660	Announced	Guizhou
Bijie Coal Power 1	660	Permitted	Guizhou
Bijje Coal Power 2	660	Permitted	Guizhou
Bijie Coal Power 3	660	Pre-permit development	Guizhou
Bijie Coal Power 4	660	Pre-permit development	Guizhou
Anshun No 5	600	Pre-permit development	Guizhou
Anshun No 6	600	Pre-permit development	Guizhou
Qingjiang 1	660	Pre-permit development	Guizhou
Qingjiang 2	660	Pre-permit development	Guizhou
Zhijin 1	660	Construction	Guizhou
Znijin 2 Ukradice Analyse Device Diant	660	Construction	Guiznou
Huadian Anshun Power Plant	1200	Announced	Guizhou
Jinsha Chayuan 2	660	Construction	Guizhou
linsha Chayuan 3	660	Pre-permit development	Guizhou
Jinsha Chayuan 4	660	Pre-permit development	Guizhou
Liuzhi Inferior Coal Phase II. Unit 2	300	Construction	Guizhou
Panxian-1 No 7	660	Construction	Guizhou
Panxian-2 No 5	660	Pre-permit development	Guizhou
Panxian-2 No 6	660	Pre-permit development	Guizhou
Xingyi power station Unit 3	600	Pre-permit development	Guizhou
Xingyi power station Unit 4	600	Pre-permit development	Guizhou
Xingyi Zhengluwan 1	350	Construction	Guizhou
Xingyi Zhengluwan 2	350	Construction	Guizhou
Xishui Erlang Power Plant Unit 1	660	Construction	Guizhou
Xishui Erlang Power Plant Unit 2	660	Construction	Guizhou
Xishui Erlang Power Plant Unit 4	660	Construction	Guizhou
Hainan Southwest 1	350	Construction	Hainan
Hainan Southwest 2	350	Construction	Hainan
Canozhou Bohai 1	350	Construction	Hebei
Cangzhou Bohai 2	350	Construction	Hebei
Tangshan Caofeidian 3	1000	Construction	Hebei
Tangshan Caofeidian 4	1000	Construction	Hebei
Tangshan Beijiao 1	350	Pre-permit development	Hebei
Tangshan Beijiao 2	350	Pre-permit development	Hebei
Tangshan Beijiao 3	350	Announced	Hebei

Unit (Click to open wiki page)	MW	Status	Location
Tangshan Beijiao 4	350	Announced	Hebei
Guodian Langfang 1	350	Construction	Hebei
Guodian Langfang 2	350	Construction	Hebei
Zunhua-2 No 1	350	Announced	Hebei
Zunhua-2 No 2	350	Announced	Hebei
Handan Eastern Outskirt Cogen Power Station unit 1	350	Construction	Hebei
Handan Eastern Outskirt Cogen Power Station unit 1	350	Construction	Hebei
Hebei Datang Weixian Power Plant	600	Construction	Hebei
Hebei Datang Weixian Power Plant	600	Construction	Hebei
Huadian Lunua 3	350	Announced	Hebel
Huadian Lunua 4	350	Announced	Hebei
Kailuan Guye 1	300	Construction	Hebei
Tangshan West-2 No 1	350	Construction	Hebei
Tangshan West-2 No 2	350	Construction	Hebei
Datang Daging CCS power station Unit 1	350	Pre-permit development	Heilongijang
Datang Daging CCS power station Unit 2	350	Pre-permit development	Heilongijang
Datang Suihua 1	350	Permitted	Heilongijang
Datang Suihua 2	350	Permitted	Heilongijang
Fulaerij-2 No 7	350	Construction	Heilongijang
Hegang 4	600	Announced	Heilongjiang
Hegang 5	600	Announced	Heilongjiang
Huaneng Yichun 1	350	Construction	Heilongjiang
Huaneng Yichun 2	350	Construction	Heilongjiang
Luneng Baoqing 3	600	Pre-permit development	Heilongjiang
Luneng Baoqing 4	600	Pre-permit development	Heilongjiang
Gucheng 3	1000	Announced	Henan
Gucheng 4	1000	Announced	Henan
Dengzhou 1	1000	Announced	Henan
Dengzhou 2	1000	Announced	Henan
Datang Gongyi Power Plant Unit 1	660	Pre-permit development	Henan
Datang Gongyi Power Plant Unit 2	660	Pre-permit development	Henan
Datang Sanmenxia 5	1000	Announced	Henan
Datang Sanmenxia 6	1000	Announced	Henan
Shangqiu Minquan 3	1000	Pre-permit development	Henan
Shangqiu Minquan 4	1000	Pre-permit development	Henan
Yuyuan 3	350	Announced	Henan
Yuyuan 4	350	Announced	Henan
Heqi 1	660	Construction	Henan
Heqi 2	660	Construction	Henan
	600	Pre-permit development	Henan
	600	Pre-permit development	Henon
Xinzhongyi 4	600	Pre-permit development	Henon
Huanong Anyang 1	350	Pre-permit development	Honon
Huaneng Anyang 2	350	Pre-permit development	Henen
Huaneng Luovang 1	350	Construction	Henan
Huaneng Luoyang 2	350	Construction	Henan
Huaneng Mianchi 1	300	Construction	Henan
Huaneng Mianchi 2	300	Construction	Henan
Jiaozuo Boai 3	660	Construction	Henan
Jiaozuo Boai 4	660	Construction	Henan
Jiaozuo Danhe-2 No 1	1000	Announced	Henan
Jiaozuo Danhe-2 No 2	1000	Announced	Henan
Luoyang Mengjin 3	1000	Announced	Henan
Luoyang Mengjin 4	1000	Announced	Henan
Nanyang Yahekou power station Unit 5	1000	Announced	Henan
Nanyang Yahekou power station Unit 6	1000	Announced	Henan
Puyang LongFeng 5	600	Construction	Henan
Puyang LongFeng 6	600	Construction	Henan
Jiaozuo 7	660	Construction	Henan
Jiaozuo 8	660	Construction	Henan
Xixia Wanxi 1	660	Pre-permit development	Henan
Xixia Wanxi 2	660	Pre-permit development	Henan
Zhoukou Longda 3	660	Pre-permit development	Henan
Zhoukou Longda 4	660	Pre-permit development	Henan
Dabieshan 3	660	Announced	Hubei

Unit (Click to open wiki page)	MW	Status	Location
Dabieshan 4	660	Announced	Hubei
Guodian Anlu power station Unit 1	660	Pre-permit development	Hubei
Guodian Anlu power station Unit 2	660	Pre-permit development	Hubei
Guodian Changyuan Jingzhou Power Station Unit 3	600	Pre-permit development	Hubei
Guodian Changyuan Jingzhou Power Station Unit 4	600	Pre-permit development	Hubei
Jiangling 1	660	Pre-permit development	Hubei
Jiangling 2	660	Pre-permit development	Hubei
Jiangling 3	1000	Announced	Hubei
Jiangling 4	1000	Announced	Hubei
Huadian Xiangyang power station Unit 1	1000	Announced	Hubei
Huadian Xiangyang power station Unit 2	1000	Announced	Hubei
Huaneng Jingmen 1	350	Construction	Hubei
Huaneng Jingmen 2 Vingebeng 1	350	Construction	Hubei
Vingcheng 2	350	Construction	Hubei
Ezbou 5	1000	Pre-permit development	Hubei
Ezhou 6	1000	Pre-permit development	Hubei
Suizhou 1	1000	Announced	Hubei
Suizhou 2	1000	Announced	Hubei
Sujzhou 3	1000	Announced	Hubei
Suizhou 4	1000	Announced	Hubei
Laohekou power station Unit 1	660	Pre-permit development	Hubei
Laohekou power station Unit 2	660	Pre-permit development	Hubei
Xiantao power station Unit 1	660	Pre-permit development	Hubei
Xiantao power station Unit 2	660	Pre-permit development	Hubei
Zhuzhou Youxian Power Plant Phase II Unit 1	600	Construction	Hunan
Zhuzhou Youxian Power Plant Phase II Unit 2	600	Construction	Hunan
Baoqing 3	1000	Pre-permit development	Hunan
Baoqing 4	1000	Pre-permit development	Hunan
Miluo 1	1000	Announced	Hunan
Miluo 2	1000	Announced	Hunan
Huadian Changde Power Plant Phase I Unit 1	660	Construction	Hunan
Huadian Changde Power Plant Phase I Unit 2	660	Construction	Hunan
Pingjiang 1	1000	Announced	Hunan
Pingjiang 2	1000	Announced	Hunan
Huaihua Gangue 1	300	Construction	Hunan
Huaihua Gangue 2	300	Construction	Hunan
Huaneng Yueyzhou power station Unit 7	1000	Pre-permit development	Hunan
Huaneng Yueyzhou power station Unit 8	1000	Pre-permit development	Hunan
Huaneng Yueyzhou power station Phase II	2000	Announced	Hunan
	1000	Pre-permit development	Hunan
Chenzhou Z	1000	Construction	Hunan
Shenhua Yongzhou 2	1000	Construction	Hunan
Shenhua Yuevang 1	1000	Appounced	Hunan
Shenhua Yuevang 2	1000	Announced	Hunan
Shenhua Yueyang Phase II	2000	Announced	Hunan
CPI Baiyinhua Industrial Park Self-Supply Power Plant	2000	, unounoed	
Phase I	300	Announced	Inner Mongolia
Baiyinhua Jinshan 3	600	Pre-permit development	Inner Mongolia
Balyinnua Jinshan 4 Huaneng Beifeng And Beineng Chenbarbu Qi Baorixile	600	Pre-permit development	Inner Mongolia
Power Plant 3	600	Pre-permit development	Inner Mongolia
Huaneng Beifeng And Beineng Chenbarhu Qi Baorixile	600	Pro pormit development	Innor Mongolia
Dengkou 3	600	Appounced	Inner Mongolia
Dengkou 4	600	Announced	Inner Mongolia
CPI Menadona Energy Chifena New City Region	300	Permitted	Inner Mongolia
CPI Mengdong Energy Chifeng New City Region	300	Permitted	Inner Mongolia
CPI Xing'An Meng Wulanhaote Power Plant	2000	Announced	Inner Mongolia
CR Xiwu Qi Wujianfang Power Plant Unit 1	660	Pre-permit development	Inner Mongolia
CR Xiwu Qi Wujianfang Power Plant Unit 2	660	Pre-permit development	Inner Mongolia
Datang Duolun power station Unit 5	660	Announced	Inner Mongolia
Datang Duolun power station Unit 6	660	Announced	Inner Mongolia
Datang Intl. Hailar Power Plant Phase I	600	Pre-permit development	Inner Mongolia
Datang Intl. Hailar Power Plant Phase I	600	Pre-permit development	Inner Mongolia
Tuoketuo-V No 1	660	Permitted	Inner Mongolia
Tuoketuo-V No 2	660	Permitted	Inner Mongolia
Datang Xilinhaote Power Plant Unit 1	660	Pre-permit development	Inner Mongolia

Unit (Click to open wiki page)	MW	Status	Location
Datang Xilinhaote Power Plant Unit 2	660	Pre-permit development	Inner Mongolia
Datang International Zhunger Dalu Power plant Unit 1	1000	Pre-permit development	Inner Mongolia
Datang International Zhunger Dalu Power plant Unit 2	1000	Pre-permit development	Inner Mongolia
Ganqimaodu Processing Industrial Park power station Unit 1	350	Pre-permit development	Inner Mongolia
Ganqimaodu Processing Industrial Park power station Unit 2	350	Pre-permit development	Inner Mongolia
Guodian Mengneng Alashan Left Qi Wusitai Power Plant Phase II	660	Announced	Inner Mongolia
Guodian Dongsheng 3	300	Pre-permit development	Inner Mongolia
Guodian Dongsheng 4	300	Pre-permit development	Inner Mongolia
Guodian Shanghaimiao Waste power station Unit 1	350	Pre-permit development	Inner Mongolia
Guodian Shanghaimiao Waste power station Unit 2	350	Pre-permit development	Inner Mongolia
Guodian Shuangwei Shanghaimiao power station Unit 1	1000	Pre-permit development	Inner Mongolia
Guodian Shuangwei Shanghaimiao power station Unit 2	1000	Pre-permit development	Inner Mongolia
Guodian Tongliao Naiman Menglong Power Plant	600	Pre-permit development	Inner Mongolia
Guodian Tongliao Naiman Menglong Power Plant	600	Pre-permit development	Inner Mongolia
Phase I Unit 1	1000	Pre-permit development	Inner Mongolia
Phase I Unit 2	1000	Pre-permit development	Inner Mongolia
Plant	600	Pre-permit development	Inner Mongolia
Guodian Mengneng Xing'An Meng Youzhong Power	600	Pro pormit development	Innor Mongolia
<u>Cuodian Zhunger Changton Power Plant Phase I</u>	660	Pre-permit development	
Guodian Zhunger Changtan Power Plant Phase I	000	Pre-permit development	
Hongwang 1	200		
Hengwang 2	200	Announced	
Hongiun Aluminum 11	200	Bre permit development	
Hongiun Aluminum 12	350	Pre-permit development	
Huadian Bastou Tuyou Power Plant Unit 1	550	Construction	
Huadian Baotou Tuyou Power Plant Unit 2	660	Construction	
	000	Announced	
	660	Announced	Inner Mongolia
Huadian Zhunger Dalu Waste Coal Power Plant Phase I Unit 1	300	Permitted	Inner Mongolia
Huadian Zhunger Dalu Waste Coal Power Plant Phase I Unit 2	300	Permitted	Inner Mongolia
Huadian Hubei Energy Zhunger Shierliancheng Power Plant 1	660	Pre-permit development	Inner Mongolia
Huadian Hubei Energy Zhunger Shierliancheng Power Plant 2	660	Pre-permit development	Inner Mongolia
Huaneng Bayanbaolige power station	660	Pre-permit development	Inner Mongolia
Huaneng Bayanbaolige power station	660	Pre-permit development	Inner Mongolia
Huaneng Beifang Helin Power Plant Phase II	4000	Announced	Inner Mongolia
Huaneng Helin 1	600	permitted	Inner Mongolia
Huaneng Helin 2	600	permitted	Inner Mongolia
Linhe 3	300	Pre-permit development	Inner Mongolia
Linhe 4	300	Pre-permit development	Inner Mongolia
Generation Units Phase I Unit 1	600	Announced	Inner Mongolia
Huaneng Snenneng Manzhouli Zhalainuor Power Generation Units Phase I Unit 2	600	Announced	Inner Mongolia
Shangdu 7	660	Pre-permit development	Inner Mongolia
Shangdu 8	660	Pre-permit development	Inner Mongolia
Wubai Haibowan 5	330	Construction	Inner Mongolia
Wuhai Haibowan 6	330	Construction	Inner Mongolia
Wuhai Haibowan 7	600	Announced	Inner Mongolia
Huaneng Beifang Xilphaote-3 Thermal Power Plant	600	Announced	Inner Mongolia
Huaneng Beifang Yakeshi Huiliuhe Power Plant	200	Pre-permit development	Inner Mongolia
Huaneng Beifang Yakeshi Huiliuhe Power Plant	200	Pre-permit development	Inner Mongolia
Huaneng Yimin Power Generation Phase IV	3200	Announced	Inner Mongolia
Weijiamao 1	660	Construction	Inner Mongolia
Weijiamao 2	660	Construction	Inner Mongolia
Weijiamao 3	660	Announced	Inner Mongolia
Weijiamao 4	660	Announced	Inner Mongolia
Huolinhe Zhanute-III No 1	660	Announced	Inner Mongolia
Huolinhe Zhanute-III No 2	660	Announced	Inner Mongolia
Huolinhe Zhanute-III No 3	660	Announced	Inner Mongolia
Huolinhe Zhanute-III No 4	660	Announced	Inner Mongolia
Huolinhe Zhanute-II No 1	660	Pre-permit development	Inner Mongolia
Huolinhe Zhanute-II No 2	660	Pre-permit development	Inner Mongolia
Huolinhe Zhanute-II No 3	660	Pre-permit development	Inner Mongolia

Unit (Click to open wiki page)	MW	Status	Location
Huolipho Zhaputo II No 4	660	Pro pormit dovelopment	Inner Mongolia
Hubiline Zhanute-in No 4	220	Construction	
	330	Construction	Inner Mongolia
Hangjin 2	330	Construction	
Xing An 1	340	construction	Inner Mongolia
Xing'An 2	340	construction	Inner Mongolia
Keyouqian Qi Debosi Power Plant Unit 1	600	Pre-permit development	Inner Mongolia
Reyouqian Qi Debosi Power Plant Unit 2	600	Pre-permit development	Inner Mongolia
Qingshuine Cogen 1	300	Announced	Inner Mongolia
Qingshuihe Cogen 2	300	Announced	Inner Mongolia
Ewenki 5	1000	Announced	Inner Mongolia
Ewenki 6	1000	Announced	Inner Mongolia
Ewenki 3	1000	Announced	Inner Mongolia
Ewenki 4	1000	Announced	Inner Mongolia
Shengle Cogen Power Plant Unit 1	350	Pre-permit development	Inner Mongolia
Shengle Cogen Power Plant Unit 2	350	Pre-permit development	Inner Mongolia
Power Plant Phase II Unit 3	660	Announced	Inner Mongolia
Power Plant Phase II Unit 4	660	Announced	Inner Mongolia
Shenhua Xilaifeng 3	350	Announced	Inner Mongolia
Shenhua Xilaifeng 4	350	Announced	Inner Mongolia
Wuda-2 No 1	50	Announced	Inner Mongolia
Wuda-2 No 2	50		Inner Mongolia
Zhongtian Hechuang 1	135	Permitted	Inner Mongolia
Zhongtian Hechuang 2	135	Permitted	Inner Mongolia
Zhonglian Hechuang 2	135	Permitted	
Zhonglian Hechuang 5	30	Permiteu Dre normit development	Inner Mongolia
Inner Mongolia Zhunger Zhujiaping Power Plant Phase I	1200	Pre-permit development	
Dantu Port 1	1000	Announced	Jiangsu
Dantu Port 2	1000	Announced	Jiangsu
Datang Xutang 5	1000	Announced	Jiangsu
Datang Xutang 6	1000	Announced	Jiangsu
Datun Mine 8	350	Construction	Jiangsu
Datun Mine 9	350	Construction	Jiangsu
Guodian Changzhou 3	660	Announced	Jiangsu
Guodian Changzhou 4	660	Announced	Jiangsu
Guodian Taizhou 3	1000	Construction	Jiangsu
Guodian Taizhou 4	1000	Construction	Jiangsu
Guoxin Dafeng 1	1000	Pre-permit development	Jiangsu
Guoxin Dafeng 2	1000	Pre-permit development	Jiangsu
Guoxin Dafeng 3	1000	Pre-permit development	Jiangsu
Guoxin Dafeng 4	1000	Pre-permit development	Jiangsu
Guoxin Dafeng 5	1000	Pre-permit development	Jiangsu
Guoxin Dafeng 6	1000	Pre-permit development	Jiangsu
Huaneng Nanjing Thermal Power Plant	100	Pre-permit development	Jiangsu
Jianbi 17	1200	Announced	Jiangsu
Jianbi 18	1200	Announced	Jiangsu
Yancheng-2 No 1	350	Announced	Jiangsu
Yancheng-2 No 2	350	Announced	Jiangsu
Chenjiagang 3	1000	Construction	Jiangsu
Chenjiagang 4	1000	Construction	Jiangsu
Lüsigang 5	1260	Announced	Jiangsu
Lüsigang 6	1260	Announced	Jiangsu
Taixing Plant 1	50	Announced	Jiangsu
Taixing Plant 2	50	Announced	Jiangsu
Xinhai Unit 6	1000	Pre-permit development	Jiangsu
Xuzhou Mining Huamei 3	350	Pre-permit development	Jiangsu
Xuzhou Mining Huamei 4	350	Pre-permit development	Jiangsu
Zhangijagang Shazhou 3	1000	Pre-permit development	Jiangsu
Zhangijagang Shazhou 4	1000	Pre-permit development	lianosu
Xinchang 3	1000	Announced	Jianoxi
Xinchang 4	1000	Announced	Jjanovi
Datang Fuzhou 1	1000	Construction	lianovi
Datang Fuzhou 2	1000	Construction	lianavi
	1000	Announced	Jiangxi
	1000	Announced	Jianyxi
Allyu-2 INU 2	1000		Jiangxi
	1000		Jiangxi
	1000	Pre-permit development	Jiangxi
Xinyu Oity 1	1000	Announced	Jiangxi

Unit (Click to open wiki page)	MW	Status	Location
Xinyu City 2	1000	Announced	Jiangxi
Huaneng Anyuan 3	660	Construction	Jiangxi
Huaneng Anyuan 4	660	Construction	Jiangxi
Jujiang Shenhua 1	1000	Pre-permit development	Jiangxi
Jujiang Shennua 2 Changebup Southoost 1	1000	Pre-permit development	Jiangxi
Changchun Southeast 2	350	Construction	Jilin
CNPC Jilin 1	50	Announced	Jilin
CNPC Jilin 2	50	Announced	Jilin
CPI Baicheng power station Phase II	1000	Announced	Jilin
CPI Baicheng power station Phase II	1000	Announced	Jilin
Datang Changshan New 2	660	Announced	Jilin
Jilin Thermal Power Plant	350	Permitted	Jilin
Shrandiac 5	350	Permitted	JIIIN
Huaneng liutai 3	660	Pre-permit development	lilin
Huaneng Jiutai 4	660	Pre-permit development	Jilin
Huaneng Panshi 1	300	Announced	Jilin
Huaneng Panshi 2	300	Announced	Jilin
Longhua Yanji 3	300	Announced	Jilin
Longhua Yanji 4	300	Announced	Jilin
Songhuajiang 4	350	Pre-permit development	Jilin
Anshan North 1	300	Permitted	Liaoning
Anshan North 3	300	Appounced	Liaoning
Anshan North 4	300	Announced	Liaoning
Anshan South 1	300	Announced	Liaoning
Anshan South 2	300	Announced	Liaoning
Anshan South 3	300	Announced	Liaoning
Anshan South 4	300	Announced	Liaoning
Benxi Cogen 1	350	Pre-permit development	Liaoning
Oinghe 10	350	Announced	Liaoning
Qinghe 11	600	Announced	Liaoning
Fushun Zhongji 1	300	Construction	Liaoning
Fushun Zhongji 2	300	Construction	Liaoning
Zhuanghe 3	600	Announced	Liaoning
Zhuanghe 4	600	Announced	Liaoning
Huaneng Xianrendao 1	50	Pre-permit development	Liaoning
Pulandian Cogen 1	50 350	pre-permit development	Liaoning
Pulandian Cogen 2	350	pre-permit development	Liaoning
Weishanhu Yanshanhu 3	1000	Announced	Liaoning
Weishanhu Yanshanhu 4	1000	Announced	Liaoning
Weishanhu Yanshanhu 5	1000	Announced	Liaoning
Weishanhu Yanshanhu 6	1000	Announced	Liaoning
Cpi Linhe Power Station Unit 3 Cpi Ningxia Power Generation Zaoguan Power Plant	350	Pre-permit development	Ningxia
Phase I Cal Mission Rever Constration Zooguan Rever Plant	660	Pre-permit development	Ningxia
Phase I	660	Pre-permit development	Ningxia
Zhongwei Cogen 1	350	Construction	Ningxia
Zhongwei Cogen 2	350	Construction	Ningxia
Dawukou 7	330	Pre-permit development	Ningxia
Dawukou 8	330	Pre-permit development	Ningxia
Guodian Fangjiazhuang Power Plant Phase I Unit 1	1000	Pre-permit development	Ningxia
Wuzhong 1	350	Construction	Ningxia
Wuzhong 2	350	Construction	Ningxia
Guohua Ningdong 3	1000	Pre-permit development	Ningxia
Guohua Ningdong 4	1000	Pre-permit development	Ningxia
Ningxia Lingwu 5	1000	Pre-permit development	Ningxia
Ningxia Lingwu 6	1000	Pre-permit development	Ningxia
Huaneng Qingtongxia Daba Power Plant Phase Iv	660	Pre-permit development	Ningxia
Initiation Maliantai 3	000	Pre-permit development	Ningxia
Ningdong Maliantai 4	660	Pre-permit development	Ningxia
Ningdong Maliantai 5	1000	Announced	Ningxia

Unit (Click to open wiki page)	MW	Status	Location
Ningdong Maliantai 6	1000	Announced	Ningxia
Ningxia Zhongning-2 No 3	1000	Pre-permit development	Ningxia
Ningxia Zhongning-2 No 4	1000	Pre-permit development	Ningxia
Jijiajing Power station 1	1050	Pre-permit development	Ningxia
Jijiajing Power station 2	1050	Pre-permit development	Ningxia
Shenhua Lingzhou Power Plant Unit 3	660	Pre-permit development	Ningxia
Shenhua Lingzhou Power Plant Unit 4	660	Pre-permit development	Ningxia
Yuanyang Lake 3	1000	Pre-permit development	Ningxia
Yuanyang Lake 4	1000	Pre-permit development	Ningxia
Weizhou Waste Coal Power Plant	600	Pre-permit development	Ningxia
Weizhou Waste Coal Power Plant	600	Pre-permit development	Ningxia
Xining City 1 Vining City 2	660	Pre-permit development	Qinghai
Alling City 2 Datana Colmud nowor station Unit 1	660	Appounced	Qinghai
Datang Colmud power station Unit 1	660	Announced	Oinghai
Huaneng Minhe Power Plant Unit 1	600	Announced	Qinghai
Huaneng Minhe Power Plant Unit 2	600	Announced	Qinghai
Huaneng Xining power station Unit 1	350	Pre-permit development	Qinghai
Huaneng Xining power station Unit 2	350	Pre-permit development	Qinghai
Qinghai Wanxiang A&M 1	350	Construction	Qinghai
Qinghai Wanxiang A&M 2	350	Construction	Qinghai
Shenhua low carbon Golmud Power Plant 1	660	Pre-permit development	Qinghai
Shenhua low carbon Golmud Power Plant 1	660	Pre-permit development	Qinghai
Datang Binchang power station Unit 3	1000	Pre-permit development	Shaanxi
Datang Binchang power station Unit 4	1000	Pre-permit development	Shaanxi
Datang Fugu Coal-Power Integration Project	4000	Announced	Shaanxi
Datang Lueyang power station Unit 2	330	Construction	Shaanxi
Datang Yan'An Power Plant Unit 1	350	Permitted	Shaanxi
Datang Yan'An Power Plant Unit 2	350	Permitted	Shaanxi
Qingshuichuan 3 Qingshuichuan 4	1000	Construction	Shaanxi
Euring Cogon Power Plant	350	Permitted	Shaanxi
Funing Cogen Power Plant	350	Permitted	Shaanxi
Xi'An Weivang 1	350	Permitted	Shaanxi
Xi'An Weiyang 2	350	Permitted	Shaanxi
Guodian Yulin Jingbian Power Plant	6000	Announced	Shaanxi
Ankang 1	1000	Permitted	Shaanxi
Ankang 2	1000	Permitted	Shaanxi
Ankang 3	1000	Announced	Shaanxi
Ankang 4	1000	Announced	Shaanxi
Yangling Cogen 1	350	Construction	Shaanxi
Yangling Cogen 2	350	Construction	Shaanxi
Huadian Yuheng 3	1000	Announced	Shaanxi
Huadian Yuheng 4	1000	Announced	Shaanxi
Huaneng Duanzhai 1	1000	Announced	Shaanxi
Huaneng Duanzhai 2	1000	Announced	Shaanxi
Huaneng Qinling Power Plant Unit 9	660	Announced	Shaanxi
	600	Bre permit development	Shaanxi
Huaneng Yan'An 2	600	Pre-permit development	Shaanxi
Huangling-3 No 1	300	Permitted	Shaanxi
Huangling-3 No 2	300	Permitted	Shaanxi
Shenhua Shendong Power Fugu Guojiawan Waste Coal			
Power Plant Phase II	600	Announced	Shaanxi
Fugu 3	1000	Announced	Shaanxi
Fugu 4 Chanbus Cushus Chanmu, liniis Dawar Diant Dhasa II	1000	Announced	Shaanxi
Shenhua Shendong Coal Shenmu Daliuta Thermal Power Plant Unit 1	4000 350	Announced	Shaanxi
Shenhua Shendong Coal Shenmu Daliuta Thermal	250	Associated	Channyi
Power Plant Unit 2	350	Announced	Shaanxi
Tushen Coal Yulin Beijiao Thermal Power Plant Phase I	300	Permitted	Snaanxi
Yulin Yinhe 5	300	Announced	Shaanyi
	300		Shaanvi
Binzhou Boxing 1	1000	Pre-permit development	Shandong
Binzhou Boxing 2	1000	Pre-permit development	Shandong
Datang Binzhou 1	350	Construction	Shandong
Datang Binzhou 2	350	Construction	Shandong

Unit (Click to open wiki page)	MW	Status	Location
Datang Dongying 1	1000	Pre-permit development	Shandong
Datang Dongying 2	1000	Pre-permit development	Shandong
Datang Junan power station Unit 1	1000	Pre-permit development	Shandong
Datang Junan power station Unit 2	1000	Pre-permit development	Shandong
Datang Linqing power station Unit 1	350	Permitted	Shandong
Datang Linqing power station Unit 2	350	Permitted	Shandong
Datang Yuncheng power station Unit 1	1000	Pre-permit development	Shandong
Datang Yuncheng power station Unit 2	1000	Pre-permit development	Shandong
Dongming power station Unit 1	350	Pre-permit development	Shandong
Enizian 3	1000	Pre-permit development	Shandong
Feixian 4	1000	Pre-permit development	Shandong
Guodian Liaocheng power station Unit 1	600	Pre-permit development	Shandong
Guodian Liaocheng power station Unit 2	600	Pre-permit development	Shandong
Penglai Guodian 3	670	Announced	Shandong
Penglai Guodian 4	670	Announced	Shandong
Qingzhou 1	300	Announced	Shandong
Qingzhou 2	300	Announced	Shandong
Guodian Tai'An 1	350	Construction	Shandong
Guodian Tai'An 2	350	Construction	Shandong
Guohua Shouguang 1	1000	Construction	Shandong
Guohua Shouguang 2	1000	Construction	Shandong
Heze Huarun 3	600	Announced	Shandong
Heze Huarun 4	600	Announced	Shandong
Heze Zhaolou power station Unit 2	300	Pre-permit development	Shandong
Huadian Dingtao power station Unit 1	1000	Announced	Shandong
Huadian Dingtao power station Unit 2	1000	Announced	Shandong
Huadian Laizhou 3	1000	Pre-permit development	Shandong
	600	Pre-permit development	Shandong
	600	Pre-permit development	Shandong
Shiliguan-III No 1	600	Construction	Shandong
Huadian Zibo-2 No 7	660	Announced	Shandong
Huadian Zibo-2 No 8	660	Announced	Shandong
Huaneng Jiaxiang 3	680	Announced	Shandong
Huaneng Jiaxiang 4	680	Announced	Shandong
Laiwu 6	1000	Construction	Shandong
Laiwu 7	1000	Construction	Shandong
Yantai-2 No 1	600	Permitted	Shandong
Yantai-2 No 2	600	Permitted	Shandong
Zhanhua 5	1000	Pre-permit development	Shandong
Zhanhua 6	1000	Pre-permit development	Shandong
Nanshan Tokai 5	300	Announced	Shandong
Shandong Haihua 1	150	Announced	Shandong
Hanzhuang-II No 1	600	Announced	Shandong
Hanzhuang-II No 2	600	Announced	Shandong
Shengli Dongying-III No 5	600	Construction	Shandong
Anteihae Cangue 1	600	Permitted	Shandong
Antaibao Gangue 1	350	Permitted	Shanxi
Changzhi Xinlong 1	300	Permitted	Shanyi
Shanxi Houma-2 No 2	300	Construction	Shanxi
Shentou 3	1000	Pre-permit development	Shanxi
Shentou 4	1000	Pre-permit development	Shanxi
Datang Qinzhou power station Unit 1	1000	Pre-permit development	Shanxi
Datang Qinzhou power station Unit 2	1000	Pre-permit development	Shanxi
Datang Shanxi Anyu power station Unit 1	350	Permitted	Shanxi
Datang Shanxi Anyu power station Unit 2	350	Permitted	Shanxi
Datang Taier 1	660	Announced	Shanxi
Datang Taier 2	660	Announced	Shanxi
Hejin power station Unit 1	350	Permitted	Shanxi
Hejin power station Unit 2	350	Permitted	Shanxi
High River power station Unit 1	600	Permitted	Shanxi
High River power station Unit 2	600	Permitted	Shanxi
Huadian Hunyuan power station Unit 1	1000	Announced	Shanxi
Huadian Hunyuan power station Unit 2	1000	Announced	Shanxi
Huadian Pianguan power plant	2000	Announced	Shanxi

Unit (Click to open wiki page)	MW	Status	Location
Huadian Shuozhou power station Unit 1	350	Construction	Shanxi
Huadian Shuozhou power station Unit 2	350	Construction	Shanxi
Huadian Xiangyuan power station Unit 1	600	Permitted	Shanxi
Huadian Xiangyuan power station Unit 2	600	Permitted	Shanxi
Huadian Xinzhou Guangyu power station Unit 3	350	Permitted	Shanxi
Huadian Xinzhou Guangyu power station Unit 4	350	Permitted	Shanxi
Huaneng Shanyin 1	1000	Pre-permit development	Shanxi
Huaneng Shanyin 2	1000	Pre-permit development	Shanxi
Huaneng Xishangzhuang power station Unit 1	600	Permitted	Shanxi
Huaneng Xishangzhuang power station Unit 2	600	Permitted	Shanxi
Huaneng Yangqu 1	350	Announced	Shanxi
Huaneng Yangqu 2	350	Announced	Shanxi
Zuoguan power station Unit 3	600	Permitted	Shanxi
Zuoguan power station Unit 4	600	Permitted	Shanxi
Huarui Jiaokou 1	350	Pre-permit development	Shanxi
Huarui Jiaokou 2	350	Pre-permit development	Shanxi
	350	Permitted	Shanxi
	350	Permitted	Shanxi
lingpeng Zuovun Madaotou power station Unit 1	350	Permitted	Shanxi
lingnong Zuoyun Madaotou power station Unit 2	350	Permitted	Shanyi
Jingheng Zuoyun Madaolou power station Unit 2	350	Construction	Shanxi
Jinneng Guojin power station Unit 1	350	Construction	Shanxi
Jinneng Guojin power station Unit 2	350	Construction	Shanxi
Lingshi Qiguang power station Unit 1	350	Permitted	Shanxi
Lingshi Qiguang power station Unit 2	350	Permitted	Shanxi
Lishi power station Unit 1	350	Permitted	Shanxi
Lishi power station Unit 2	350	Permitted	Shanxi
Liulin Liansheng power station Phase II	300	Permitted	Shanxi
Lüliang Pangpangta power plant Unit 1	350	Pre-permit development	Shanxi
Lüliang Pangpangta power plant Unit 2	350	Pre-permit development	Shanxi
Muguajie Gangue power station Unit 1	660	Permitted	Shanxi
Muguajie Gangue power station Unit 2	660	Permitted	Shanxi
Ningwu Gangue power station Unit 1	350	Permitted	Shanxi
Ningwu Gangue power station Unit 2	350	Permitted	Shanxi
Quwo power station Unit 1	600	Announced	Shanxi
Quwo power station Unit 2	600	Announced	Shanxi
Shanxi Coal Hegu power station Unit 1	350	Permitted	Shanxi
Shanxi Coal Hegu power station Unit 2	350	Permitted	Shanxi
Shanxi Guofeng 2	300	Construction	Shanxi
Shanxi Guofeng 1	300	Construction	Shanxi
Shanxi Guoiin 1	350	Construction	Shanxi
Shanxi Guojin 2	350	Construction	Shanxi
Heno 5	350	Construction	Shanxi
Heno 6	350	Construction	Shanxi
Puvian 1	350	Appounced	Shanyi
Puxian 2	350	Announced	Shanxi
Putienana 2	550	Announced	Shanxi
Ruiguang 5	000	Announced	Shanxi
Ruiguang 4 Shanyi Yuguang nawar station Unit 2	000	Announced	Shanxi
Shanxi Yuguang power station Unit 3	350	Permitted	Shanxi
Shanki Fuguarig power station Onit 4	350	Permilied	Shanxi
Shendong Hequ'i	300	Construction	Shanxi
Shendong Hequ 2	300	Construction	Shanxi
Hequ 5	1000	Pre-permit development	Shanxi
Hequ 6	1000	Pre-permit development	Shanxi
Hequ 7	1000	Announced	Shanxi
Hequ 8	1000	Announced	Shanxi
Shouyang power station Unit 1	350	Construction	Shanxi
Shouyang power station Unit 2	350	Construction	Shanxi
Taiyuan Gangue 2	300	Construction	Shanxi
Tongua Xuangang 3	660	Pre-permit development	Shanxi
Tongua Xuangang 4	660	Pre-permit development	Shanxi
Tongmei Hunyuan power station Unit 1	350	Pre-permit development	Shanxi
Tongmei Hunyuan power station Unit 2	350	Pre-permit development	Shanxi
Tongmei Shuonan Gangue power station Unit 1	350	Permitted	Shanxi
Tongmei Shuonan Gangue power station Unit 2	350	Permitted	Shanxi
Tashan 3	660	Permitted	Shanxi
Tashan 4	660	Permitted	Shanxi
Yongii 09	330	Construction	Shanxi

Unit (Click to open wiki page)	MW	Status	Location
Yongji 10	330	Construction	Shanxi
Wangjialing Gangue 1	660	Permitted	Shanxi
Wangjialing Gangue 2	660	Permitted	Shanxi
Wang Ping power station Unit 3	600	Pre-permit development	Shanxi
Wang Ping power station Unit 4	600	Pre-permit development	Shanxi
Xiaoyi Xinyang Unit 1	350	Permitted	Shanxi
Xiaoyi Xinyang Unit 2	350	Permitted	Shanxi
Xing County power station Unit 1	350	Permitted	Shanxi
Xing County power station Unit 2	350	Permitted	Shanxi
Xinlei Gangue 1	350	Permitted	Shanxi
Xinlei Gangue 2	350	Permitted	Shanxi
Xishan Coal Wuxiang power station Unit 1	1000	Announced	Shanxi
	600	Announced	Shanxi
	600	Permitted	Shanyi
Vanggao power station Unit 1	350	Permitted	Shanyi
Yanggao power station Unit 2	350	Permitted	Shanxi
Yuansheng Pingding 1	350	Pre-permit development	Shanxi
Yuansheng Pingding 2	350	Pre-permit development	Shanxi
Zhangze-III No 1	1000	Pre-permit development	Shanxi
Zhangze-III No 2	1000	Pre-permit development	Shanxi
Zhaozhuang power station Unit 1	600	Permitted	Shanxi
Zhaozhuang power station Unit 2	600	Permitted	Shanxi
Zhongyang power station Unit 1	300	Permitted	Shanxi
Zhongyang power station Unit 2	300	Permitted	Shanxi
Chengdu Jintang 3	1000	Pre-permit development	Sichuan
Chengdu Jintang 4	1000	Pre-permit development	Sichuan
Datang Guangyuan power station Unit 1	1000	Pre-permit development	Sichuan
Datang Guangyuan power station Unit 2	1000	Pre-permit development	Sichuan
Gongxian 3	600	Pre-permit development	Sichuan
Gongxian 4	600	Pre-permit development	Sichuan
Emeishan 1	135	Construction	Sichuan
Emeishan 2	135	Construction	Sichuan
GreenGen Phase 3 (CCS unit)	400	Pre-permit development	Tianjin
Tianjin Beijiang 3	1000	Construction	Tianjin
Tianjin Beijiang 4	1000	Construction	Tianjin
Tianjin Nanjiang 1	300	Construction	Tianjin
Tianjin Nanjiang 2	300	Construction	Tianjin
Tianjin Northeast 3	350	Announced	Tianjin
Tianjin Northeast 4	350	Announced	Tianjin
Aksu Cogen 1	350	Pre-permit development	Xinjiang
Aksu Cogen 2	350	Pre-permit development	Xinjiang
Aksu Xuzhou 3	000	Announced	Xinjiang
Arsu Xu2100 4	2000	Announced Dra parmit development	Xinjiang
Raota 1	2000	Pre-permit development	Xinjiang
Baota 2	350	Pre-permit development	Xinjiang
Beisantai Ind Park 1	150	Announced	Xinjiang
Beisantai Ind Park 2	150	Announced	Xinjiang
Bole Cogen 1	150	Pre-permit development	Xinijang
Bole Cogen 2	150	Pre-permit development	Xinijang
Wusu 3	350	Announced	Xinjiang
Wusu 4	350	Announced	Xinjiang
Hami Dananhu Coal Power Project Unit 1	350	Pre-permit development	Xinjiang
Hami Dananhu Coal Power Project Unit 2	350	Pre-permit development	Xinjiang
Hami Dananhu Coal Power Project Unit 3	350	Pre-permit development	Xinjiang
Hami Dananhu Coal Power Project Unit 4	350	Pre-permit development	Xinjiang
Datang Hutubi 3	660	Announced	Xinjiang
Datang Hutubi 4	660	Announced	Xinjiang
Datang Jimsar power station Unit 1	350	Pre-permit development	Xinjiang
Datang Jimsar power station Unit 2	350	Pre-permit development	Xinjiang
Datang Zhundong Wucaiwan power station Unit 1	660	Announced	Xinjiang
Datang Zhundong Wucaiwan power station Unit 2	660	Announced	Xinjiang
East Hope Metals Wucaiwan power station Unit 4	350	Construction	Xinjiang
East Hope Metals Wucaiwan power station Unit 5	350	Construction	Xinjiang
Fukang Second Power Plant Unit 2	350	Pre-permit development	Xinjiang
Fukang Second Power Plant Unit 1	350	Pre-permit development	Xinjiang

Unit (Click to open wiki page)	MW	Status	Location
Guodian Bachu Thermal Power Plant Unit 1	350	Construction	Xinjiang
Guodian Bachu Thermal Power Plant Unit 2	350	Construction	Xinjiang
Beitun 1	135	Construction	Xinjiang
Beitun 2	135	Construction	Xinjiang
Beitun 3	330	Announced	Xinjiang
Beitun 4	330	Announced	Xinjiang
Guodian Dananhu power station Unit 1	660	Construction	Xinjiang
Guodian Danannu power station Unit 2	000	Construction	Xinjiang
Guodian Korla power station Unit 1	350	Construction	Xinijiang
Guodian Nilka Power Plant	660	Pre-permit development	Xinjiang
Guodian Nilka Power Plant	660	Pre-permit development	Xinjiang
Guodian Tacheng power station Unit 1	660	Pre-permit development	Xinijang
Guodian Tacheng power station Unit 2	660	Pre-permit development	Xinjiang
Guodian Turpan power station Unit 1	660	Pre-permit development	Xinjiang
Guodian Turpan power station Unit 2	660	Pre-permit development	Xinjiang
Guodian Wucaiwan power station Unit 1	1000	Pre-permit development	Xinjiang
Guodian Wucaiwan power station Unit 2	1000	Pre-permit development	Xinjiang
Henglian Wucaiwan 1	660	Construction	Xinjiang
Henglian Wucaiwan 2	660	Construction	Xinjiang
Kashi 6	350	Construction	Xinjiang
Huadian Toksun power station Unit 1	660	Announced	Xinjiang
Huadian Toksun power station Unit 2	660	Announced	Xinjiang
Huadian Turpan power station Unit 1	350	Announced	Xinjiang
Xibeishan 1	550 660	Permitted	Xinijiang
Xiheishan 2	660	Permitted	Xinjiang
Huaneng Fuhai 1	350	Permitted	Xinjiang
Huaneng Fuhai 2	350	Permitted	Xinjiang
Huaneng Fuhai 3	350	Announced	Xinjiang
Huaneng Fuhai 4	350	Announced	Xinjiang
Huaneng Fukang Industrial Park power station Unit 1	350	Announced	Xinjiang
Huaneng Fukang Industrial Park power station Unit 2	350	Announced	Xinjiang
	660	Pre-permit development	Xinjiang
Huaneng Hami Heavy Industrial Park power station Unit	660	Dro normit development	Viniting
4 Huanong Hami Shalorhu power station Unit 1	1000		Xinjiang
Huaneng Hami Sha'erhu power station Unit 1	1000	Announced	Xinijiang
Huaneng IIi Qingshui River power station Unit 1	350	Announced	Xinjiang
Huaneng III Qingshui River power station Unit 2	350	Announced	Xinijang
Huaneng Ili Qingshui River power station Unit 3	350	Announced	Xinjiang
Huaneng Ili Qingshui River power station Unit 4	350	Announced	Xinjiang
Huaneng Luntai 1	350	Construction	Xinjiang
Huaneng Luntai 2	350	Construction	Xinjiang
Zhundong Huaneng 1	1000	Pre-permit development	Xinjiang
Zhundong Huaneng 2	1000	Pre-permit development	Xinjiang
Huawei Hetian City Power Plant Phase I Unit 1	135	Construction	Xinjiang
Huawei Hetian City Power Plant Phase I Unit 2	135	Construction	Xinjiang
Huawei Hetian City Power Plant Phase II Unit 3	300	Announced	Xinjiang
Huawer Helian City Power Plant Phase II Offit 4	300	Announced Dra parmit development	Xinjiang
limusaer Wucaiwan Beisan power station unit 2	660	Pre-permit development	Xinijiang
Qitai County Jiji Lake Power Plant Phase I	2000	Pre-permit development	Xinijang
Yili Yining-2 No 3	660	Pre-permit development	Xinijang
Yili Yining-2 No 4	660	Pre-permit development	Xinjiang
Hami Energy 1	660	Construction	Xinjiang
Hami Energy 2	660	Construction	Xinjiang
Hami Energy 3	660	Construction	Xinjiang
Hami Energy 4	660	Construction	Xinjiang
Tacheng 3	660	Announced	Xinjiang
Tacheng 4	660	Announced	Xinjiang
Shenhua Yining 3	350	Construction	Xinjiang
Shennua Yining 4	350	Construction	Xinjiang
Zhundong Wucaiwan-2 No 1	000	Announcea	Xinjiang
Tianchi Energy Zhundong Wucaiwan power station Unit	000	Announced	Anijidny
1	660	Pre-permit development	Xinjiang

Unit (Click to open wiki page)	MW	Status	Location
Tianchi Energy Zhundong Wucaiwan power station Unit	660	Pre-nermit development	Xinijang
E Tianfu North power station Unit 1	660	Pre-permit development	Xinjiang
Tianfu North power station Unit 2	660	Pre-permit development	Xinijang
Tianfu South 3	330	Construction	Xinijang
Tianfu South 4	330	Construction	Xinjiang
Tianshan Qitai power station Unit 1	350	Construction	Xinjiang
Tianshan Qitai power station Unit 2	350	Construction	Xinjiang
Toksun Mahatma 3	300	Pre-permit development	Xinjiang
Toksun Mahatma 4	300	Pre-permit development	Xinjiang
Tumxuk power station Unit 2	350	Construction	Xinjiang
Tumxuk power station Unit 1	350	Construction	Xinjiang
Wujiaqu 3	1100	Announced	Xinjiang
Wujiaqu 4	1100	Announced	Xinjiang
Wujiaqu 2	1100	Construction	Xinjiang
Xinjiang Guoxin Qitai power station Unit 1	660	Construction	Xinjiang
Xinjiang Guoxin Qitai power station Unit 2	660	Construction	Xinjiang
Xinjiang Kuche Ehuobulake Pithead Power Plant Unit 1	660	Announced	Xinjiang
XINJIANG KUCHE ENUODUIAKE Pithead Power Plant Unit 2	660	Announced	Xinjiang
Qiya Smelter b	360	Construction	Xinjiang
Qiya Smelter 9	360	Construction	Xinjiang
Qiya Smelter 10	360	Construction	Xinjiang
Xinyou Qitai 1 Xinyou Qitai 2	660	Construction	Xinjiang
Xiniyou Qital 2 Xiniyong Ruibong 1	660	Bre permit development	Xinijang
Xinjiang Ruihong 1 Vinijang Ruihong 2	660	Pre-permit development	Xinijang
Shihezi Cogen-3 No 1	360		Xinijang
Shihezi Cogen-3 No 2	360	Announced	Xinijang
Shihezi Cogen-3 No 3	360	Announced	Xinjiang
Shihezi Cogen-3 No 4	360	Announced	Xinjiang
Shihezi Cogen-3 No 5	360	Announced	Xinjiang
Shihezi Cogen-3 No 6	360	Announced	Xinijang
Yihua Hoboksar power station Unit 1	660	Announced	Xinijang
Yihua Hoboksar power station Unit 2	660	Announced	Xinjiang
Zhongtai Toksun power station Unit 1	300	Construction	Xinjiang
Zhongtai Toksun power station Unit 2	300	Construction	Xinjiang
Zhongtai Toksun power station Unit 3	300	Announced	Xinjiang
Zhongtai Toksun power station Unit 4	300	Announced	Xinjiang
Diandong Yuwang 3	600	Announced	Yunnan
Diandong Yuwang 4	600	Announced	Yunnan
Zhenxiong 3	600	Announced	Yunnan
Zhenxiong 4	600	Announced	Yunnan
Xuanwei Gangue 1	300	Construction	Yunnan
Xuanwei Gangue 2	300	Construction	Yunnan
Changxing 7	660	Construction	Zhejiang
Changxing 8	660	Construction	Zhejiang
Ying Long Shan 1	600	Announced	Zhejiang
Ying Long Shan 2	600	Announced	Zhejiang
Ying Long Shan 3	600	Announced	Zhejiang
Ying Long Shan 4	600	Announced	∠hejiang Zhailian
	1000	Construction	∠nejiang
	1000	Construction	∠nejiang Zhaiisa a
Taizhou 2 No 3	1000	Announced	∠nejiang Zhaiian m
	1000	Announced	
	000	Announcea	Zhejiang
Zhennard Liubard 1	1000	Announced	Znejiang
Zheneng Liuheng 1	1000	Construction	
Zheneng Wenzheu Unit 7	660	Construction	
Zhonong Wonzhou Unit 8	660	Construction	Zhejiang
Zheneny wenzhoù Unit o	000	Construction	znejiang

Colombia

Termopaipa power station Unit 5	150
La Loma power station	350
Gecelca 3	150

Announced Announced Construction Boyacá César Córdoba

Unit (Click to open wiki page)	MW	Status	Location
Gecelca 3.2 Termotasajero power station Unit 2	250 180	Permitted Construction	Córdoba Norte de Santander
Croatia			
Plomin C Thermal Power Plant	500	Permitted	Istra
Czech Republic			
Ledvice Power Station Unit 6 Prunerov Power Station Unit 26 Prunerov Power Station Unit 27 Prunerov Power Station Unit 28	660 250 250 250	Construction Construction Construction Construction	Ledvice Kadaň Kadaň Kadaň
Democratic Republic of Congo			
Luena Katanga power station	500	Announced	Katanga
Dominican Republic			
Punta Catalina Power Central Unit 1 Punta Catalina Power Central Unit 2 Itabo power station Unit 3 Río Haina power station Unit 5	385 385 300 240	Construction Construction Announced Pre-permit development	Azua Azua San Cristobal San Cristobal
Egypt			
Safaga Power Station Unit 1 Safaga Power Station Unit 2 Safaga Power Station Unit 3	650 650 650	Announced Announced Announced	Al Bahr al Ahmar Al Bahr al Ahmar Al Bahr al Ahmar
Former Yugoslav Republic of Macedonia			
Mariovo power station Negotino power station II	300 300	Pre-permit development Announced	Mariovo Negotino
Germany			
GKM (Mannheim) Unit 9 Moorburg Unit A Moorburg Unit B Stade Dow Chemical Wilhelmshaven GDF Suez Datteln Unit 4 Westfalen Unit D Profen	912 865 865 920 830 1100 800 660	Construction Construction Construction Pre-permit development Construction Construction Construction Pre-permit development	Baden-Wuerttemberg Hamburg Hamburg Lower Saxony Lower Saxony North Rhine-Westphalia North Rhine-Westphalia Saxony-Anhalt
Ghana			
Atuabo Valco power station Ghana Coal power station Unit 1 Ghana Coal power station Unit 2	1200 350 350	Announced Announced Announced	Western Western Western

Unit (Click to open wiki page)	MW	Status	Location
Greece			
Meliti-II Ptolemaida-V	440 660	Pre-permit development Permitted	West Macedonia West Macedonia
Guatemala			
Magdalena Sugar Mill plant Unit 2 Puerto Barrios Iberdrola power station	60 300	Construction Pre-permit development	Escuintla Izabel
Guinea			
Boffa Alumina power station	250	Permitted	Boffa
Hungary			
Mecsek Hills Power Station	400	Pre-permit development	Mecsek
India			
Bander power station Stage I Krishnapatnam Navayuga thermal station Unit 1 Krishnapatnam Navayuga thermal station Unit 2 Krishnapatnam Navayuga thermal station Unit 3 Devarampadu power station	1320 660 660 660 1320	Construction Permitted Permitted Permitted Pre-permit development	Andhra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh
Dr. RKP Power Ankulapatur power station phases 1 and 2 Gunipudi power station (STEAPL proposal) Meenakshi Energy Thermal Power Project Phase-II Meenakshi Energy Thermal Power Project Phase-III	420 1320 300 300	Pre-permit development Pre-permit development Construction Pre-permit development	Andhra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh
Muthukur Mandal power station (Painampuram) Unit 1 Muthukur Mandal power station (Painampuram) Unit 2 Pudimadaka Ultra Mega Power Project Unit 1 Pudimadaka Ultra Mega Power Project Unit 2	660 660 800 800	Permitted Permitted Pre-permit development Pre-permit development	Andhra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh
Pudimadaka Ultra Mega Power Project Unit 3 Pudimadaka Ultra Mega Power Project Unit 4 Pudimadaka Ultra Mega Power Project Unit 5 Rayalaseema Thermal Power Project Unit 6	800 800 800 600	Pre-permit development Pre-permit development Pre-permit development Construction	Andhra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh
Saggonda power station Sri Damodaram Sanjeevaiah Thermal Power Station Stage II Srikakulam Thermal Power Station Thammapatnam power station (Simhapuri) Phase-II	800 2400	Announced Pre-permit development Announced	Andhra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh
Thamminapatnam power station (Simhapuri) Phase-III Vemavaram power station Unit 1 Vemavaram power station Unit 2	1320 660 660	Pre-permit development Announced Announced	Andhra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh
Vijayawada merina Power Station expansion Vizag Thermal Power Plant Unit 1 Vizag Thermal Power Plant Unit 2 West Godavari Super Thermal Power Station Unit 1	520 520 660	Pre-permit development Construction Pre-permit development Pro-permit development	Andrra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh
West Godavari Super Thermal Power Station Unit 2 West Godavari Super Thermal Power Station Unit 3 West Godavari Super Thermal Power Station Unit 4 West Godavari Super Thermal Power Station Unit 5	660 660 660	Pre-permit development Pre-permit development Pre-permit development Pre-permit development	Andhra Pradesh Andhra Pradesh Andhra Pradesh Andhra Pradesh
Bongaigaon power station Unit 1 Bongaigaon power station Unit 2 Bongaigaon power station Unit 3 Margherita power station Unit 1	250 250 250 250	Construction Construction Construction Pre-permit development	Assam Assam Assam Assam Assam

Unit (Click to open wiki page)	MW	Status	Location
Margherita power station Unit 2	250	Pre-permit development	Assam
Banka Power Project Unit 1	660	Construction	Bihar
Banka Power Project Unit 2	660	Construction	Bihar
Banka Power Project Unit 3	660	Permitted	Bihar
Banka Power Project Unit 4	660	Permitted	Bihar
Barauni power station Unit 8	250	Pre-permit development	Bihar
Barh I power station Unit 1	660	Construction	Bihar
Barh I power station Unit 2	660	Construction	Bihar
Barh I power station Unit 3	660	Construction	Bihar
Barh II power station Unit 2	660	Construction	Bihar
Bhagalpur Power Project Phase I Unit 1	660	Pre-permit development	Bihar
Bhagalpur Power Project Phase I Unit 2	660	Pre-permit development	Bihar
Buxar Thermal Power Station (Chausa) Unit 1	660	Pre-permit development	Bihar
Buxar Thermal Power Station (Chausa) Unit 2	660	Pre-permit development	Bihar
Kakwara Ultra Mega Power Project	4000	Announced	Bihar
Lakhisarai Thermal Power Station (Kajara) Unit 1	660	Pre-permit development	Bihar
Lakhisarai Thermal Power Station (Kajara) Unit 2	660	Pre-permit development	Bihar
Moma power station	1980	Announced	Bihar
Muzaffarpur power Unit 3	195	Construction	Bihar
Muzaffarpur power Unit 4	195	Construction	Bihar
1	660	Permitted	Bihar
Nabinagar (Majhiyan) Super Thermal Power Project Unit	660	Permitted	Pibar
Nabinagar (Majhiyan) Super Thermal Power Project Unit	000	Fernited	
3 Nabinagar (Maihiyan) Super Thermal Power Project Unit	660	Permitted	Bihar
	660	Permitted	Bihar
5 Super Thermal Power Project Unit	660	Permitted	Bihar
Z Nabinagar Thermal Power Project Unit 1	250	Construction	Bihar
Nabinagar Thermal Power Project Unit 2	250	Construction	Bihar
Nabinagar Thermal Power Project Unit 3	250	Construction	Bihar
Nabinagar Thermal Power Project Unit 4	250	Construction	Bihar
Pirpainti power station (CESC) Phase I	1000	Announced	Bihar
Pirpainti power station (CESC) Phase II	1000	Announced	Bihar
Pirpainti Thermal Power Station	1320	Permitted	Bihar
Akaltara UMPP Unit 2	600	Construction	Chhattisgarh
Akaltara UMPP Unit 3	600	Construction	Chhattisgarh
Akaltara UMPP Unit 4	600	Construction	Chhattisgarh
Akaltara UMPP Unit 5	600	Construction	Chhattisgarh
Akaltara UMPP Unit 6	600	Construction	Chhattisgarh
Amarkantak Thermal Power Project phase II (Pathadi)	660	Construction	Chhattisgarh
Amarkantak Thermal Power Project phase II (Pathadi)	000		Cinatusgan
Unit 4	660	Construction	Chhattisgarh
Amoda power station	600	Pre-permit development	Chhattisgarh
Athena Chhattisgarh power station	1200	Construction	Chhattisgarh
Avantha Bhandar power station Unit 2	600	Announced	Chhattisgarh
BALCO Korba power station expansion	1200	Construction	Chhattisgarh
Baradarha power station Unit 2	600	Construction	Chhattisgarh
Bhaiso power station (Janjgir-Champa) Phase 1	600	Pre-permit development	Chhattisgarh
Bhaiso power station (Janjgir-Champa) Phase 2	600	Announced	Chhattisgarh
Bhengari power station	540	Announced	Chhattisgarh
Bhilai Steel power station Unit 7	250	Pre-permit development	Chhattisgam
Bhilai Steel power station Unit 8	250	Pre-permit development	Chhattisgam
Binikata nawar station Unit 9	250	Pre-permit development	Chhattiagarh
Binjkole power station Unit 1	300	Construction	Chhattiagarh
Binjkole power station Unit 2	300	Construction	Chhattiagarh
Binjkole power station Unit 3	300	Construction	Chhattiagarh
Birra Thermal Power Project	300 1320	COnstruction Pre-permit development	Chhattisgarh
Bunii Bundeli Thermal Power Project	500		Chhattisgarh
Champa Power Project Unit 1	600	Pre-permit development	Chhattisearh
Champa Power Project Unit 2	600	Pre-permit development	Chhattisearh
Dongamahua power station Unit 5	150	Permitted	Chhattisgarh
Dongamahua power station Unit 6	150	Permitted	Chhattisoarh
Gare Pelma power station	2000	Pre-permit development	Chhattisoarh
Jagdalpur Steel captive power station	300	Pre-permit development	Chhattisgarh
Korba South Thermal Power Project Unit 1	500	Pre-permit development	Chhattisgarh
Korba South Thermal Power Project Unit 2	500	Pre-permit development	Chhattisgarh

Unit (Click to open wiki page)	MW	Status	Location
Kukurda power station Unit 1	660	Permitted	Chhattisgarh
Kukurda power station Unit 2	660	Permitted	Chhattisgarh
Lara Integrated Thermal Power Project Unit 1	800	Permitted	Chhattisgarh
Lara Integrated Thermal Power Project Unit 2	800	Permitted	Chhattisgarh
Marwa power station Unit 2	500	Construction	Chhattisgarh
Raigarn Project (Jindai)	1320	Pre-permit development	Chhattisgarh
Raigant project (VISA Power) Unit 1	600	Construction	Chhattisgarh
Raikheda power station Phase Unit 1	685	Construction	Chhattisgarh
Raikheda power station Phase Unit 2	685	Construction	Chhattisgarh
Ratija Power Project Phase II	50	Announced	Chhattisgarh
Salora power station Unit 2	135	Construction	Chhattisgarh
Salora power station Unit 3	270	Permitted	Chhattisgarh
Salora power station Unit 4	660	Announced	Chhattisgarh
Sapnai power station Unit 1	300	Pre-permit development	Chhattisgarh
Sapnai power station Unit 2	300	Pre-permit development	Chhattisgarh
Sapnai power station Unit 3	660	Pre-permit development	Chhattisgarh
Sapos power station (BEC Power)	600	Pre-permit development	Chhattisgarh
Sapos power station (Suryachakra) Unit 1	660	Announced	Chhattisgarh
Sapos power station (Suryachakra) Unit 2	660	Announced	Chhattisgarh
SV Power project (Renki) phase II	300	Announced	Chhattisgarh
Tamnar II Project Unit 7	600	Construction	Chhattisgarh
Tamnar II Project Unit 8	600	Construction	Chhattisgarh
Uchpinda power station Unit 1	360	Construction	Chhattisgarh
Uchpinda power station Unit 2	360	Construction	Chhattisgarh
Uchpinda power station Unit 3	360	Construction	Chhattisgarh
Uchpinda power station Unit 4	360	Construction	Chhattisgarh
Bhadreshwar power station (OPG) Unit 1	150	Construction	Gujarat
Bhadreshwar power station (OPG) Unit 2	150	Construction	Gujarat
Bhatvadia Phase I	1320	Permitted	Gujarat
Bhatvadia Phase II	1320	Announced	Gujarat
Bhatvadia Phase III	1320	Announced	Gujarat
Bhavhagar power station Unit 1	250	Construction	Gujarat
Bhavnagar power station Unit 2	250	Appeupood	Gujarat
Bherai power station Unit 1	000	Announced	Gujarat
Dhelera Power Plant Unit 1	800	Announced	Gujarat
Dholera Power Plant Unit 2	800	Announced	Gujarat
Dhuvaran Super Thermal Power Project Unit 1	660	Pre-permit development	Gujarat
Dhuvaran Super Thermal Power Project Unit 2	660	Pre-permit development	Gujarat
Guiarat Power Project (Valia)	500	Announced	Gujarat
Hazira II power plant Unit 1	135	Construction	Gujarat
Hazira II power plant Unit 2	135	Construction	Gujarat
Jafrabad power station Unit 1	660	Pre-permit development	Gujarat
Jafrabad power station Unit 2	660	Pre-permit development	Gujarat
Kaj/Nanavada power station Unit 1	660	Permitted	Gujarat
Kaj/Nanavada power station Unit 2	660	Permitted	Gujarat
Mota Layja power station	4000	Pre-permit development	Gujarat
Pipavav power station Unit 1	840	Pre-permit development	Gujarat
Pipavav power station Unit 2	840	Pre-permit development	Gujarat
Pipavav power station Unit 3	840	Pre-permit development	Gujarat
Sikka Unit 3	250	Construction	Gujarat
Sikka Unit 4	250	Construction	Gujarat
Surat Lignite Unit 5	300	Pre-permit development	Gujarat
Surat Lignite Unit 6	300	Pre-permit development	Gujarat
Suryachakra captive power plant	200	Announced	Gujarat
Tata Mundra Ultra Mega Power Project Unit 6	830	Pre-permit development	Gujarat
Tata Mundra Ultra Mega Power Project Unit 7	830	Pre-permit development	Gujarat
Wanakbori Thermal Power Station Unit 8	800	Permitted	Gujarat
Deenbandhu Chhotu Ram Thermal Power Plant Unit 3	660	Announced	Haryana
Baranda power station	800	Announced	Jharkhand
Gagan power station	1320	Pre-permit development	Jharkhand
Bokaro A Thermal Power Station	500	Construction	Jharkhand
Bokaro Steel City Thermal Power Station expansion	500	Announced	Jharkhand
Changing Power Project Phase I	1080		
Dophhum power station	1320	Pre-permit development	JNARKNANG
	000	Pre-permit development	Jharkhand

Unit (Click to open wiki page)	MW	Status	Location
Danbhum power staion Unit 2	660	Pre-permit development	Iharkhand
Deoghar power station	4000	Announced	Jharkhand
Dumka power station (CESC) Phase I Unit 1	300	Pre-permit development	Jharkhand
Dumka power station (CESC) Phase I Unit 2	300	Pre-permit development	Jharkhand
Dumka power station (CESC) Phase II	660	Pre-permit development	Jharkhand
Godda Project Unit 1	660	Permitted	Jharkhand
Godda Project Unit 2	660	Permitted	Jharkhand
Gola power station	63	Permitted	Jharkhand
Ichagarh power station Unit 1	660	Pre-permit development	Jharkhand
Ichagarh power station Unit 2	660	Pre-permit development	Jharkhand
Ichagarh power station Unit 3	660	Pre-permit development	Jharkhand
Jharkhand Aluminium power station	900	Pre-permit development	Jharkhand
Jindal Patratu captive power station	1320	Announced	Jharkhand
Kamdara power station Unit 1	660	Announced	Jharkhand
Kamdara power station Unit 1	660	Announced	Jharkhand
Kamdara power station (Jindal) Unit 1	660	Announced	Jharkhand
Kamdara power station (Jindal) Unit 2	660	Announced	Jharkhand
Kamdara power station (Jindal) Unit 3	660	Announced	Jharkhand
Kamdara power station (Jindal) Unit 4	660	Announced	Jharkhand
Mahadev Prasad Super Thermal Power Station stage III	540	Pre-permit development	Jharkhand
Maithon Right Bank Thermal Power Station Phase II	1320	Announced	Jharkhand
North Karanpura power station Unit 1	660	Pre-permit development	Jharkhand
North Karanpura power station Unit 2	660	Pre-permit development	Jharkhand
North Karanpura power station Unit 3	660	Pre-permit development	Jharkhand
Patratu Energy power station Unit 1	000	Pre-permit development	Jnarkhand
Patratu Energy power station Unit 2	66	Construction	Jharkhand
Saraikela power station Unit 2	150	Announced	Jharkhand
Tenughat power station Unit 3	210	Announced	Ibarkhand
Tenughat power station Unit 4	210	Announced	Ibarkhand
Tenughat power station Unit 5	210	Announced	Ibarkhand
Tenughat power station Unit 6	500	Announced	Ibarkhand
Tilaiva Ultra Mega Power Project 1	660	Permitted	Jharkhand
Tilaiya Ultra Mega Power Project 2	660	Permitted	Jharkhand
Tilaiya Ultra Mega Power Project 3	660	Permitted	Jharkhand
Tilaiya Ultra Mega Power Project 4	660	Permitted	Jharkhand
Tilaiya Ultra Mega Power Project 5	660	Permitted	Jharkhand
Tilaiya Ultra Mega Power Project 6	660	Permitted	Jharkhand
Tiruldih Power Project Unit 1	660	Pre-permit development	Jharkhand
Tiruldih Power Project Unit 2	660	Pre-permit development	Jharkhand
Tiruldih Power Project Unit 3	660	Pre-permit development	Jharkhand
Tori power plant Unit 1	600	Construction	Jharkhand
Tori power plant Unit 2	600	Construction	Jharkhand
Tori power plant Unit 3	660	Permitted	Jharkhand
Visa Power Jharkhand project	2640	Announced	Jharkhand
Bellary Thermal Power Station Unit 3	700	Construction	Karnataka
Danapuram BMM power station Units 3 and 4	140	Construction	Karnataka
Ediapura power station Unit 1	800	Pre-permit development	Karnataka
Chataprona power station Unit 1	000	Pre-permit development	Kamataka
Ghatapiblia power station	160	Pre-permit development	Kamataka
	660	Pre-permit development	Kamataka
Gulbarga power station Unit 2	000	Pre-permit development	Kamataka
Hassan power station Unit 1	500	Permitted	Karnataka
Kadechur power station	1320	Permitted	Karnataka
Kudgi Super Thermal Power Project Unit 1	800	Construction	Karnataka
Kudgi Super Thermal Power Project Unit 2	800	Construction	Karnataka
Kudgi Super Thermal Power Project Unit 3	800	Construction	Karnataka
Kudgi Super Thermal Power Project Unit 4	800	Announced	Karnataka
Kudgi Super Thermal Power Project Unit 5	800	Announced	Karnataka
Mulwad power station Unit 1	660	Pre-permit development	Karnataka
Mulwad power station Unit 2	660	Pre-permit development	Karnataka
Torangallu (JSW Vijayanagar) Unit 5	300	Construction	Karnataka
Torangallu (JSW Vijayanagar) Unit 6	300	Construction	Karnataka
Udupi Cement Plant	100	Announced	Karnataka
Udupi power station Unit 3	660	Pre-permit development	Karnataka
Udupi power station Unit 4	660	Pre-permit development	Karnataka

Unit (Click to open wiki page)	MW	Status	Location
Vadlur power station Unit 1	210	Construction	Karnataka
Vadlur power station Unit 2	210	Construction	Karnataka
Yermarus power station Unit 1	800	Construction	Karnataka
Yermarus power station Unit 2	800	Construction	Karnataka
Anuppur Thermal Power Project Phase 1 Unit 1	600	Construction	Madhya Pradesh
Anuppur Thermal Power Project Phase 1 Unit 2	600	Construction	Madhya Pradesh
Banas Thermal Power project (Anuppur)	1320	Pre-permit development	Madhya Pradesh
Bansagar power station	1600	Pre-permit development	Madhya Pradesh
Barethi Super Thermal Power Project Unit 1	660	Pre-permit development	Madhya Pradesh
Barethi Super Thermal Power Project Unit 2	660	Pre-permit development	Madhya Pradesh
Barethi Super Thermal Power Project Unit 3	660	Pre-permit development	Madhya Pradesh
Barethi Super Thermal Power Project Unit 4	660	Pre-permit development	Madhya Pradesh
Chadhana power station	660	Pre-permit development	Madhya Pradesh
Chitrangi Power Project Unit 1	660	Permitted	Madhya Pradesh
Chitrangi Power Project Unit 2	660	Permitted	Madhya Pradesh
Chitrangi Power Project Unit 3	660	Permitted	Madhya Pradesh
Chitrangi Power Project Unit 4	660	Permitted	Madhya Pradesh
Chitrangi Power Project Unit 5	660	Permitted	Madhya Pradesh
Chitrangi Power Project Unit 6	660	Permitted	Madhya Pradesh
Gadarwara power station (BLA)	140	Pre-permit development	Madhya Pradesh
Gadarwara Super Thermal Power Project Unit 1	800	Permitted	Madhya Pradesh
Gadarwara Super Thermal Power Project Unit 2	800	Permitted	Madhya Pradesh
Ghuman power station (Prosperous Energy) Unit 1	600	Pre-permit development	Madhya Pradesh
Ghuman power station (Prosperous Energy) Unit 2	600	Pre-permit development	Madhya Pradesh
Ghuman/Tilaun power station (Reliable Thermal) Unit 1	660	Pre-permit development	Madhya Pradesh
Ghuman/Tilaun power station (Reliable Thermal) Unit 1	660	Pre-permit development	Madhya Pradesh
Gorgi power station Unit 2	660	Permitted	Madhya Pradesh
Gorgi power station Unit 1	660	Permitted	Madhya Pradesh
Jawa power station Unit 1	660	Pre-permit development	Madnya Pradesh
Jawa power station Unit 2	660	Pre-permit development	Madnya Pradesh
Jaypee Nigrie Super Thermal Power Project Unit 2	000	Construction	Madhya Pradesh
Jhabua Power Seoni power station phase 1	600	Construction	Madhya Pradesh
Jnabua Power Seoni power station phase 2	120	Pre-permit development	Madhya Pradesh
Katai power station Unit 1	120	Permitted	Madhya Pradesh
Katni power station Unit 2	660	Permitted	Madhya Pradesh
Katni power station Unit 2	660	Permitted	Madhya Pradesh
Khandwa power station (Dwardesh Energy) Unit 1	660	Pro pormit development	Madhya Pradesh
Khandwa power station (Dwardesh Energy) Unit 1	660	Pre-permit development	Madhya Pradesh
Khargone power station Unit 1	000	Pre-permit development	Madhya Pradesh
Khargone power station Unit 2	660	Pre-permit development	Madhya Pradesh
Mahan Lower plant Unit 2	600	Construction	Madhya Pradesh
Pench Thermal Power Project Unit 1	660	Permitted	Madhya Pradesh
Pench Thermal Power Project Unit 2	660	Permitted	Madhya Pradesh
Rewa power station Unit 1	660	Pre-permit development	Madhya Pradesh
Rewa power station Unit 2	660	Pre-permit development	Madhya Pradesh
Sasan Ultra Mega Power Project Unit 6	660	Construction	Madhya Pradesh
Satpura Thermal Power Station Unit 12	660	Pre-permit development	Madhya Pradesh
Shree Singaji Thermal Power Project Stage Unit 2	600	Construction	Madhva Pradesh
Shree Singaji Thermal Power Project Stage II Unit 3	660	Pre-permit development	Madhya Pradesh
Shree Singaji Thermal Power Project Stage II Unit 4	660	Pre-permit development	Madhya Pradesh
Sidhi Power Project Unit 1	600	Pre-permit development	Madhya Pradesh
Sidhi Power Project Unit 2	600	Pre-permit development	Madhya Pradesh
Suryachakra Thermal (Madhya Pradesh) Unit 1	660	Pre-permit development	Madhya Pradesh
Suryachakra Thermal (Madhya Pradesh) Unit 2	660	Pre-permit development	Madhya Pradesh
Vindhyachal-V power station Unit 13	500	Permitted	Madhya Pradesh
Welspun Energy Anuppur Thermal Power Plant Unit 1	660	Permitted	Madhya Pradesh
Welspun Energy Anuppur Thermal Power Plant Unit 2	660	Permitted	Madhya Pradesh
Amravati Thermal Power Project Phase I, Unit 3	270	Construction	Maharashtra
Amravati Thermal Power Project Phase I, Unit 4	270	Construction	Maharashtra
Amravati Thermal Power Project Phase I, Unit 5	270	Construction	Maharashtra
Amravati Thermal Power Project Phase II, Unit 1	270	Construction	Maharashtra
Amravati Thermal Power Project Phase II, Unit 2	270	Construction	Maharashtra
Amravati Thermal Power Project Phase II, Unit 3	270	Construction	Maharashtra
Amravati Thermal Power Project Phase II, Unit 4	270	Construction	Maharashtra
Amravati Thermal Power Project Phase II, Unit 5	270	Construction	Maharashtra
ASTARC power station Unit 1	660	Pre-permit development	Maharashtra

Unit (Click to open wiki page)	MW	Status	Location
ASTARC power station Unit 2	660	Pre-permit development	Maharashtra
Bhadravati power station Unit 1 (MIDC)	660	Pre-permit development	Maharashtra
Bhadravati power station Unit 2 (MIDC)	660	Pre-permit development	Maharashtra
Bhusawal Thermal Power Station Unit 6	660	Permitted	Maharashtra
Bijora power station Phase I Unit 1	300	Permitted	Maharashtra
Bijora power station Phase I Unit 2	300	Permitted	Maharashtra
Bijora power station Phase II Unit 1	660	Announced	Maharashtra
Chandrapur Thermal Power Station Unit 8	500	Construction	Maharashtra
Chandrapur Thermal Power Station Unit 9	500	Construction	Maharashtra
Dondaicha Thermal Power Station Stage I Unit 1	660	Pre-permit development	Maharashtra
Dondaicha Thermal Power Station Stage I Unit 2	660	Pre-permit development	Maharashtra
Dondaicha Thermal Power Station Stage II Unit 3	660	Pre-permit development	Maharashtra
Dondaicha Thermal Power Station Stage II Unit 4	660	Pre-permit development	Maharashtra
Dondaicha Thermal Power Station Stage II Unit 5	660	Pre-permit development	Maharashtra
Ghugus power station phase II	540	Pre-permit development	Maharashtra
Koradi Thermal Power Station Unit 10	660	Construction	Maharashtra
Koradi Thermal Power Station Unit 8	660	Construction	Maharashtra
Koradi Thermal Power Station Unit 9	660	Construction	Maharashtra
Latur power station	1500	Announced	Maharashtra
Mauda-II STPP (Nagpur) Unit 1	660	Permitted	Maharashtra
Mauda-II STPP (Nagpur) Unit 2	660	Permitted	Maharashtra
Nardana power station (Vaghode)	300	Construction	Maharashtra
Nasik Thermal Power Project Phase I (Indiabulls) Unit 2	270	Construction	Maharashtra
Nasik Thermal Power Project Phase I (Indiabulls) Unit 2	270	Construction	Maharashtra
Nasik Thermal Power Project Phase I (Indiabulis) Unit 3	270	Construction	Maharashtra
Nasik Thermal Power Project Phase I (Indiabulla) Unit 4	270	Construction	Maharashtra
Nasik Thermal Power Project Phase II (Indiabulis) Unit 5	270		Maharashtra
Nasik Thermal Power Project Phase II (Indiabulis) Unit 3	270	Permitted	Maharashtra
Nasik Thermal Power Project Phase II (Indiabulis) Unit 4	270	Permitted	Maharashtra
Nasik Thermal Power Project Phase II (Indiabulis) Unit 5	270	Permitted	Maharashtra
Nasik Thermal Power Station (Mahagenco) Unit 6	660	Pre-permit development	Maharashtra
Paras power station Unit 5	250	Pre-permit development	Maharashtra
Parli Thermal Power Station Unit 8	250	Construction	Maharashtra
Parsodi power station Unit 1	300	Pre-permit development	Maharashtra
Parsodi power station Unit 2	300	Pre-permit development	Maharashtra
Parsodi power station Unit 3	300	Pre-permit development	Maharashtra
Solapur power station Unit 1	660	Construction	Maharashtra
Solapur power station Unit 2	660	Construction	Maharashtra
Tiroda Thermal Power Project Phase III Unit 5	660	Construction	Maharashtra
Trombay Power Station Unit 6 conversion	500	Pre-permit development	Maharashtra
Vidarbha Thermal Power Unit 1	660	Construction	Maharashtra
Vidarbha Thermal Power Unit 2	660	Construction	Maharashtra
Aditya Aluminium power station	900	Construction	Odisha
Angul I power station (Derang) Unit 3	600	Announced	Odisha
Angul II power station (Derang)	1320	Announced	Odisha
Angul Smelter power station Unit 11	250	Pre-permit development	Odisha
Angul Smelter power station Unit 12	250	Pre-permit development	Odisha
Babandh power station Phase I Unit 1	660	Construction	Odisha
Babandh power station Phase I Unit 2	660	Construction	Odisha
Babandh power station Phase II Unit 1	660	Announced	Odisha
Babandh power station Phase II Unit 2	660	Announced	Odisha
Balangir power station Unit 1	660	Pre-permit development	Odisha
Balangir power station Unit 2	660	Pre-permit development	Odisha
Basundhara power station Unit 1	800	Announced	Odisha
Basundhara power station Unit 2	800	Announced	Odisha
Bhapur power station Unit 1	660	Announced	Odisha
Bhapur power station Unit 2	660	Announced	Odisha
Cuttack power station (KVK Nilachal) Phase II Unit 1	350	Permitted	Odisha
Cuttack power station (KVK Nilachal) Phase II Unit 2	350	Permitted	Odisha
Cuttack power station (//ISA Power)	1320	Dermitted	Odisha
Darlingli Super Thermal Device Station Unit 4	1320 800	Dormitted	Odisha
Daripali Super Thermal Power Station Unit 1	800	Permitted	Odisha Odisha
Charannali Jultra Maga Daviar Dreject	000	Permitted	Odisha
Unitial Nega Power Project	4000		Odisna
Hemgir power station Unit 1	800	Pre-permit development	Odisha
Hemgir power station Unit 2	800	Pre-permit development	Odisha
IB Thermal Power Station Unit 3	660	Construction	Odisha
IB Thermal Power Station Unit 4	660	Construction	Odisha
Jamunda power station Unit 1	660	Pre-permit development	Odisha

Unit (Click to open wiki page)	MW	Status	Location
Jamunda nower station Unit 2	660	Pre-permit development	Odisha
Jharsuguda Ind-Barath power station Phase II	660	Pre-permit development	Odisha
Kamakhyanagar power station Unit 1	800	Pre-permit development	Odisha
Kamakhyanagar power station Unit 2	800	Pre-permit development	Odisha
Kamakhyanagar power station Unit 3	800	Pre-permit development	Odisha
Kamalanga power station phase II	350	Permitted	Odisha
Kishornagar power station Unit 2	660	Pre-permit development	Odisha
Malibrahmani power station Unit 1	525	Permitted	Odisha
Malibrahmani power station Unit 2	525	Permitted	Odisha
Malibrahmani power station Unit 3	660	Pre-permit development	Odisha
Meramandali power station	185	Pre-permit development	Odisha
Meramandali power station	256	Pre-permit development	Odisha
Nandichod power station	135	Pre-permit development	Odisha
Navabilatal power station (Phase I)	660	Pro pormit development	Odisha
Neulapoi power station (Dhenkanal) Unit 1	660	Pre-permit development	Odisha
Paradio power station (Dilenkaria) onit 1	120	Construction	Odisha
Rairakhol power station Unit 1	660	Pre-permit development	Odisha
Rairakhol power station Unit 2	660	Pre-permit development	Odisha
Sakhigopal Ultra Mega Power Project	4000	Announced	Odisha
Sodamal power station Unit 1	660	Pre-permit development	Odisha
Sodamal power station Unit 2	660	Pre-permit development	Odisha
Sri Ramchandrapur power project	120	Pre-permit development	Odisha
Sundargarh Ultra Mega Power Project (Lankahuda)	4000	Pre-permit development	Odisha
Talcher power station (NSL Nagapatnam)	1320	Permitted	Odisha
Tata Begunia power station	660	Permitted	Odisha
Goindwal Sahib Thermal Power Plant Unit 1	270	Construction	Punjab
Goindwal Sahib Thermal Power Plant Unit 2	270	Construction	Punjab
Goindwal Sahib Thermal Power Plant Unit 3	660	Pre-permit development	Punjab
Goindwal Sahib Thermal Power Plant Unit 4	660	Pre-permit development	Punjab
Guru Hargobind (Lehra Mohabbat) Power Station Stage	500	Announced	Puniah
Mukerian power station Unit 1	660	Pre-permit development	Punjab
Mukerian power station Unit 2	660	Pre-permit development	Punjab
Raipura Thermal Power Project phase II	700	Pre-permit development	Puniab
Talwandi Sabo Power Project Unit 2	660	Construction	Punjab
Talwandi Sabo Power Project Unit 3	660	Construction	Punjab
Banswara Thermal Power Station Unit 1	660	Pre-permit development	Rajasthan
Banswara Thermal Power Station Unit 2	660	Pre-permit development	Rajasthan
Barsingsar Thermal Power Project Unit 3	250	Permitted	Rajasthan
Bithnok Thermal Power Project	250	Pre-permit development	Rajasthan
Chhabra power station Unit 5	660	Permitted	Rajasthan
Chhabra power station Unit 6	660	Permitted	Rajasthan
JSW Barmer (Jalipa Kapurdi) power station Unit 10	135	Pre-permit development	Rajasthan
JSW Barmer (Jalipa Kapurdi) power station Unit 9	135	Pre-permit development	Rajasthan
Kalisindh Thermal Power Station Unit 2	600	Construction	Rajasthan
Kalisindh Thermal Power Station Unit 3	660	Pre-permit development	Rajasthan
Kalisindh Thermal Power Station Unit 4	660	Pre-permit development	Rajasthan
Nimbri Chandawatan power station	120	Announced	Rajasthan
Suratgarh Super Thermal Power Station Unit 10	660	Pre-permit development	Rajasthan
Suratgarn Super Thermal Power Station Unit 7	660	Permitted	Rajasthan
Suratgarn Super Thermal Power Station Unit 8	660	Permitted	Rajasthan
APS Motolo Cummidipoondi contivo power plant Unit 2	190	Pre-permit development	
ARS Metals Gummidipoondi captive power plant Unit 2	300	Pre-permit development	
Atbivakurichi power station Unit 1	500 660	Pre-permit development	
Athivakurichi power station Unit 2	660	Pre-permit development	Tamil Nadu
Athivakurichi power station Unit 3	660	Pre-permit development	Tamil Nadu
Athivakurichi power station Unit 4	660	Pre-permit development	Tamil Nadu
Chennai power station IV	180	Construction	Tamil Nadu
Cheyyur Ultra Mega Power Project	4000	Permitted	Tamil Nadu
Cuddalor Ultra Mega Power Project Phase I Unit 1	600	Permitted	Tamil Nadu
Cuddalor Ultra Mega Power Project Phase I Unit 2	600	Permitted	Tamil Nadu
Cuddalor Ultra Mega Power Project Phase II Unit 1	660	Permitted	Tamil Nadu
Cuddalor Ultra Mega Power Project Phase II Unit 2	660	Permitted	Tamil Nadu
Cuddalor Ultra Mega Power Project Phase II Unit 3	660	Permitted	Tamil Nadu
Cuddalore power station Unit 1	660	Permitted	Tamil Nadu
Cuddalore power station Unit 2	660	Permitted	Tamil Nadu
Unit (Click to open wiki page)	MW	Status	Location
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Cuddalore SRM power station Unit 1	660	Permitted	Tamil Nadu
Cuddalore SRM power station Unit 2	660	Permitted	Tamil Nadu
Cuddalore SRM power station Unit 3	660	Permitted	Tamil Nadu
(Vayalur) Unit 1	660	Permitted	Tamil Nadu
(Vayalur) Unit 2	660	Permitted	Tamil Nadu
Ennore Thermal Power Station Unit 6 (expansion)	660	Permitted	Tamil Nadu
Ennore Thermal Power Station Unit 7 (replacement for	660	Permitted	Tamil Nadu
Gummidipoondi Accord power station Unit 1	150	Permitted	Tamil Nadu
Gummidipoondi Accord power station Unit 1	150	Permitted	
lava power station	450	Pre-permit development	Tamil Nadu
Karapidagai North power station	150	Permitted	Tamil Nadu
Melamaruthur power station (Vainateva) Unit 1	660	Pre-permit development	Tamil Nadu
Melamaruthur power station (Vainateva) Unit 2	660	Pre-permit development	Tamil Nadu
Melamaruthur power station (Vainateva) Unit 3	660	Pre-permit development	Tamil Nadu
Melamaruthur power station (Vainateya) Unit 4	660	Pre-permit development	Tamil Nadu
Melmandai power station Unit 1	300	Pre-permit development	Tamil Nadu
Melmandai power station Unit 2	300	Pre-permit development	Tamil Nadu
Mutiara Thermal Power Plant (Coastal Energen) Unit 1	600	Construction	Tamil Nadu
Mutiara Thermal Power Plant (Coastal Energen) Unit 2	600	Construction	Tamil Nadu
North Chennai Thermal Power Station - Stage-III	800	Pre-permit development	Tamil Nadu
Sirkali power station Phase I	2000	Announced	Tamil Nadu
Sirkali power station Phase II	2000	Announced	Tamil Nadu
Sirkazhi power station Unit 1	660	Permitted	Tamil Nadu
Sirkazhi power station Unit 2	660	Permitted	Tamil Nadu
Tharangambadi power station Unit 1	660	Permitted	Tamil Nadu
Tharangambadi power station Unit 2	660	Permitted	Tamil Nadu
replacement) Unit 3	150	Construction	Tamil Nadu
Tuticorin power station (Ind-Barath) Phase I	660	Construction	Tamil Nadu
Tuticorin Thermal Power Station Unit 6	500	Construction	Tamil Nadu
Tuticorin Thermal Power Station Unit 7	500	Construction	Tamil Nadu
Udangudi power station Unit 1	800	Permitted	Tamil Nadu
Udangudi power station Unit 2	800	Permitted	Tamil Nadu
Uppur power station Unit 1	800	Pre-permit development	Tamil Nadu
Uppur power station Unit 2	800	Pre-permit development	Tamil Nadu
Kakatiya Thermal Power Project Stage-II	600	Construction	Telangana
Kothagudem Unit 12	800	Pre-permit development	Telangana
Pegadapalli (Jaipur Mandal) power station Unit 1	600	Construction	Telangana
Pegadapalli (Jaipur Mandal) power station Unit 2	600	Construction	Telangana
Telangana_Ultra_Mega_Power_Project	4000	Announced	Telangana
VBF Ferro Alloys Bodepalli plant	120	Permitted	Telangana
Amauli Fatehpur power station Unit 1	660	Announced	Uttar Pradesh
Amauli Fatehour power station Unit 2	660	Announced	Uttar Pradesh
Amauli Fatenpur power station Unit 3	66U 500	Announced	Uttar Pradesh
Anpara-D power station Unit 1	500	Construction	Utter Bradesh
Anpara E power station Unit 1	500	Permitted	Ultar Pradesh
Annara-E power station Unit 2	660	Permitted	Littar Pradesh
Bara Thermal Power Project Phase I	1980	Construction	Littar Pradesh
Bara Thermal Power Project Phase II	1320	Announced	Uttar Pradesh
Barabanki power station	250	Announced	Uttar Pradesh
Bhognipur power station Phase I	1320	Permitted	Uttar Pradesh
Bhognipur power station Phase II	1320	Announced	Uttar Pradesh
Bilhaur Super Thermal Power Plant Unit 1	660	Pre-permit development	Uttar Pradesh
Bilhaur Super Thermal Power Plant Unit 2	660	Pre-permit development	Uttar Pradesh
Churk captive power station Unit 1	60	Construction	Uttar Pradesh
Churk captive power station Unit 2	60	Construction	Uttar Pradesh
Churk captive power station Unit 3	60	Construction	Uttar Pradesh
Churk captive power station Unit 4	60	Construction	Uttar Pradesh
Feroz Gandhi Unchahar Power Project Stage IV	500	Permitted	Uttar Pradesh
Ghatampur power station Unit 1	660	Pre-permit development	Uttar Pradesh
Ghatampur power station Unit 2	660	Pre-permit development	Uttar Pradesh
Ghatampur power station Unit 3	660	Pre-permit development	Uttar Pradesh
Gonda power station Unit 1	250	Pre-permit development	Uttar Pradesh
Gonda power station Unit 2	250	Pre-permit development	Uttar Pradesh
Harduaganj TPS Extn - Stage III (Kasimpur)	660	Pre-permit development	Uttar Pradesh

Unit (Click to open wiki page)	MW	Status	Location
Jagdishpur captive power station Unit 1	250	Pre-permit development	Uttar Pradesh
Jagdishpur captive power station Unit 2	250	Pre-permit development	Uttar Pradesh
Jawaharpur Thermal Project Unit 1	660	Pre-permit development	Uttar Pradesh
Jawaharpur Thermal Project Unit 2	660	Pre-permit development	Uttar Pradesh
Karchana Thermal Power Project Phase I	1320	Permitted	Uttar Pradesh
Khurja power station Unit 1	660	Pre-permit development	Uttar Pradesh
Knurja power station Unit 2	660	Pre-permit development	Uttar Pradesh
Lalitpur power project (Mirchawar) Unit 1	660	Construction	Uttar Pradesh
Lalitpur power project (Mirchawar) Unit 2	660	Construction	Ultar Pradesh
Maia Thormal Power Project (Mirchawar) Offic 3	1320	Construction	Ultar Pradesh
Murka power station Unit 1	300	Pre-permit development	Littar Pradesh
Murka power station Unit 2	300	Pre-permit development	Littar Pradesh
NCTPP IGCC demonstration (Dadri)	100	Pre-permit development	Littar Pradesh
Obra thermal station extension	1600	Pre-permit development	Uttar Pradesh
Rosa Thermal Power Plant Unit 5	660	Pre-permit development	Uttar Pradesh
Rosa Thermal Power Plant Unit 6	660	Pre-permit development	Uttar Pradesh
Sandila power station Unit 1	660	Pre-permit development	Uttar Pradesh
Sandila power station Unit 2	660	Pre-permit development	Uttar Pradesh
Tanda power station Stage II Unit 1	660	Permitted	Uttar Pradesh
Tanda power station Stage II Unit 2	660	Permitted	Uttar Pradesh
Welspun Energy Mirzapur power station	1320	Pre-permit development	Uttar Pradesh
Adra Purulia power station Unit 1	660	Pre-permit development	West Bengal
Adra Purulia power station Unit 2	660	Pre-permit development	West Bengal
Asansol power station Unit 1	270	Announced	West Bengal
Asansol power station Unit 2	270	Announced	West Bengal
Bakreswar Thermal Power Station Unit 6	500	Permitted	West Bengal
Balagarh power station Unit 1	660	Pre-permit development	West Bengal
Balagarh power station Unit 2	660	Pre-permit development	West Bengal
Balagarh power station Unit 3	660	Announced	West Bengal
Burdwan power station Unit 1	250	Construction	West Bengal
Burdwan power station Unit 2	250	Construction	West Bengal
Haidia Energy power station Phase 1 Katwa Super Thermal Power Project (NTPC) Upit 1	600 800	Construction Dro normit development	West Bengal
Katwa Super Thermal Power Project (NTPC) Unit 2	800	Pre-permit development	West Bengal
Radiunathour Thermal Power Station phase I	1200	Construction	West Bengal
Raghunathpur Thermal Power Station phase I	1320	Permitted	West Bengal
Sagar power station Unit 1	660	Pre-permit development	West Bengal
Sagar power station Unit 2	660	Pre-permit development	West Bengal
Sagar power station Stage II Unit 1	660	Announced	West Bengal
Sagardighi Thermal Power Station Phase II Unit 3	500	Construction	West Bengal
Sagardighi Thermal Power Station Phase II Unit 4	500	Construction	West Bengal
Sagardighi Thermal Power Station Phase III Unit 5	500	Announced	West Bengal
Sagardighi Thermal Power Station Phase III Unit 6	500	Announced	West Bengal
Salboni 1 (CPP-IV)	660	Pre-permit development	West Bengal
Salboni power plant Unit 2	660	Announced	West Bengal
Salboni power plant Unit 3	660	Announced	West Bengal
Santildih Thermal Power Station unit 7	500	Announced	West Bengal
Santildih Thermal Power Station unit 8	500	Announced	West Bengal
Indonesia			
Nagan Paya power station Unit 1	110	Construction	Acob
Nagan Raya power station Unit 2	110	Construction	Aceh
Celukan Bawang power station Unit 1	142	Construction	Bali
Celukan Bawang power station Unit 2	142	Construction	Bali
Celukan Bawang power station Unit 3	142	Construction	Bali
Banten Serang Unit 1	670	Construction	Banten
Banten Suralaya power station Unit 9	625	Announced	Banten
Jawa-7 power station Unit 1	1000	Announced	Banten
Jawa-7 power station Unit 2	1000	Announced	Banten
Central Java Power Project Unit 1	1000	Pre-permit development	Central Java
Central Java Power Project Unit 2	1000	Pre-permit development	Central Java
Cilacap Sumber power station Unit 3	600	Pre-permit development	Central Java
Jawa-3 power station Unit 1	660	Announced	Central Java

660

Announced

Central Java

Jawa-3 power station Unit 2

Unit (Click to open wiki page)	MW	Status	Location
Tanjung Jati A power station Unit 1	660	Pre-permit development	Central Java
Tanjung Jati A power station Unit 2	660	Pre-permit development	Central Java
Tanjung Jati B power station Unit 5	1000	Announced	Central Java
Tanjung Jati B power station Unit 6	1000	Announced	Central Java
Kalteng-1 (Pulang Pisau) power station Unit 1	60	Construction	Central Kalimantan
Kalteng-1 (Pulang Pisau) power station Unit 2	60	Construction	Central Kalimantan
Madura PTBA power station Unit 1	200	Announced	East Java
Madura PTBA power station Unit 2	200	Announced	East Java
Paiton Baru power station Unit 10	660	Announced	East Java
East Kutai power station Unit 1	250	Pre-permit development	East Kalimantan
East Kutai power station Unit 2	250	Pre-permit development	East Kalimantan
East Kutai power station Unit 3	250	Pre-permit development	East Kalimantan
East Kutai power station Unit 4	250	Pre-permit development	East Kalimantan
East Kutai power station Unit 5	250	Pre-permit development	East Kalimantan
Kaltim Teluk Balikpapan power station Unit 1	110	Construction	East Kalimantan
Kaltim Teluk Balikpapan power station Unit 2	110	Construction	East Kalimantan
Kaltim Teluk Balikpapan power station Unit 3	300	Announced	Fast Kalimantan
lambi power station Init 1	400	Announced	lambi
lambi power station Unit 2	400	Announced	lambi
Cont Drime Robert newer station Unit 1	400	Construction	Jampung
Cent Prima Bahari power station Unit 1	30	Construction	Lampung
Cent Prima Bahari power station Unit 2	30		Lampung
Cent Prima Banari power station Unit 3	30	Pre-permit development	Lampung
Cent Prima Banari power station Unit 4	30	Pre-permit development	Lampung
Kuala Tanjung Inalum power station	600	Announced	North Sumatra
Labuhan Angin power station Unit 3	115	Announced	North Sumatra
Pangkalan Susu power station Unit 1	220	Construction	North Sumatra
Pangkalan Susu power station Unit 2	220	Construction	North Sumatra
Tanjung Pasir power station Unit 1	220	Construction	North Sumatra
Tanjung Pasir power station Unit 2	220	Construction	North Sumatra
Pekanbaru Tenayan power station Unit 1	110	Construction	Riau
Pekanbaru Tenayan power station Unit 2	110	Construction	Riau
Peranap power station Unit 1	600	Pre-permit development	Riau
Peranap power station Unit 2	600	Pre-permit development	Riau
Perawang Mill power station Unit 10	150	Construction	Riau
Perawang Mill power station Unit 11	150	Construction	Riau
Perawang Mill power station Unit 9	150	Construction	Riau
Astratel Kalimantan power station	150	Announced	South Kalimantan
Banjarmasin (Asam-Asam)-B power station Unit 1	100	Pre-permit development	South Kalimantan
Baniarmasin (Asam-Asam)-B power station Unit 2	100	Pre-permit development	South Kalimantan
Punagava power station Unit 3	300	Pre-permit development	South Sulawesi
Bangko Tengah (SS-8) Unit 1	660	Permitted	South Sumatra
Bangko Tengah (SS-8) Unit 2	660	Permitted	South Sumatra
Banjarsari power station Unit 1	110	Construction	South Sumatra
Banjarsari power station Unit 2	110	Construction	South Sumatra
Banyuasin power station Unit 1	135	Bro permit development	South Sumatra
Banyuasin power station Unit 2	135	Pre-nermit development	South Sumatra
Keban Agung (SS 2) newer station Unit 1	135	Construction	South Sumatra
Keban Agung (SS-2) power station Unit 1	135	Construction	South Sumatra
Rebail Agung (53-2) power station Unit 2	100	Construction	South Sumatra
	100	Construction	South Sumatra
Lampung power station Unit 2	100	Construction	South Sumatra
Muara Enim (SS-6) power station No. 1	300	Pre-permit development	South Sumatra
Muara Enim (SS-6) power station No. 2	300	Pre-permit development	South Sumatra
Mulut Tambang (SS-9) power station Unit 1	600	Pre-permit development	South Sumatra
Mulut Tambang (SS-9) power station Unit 2	600	Pre-permit development	South Sumatra
Sumsel (SS-10) power station	600	Announced	South Sumatra
Sumsel (SS-5) power station Unit 1	150	Permitted	South Sumatra
Sumsel (SS-5) power station Unit 2	150	Permitted	South Sumatra
Sumsel (SS-7) power station Unit 1	150	Pre-permit development	South Sumatra
Sumsel (SS-7) power station Unit 2	150	Pre-permit development	South Sumatra
Adipala Unit 1	660	Construction	West Java
Cikarang power station Unit 1	140	Construction	West Java
Cikarang power station Unit 2	140	Construction	West Java
Cirebon Unit 2	1000	Pre-permit development	West Java
Indramayu power station Unit 4	1000	Announced	West Java
Indramayu power station Unit 5	1000	Announced	West Java
Jawa-5 & 6 power station Unit 1	1000	Announced	West Java
Jawa-5 & 6 power station Unit 2	1000	Announced	West Java
contra a si a partar attatati antita			

Unit (Click to open wiki page)	MW	Status	Location
Jawa-5 & 6 power station Unit 3 Jawa-5 & 6 power station Unit 4 Merak power station Unit 1 Merak power station Unit 2 Parit Baru power station Unit 1 Parit Baru power station Unit 2	1000 1000 60 60 50 50	Announced Announced Construction Construction Construction	West Java West Java West Java West Java West Kalimantan West Kalimantan
Iran			
Tabas power station Unit 1 Tabas power station Unit 2	325 325	Construction Construction	Khorasan Khorasan
Israel			
Project D Unit 1 Project D Unit 2	630 630	Announced Announced	Southern District Southern District
Italy			
Sulcis Power Station Monfalcone power station Unit 5 Piombino power station	450 340 900	Pre-permit development Announced Announced	Carbonia-Iglesias Gorizia Livorno
Japan			
Nagoya power station Unit 2 Nippon Paper Akita power station Noshiro Unit 3 Chiba power station Hirono power station Unit 7 Nakoso power station Unit 7 Nakoso power station Unit 6 Osaki CoolGen Project Takehara Unit 4 Kobe Works power station Unit 1 Kobe Works power station Unit 2 Takasago power station New Unit 1 Takasago power station New Unit 2 Hitachinaka power station Unit 3 Osaka Gas Kashima power station Sumitomo Metals Kashima power station Yokohama TEPCO/J-Power Yokohama project Kansai Sendai power station Nippon Paper Ishinomaki power station Matsuura power station Unit 2 Misumi Unit 2 Nippon Paper Fuji power station Chogoku Air Water Yamaguchi co-fire power station Ube power station Unit 1 Ube power station Unit 2	$ \begin{array}{r} 110\\ 110\\ 600\\ 2000\\ 1000\\ 500\\ 500\\ 167\\ 600\\ 700\\ 700\\ 600\\ 400\\ 650\\ 100\\ 640\\ 1000\\ 112\\ 149\\ 1000\\ 400\\ 100\\ 100\\ 600\\ 600\\ 600 \end{array} $	Pre-permit development Announced Announced Announced Announced Pre-permit development Pre-permit development Construction Construction Announced Pre-permit development Pre-permit development Pre-permit development Announced Pre-permit development Announced Pre-permit development Announced Pre-permit development Pre-permit development Pre-permit development Announced Pre-permit development Announced Announced Pre-permit development Announced Announced Pre-permit development Announced Announced	Aichi Akita Akita Chiba Fukuoka Fukushima Fukushima Hiroshima Hiroshima Hyogo Hyogo Hyogo Hyogo Ibaraki Ibaraki Ibaraki Ibaraki Ibaraki Ibaraki Kanagawa Miyagi Miyagi Nagasaki Shimane Shizuoka Yamaguchi Yamaguchi
Kazakhstan			

Announced

Announced Announced

Ekibastuz-2 power station Unit 3	500
Balkhash Ulken power station Unit 3	660
Balkhash Ulken power station Unit 4	660

Pavlodar Zhambyl Zhambyl

Unit (Click to open wiki page)	MW	Status	Location
Kenya			
Lamu Power Project Vipingo power station Unit 1 Vipingo power station Unit 2	1000 300 300	Permitted Construction Construction	Coast Coast Coast
Kosovo			
New Kosovo power station Unit 1 New Kosovo power station Unit 2	300 300	Pre-permit development Pre-permit development	Prishtina Prishtina
Kyrgyzstan			
Bishkek power station Unit 12 Bishkek power station Unit 13 Kara-Keche power station	150 150 1200	Announced Announced Announced	Bishkek Bishkek Naryn
Laos			
Hongsa power station Unit 1 Hongsa power station Unit 2 Hongsa power station Unit 3	626 626 626	Construction Construction Construction	Xaignabouri Xaignabouri Xaignabouri
Malawi			
Central Malawi power Chipoka Coal Plant Kamwamba power station Unit 1 Kamwamba power station Unit 2 Kamwamba power station Unit 3 Kamwamba power station Unit 5 Kamwamba power station Unit 6 Malawi Power Station	1000 120 50 50 50 50 50 50 50 1000	Permitted Pre-permit development Permitted Permitted Permitted Permitted Permitted Permitted Permitted	Central Central Southern Southern Southern Southern Southern Kamwamba
Malaysia			
Tanjung Bin power station Unit 4 Project 3B Unit 1 Project 3B Unit 2 Manjung power station Unit 4 Manjung power station Unit 5 Balingian New power station Phase I Unit 1 Balingian New power station Phase I Unit 2 Balingian New power station Phase I Unit 1	1000 1000 1000 1080 1000 300 300 300	Construction Pre-permit development Pre-permit development Construction Pre-permit development Pre-permit development Announced	Johor Negri Sembilan Negri Sembilan Perak Perak Sarawak Sarawak Sarawak Sarawak
Mexico			
Pacífico coal-fired expansion project Unit 1	651	Construction	Guerrero
Mongolia			
Choibalsan unit 2 Shivee Ovoo power station	100 4800	Announced Announced	Dornod Govisumber

Unit (Click to open wiki page)	MW	Status	Location
	,		
Chandgana Coal Plant Unit 1	150	Permitted	Khentii
Chandgana Coal Plant Unit 2	150	Permitted	Khentii
Chandgana Coal Plant Unit 3	150	Permitted	Khentii
Chandgana Coal Plant Unit 4	150	Permitted	Khentii
Tayan Tolgoi power station Phase I	100	Pre-permit development	Omnogovi
Tavan Tolgoi power station Phase II	500	Pre-permit development	Ompogovi
Baganuur IGCC (POSCO/MCS)	700		Toy
Ulaanhaatar Thormal Power Plant No. 4 Unit 7	210	Construction	lliaanbaatar
Ulaanbaatar Thermal Power Plant No. 5	210	Dro pormit development	Ulaanbaatar
Telmon Thermal Dever Plant	400	Pre-permit development	Jiddilluddidi
Teimen mermai Power Plant	100	Permitted	Zavkhan
Montenegro			
Berane Thermal power station	110	Announced	Berane
Maoce Power Station	500	Announced	Maoce
Pljevlja II Power Station	220	Pre-permit development	Pljevlja
Могоссо			
Sati power station Unit 1	693	Construction	Agadir
Safi power station Unit 2	693	Construction	Agadir
Jerada power station Unit 4	318	Permitted	Oriental
Mozambique			
Jindal Tete Power Station Phase I	42	Pre-permit development	Tete
Jindal Tete Power Station Phase II	140	Pre-permit development	Tete
Ncondezi power station Phase I	300	Permitted	Tete
Ncondezi power station Phase II	1500	Announced	Tete
Vale Tete plant Unit 1	300	Permitted	Tete
Vale Tete plant Unit 2	300	Permitted	Tete
Myanmar			
Pathein power station Unit 1	330	Appounced	Avevawady
Pathein power station Unit 2	330	Announced	Avevawady
Mandalay power station	500	Announced	Mandalay
Kalewa nower station	600	Pre-permit development	Sagaing
Mai Khot nower station	405	Announced	Shan
Laundon nower station	500	Announced	Taninthan <i>i</i> i
Htantahin power station Unit 1	125		Vandon
Htantabin power station Unit 2	135		Vangon
Kungyan Cone newer station Stage I	300	Announced	Vangon
Kungyan Gone power station Stage I	000	Announced	Yangon
Kungyan Cone power station Stage II	1080	Announceu	Vangon
Kungyan Gone power station Stage III	F00	Announced	Vangan
Ryaukian power station	500	Announced	Yangon
Rangoon Division power station	1280	Announced	Yangon
Bukit Asam minemouth power station	200	Announced	Unknown
Namibia			
Arandis Frondo nower station Unit 1	125	Dermitted	Fronco
Arandis Erongo power station Unit 1	125	Permitted	Erongo
Netherlands			
	000		
Eemshaven Power Station Unit 1	800	Construction	Groningen
Eemshaven Power Station Unit 2	800	Construction	Groningen

Unit (Click to open wiki page)	MW	Status	Location
Nigeria			
Benue Coal power station Unit 1 Benue Coal power station Unit 2 Enugu power station Kogi power station	600 600 1000 1200	Announced Announced Announced Pre-permit development	Benue Benue Enugu Kogi
North Korea			
Kangdong power station	300	Construction	Pyongyang
Pakistan			
Sahiwal power station Unit 1 Sahiwal power station Unit 2 Bin Qasim-1 repower project Bin Qasim power station (Asiapak/Dongfang) Jamshoro power station Unit 5 Keti Bandar power station Unit 1 Keti Bandar power station Unit 2 Port Qasim Burj power station Unit 2 Port Qasim Burj power station Unit 2 Port Qasim Burj power station Unit 3 Port Qasim Burj power station Unit 4 Thar Block VI power station Unit 1 Thar Block VI power station Unit 2 Thar Engro power station Unit 1 Thar Engro power station Unit 2	660 660 1260 1320 600 660 125 125 125 125 125 300 300 330 330	Announced Announced Announced Announced Announced Announced Announced Announced Announced Announced Announced Announced Announced Announced Announced	Punjab (Pakistan) Punjab (Pakistan) Sindh Sindh Sindh Sindh Sindh Sindh Sindh Sindh Sindh Sindh Sindh Sindh Sindh
Panama			
Cobre Panamá power station	320	Pre-permit development	Colón
Philippines			
Cadiz City power station Calaca power station expansion Unit 3 Calaca power station expansion Unit 4 Calaca power station expansion Unit 5 Calaca power station expansion Unit 5 Calaca power station Unit 1 Concepcion power station Unit 1 Davao Power Plant (San Minuel Corp) Unit 1	150 150 150 150 150 135 135 150	Announced Construction Construction Pre-permit development Pre-permit development Construction Pre-permit development	Negros Occidental Calabarzon Calabarzon Calabarzon Calabarzon Iloilo Davao Occidental Davao Occidental
Davao Power Plant (San Miguel Corp) Unit 2 Davao Power Plant (San Miguel Corp) Unit 2 Davao Power Plant (San Miguel Corp) Unit 3 Davao Power Plant (San Miguel Corp) Unit 4 Davao Power Plant (San Miguel Corp) Unit 5 Davao Power Plant (Thermal South) Unit 1	150 300 300 300 150	Pre-permit development Pre-permit development Pre-permit development Pre-permit development Construction	Davao Occidental Davao Occidental Davao Occidental Davao Occidental Davao Occidental Davao Occidental
Isabel Copper Plant Isabela power station Kamanga power station Unit 1 Kamanga power station Unit 2 Limay TPP Phase 1 Limay TPP Phase 2	200 100 105 300 300	Announced Announced Construction Construction Pre-permit development Pre-permit development	Lavao Occidental Leyte Isabela Sarangani Bataan Bataan Bataan
Limay TPP Phase 3 Mariveles Power Plant Unit 3 Mariveles Power Plant Unit 4	300 600 600	Pre-permit development Pre-permit development Pre-permit development	Bataan Calabarzon Calabarzon

Unit (Click to open wiki page)	MW	Status	Location
Masinloc power station Unit 3	300	Permitted	Zambales
Masinloc power station Unit 4	300	Permitted	Zambales
Masmice power station Unit 1	135	Construction	Misamis Oriental
Misamis Oriental power station Unit 2	135	Construction	Misamis Oriental
Misamis Oriental power station Unit 3	135	Permitted	Misamis Oriental
Pagbilao power station Unit 3	400	Pre-permit development	Quezon
Panay Expansion	150	Construction	lloilo
PsagCorp power station Unit 1	135	Pre-permit development	Lanao del Norte
PsagCorp power station Unit 2	135	Pre-permit development	Lanao del Norte
PsagCorp power station Unit 3	135	Pre-permit development	Lanao del Norte
Puting Bato power station Unit 1	135	Construction	Batangas
Puting Bato power station Unit 2	135	Construction	Batangas
Quezon power station Unit 2	500	Pre-permit development	Quezon
Sibuguey Power Plant Project	100	Pre-permit development	Zamboanga Sibugay
Therma Visayas Energy Project	300	Pre-permit development	Cebu
Zamboanga power station	105	Pre-permit development	Zamboanga City
Poland			
Turów power station Init 11	460	Permitted	Dolnoślaskie
Belchatow Power Station Unit 15	858	Announced	ł ódzkie
Leczna Power Station	500	Pre-permit development	Lubelskie
Gubin Power Project	3000	Announced	Lubuskie
Siersza power station Unit 7	900	Announced	Małopolskie
Kozienice Power Plant Unit 11	1075	Construction	Mazowieckie
Kozienice Power Plant Unit 12	1075	Announced	Mazowieckie
Opole Power Station Unit 5	900	Construction	Opolskie
Opole Power Station Unit 6	900	Construction	Opolskie
Polnoc Power station Unit 1	800	Pre-permit development	Pomorskie
Polnoc Power station Unit 2	1050	Pre-permit development	Pomorskie
Czeczott power station	1000	Pre-permit development	Sląskie
Jaworzno III Power Station Unit /	910	Construction	Sląskie
Romania			
Craiova II Power Station Unit 3	150	Announced	Dolj
Rovinari Power Station Unit 7	600	Pre-permit development	Gorj
Paroseni Power Station Unit 5	200	Announced	Hunedoara
Halanga Power Station	400	Announced	Mehedinti
Romag Termo Power Station	325	Announced	Mehedinti
Russia			
Troitskava GRES power station Unit 10	660	Construction	Chelvabinsk province
Sovetskaya Gavan power station additional units	240	Announced	Khabarovsk territory
Sovetskaya Gavan power station Unit 1	60	Construction	Khabarovsk territory
Sovetskaya Gavan power station Unit 2	60	Construction	Khabarovsk territory
Berezovskaya power station Unit 3	800	Construction	Krasnoyarsk territory
Berezovskaya power station Unit 4	800	Announced	Krasnoyarsk territory
Kashirskaya power station Unit 9	330	Announced	Moscow province
Ussuriysk power station	370	Pre-permit development	Primorsky territory
Abakan power station Unit 4	120	Construction	Republic of Khakassia
Novocherkasskaya GRES power station Unit 9	330	Construction	Rostov province
Saknalin GRES-2 power station Unit 1	110	Pre-permit development	Sakhalin province
Saknalin GRES-2 power station Unit 2	110	Announced	Saknalin province
Charapatekeye power station Unit 3	110	Announced	
Cherenetskava power station Unit 9	220 225	Construction	Tula province
eneropeionaya power station onit a	220	Constitution	

Senegal

Unit (Click to open wiki page)	MW	Status	Location
Sendou power station	125	Pre-permit development	Bagny
Jindal power station (Senegal) Unit 1	175	Announced	Unknown
Jindal power station (Senegal) Unit 2	175	Announced	Unknown
Serbia			
Nicola Tesla B Unit 3	375	Announced	Belgrade
Nicola Tesla B Unit 4	375	Announced	Belgrade
TPP Kostolac Power Station upgrade	350	Pre-permit development	Braničevo
Despotovac power station	320	Announced	Pomoravlje
Kolubara B Power Station Unit 1	375	Announced	Veliki Crijeni
Kovin power station Unit 1	375	Announced	Veiki Chjeni
Kovin power station Unit 2	350	Announced	Voivodina
Štavalj Power Station	350	Announced	Zlatibor
Slovenia			
Sostanj Power Station Unit 6	600	Construction	Velenje
South Africa			
Boikarabelo power station Unit 1	660	Pre-permit development	Gauteng
Boikarabelo power station Unit 2	660	Pre-permit development	Gauteng
Boikarabelo power station (Resgen) Phase I	45	Pre-permit development	Limpopo
Boikarabelo power station (Resgen) Phase II	215	Announced	Limpopo
Grootegeluk power station	600	Pre-permit development	Limpopo
Grootegeluk power station Phase II Medupi Power Station Unit 1	600 704	Construction	Limpopo
Medupi Power Station Unit 2	794	Construction	Limpopo
Medupi Power Station Unit 3	794	Construction	Limpopo
Medupi Power Station Unit 4	794	Construction	Limpopo
Medupi Power Station Unit 5	794	Construction	Limpopo
Medupi Power Station Unit 6	794	Construction	Limpopo
Vedanta Power Plant	600	Pre-permit development	Limpopo
KiPower power station Unit 1	200	Pre-permit development	Mpumalanga
KiPower power station Unit 2	200	Pre-permit development	Mpumalanga
Komati Power Station	300	Construction	Moumalanga
Kusile Power Station Unit 1	794	Construction	Mpumalanga
Kusile Power Station Unit 2	794	Construction	Mpumalanga
Kusile Power Station Unit 3	794	Construction	Mpumalanga
Kusile Power Station Unit 4	794	Construction	Mpumalanga
Kusile Power Station Unit 5	794	Construction	Mpumalanga
Kusile Power Station Unit 6	794	Construction	Mpumalanga
South Africa IRP forecast for new coal	2450	Announced	Unknown
South Korea			
Shin Poryong power station Unit 1	1000	Construction	Chungcheongnam-do
Shin Poryong power station Unit 2	1000	Construction	Chungcheongnam-do
Taean power station Unit 10	1050	Construction	Chungcheongnam-do
Taean power station Unit 9	1050	Construction	Chungcheongnam-do
Taen IGCC Project	300	Construction	Chungcheongnam-do
Buk-Pyeong 1 power station Unit 2	595	Construction	Gangwon
Samcheok Anthracite power station	100	Announced	Gangwon-do
Samcheok power station Unit 1	520	Construction	Gangwon-do
Samcheok power station Unit 2	520	Construction	Gangwon-do
Samcheok power station Unit 3	520	Construction	Gangwon-do

Unit (Click to open wiki page)	MW	Status	Location
Samcheok power station Unit 4	520	Construction	Gangwon-do
Samcheok power station Unit 5	520	Construction	Gangwon-do
Samcheok power station Unit 6	520	Construction	Gangwon-do
Samcheok power station Unit 7	520	Construction	Gangwon-do
Samchook power station Unit 8	520	Construction	Gangwon do
	520	Construction	Gangwon-uo
Yeongneung power station Unit 5	870	Construction	Incheon
Yeongneung power station Unit 6	870	Construction	Incheon
Yeosu power station rebuild	350	Construction	Jeollanam-do
Dangjin power station Unit 10	1000	Construction	South Chungcheong
Dangjin power station Unit 9	1000	Construction	South Chungcheong
Dongbu Green power station Unit 1	500	Construction	South Chungcheong
Dongbu Green power station Unit 2	500	Construction	South Chungcheong
Spain			
Los Barrios power station Unit 2	800	Announced	Andalusia
Sri Lanka			
On the second strategy light	050	A	Factors
Sampur power station Unit 1	250	Announced	Eastern
Sampur power station Unit 2	250	Announced	Eastern
Sampur power station Unit 3	250	Announced	Eastern
Sampur power station Unit 4	250	Announced	Eastern
Unnamed coal plants - 2020-2032	3300	Announced	Unknown
Taiwan			
Changgong Unit 1	800	Construction	Changhua County
Changgong Unit 2	800	Construction	Changhua County
Talin Unit 7	800	Construction	Kaohsiung City
Talin Unit 8	800	Construction	Kaohsiung City
Talin Unit 9	800	Bro permit development	Kaobsiung City
Talin Unit 3	800	Pre-permit development	Kaohsiung City
	800		
Shenao Unit 4	800	Construction	Snenao
Shenao Unit 5	800	Construction	Shenao
Linkou Renewal Unit 1	800	Construction	Taipei
Linkou Renewal Unit 2	800	Construction	Taipei
Linkou Renewal Unit 3	800	Permitted	Taipei
Tanzania			
Mchuchuma power station Unit 1	150	Permitted	Iringa
Mchuchuma power station Unit 2	150	Permitted	Iringa
Mchuchuma power station Unit 2	150	Permitted	Iringa
Mehuchuma power station Unit 3	150	Permitted	Iringa
Kining Mine O source station	150	Permitted	Mhaura
Kiwira Mine-2 power station	200	Permitted	Mbeya
Mbeya power station	350	Pre-permit development	Mbeya
Ngaka power station	400	Permitted	Ruvuma
Thailand			
Chachoengsao NPS power station Unit 1	135	Pre-permit development	Chachoengsao
Chachoengeao NPS nower station Unit 2	125	Pre-nermit development	Chachoongsoo
Chachoongooo NPS power station Unit 2	100	Pro pormit development	Chasheanasa
Chacheenesse NPO several all the second seco	135		Chachoengsao
Chachoengsao NPS power station Unit 4	135	Pre-permit development	Chachoengsao
Krabi power station	800	Pre-permit development	Krabi
Mae Moh power station Units 4-7 replacement	600	Pre-permit development	Lampang
Hua Sai Coal Power Plant Project	800	Announced	Nakhon Si Thammarat
Thap Sakae power station Unit 1	700	Announced	Prachuab Khiri Khan

Unit (Click to open wiki page)	MW	Status	Location
Thap Sakae power station Unit 2	700	Announced	Prachuab Khiri Khan
Thap Sakae power station Unit 3	700	Announced	Prachuab Khiri Khan
Thap Sakae power station Unit 4	700	Announced	Prachuab Khiri Khan
Turkey			
Ada Yumurtalık power station Unit 1	660	Pre-permit development	Adana
Ada Yumurtalık power station Unit 2	660	Pre-permit development	Adana
Adana power station (TK)	600	Announced	Adana
Adıyaman-Gölbaşı power station	150	Pre-permit development	Adiyaman
Alsin-Eloistan power complex Onits C-D-E-G	3500	Announced	Afron
Ağan power station	770	Pre-permit development	Canakkale
Aksa power station	142	Permitted	Yalova
Atakaş power station	660	Pre-permit development	Hatay
Atlas Enerji power station	1200	Construction	Hatay
Ayas Enerji power station Unit 1	625	Construction	Adana
Ayas Enerji power station Unit 2	625	Permitted	Adana
Bandirma Nurol power station	1600		Balikesir
Bezci Adana power station Unit 1	330	Pre-permit development	Adana
Bezci Adana power station Unit 2	330	Pre-permit development	Adana
Bezci Adana power station Unit 3	330	Pre-permit development	Adana
Bezci Adana power station Unit 4	330	Pre-permit development	Adana
Biga power station	1540	Announced	Çanakkale
Bingöl power station	500	Announced	Bingöl
Bolu Göynük power station Unit 1 Bolu Göynük power station Unit 2	135	Construction	Bolu
Bursa power station	270	Pre-permit development	Bursa
Can-2 power station	140	Pre-permit development	Canakkale
Çankırı Orta power station	135	Pre-permit development	Çankırı
Çebi Enerji power station	700	Pre-permit development	Tekirdağ
Cenal power station Unit 1	660	Construction	Çanakkale
Cenal power station Unit 2	660	Construction	Çanakkale
Cirpilar power station	150	Announced	Çanakkale
Diler Adapa power station	600	Pre-permit development	Çonu Adana
Diler Elbistan power station	400	Pre-permit development	Kahramanmaras
DOSAB cogeneration plant	374	Announced	Bursa
Eskişehir Alpu power station		Announced	Eskişehir
Eskişehir power station	300	Announced	Eskişehir
Gerze power station	1200	Pre-permit development	Sinop
Güneybatı Anadolu power station	660	Pre-permit development	Muğla
Habaş power station	600 110	Pre-permit development	IZMIR
Hema integrated power station	1320	Pre-permit development	Audila Amasra
Hunutlu integrated power station	1200	Pre-permit development	Adana
Ilgın power station	500	Pre-permit development	Konya
Kangal Etyemez power station	100	Construction	Sivas
Karaburun power station Unit 1	135	Pre-permit development	Çanakkale
Karaburun power station Unit 2	660	Pre-permit development	Çanakkale
Kirazlidere Thermal Power Plant-1	600	Permitted	Çanakkale
Kirazildere Thermal Power Plant-2	00U 1320	Pre-permit development	Çanakkale Zonguldak
Kivanc power station	825	Pre-permit development	Mersin
Konya Karapınar power station	5000	Pre-permit development	Konya
Kütahya Domaniç power station	300	Announced	Kütahya
Meda power station	770	Pre-permit development	Tekirdağ
METES power station	1320	Pre-permit development	Mersin
Muğla power station	300	Announced	Muğla
Polat power station Unit 2	300	Announced Pro permit development	Kutahya
Sanko Yumurtalik power station	300 800	Pre-permit development	کoriyuluak Adana
Sedef II TES power station	600	Pre-permit development	Adana
Selena power station	900	Permitted	Hatay
Şevketiye Lapseki power station	1320	Pre-permit development	Çanakkale

Unit (Click to open wiki page)	MW	Status	Location
Sirnak Galata power station	270	Permitted	Sırnak
Sirnak Silopi power station	135	Construction	Sırnak
Sirnak Silopi power station	135	Construction	Şırnak
Socar Power power station 2	660	Announced	lzmir
Soma Kolin power station	510	Construction	Manisa
Soma Merzifon power station	405	Pre-permit development	Amasya
Star Refinery Socar power station Unit 1	600	Pre-permit development	İzmir
Star Refinery Socar power station Unit 2	660	Pre-permit development	İzmir
Teyo Adana power station	700	Pre-permit development	Adana
Thrace Integrated power station	1200	Pre-permit development	Kırklareli
Tosyalı İskenderun power station	1200	Pre-permit development	Hatay
Tufanbeyli power station Unit 1	150	Construction	Adana
Tufanbeyli power station Unit 2	150	Construction	Adana
Turanbeyli power station Unit 3	150	Construction	Adana
Lukäv power station expansion	300	Announced	Kutanya
	640		Alyon
Vesilovacik power station	1254	Announced Pro permit development	Morsin
	200	Pre-permit development	Flaziă
Yumurtalık IC İctas power station	600	Pre-permit development	Adana
Yunus Emre power station Unit 1	145	Construction	Fskisehir
Yunus Emre power station Unit 2	145	Construction	Eskisehir
ZETES 3 Power Station Unit 1	660	Pre-permit development	Zonguldak
ZETES 3 Power Station Unit 2	660	Pre-permit development	Zonguldak
Zorlu Akçakoca power station	1220	Pre-permit development	Düzce
Zorlu Soma power station	1220	Pre-permit development	Manisa
Ukraine			
Slavyanskaya power station Unit 8	330	Announced	Donetsk
Slavyanskaya power station Unit 9	330	Announced	Donetsk
Burshtyn power station upgrade	800	Announced	Halych Raion
Dobrotvir power station Unit 9	225	Announced	Lviv Oblast
Dobrotvir power station Unit 10	225	Announced	Lviv Oblast
Dobrotvir power station Unit 11	225	Announced	LVIV Oblast
United Arab Emirates			
Hassyan Clean-Coal Power Project	1200	Announced	Dubai
United Kingdom			
Captain Clean Energy Project	570	Pre-permit development	Firth of Forth. Scotland
White Rose CCS Project	426	Pre-permit development	North Yorkshire
Teesside Power Station	850	Announced	North Yorkshire
C.GEN North Killingholme Power Project	470	Pre-permit development	Yorkshire
United States			
Hydrogen Energy California	405	Pre-permit development	California
Washington Plant	850	Pre-permit development	Georgia
Edwardsport Plant	630	Construction	Indiana
Holcolmb Expansion	895	Pre-permit development	Kansas
Black Stallion Energy Center	660	Pre-permit development	Kentucky
Kemper Project	600	Construction	Mississippi
Quintana South Heart Project	175	Pre-permit development	North Dakota
Texas Clean Energy Project	400	Permitted	Texas

MW	Status	Location
300	Announced	Tashkent
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Unit (Click to open wiki page)	MW	Status	Location
Dung Quat 2	600	Announced	Quang Ngai
Mong Duong-1 Unit 1	540	Construction	Quang Nigh
Mong Duong-1 Unit 2	540	Construction	Quang Ninh
Mong Duong-2 Unit 2	620	Construction	Quang Ninh
Thang Long Unit 1	300	Construction	Quang Ninh
Thang Long Unit 2	300	Construction	Quang Ninh
Uong Bi Unit 2	300	Construction	Quang Ninh
Quang Tri	1200	Permitted	Quang Tri
Long Phu Phase 1 Unit 1	600	Construction	Soc Trang
Long Phu Phase 1 Unit 2	600	Construction	Soc Trang
Long Phu Phase 2 Unit 1	660	Announced	Soc Trang
Long Phu Phase 2 Unit 2	660	Announced	Soc Trang
Long Phu Phase 3 Unit 1	1000	Announced	Soc Trang
Long Phu Phase 3 Unit 2	1000	Announced	Soc Trang
Thai Binh Phase 1 Unit 1	300	Construction	Thai Binh
Thai Binh Phase 1 Unit 2	300	Construction	Thai Binh
Thai Binh Phase 2 Unit 1	600	Construction	Thai Binh
Thai Binh Phase 2 Unit 2	600	Construction	Thai Binh
An Khanh-1 Unit 1	50	Construction	Thai Nguyen
An Khanh-1 Unit 2	50	Construction	Thai Nguyen
An Knann-2 Unit 1	300	Construction	Thank Line
Cong Thann	600	Construction	Thanh Hoa
Nghi Son Phase 1 Unit 2	300	Construction	Thanh Hoa
Nghi Son Phase 2 Unit 1	600	Construction	
Duven Hai-1 Unit 1	622	Construction	Tra Vinh
Duven Hai-1 Unit 2	622	Construction	Tra Vinh
Duven Hai-2 Unit 1	600	Announced	Tra Vinh
Duven Hai-2 Unit 1	600	Announced	Tra Vinh
Duven Hai-3 Unit 1	622	Construction	Tra Vinh
Duven Hai-3 Unit 2	622	Construction	Tra Vinh
Ha Tinh Formosa Plastics Steel Complex power station Units 2-11	1500	Announced	Hà Tĩnh
Ha Tinh Formosa Plastics Steel Complex power station	650	Construction	Hà Tĩnh
Than Bac Lieu	1200	Announced	Quảng Ninh
Than Mien Bac	2000	Announced	To be decided
Uong Bi Unit 3	330	Construction	Quảng Ninh
Vinh Tan-4 Unit 2	600	Permitted	
Vinh Tan-3 Unit 3	660	Permitted	Tuy Phong
Vinh Tan-4 Unit 1	600	Permitted	Tuy Phong
Zambia			
Chipepo power station Unit 1	250	Announced	Southern
Chipepo power station Unit 2	250	Announced	Southern
Chipepo power station Unit 3	250	Announced	Southern
Chipepo power station Unit 4	250	Announced	Southern
Maamba plant Unit 1	150	Construction	Southern
Maamba plant Unit 2	150	Construction	Southern
Maamba plant Unit 3	150	Announced	Southern
Maamba plant Unit 4	150	Announced	Southern
Zimbabwe			
Gwavi Mine power station Unit 1	300	Pre-permit development	Bulawayo
Gwayi Mine power station Unit 2	300	Pre-permit development	Bulawavo
Binga power station	2000	Permitted	Matabeleland North
Hwange-II power station Unit 3	300	Permitted	Matabeleland North
Hwange-II power station Unit 4	300	Permitted	Matabeleland North
Lusulu power station	2000	Permitted	Matabeleland North
Gokwe North power station Unit 1	2000	Announced	Midlands
Zimbabwe power station	1200	Announced	Unknown