# EPC-E PARTICIPATIONS, 12M'17 REPORT

*The "Report"*

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# Introduction

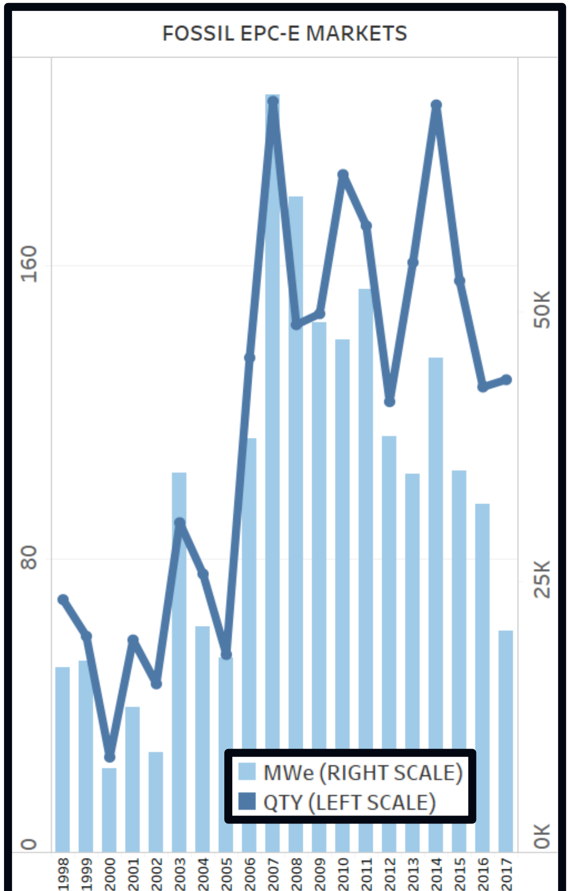
FORWARD

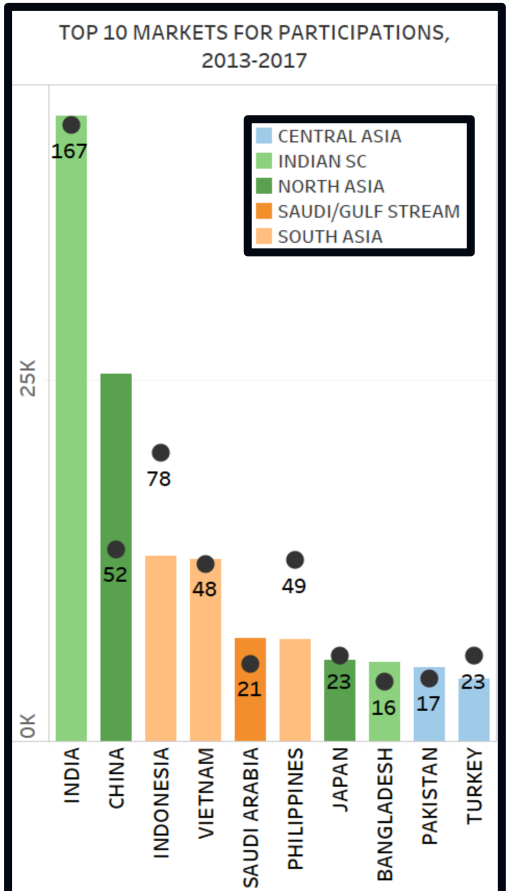
The Report presents the markets for power project Engineering services performed globally and the competitive dynamics among the Engineering service providers.

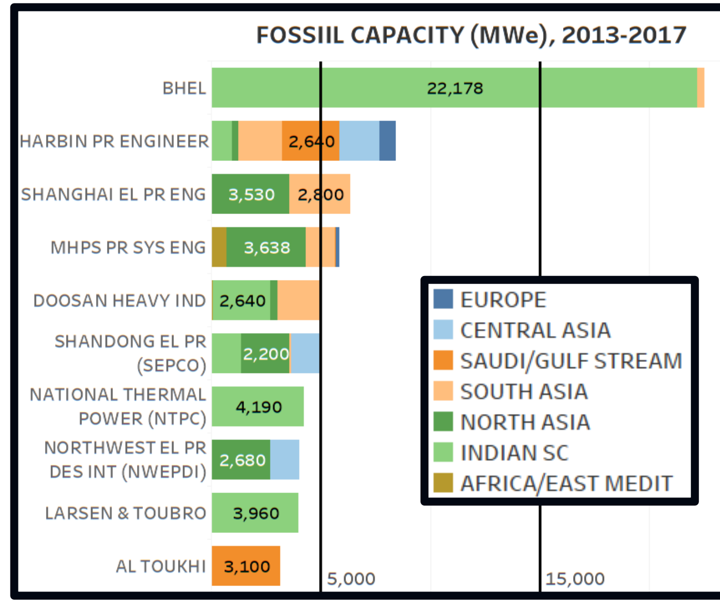
- The Report is derived from McCoy surveys and press releases reviewed throughout the year from which EPC and/or detailed engineering services (EPC-E) can be derived.
- McCoy has meaningfully tracked EPC-E data for projects over 50 MWe since 1980 and under 50 MWe since 2013; 5 MWe project size is the lower boundary for Boiler and Steam Turbine based project activity, 10 MWe for Hydro (10 MWe) and 3 MWe for Gas Turbines.
- Up to four EPC-E firms (EPC-E Participants or Participants) earn an EPC-E credit when they perform any of the major EPC-E work for a given project (EPC-E Participation or Participation), the capacity of which equals total project capacity divided equally among the Participants (EPC-E Capacity or Capacity).
- Award dates are stamped when the first piece of equipment for a project is awarded.
- Asset owners can earn Participation credit for owner executed projects.
- Combined Cycle (CC) projects are represented by both the gas and steam cycles since McCoy data captures them under different equipment types. This will increase the quantity, decrease the Capacity, and more accurately reflect the timing of CC Participations and Capacity throughout the Report and the Data.

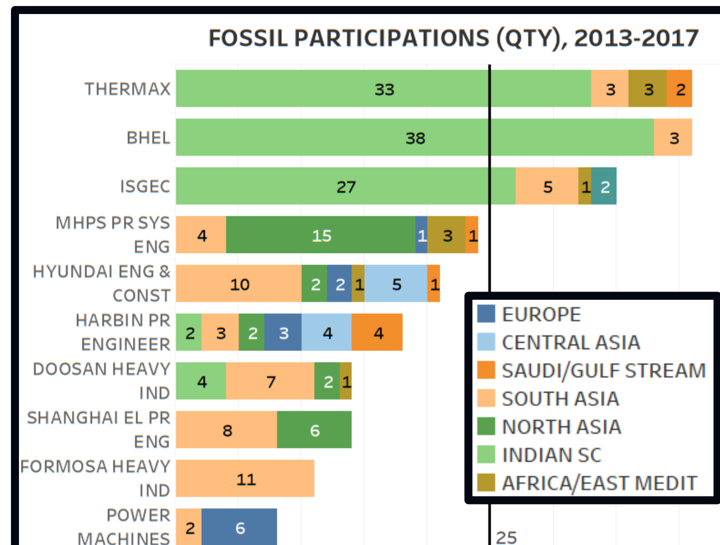
# Global Market Summary – Fossil EPC-E Segment

Fossil Capacity fell to a 13-year low in 2017 and continues its decline from the market peak of 2007, though Participations have been more resilient and rose slightly in 2017 (image below left). The leading countries from 2013-2017 were India with 43 GWe spread across 167 Participations and China with 25 GWe across 52 Participations (image below right). BHEL was the clear leader by EPC-E Capacity (image right top) while compatriot Thermax matched BHEL's Participations and another compatriot, ISGEC, finished third (image right bottom).

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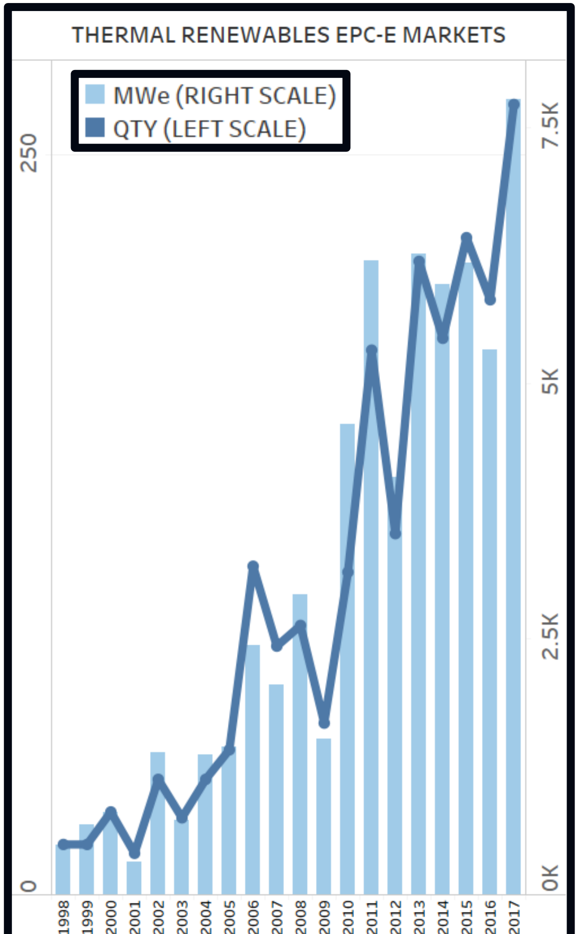
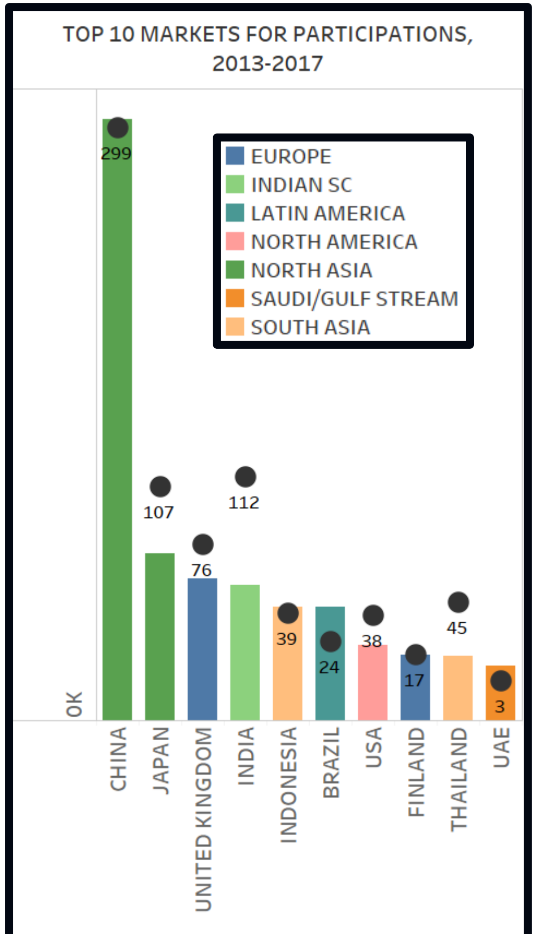
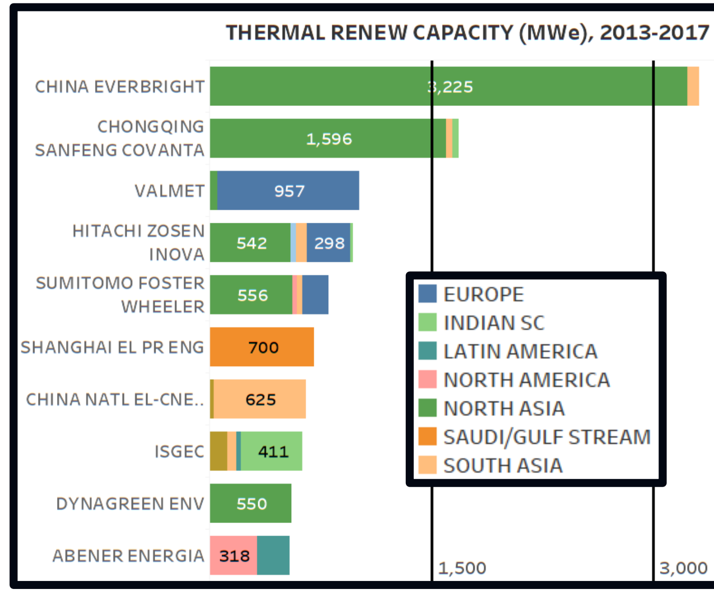
*EPC-E Participations of 5 MWe and up for Boiler and Steam Turbine based activity, 10 MWe for Hydro based activity and 3 MWe for GT based activity; source: McCoy Surveys.*

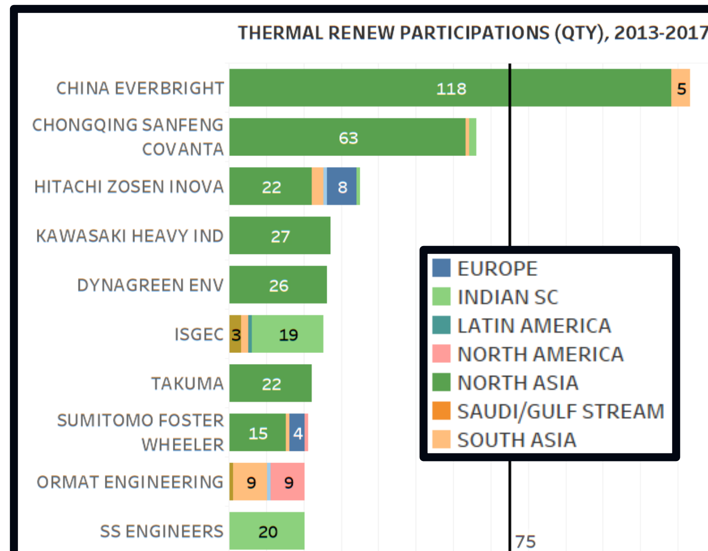
# Global Market Summary – Thermal Renewables EPC-E Segment

An interesting mix of developed and developing economies helped Thermal Renewables Participations and Capacity crest to all-time highs during 2017 (image below left). China led all countries with its continuing massive WTE rollout (image below right) for the 2013-2017 period, and WTE focused firms China Everbright and Chongqing Sanfeng led all EPC-Es for the 2013-2017 period (right images).

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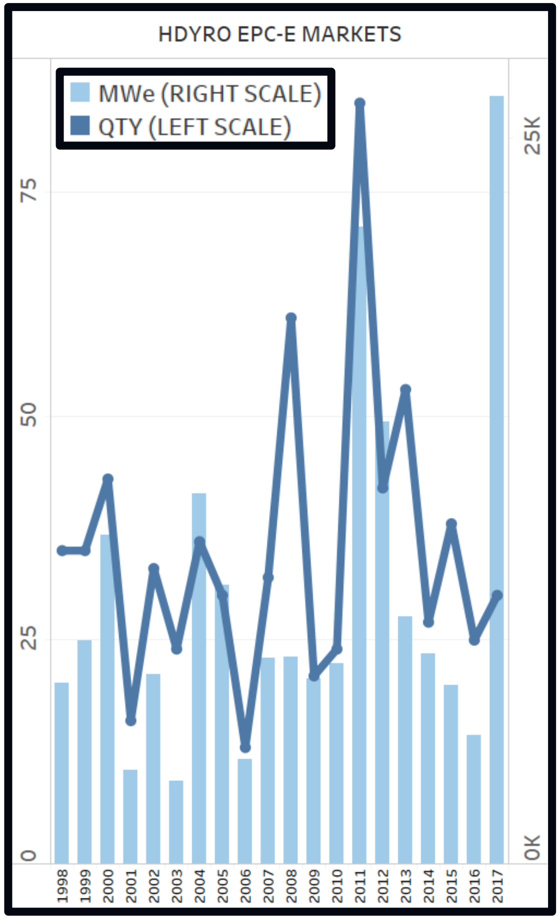
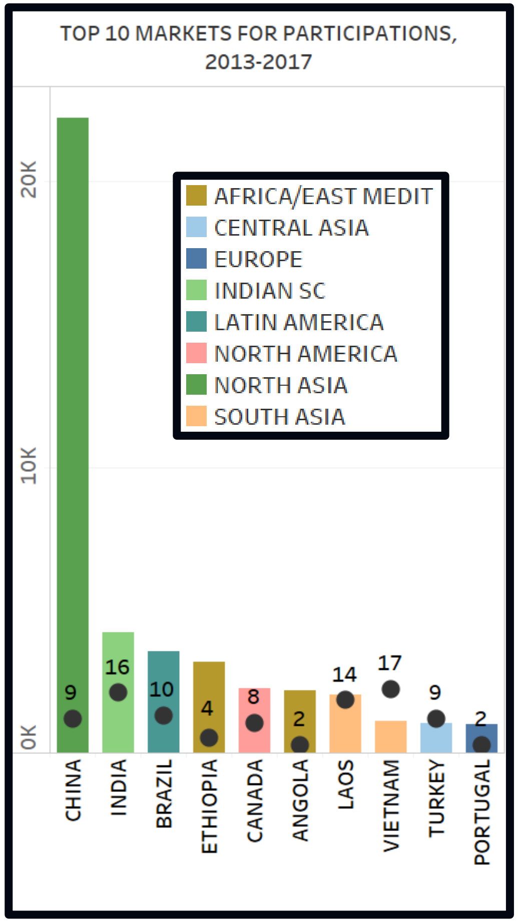
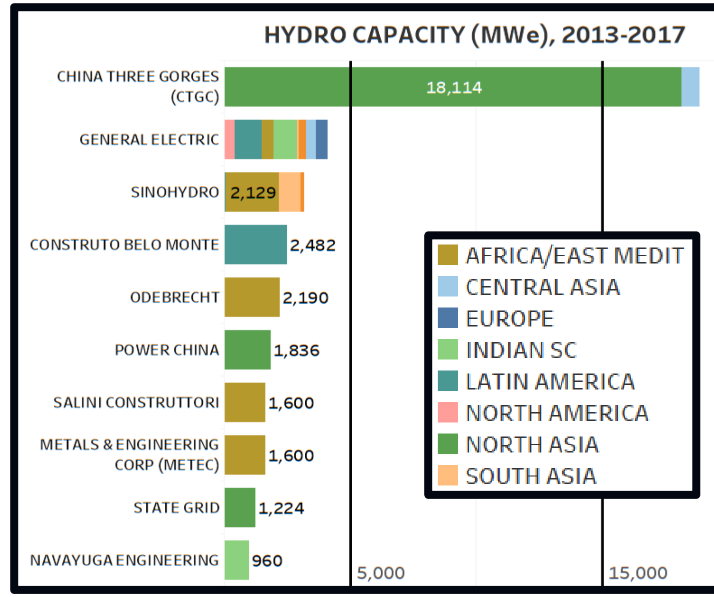
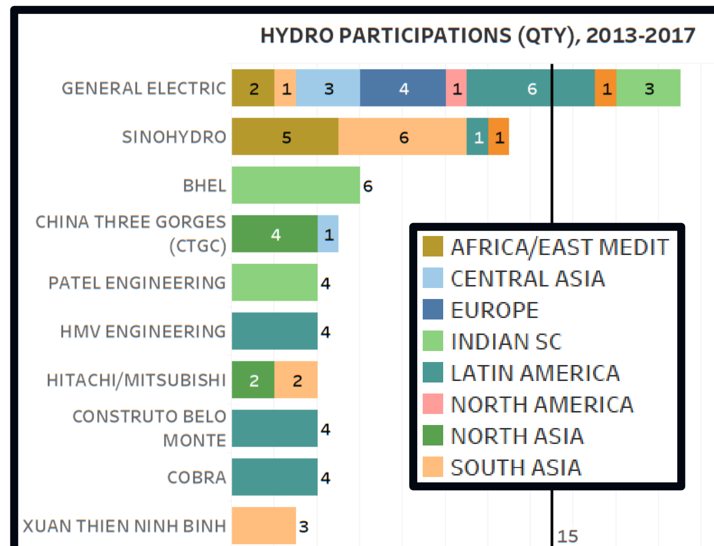
# Global Market Summary – Hydro EPC-E Segment

A burst of Pumped Storage Hydro activity pushed the EPC-E Hydro markets to a new Capacity high during 2017 (image below left). The leading country markets for the 2013-2017 period were the usual suspects of China, India and Brazil, yet China simply dominates: 5.3x the Capacity of second place India (image below right). China Three Gorges led the EPC-E Capacity market from 2013-2017 (image top right), and GE led Participations (image bottom right).

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