

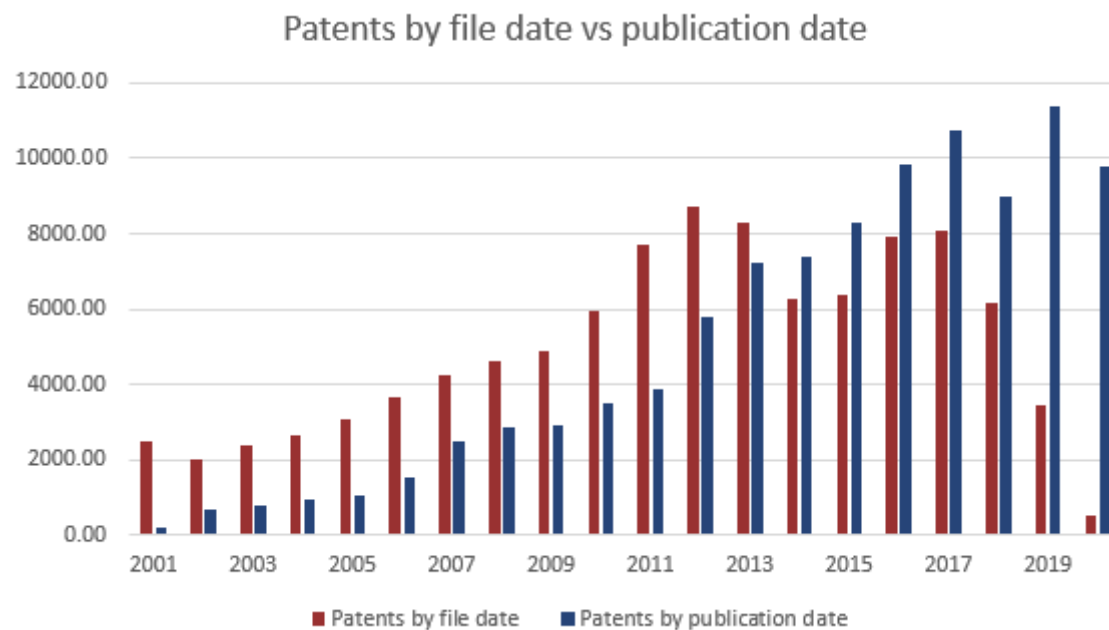
2 Oct
2020

GE's pivot away from old energy is mirrored in its patent holdings

General Electric (GE) [has decided](#) to stop selling equipment to new coal-fired power plants and will shift its focus to gas turbines and renewable energy equipment. This is the latest move by CEO Larry Culp to reorganise the company's electricity-equipment business, a unit which has been a major source of financial woes in recent years.

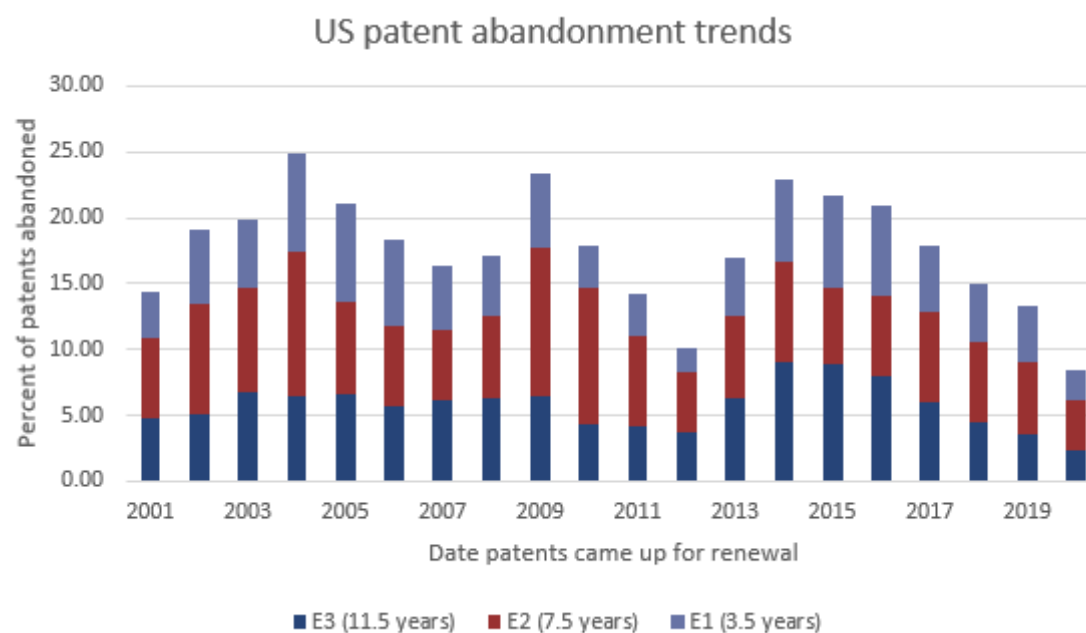
The announcement is [important for two reasons](#). The first is that it is yet another step towards shrinking the GE domain as the company battles debt and reduced profits, while working towards raising cash. The second is that it is a dramatic reversal in its approach to power and one the company is no doubt hoping will revive its lacklustre energy business.

GE has a vast portfolio of 100,241 patents worldwide. Of these, 63,526 are grants and 36,715 are applications. Its patent output has been consistently strong, with filings of anywhere between 6,000 to 8,700 per annum since 2011 (see graph below). Notably, though, there was a drop in 2018 (the year that Culp was appointed to CEO) from 2017's 8,079 applications to 6,160. It is not possible to determine if this is a one-off occurrence or part of a developing trend given the data for 2019 and 2020 is incomplete due to the 18-month lag between when a patent is filed and when it is published.



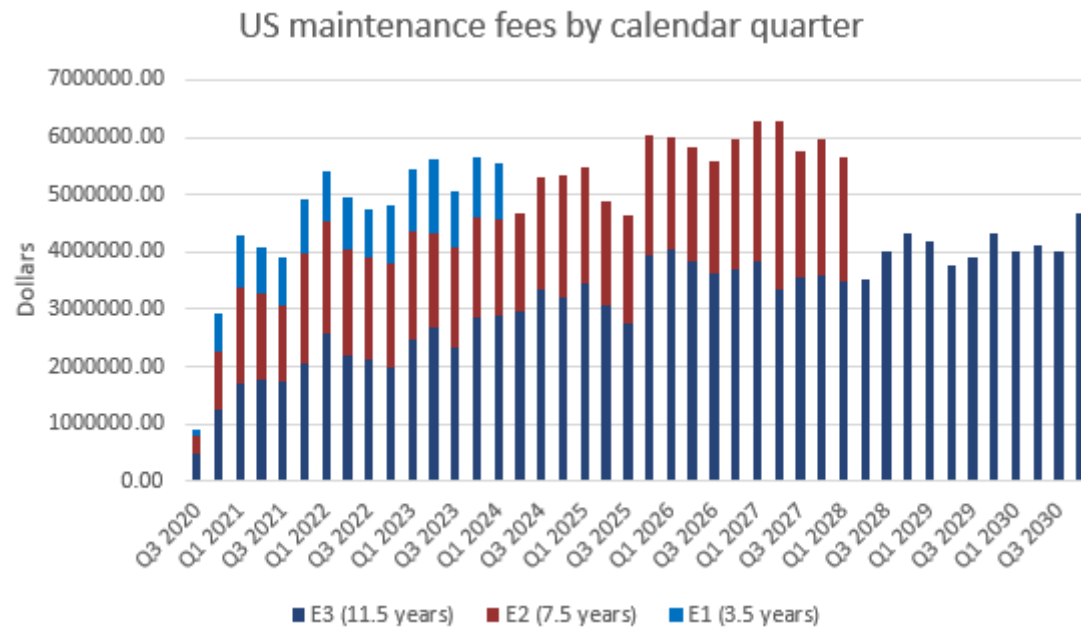
Source: Anaqua's AcclaimIP Analytics Software, Data is accurate as of 29th September 2020.

What we do know, though, is that GE's rate of abandonment is actually slowing (see graph below). In the past decade the company abandoned its highest percentage of US patents in 2014 with 23% of those up for renewal that year being allowed to expire (equating to 916 assets). Since then, the number of abandoned rights each year has steadily declined.



Source: Anaqua's AcclaimIP Analytics Software, Data is accurate as of 29th September 2020.

GE is projected to shell out about \$4 million in US maintenance fees per quarter for the first three quarters of 2021. This figure jumps to nearly \$5 million in Q4. These numbers are just for the US, which is the company's most important market, with 25,998 active patents. However, it also has sizeable holdings in Japan, with 17,246 grants, China (7,811) and Europe.



Source: Anaqua's AcclaimIP Analytics Software, Data is accurate as of 29th September 2020.
This graph is based on maintenance payment due dates.

The energy portfolio

Five years ago, GE's ambition was to strengthen its coal operations and in 2015 it [purchased](#) the power and grid businesses of Alstom, the maker of coal-fuelled turbines, for \$9.5 billion. Then, [just two years later](#), GE closed a deal with oil-and-gas giant Baker Hughes.

These purchases had an impact on the firm's holdings. Baker Hughes now accounts for 12.8% of the overall portfolio and Alstom contributes 4.0% (see table below). In its crusade to free up cash, GE has [reversed its takeover](#) of Baker Hughes so these assets will be transferred out in the coming years.

GE's portfolio: top five patent owners

Patent owner	No of patents	% of portfolio
General Electric	71,231	73.7%
Baker Hughes Inc	12,351	12.8%
Alstom Tech Ltd	3,827	4.0%
GE Aviation Systems	2,207	2.3%
GE Med Sys Global Tech Co	1,827	1.9%

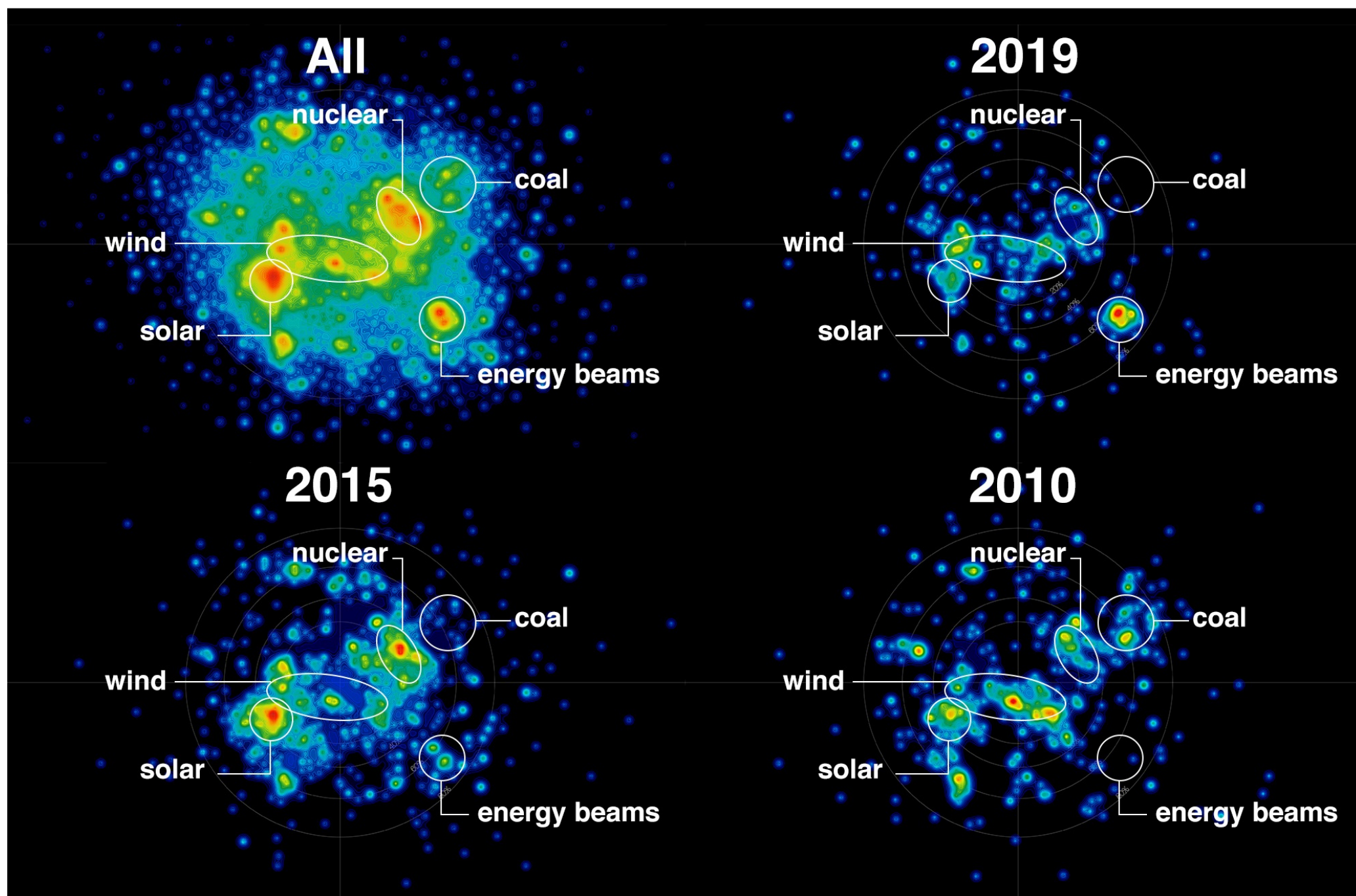
Source: Anaqua's AcclaimIP Analytics Software, Data is accurate as of 29th September 2020.

What seems to have become apparent to GE is that it had made the wrong play in the power market. The Alstom deal, which was the basis of its steam power business, has not been successful. It even tried to [sell off](#) the unit earlier in the year. Now, says GE Power CEO Russel Stokes: "With the continued transformation of GE, we are focused on power generation businesses that have attractive economics and a growth trajectory."

So, what does IP data tell us about the energy technologies GE is now betting on? Analysis conducted by the team at [Valuenex](#) shows patents relating to wind, solar and energy beam technologies have been growing over the past five years (see image below). Further, the area on the landscape related to coal has largely emptied out, while innovation in nuclear technologies has significantly dropped.

GE Power

1,884 clusters / 9,169 patents • 2010 - 2020



Source: VALUENEX; Note: US, EPO, and WO patent application families related to GE "power" or "energy", pulled from DWPI, were used as the basis for this analysis. See full size image [here](#).

IAM says:

There were two key things to keep in mind about GE's business when evaluating the state of its patent portfolio:

- Culp's job when he became CEO in 2018 was to eliminate deadweight and raise cash
- Coal is on the way out and the future is in natural gas, as well as solar, wind and renewable energy

Despite a clear motivation to increase cash flow, GE's patent portfolio seems to have been left relatively untouched. It is either telling of the importance of the company's holdings, or it means that senior executives have not yet thought a patent purge is necessary. It's hard to know which is the bigger factor, but it is worth remembering the firm has not been afraid to make big decisions. GE has [divested a number](#) of significant units, including its light-bulb business and its century-old locomotive division in order to improve its balance sheet.

Equally important to note is that the company's approach to its patent portfolio may have changed very recently in reaction to the economic downturn. GE was finally starting to turn things around when the pandemic hit. Culp [says](#) the company has cut costs by \$2 billion and saved \$3 billion in cash to contend with the circumstances. We will not know how this impacted its IP strategy for another few years.

As for GE's energy business, it would appear the company has been low-key preparing for the day that coal would go out of style, with an evident shift towards solar, wind and energy beams technologies.