

Energy flow: oil and gas, cleantech and electrification capex trends in the Americas

Amy Groeschel, Associate Director, Commodity Insights 25 April 2025

Shifting priorities and policies underscore the tension of the energy transition



Sustainability

 Reducing emissions is a key consideration for some governments, companies, and parts of the financial community



Access

- Rising role in government calculations which exacerbates geopolitical tensions
- · Access and what cost?



Security

- Security of supply
- Differing needs and definitions among countries

The result is a rapidly changing landscape and multidimensional energy transition marked by differing timelines and goals, fuel mixes, and technologies

Source: S&P Global Commodity Insights

The world is rapidly electrifying...



Total final energy consumption by fuel (mtoe)

Date compiled: March 2025

10ther energy includes traditional biomass, modern biomass, as well as district heat and small-scale nonelectric renewables (e.g., solar thermal water heating, heat pumps) Source: S&P Global Commodity Insights Over two trillion USD was invested in global energy supply in 2024, with cleantech capex spend edging out upstream

Energy sector, supply-side spend, 2024: 2.1 \$ trillion

Clean energy technology		Upstream		Transmission	Conventional Power		ower
				and distribution		Coal	
					Gas	Nuclear	Hydro
Solar PV (DG)	Solar PV (Util scale)	ty					
	Offshore wind			Distribution			
Onshore wind	Energy a storage (bles bles LNG liquifaction	n/pipelines	Transmission	Refin petroo	ning and chemicals	Coal mining

Data complied March 2025 DG = distributed solar PV; refers to installations smaller than 5 MW. Source: S&P Global Commodity Insights

Real investment will be led by cleantech which will capture all the growth, while upstream spend remains stable

Global energy supply side spending, 2015–30

\$ billion (real 2024)



Data complied March 2025 Source: S&P Global Commodity Insights

Cleantech investment will increase to meet demand for electrification in regions that do not produce fossil fuels

Spending by region, 2025–30

\$ billion (real 2024)



As of March 1, 2024. Source: S&P Global Commodity Insights The world faces a demand peak for crude oil as China is no longer a global engine for growth. So why spend more?





World crude production outlook (million b/d)



Data compiled Feb. 2025. Note: Data excludes tight oil and condensates. Preliminary data from Annual Strategic Workbook 2025 Source: S&P Global Commodity Insights

Where is new production coming from ?



Top sources of non-OPEC+ supply growth: Cumulative change in output, 2025-2035 (million b/d)

Post-COVID inflation and supply chain woes have driven up costs despite relatively stable oil prices; tariffs will likely push costs higher



Data compiled October2024. Source: S&P Global Commodity Insights. E&P spending be focused on replacing declining production and remain flat in real terms through the end of the decade



Offshore E&P capex by region US\$bn (2024 real)



Data complied March 2024 Source: S&P Global Commodity Insights

South America remains a dominant offshore player as it develops previously discovered resources

South America E&P capex US\$bn (2024 real)

■ Offshore drilling and well service ■ Offshore field development ■ Onshore drilling and well service ■ Onshore field development



Date compiled: March 2025 Source: S&P Global Commodity Insights

North America spend is dominated by drilling activity because wells produce quickly then decline

North America E&P capex US\$bn (2024 real)



Date compiled: March 2025 Source: S&P Global Commodity Insights Gas, along with solar, wind and batteries, are quickly replacing other power generation technologies in the Americas







Date compiled: March 2025 Source: S&P Global Commodity Insights

LNG will have a role in pushing new projects forward



Global sanctioned and unsanctioned LNG liquefaction capacity (FID, MMtpa)



Data compiled February 2025. Source: S&P Global Commodity Insights. © 2025 S&P Global.

Creating growing demand in North America through the end of the decade

EPCs and their logistics service providers will benefit

Onshore LNG liquefaction facilities — EPC demand in North America (MMtpa)



Data compiled February 2025. Source: S&P Global Commodity Insights. © 2025 S&P Global. Mainland China accounts for one third of global cleantech spending, Europe for 27%, and the United States for 15%

Investment in cleantech assets, by region, 2025–30 (US\$ billion, 2024 real)



Date compiled: March 2025

Distributed generation refers to solar PV installations smaller than 5MW, as well as behind-the-meter energy storage Source: S&P Global Commodity Insights

North America power spend by segment 2025-2030 (real 2024\$)

Cleanenergy tech	nology				
Solar PV (Utility sc	ale)	Onshore wind	Solar P (DG)	V	0.55
					Gas power
			CCUS		
Batteries and stora	ge	Offshore wind	Hydrog en	Other renew ables	Nuclear

Cleantech capital intensity continues to improve – but costs will not drop everywhere and not for all technologies



Average cleantech capital intensity and additions

More spark for your spend

Average cleantech cost, US\$ million/GW, 2025–30



Date compiled: March 2025 Capital intensity refers to the global weighted average capex Source: S&P Global Commodity Insights

Global datacenter electricity needs could grow 10%-15% annually from 2024–30; the power sector must respond rapidly with new supply



Global data center power demand, by region (TWh)

As of September 2024.

The outlook "Technology sector perspective (451 Research)" is calculated to 2029; the value for 2030 is extrapolated

CAGR = compound annual growth rate; APAC = Asia-Pacific.

* Variations in the historical levels of datacenter power demand stem from substantial variations in the data across the limited sources of information available. For example, the International Energy Agency says "studies for the European Union show that the share of datacenters' consumption in total electricity demand in 2022 could range between 1.8% to 3.5%. In the US, estimates range between 1.3% to 4.5% in 2022, and in China, it can range from 1.9% to 2.9% [...]. In some individual countries, the range of uncertainty is even greater." (https://www.iea.org/reports/electricity-mid-year-update-july-2024) In our research, estimates of historical datacenter demand could vary by a third or more for North America, China, India, Latin America, and Africa and the Middle East. Differences are due to the inclusion versus exclusion of cryptocurrency mining and/or enterprise datacenters (i.e., datacenters owned by organizations whose primary business is not datacenter leasing services), differences in assumed datacenter utilization and efficiency rates, and a broader lack of reporting to official institutions.

Sources: S&P Global Commodity Insights, 451 Research Datacenter Market Monitor June 2024.

Conclusions



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