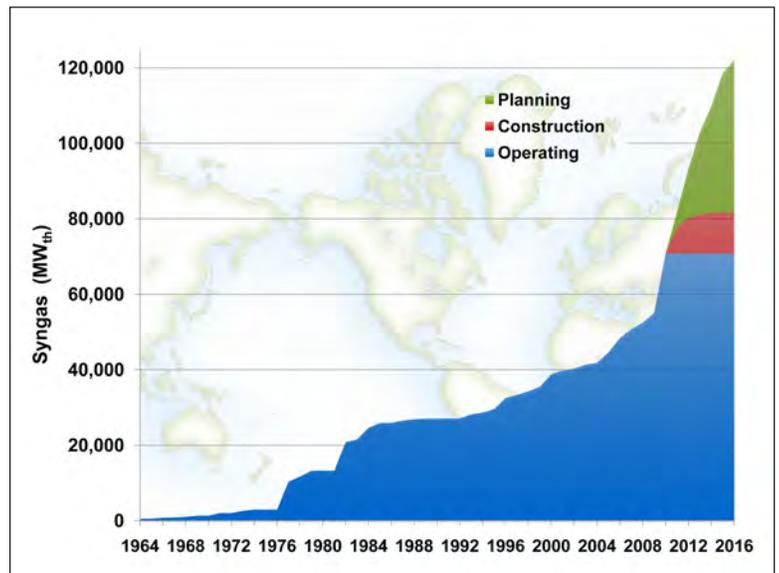


Gasification 2010 Worldwide Database



Duke Energy's Edwardsport Integrated Gasification Combined Cycle (IGCC) Station presently under construction in Knox County, Indiana. (Photos courtesy of Duke Energy.)

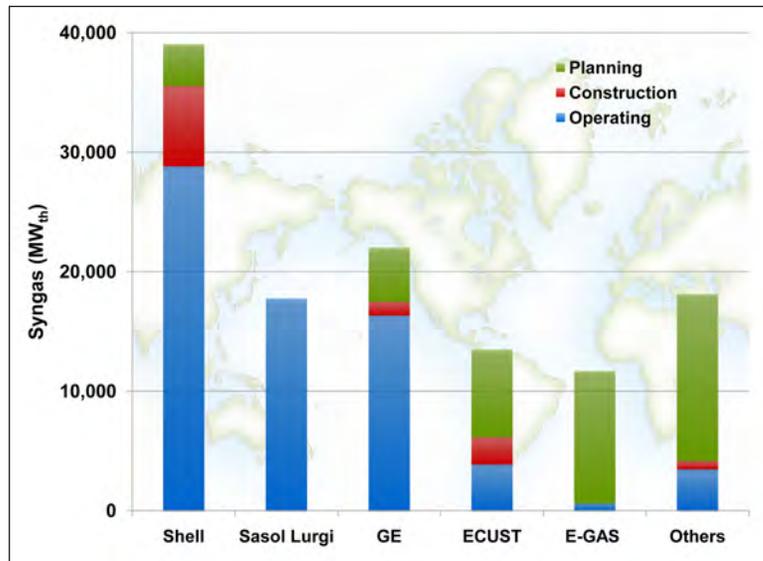
The U.S. Department of Energy's (DOE) 2010 Worldwide Gasification Database shows that the current gasification capacity has grown to 70,817 megawatts thermal (MW_{th}) of syngas output at 144 operating plants with a total of 412 gasifiers. The database also shows that 11 plants, with 17 gasifiers, are presently under construction, and an additional 37 plants, with 76 gasifiers, are in the planning stages to become operational between 2011 and 2016. The majority of these plants—40 of 48—will use coal as the feedstock. The additional planned capacity from all new 2011–2016 plants is 51,288 MW_{th} , an increase of more than 72%. If this growth is realized, worldwide capacity by 2016 will be 122,106 MW_{th} of syngas capacity, from 192 plants and 505 gasifiers.



Worldwide Gasification Capacity and Planned Growth – Cumulative by Year

Industry Changes

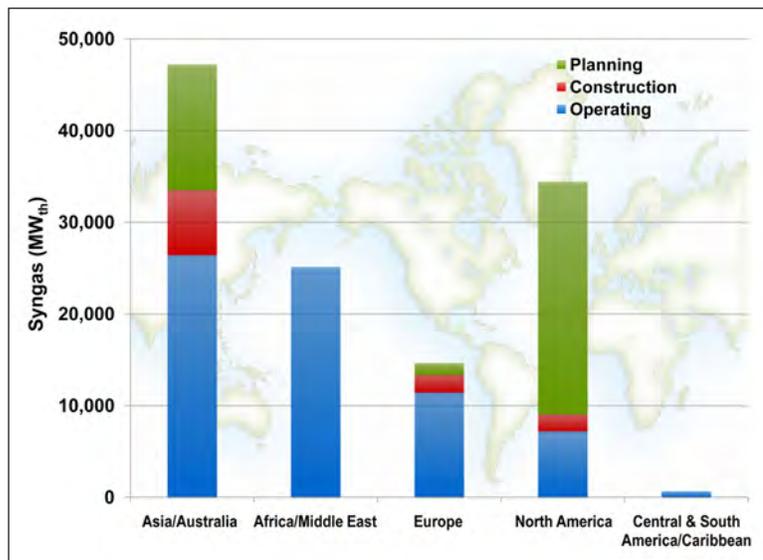
Current industry syngas output has increased by 26% since 2007—and by 50% since 2004. China has seven plants under construction (six to convert coal to chemicals and fertilizers, and one to convert coal to power). An additional 10 gasification plants are being planned for operation by 2016 in China (eight to convert coal to chemicals and fertilizers, and two to convert coal to power). Two integrated gasification combined cycle (IGCC) plants are under construction in the United States, and growth is expected to continue with 16 projects planned for U.S. operation between 2010 and 2016 (combined, the 18 plants make up 47% of U.S. capacity growth for power generation, 23% for gaseous fuels, 18% for liquid fuels, and 12% for chemical facilities). Thirteen additional plants are planned worldwide—11 will use coal, and two will use biomass/waste.



Worldwide Gasification Capacity and Planned Growth – by Technology

Regional Distribution

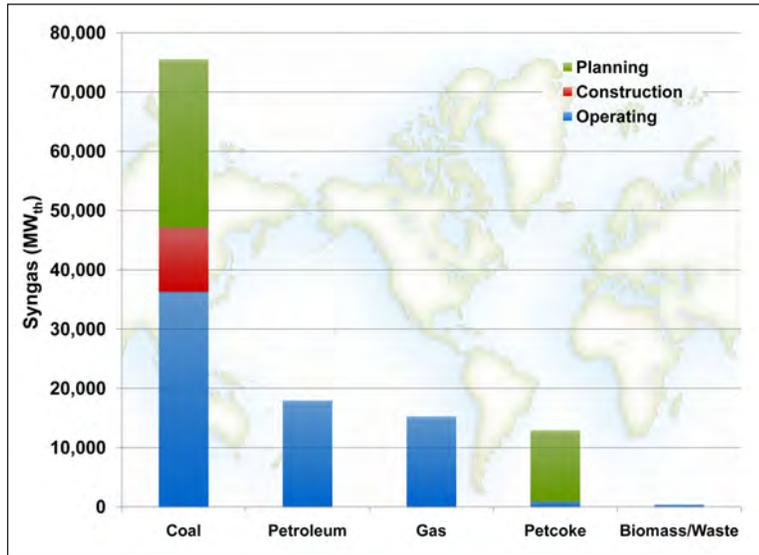
Gasification plants are now operating in 29 countries. The Asia/Australia region has 37% of the total operating capacity. The Africa/ Middle East region has strengthened its second position, due to the rapid growth in Qatar. Of the 10,857 MW_{th} syngas capacity that is presently under construction, 65% is being built in the Asia/Australia region, 18% in Europe, and 17% in North America. With 63% of total planned capacity growth, North America has the potential to lead the world's regional growth through 2016. Another 34% will originate from the Asia/Australia region, with China leading this increase.



Worldwide Gasification Capacity and Planned Growth – by Region

Feedstock Distribution

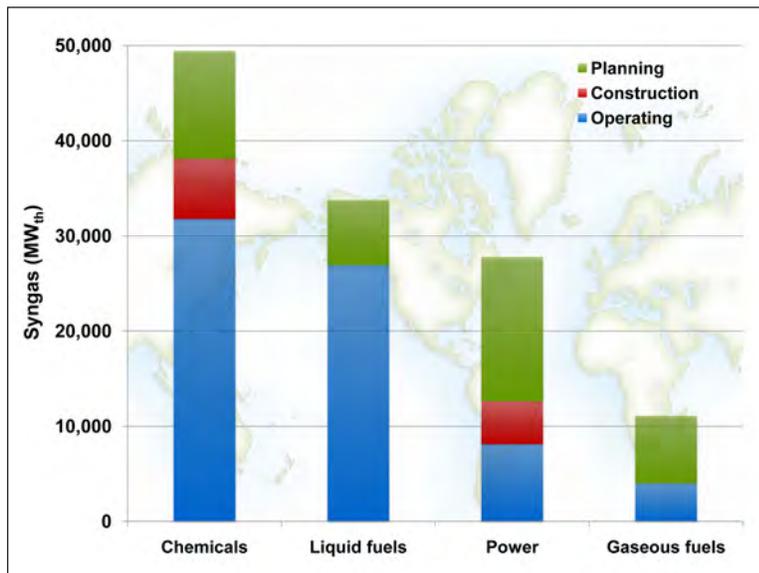
Coal retains its leading position as the predominant gasifier feedstock (51%). Petroleum provides 25% of feedstocks, with natural gas increasing to 22% due to the Pearl GTL in Qatar. All 11 plants currently under construction will be coal-fired. Of the 40,432 MWth syngas capacity that is in the planning stages for in the 2011-2016 period, more than 70% is expected to be coal fed, with petcoke to account for almost all of the remaining 30% capacity growth.



Worldwide Gasification Capacity and Planned Growth – by Primary Feedstock

Product Distribution

Marketable products generated from “syngas” include chemicals in the leading position (45%), followed by liquid transportation fuels (38%), power (11%), and gaseous fuels (6%). Seven of the plants under construction will produce chemicals and four will generate power. If the capacity additions from all of the projects that are in the planning stages for operation by 2016 are realized, 38% will generate power, 28% will produce chemicals, 18% will produce gaseous fuels, and 17% will produce liquid fuels.



Worldwide Gasification Capacity and Planned Growth – by Product

Summary of the Gasification Industry

Feedstock		Operating 2010	Construction 2010	Planned 2011-2016	Totals
Coal	Syngas Capacity (MW _{th})	36,315	10,857	28,376	75,548
	Gasifiers	201	17	58	276
	Plants	53	11	29	93
Petroleum	Syngas Capacity (MW _{th})	17,938			17,938
	Gasifiers	138			138
	Plants	56			56
Gas	Syngas Capacity (MW _{th})	15,281			15,281
	Gasifiers	59			59
	Plants	23			23
Petcoke	Syngas Capacity (MW _{th})	911		12,027	12,938
	Gasifiers	5		16	21
	Plants	3		6	9
Biomass/Waste	Syngas Capacity (MW _{th})	373		29	402
	Gasifiers	9		2	11
	Plants	9		2	11
Total Syngas Capacity (MW_{th})		70,817	10,857	40,432	122,106
Total Gasifiers		412	17	76	505
Total Plants		144	11	37	192

Now Available Online!

DOE/NETL 2010 WORLDWIDE GASIFICATION DATABASE

The 2010 database describes the current world gasification industry and identifies near-term planned capacity additions. For each gasification-based energy and chemical project, the database information includes owner/operator, gasification technology vendor, and suppliers of supporting technologies. The database classifies plants based on their status as development, engineering, construction, start-up, or commercial operating.

The 2010 Worldwide Gasification Database and associated summary report can be accessed from the NETL website:

<http://www.netl.doe.gov/technologies/coalpower/gasification/worlddatabase>

In addition, GOOGLE "Gasifipedia" to access a link to the database.

The 2010 World Gasification Database was compiled by the DOE National Energy Technology Laboratory (NETL) in collaboration with members of the Gasification Technologies Council.

