



Independent Power Producers (IPPs), 2020 Report

The "Report"

March 2, 2021



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Summary

From the Editors

To our subscribers:

Since 1993, McCoy has measured the breadth, depth, and competitive elements of the power generation markets we serve. The purpose of this IPP report is to bring together into one report the size and scope of IPP project activity from across the disparate technologies that we cover which includes biomass, geothermal, solar thermal, WTE, gas turbine (both simple and combined cycles), fossil, hydro (both pumped storage and traditional), and waste heat technologies.

All our best,
Bob McCoy
Dave Hetherington

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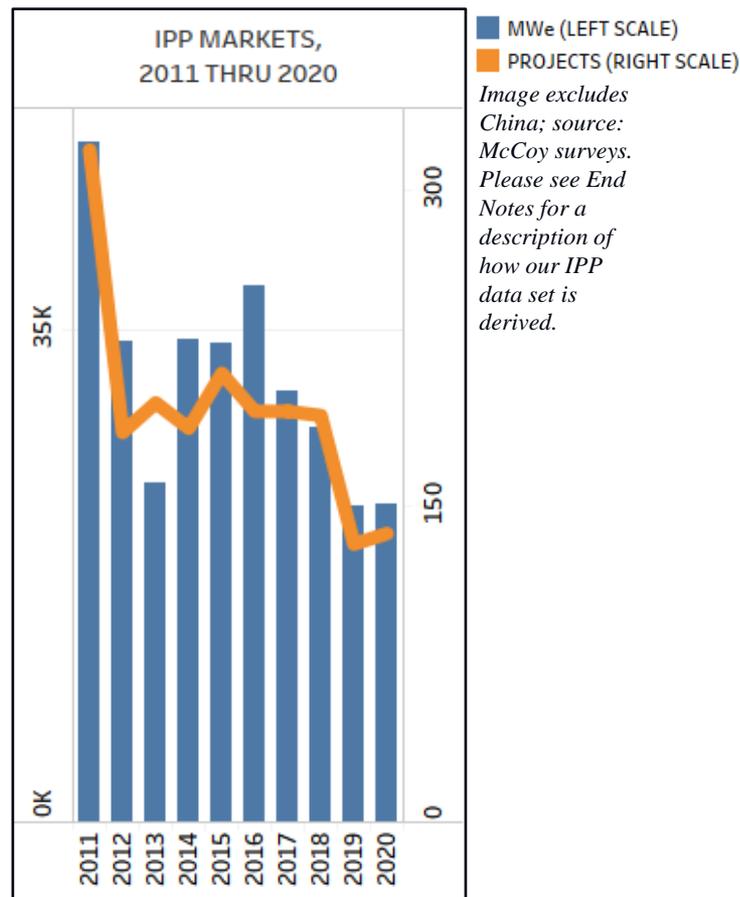
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Summary

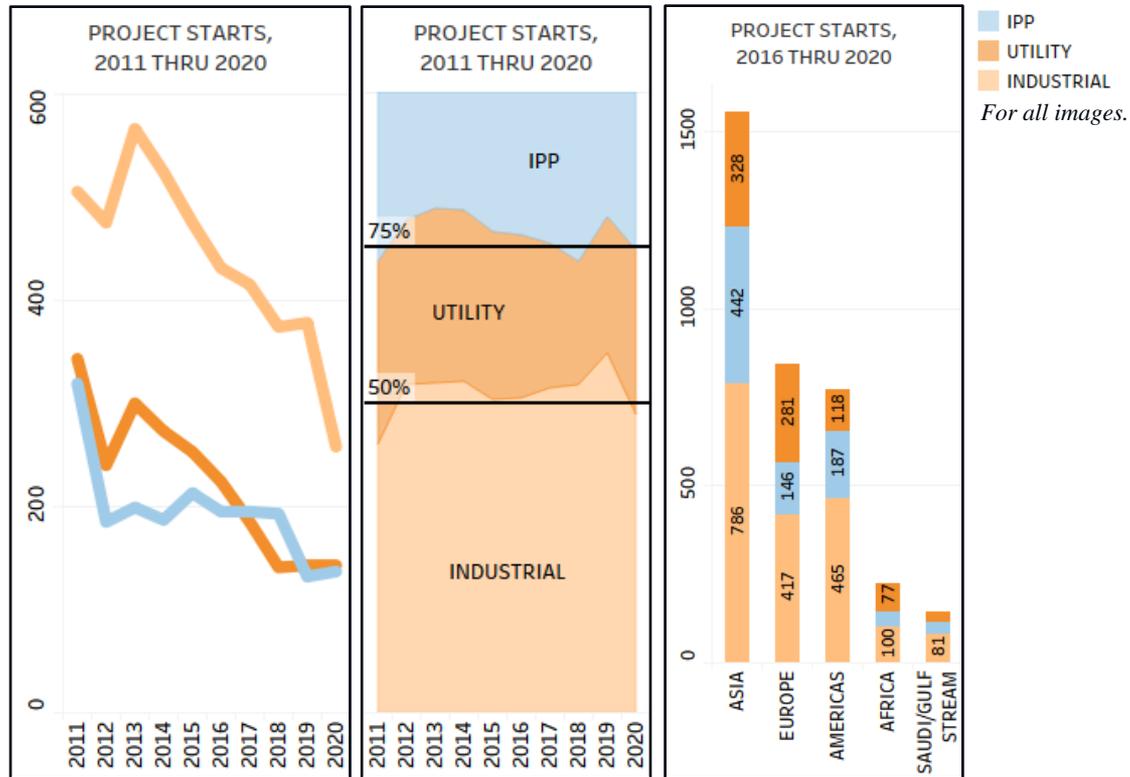
IPP project activity amounted to 22.5 GWe and 137 starts in 2020. Although marginally higher on-year by both measures, these activity levels remain multi-decade lows (image right) .

On the pages that follow, we present observations on IPP, Utility and Industrial activities and then segment IPP activity into three major technology categories to assess internal dynamics: GT Based (which includes simple and combined cycles); Thermal Renewables (which includes geothermal, biomass, solar thermal, waste heat, and WTE technologies); and Fossil.



Global Power Generation Projects – Project Starts

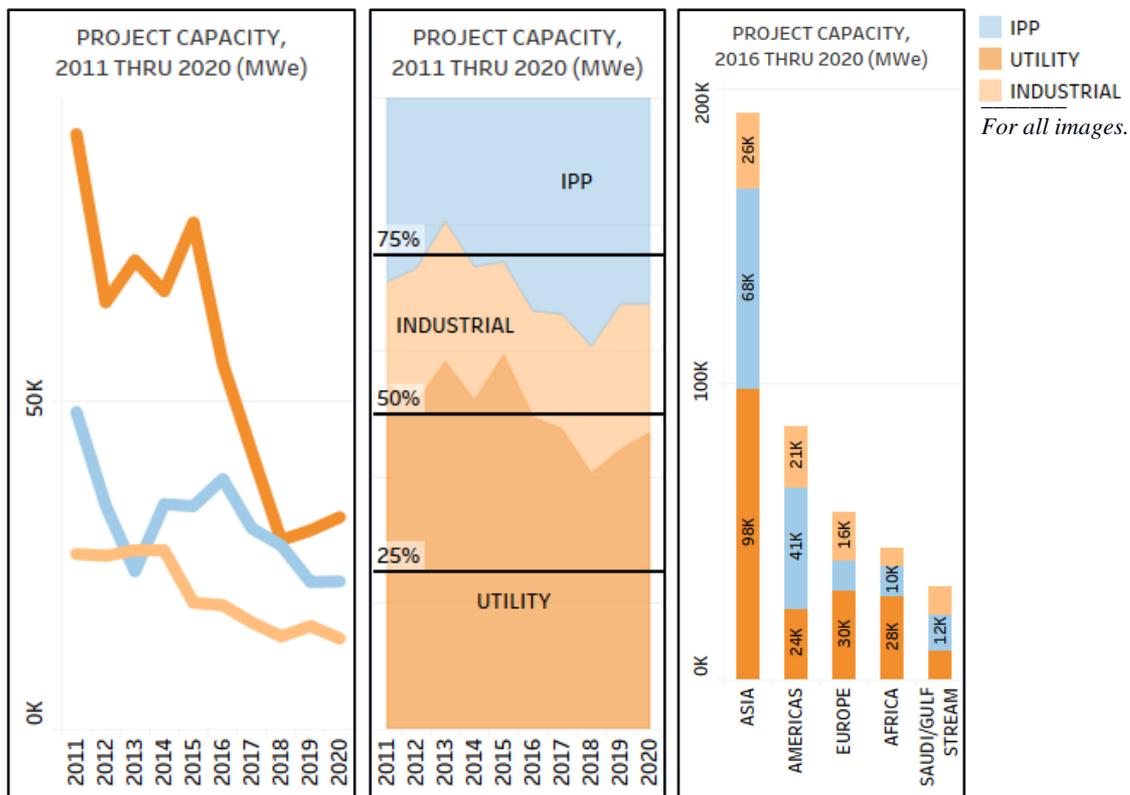
In addition to the 137 IPP starts in 2020, Industrial starts amounted to 258 and Utilities 143 (image left). Industrial starts were 32% lower on-year and represented 48% of all 2020 starts (image middle); Utility starts were in-line on-year at 143 and represented 27% of all 2020 starts. For the five-year period through 2020, Asia-based projects represented 44% of all project starts, 52% of IPP starts, 39% of Utility starts and 43% of Industrial starts (image right).



Images excludes China; source: McCoy surveys. Please see End Notes for a description of how our IPP data set is derived.

Global Power Generation Projects – Project Capacity

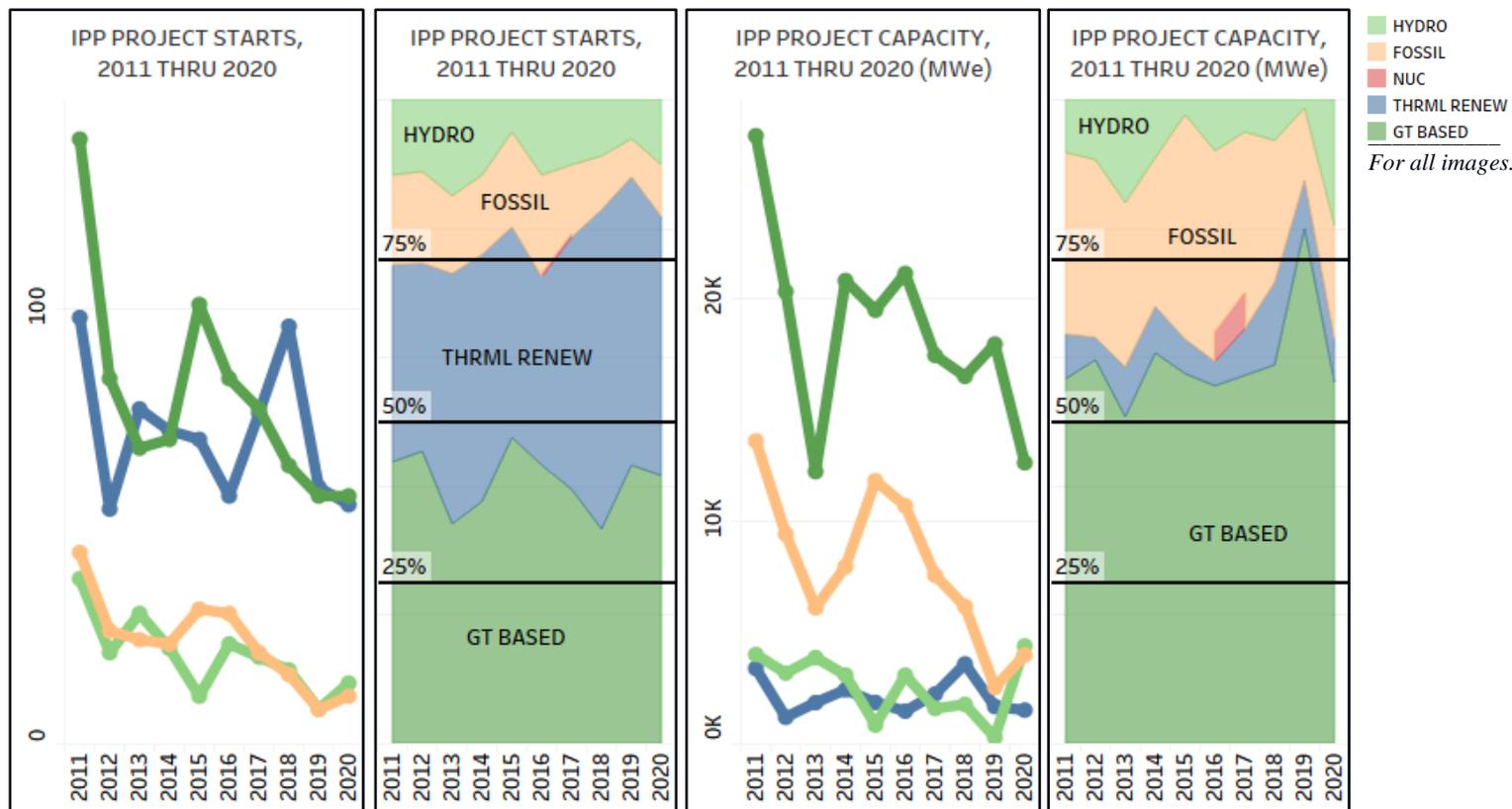
IPP project capacity was up marginally in 2020 (image left) and represented 33% of all project capacity (image middle). Utility capacity was up 7% on-year and represented 47% of the market, while Industrial was down 12% and represented 20%. For the five-year period through 2020, Asia-based capacity was 47% of all capacity, 48% of IPP capacity, 52% of Utility capacity, and 33% of Industrial capacity (image right).



Images excludes China; source: McCoy surveys. Please see End Notes for a description of how our IPP data set is derived.

IPP Power Generation Projects

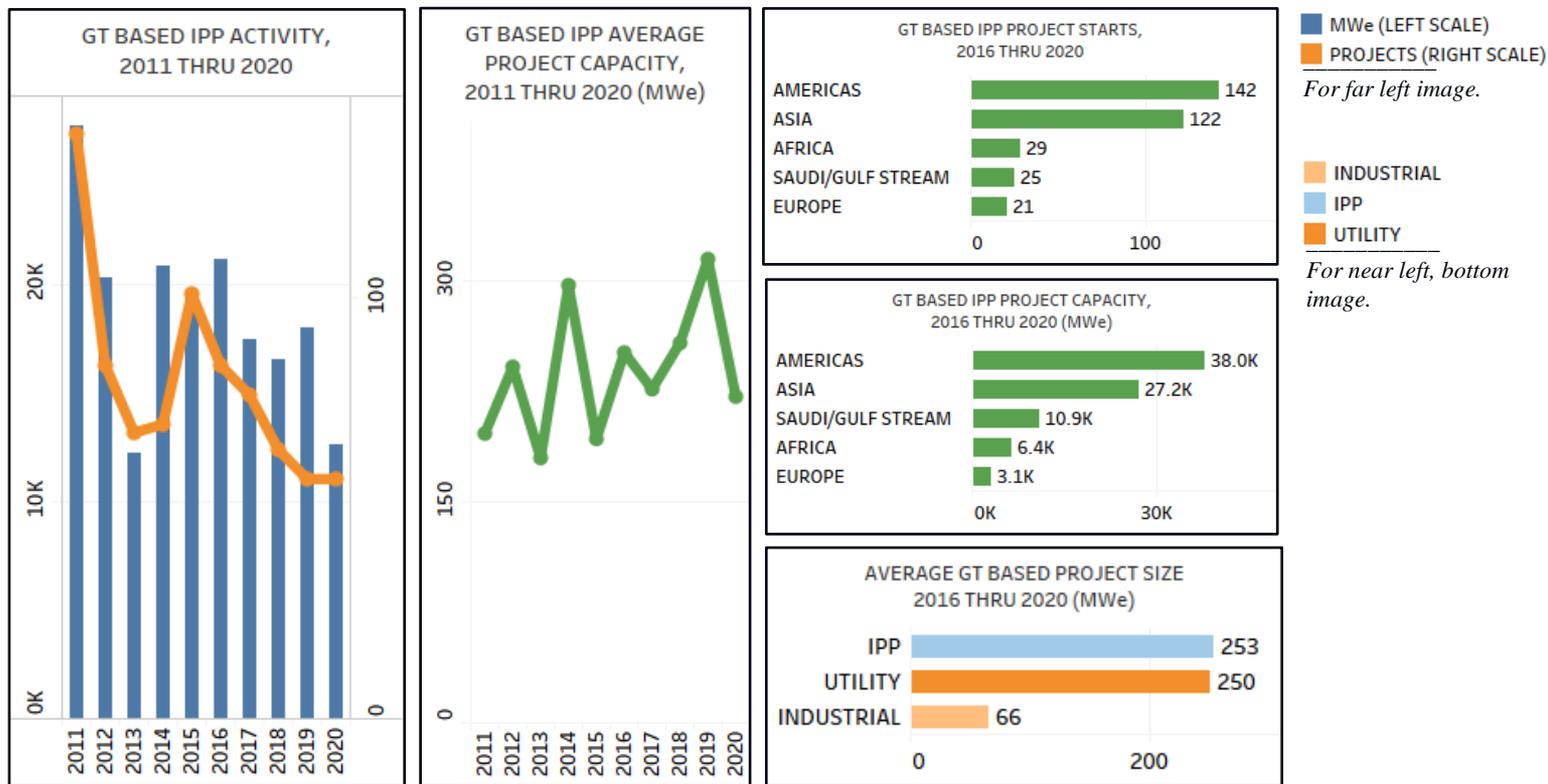
Among the power gen technologies deployed by IPPs, GT Based technologies were the most popular by starts (image left) and capacity (image middle right) in 2020. The 57 GT Based starts represented 42% of all 2020 IPP starts (image middle left), and the 12.6 GWe of GT Based capacity represented 56% of all 2020 IPP capacity (image right).



Images excludes China; source: McCoy surveys. Please see End Notes for a description of how our IPP data set is derived.

IPP Power Generation Projects – GT Based

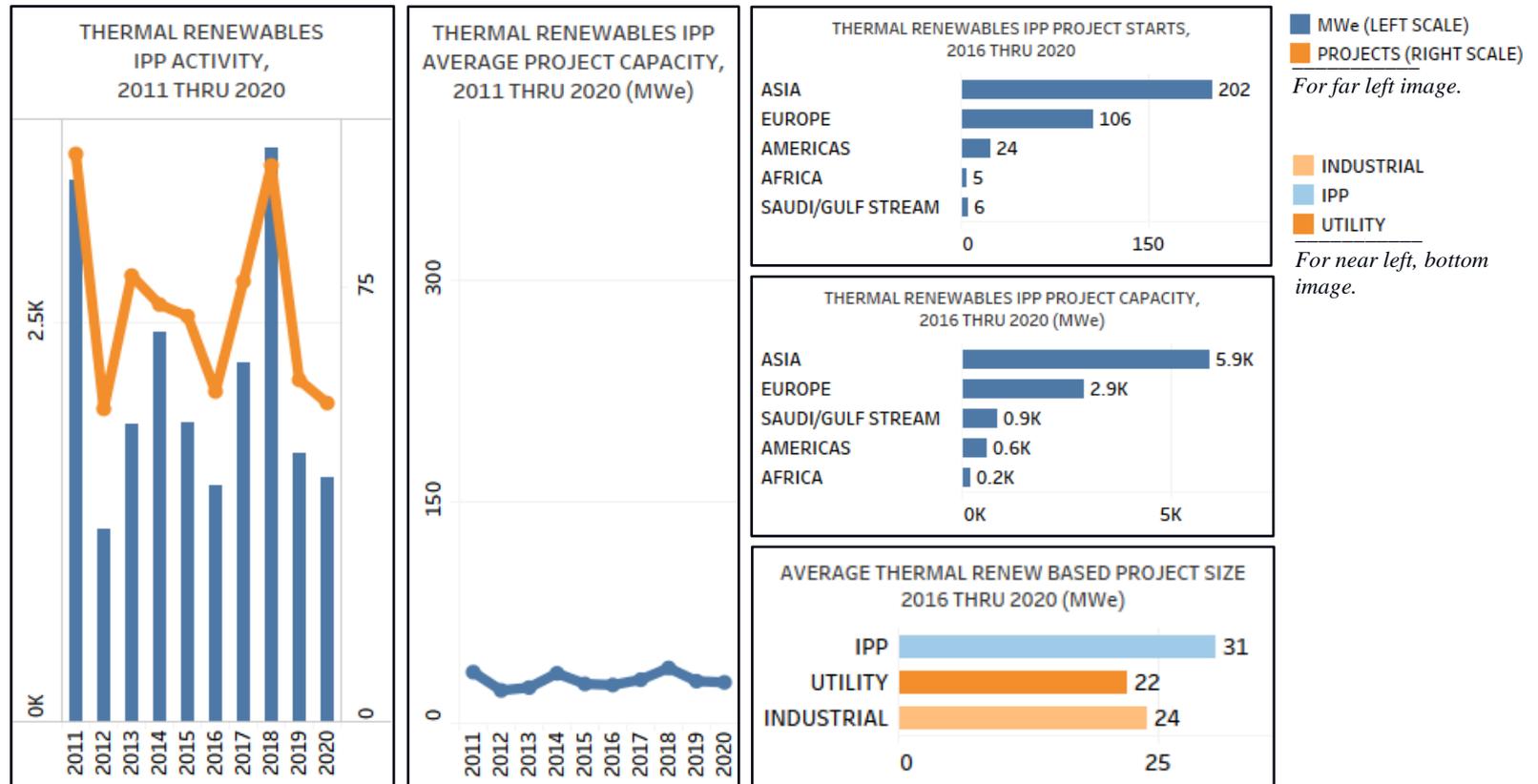
GT Based IPP activity in 2020 was flat by project starts and down 30% by project capacity (image left), and the average capacity per project fell 93 MWe to 222 MWe (image middle). For the five-year period through 2020, demand amounted to 339 starts and 86 GWe; the Americas region led global demand with 42% of all starts and 44% of all capacity (images right, top and middle); and the average IPP GT project was 253 MWe (image right, bottom).



Images excludes China; source: McCoy surveys. Please see End Notes for a description of how our IPP data set is derived.

IPP Power Generation Projects – Thermal Renewables

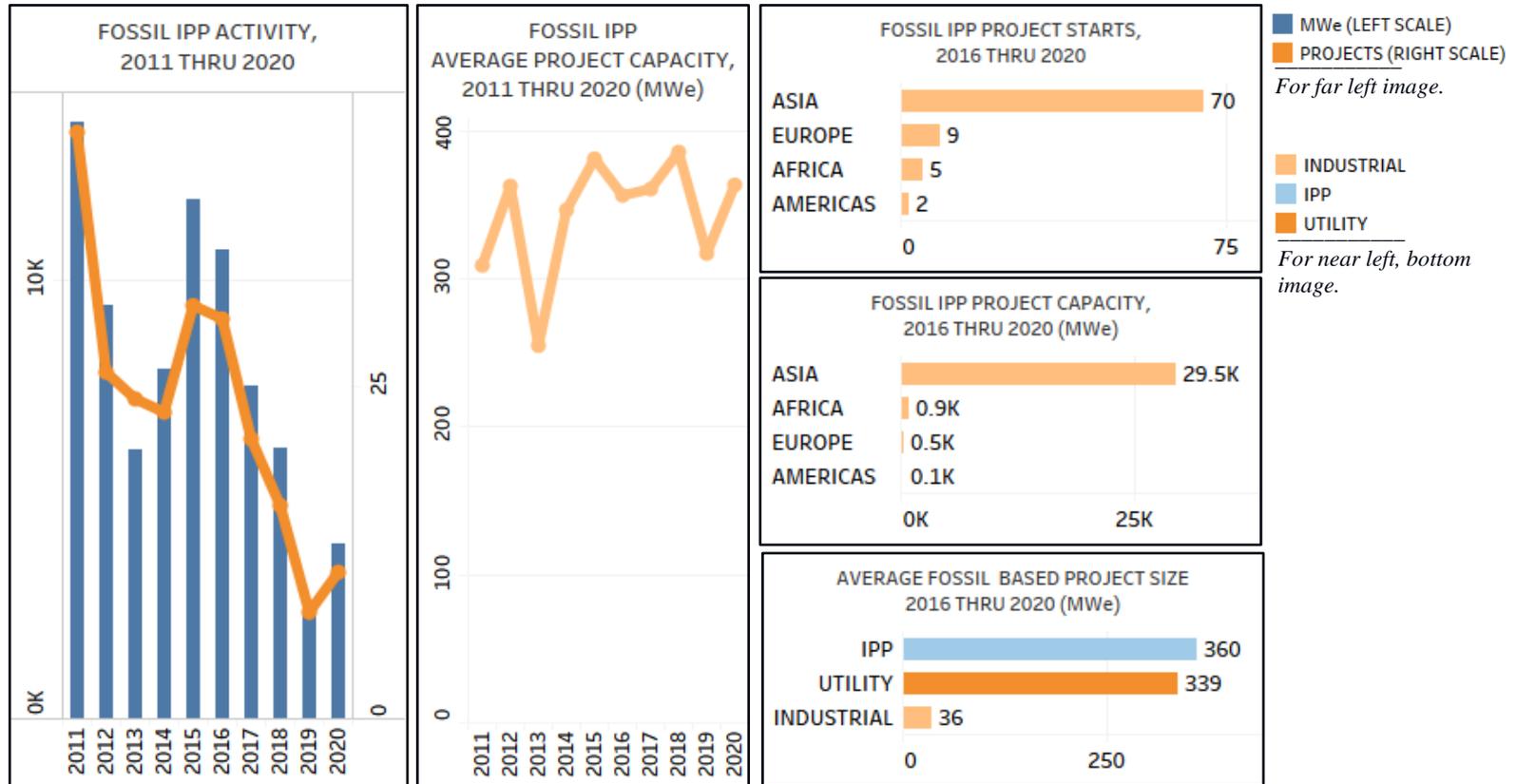
Thermal Renewables activity in 2020 fell by four starts and 0.2 GWe relative to 2019 (image far left), and the average capacity per project fell slightly on-year to 28 MWe (image middle). For the five-year period through 2020, Thermal Renewables activity amounted to 343 starts and 10.5 GWe; the Asia region led global demand with 59% of starts and 56% of capacity (images right, top and middle); and the average capacity per start was 31 MWe (image right, bottom).



Images excludes China; source: McCoy surveys. Please see End Notes for a description of how our IPP data set is derived.

IPP Power Generation Projects – Fossil

Fossil IPP activity in 2020 rose by three projects and 2.5 GWe on-year to 11 and 4.0 GWe respectively (image left), and the average capacity per project rose to 364 MWe (image middle). For the five-year period through 2020, Fossil activity amounted to 86 starts and 31 GWe (images right, top and middle); Asia-based demand dominated with 81% of starts and 95% of capacity; and the average capacity per IPP Fossil project was 360 MWe (image right, bottom).



Images excludes China; source: McCoy surveys. Please see End Notes for a description of how our IPP data set is derived.

End Notes: Description of Data Derivation

How We Compile our IPP Data

The Report presents analyses on global power generation project activity, focusing on projects initiated by Independent Power Producers or IPPs. An IPP project is deemed to have commenced when the first piece of original equipment for a project is awarded. This Report covers all power project activity for which a new Steam Turbine, Boiler, Gas Turbine, or Hydro Turbine is required, subject to the following minimum capacity standards: 5 MWe for Boilers and Steam Turbines, 3 MWe for Gas Turbines and 10 MWe for Hydro Turbines.

Power generation technologies covered include all Gas Turbine based projects (GT, GT-CC, IGCC), pumped storage hydro, traditional hydro, geothermal, waste heat, WTE (waste to energy), solar thermal, biomass, and fossil. Combined cycle project activity is represented by both the gas and steam cycles since McCoy data captures them under different equipment types. This will increase the quantity yet more accurately reflect the timing of combined cycle project activity.

Certain technologies require both Boilers and Steam Turbines. For these projects, we captured only the earlier of the awarded equipment to preclude double counting of the same project. Though McCoy distinguishes between IPP and Utility customer types in China in other reports, China is excluded from this report and data set due to the highly controlled and tightly regulated structure of its power generation markets, making the distinction between IPP and Utility project types disingenuous. Sources for our data are McCoy's surveys and publicly available information.

Please let us know if you have any questions or issues on any of this report or accompanying data set.