Single Electricity Market
(SEM)

GENERATOR FINANCIAL PERFORMANCE IN THE SEM FOR FINANCIAL YEAR 2019

Report

SEM-21-052

21 June 2021

EXECUTIVE SUMMARY

This report examines the financial performance of licensed generation companies with a combined ownership capacity greater than or equal to 25MW operating in the Single Electricity Market (SEM). This report provides an update to include the 2019 financial year and follows on from five previous reports published by the SEM Committee since 2013. The report provides aggregated information on the financial performance of generators in the SEM, as well as breakdowns by generation fuel source and generation type.

The main objectives of the report are to provide greater insight into the financial performance of generators in the SEM, which may inform policy decisions; and improve the level of market data available to all industry stakeholders, which should assist in providing market transparency. A summary table relating the key findings of the FY2019 report is provided below.

KEY FINDINGS FROM THE GENERATOR FINANCIAL PERFORMANCE ANALYSIS FOR FINANCIAL YEAR 2019

MARGINS:

- Decrease in gross profit margin from 29% in 2018 to 24% in 2019, decrease in net profit margin from 8% in 2018 to 7% in 2019, consistent with decreasing revenues overall and with decreasing market prices.
- Increase in net margins for Wind & Solar, which grew from 12% in 2018 to 17% in 2019, driven by a 6% increase in volumes generated.
- The downward trend in coal profitability continued in 2019, with negative gross margins of 33% and negative net margins of 35% resulting from a 58% reduction in volumes of Coal generation from 3.3GWh in 2018 to 1.4GWh in 2019. This decrease in volumes was driven by high carbon costs and forced outages, resulting in reduced total Coal revenues overall but a sharp increase in average Coal revenues (up from €95/MWh in 2018 to €133/MWh in 2019). Average Coal costs have also increased sharply (up from €65/MWh in 2018 to €179/MWh in 2019).
- Significant increase in net margins of Peak generation plants which return to net profitability in FY2019 (from -38% to 48%), resulting from a 53% increase in volumes sold, from 277GWh in 2018 to 423GWh in 2019, and very significant cost reductions in Depreciation and Impairment, which dropped from a peak in 2018.

REVENUE:

- Overall decrease in 2019, average revenue dropped from €92/MWh in 2018 to €82/MWh in 2019, a 11% reduction linked to the drop in market prices.
- Revenue from the new Electricity Markets (Day ahead, Intraday and Balancing) accounted for 58% of total revenue in 2019 (€1.6 billion), down from the 70% coming from the SEM Pool in 2018 (€2.0 billion). This 20% reduction in revenue

brought figures back in line with 2017 revenues figures from the SEM Pool (€1.7 billion), resulting from a combination of the drop in market prices and proportional growth in certain other revenue sources as follows.

- 'Other Revenue', which includes revenue from both system/ancillary services and support mechanisms (PSO, NIRO), was the next biggest source of revenue at 25% of total (€694 million), growing from 18.7% of total (€546 million) in 2018. This likely stems from a combination of increased ancillary and system services revenue, allowing for the support of more intermittent generation sources on the system by facilitating flexible generation, and an increase in PSO payments related to the drop in market prices.
- Revenue from Contracts for Difference (CfD) & Contracts at 7% of total (€188 million) was up from 0% of total (-€13 million) in 2018, reflecting the decrease in market prices and potentially also increased contracting in the context of the new market arrangements. The overall increase in revenue share from CfD is predominantly coming from Wind & Solar generation (up from 2% in 2018 to 26% in 2019), consistent with the significant increase in revenue share from CfD & Contracts for Renewables (up from -2% in 2018 to 23% in 2019).
- Conversely, Capacity revenue at 10% of total (€268 million) was down from 12% of total in 2018 (€348 million), reflecting the move from the old Capacity Payment Mechanism to the new Capacity Remuneration Mechanism.
- Trends from 2012-2019: The proportion of revenue coming from "Other Revenue", including DS3 / ancillary services revenue and revenue from support schemes, has increased over time to a maximum in FY2019. The proportion of revenue from capacity payments has decreased to a minimum in FY2019, while the proportion of total revenue coming from the electricity market has stayed relatively stable over time.

COSTS:

- Overall decrease in 2019, average costs per MWh dropped 6% from €82/MWh in 2018 to €77/MWh in 2019, consistent with the drop in fuel prices.

VOLUMES & MARKET SHARE:

- Total reported volumes of electricity sold in FY2019 amounted to 32.9TWh, an increase of 3% (1.1 TWh) over the 31.8TWh sold in FY2018.
- The decrease in Coal share of market (volume share reduction from 11% to 4%, revenue share reduction from 11% to 7%) was largely absorbed by Gas (volume share increased from 58% to 64%, revenue share increased from 52% to 55%) with slight increase in Wind & Solar (volume share remained at 23%, revenue share increased from 22 to 23%).

MARKET PRICES:

- Decline in market prices in 2019, reversing trend from 2016-2018. Average prices fell from €63/MWh in 2018 to €50/MWh in 2019, a 21% reduction driven by the drop in wholesale gas prices.

Table of Contents

Tables included in main body of report

Figures included in main body of report

1. INTRODUCTION AND CONTEXT

1.1. PURPOSE

This report examines the financial performance of licensed generation companies with a combined ownership capacity greater than or equal to 25MW operating in the Single Electricity Market (SEM). This publication can be read in conjunction with reports published by the Market Monitoring Unit (MMU) in order to fully understand market performance.[1] The purpose of this report is to enhance transparency in the SEM and help in understanding the revenues accruing to different categories of generators, while respecting individual generator commercial sensitivity by presenting aggregated information only.

Most generators in the SEM have their financial year-end in either September, December or March. In order to accommodate this variance, the report provides analysis for financial year 2019 as relates to the 12-month period up to December 2019 for generators with December year-end and up to March 2020 for generators with a March financial year-end, etc.

Following the decision papers in May 2012[2] and August 2019[3], as published by the SEMC on the reporting of generator financial performance in the SEM, licensed generation companies with a combined ownership capacity greater than or equal to 25MW are required to complete an annual financial reporting template within six months of the end of their financial year. The uniformity of the template means that data can be aggregated across chosen generator categories. A copy of the template is shown in Appendix B.

Data from the following categories of **generation fuel sources**, in aggregated form, is included in this analysis:

- Wind (inclusive of Solar in FY2019)
- Hydro
- Gas
- Coal
- Peat
- Distillate & Oil
- Pumped Storage

The analysis also aggregates the data by **generation type** under the following categories, which are defined in section 4.1:

- Renewables
- Price Taker
- Mid-Merit (inclusive of Baseload since 2018)
- Peaker

[1] Information on the MMU can be found here while publications produced by the MMU can be accessed here
[2] Decision paper SEM-12-027 in 2012 on Generator Financial Reporting in the SEM available here.
[3] Decision paper SEM/19/036 in 2019 on Updates to Generator Financial Performance Reporting Requirements (August 2019), available here.

This is the sixth report to be published following the SEM Committee's "*Decision Paper on Generator Financial Reporting in the SEM*" (SEM/12/027). It follows a broadly similar structure to the previous five reports[4]. However, some changes to the reporting were introduced[5] in August 2019 following a consultation in June, primarily to accommodate revenues from the new markets under the new SEM trading arrangements from 1st October 2018. Revenues arising from the Capacity Remuneration Mechanism and the DS3 programme are also included. As a result, FY2019 represents the first year for which breakdown data were requested from generators across Day Ahead, Intraday and Balancing Markets. Similarly, the Capacity Market data now record additional detail related to Reliability Option Difference Charges. However, only a limited subset of generators provided this data, and for this reason, analysis of the breakdown data is not included in this Report. The Regulatory Authorities will seek to understand the reasons for this limited reporting and to facilitate provision of the breakdown data in the future, so that analysis of this kind can be included in future generator financial performance reports.

Although this report focuses on annual financial generator performance, it should be remembered that electricity generation involves significant and long-term capital investment, with upfront costs often repaid over decades. Therefore, annual variations in generator profitability (up or down) should be considered in that context. For an explanation of some of the financial terms used in this report, please refer to Appendix A.

1.2. MARKET & COMMODITY PRICE CONTEXT

Figure 1.2.1 shows the evolution of the monthly average market prices in the SEM since 2012. Overall average prices fell from €63/MWh in 2018 to €50/MWh in 2019.

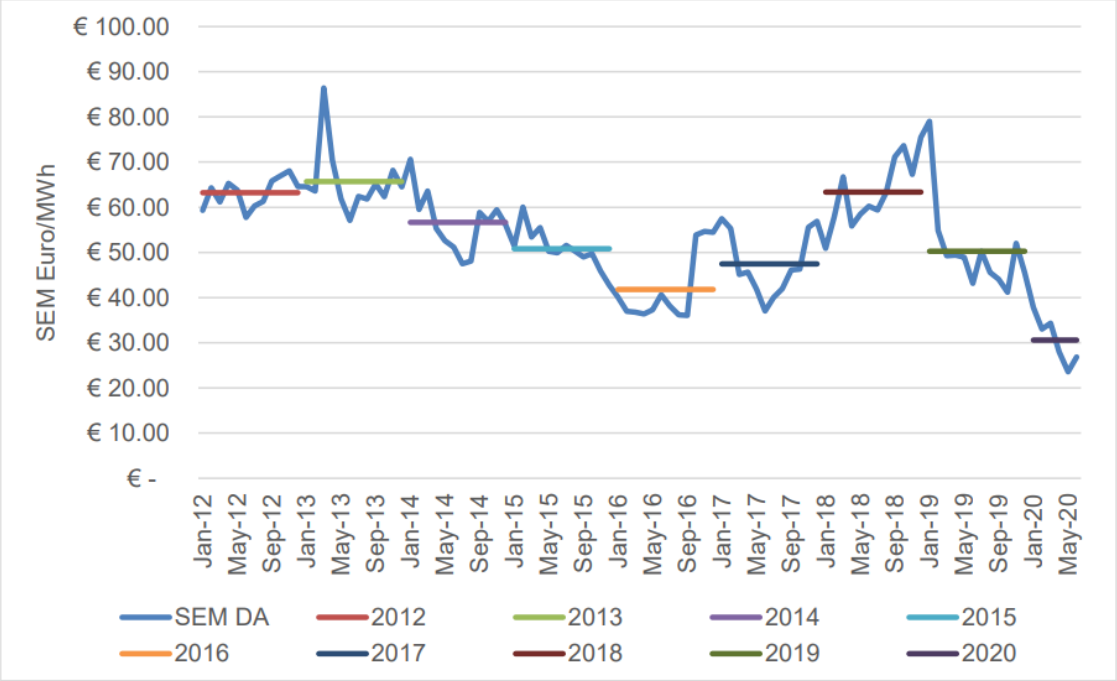
The financial performance of generators in the SEM should be scrutinised in the context of the associated fuel prices, which are a key factor in the costs of many generators. The price of fuel generally determines the wholesale market price and hence the revenues generators receive from energy sales.

The trend in wholesale electricity prices in the SEM is in line with wholesale gas prices during this period. Wholesale electricity prices are set by the marginal generator, which is typically a gas-fired power plant. When the fuel cost of the marginal generator increases, the wholesale energy price is expected to rise and vice-versa.

[4] SEM/20/021 Generator Financial Performance in the SEM (April 2020), available here
SEM/19/016 Generator Financial Performance in the SEM (April 2019), available here
SEM/16/086 Generator Financial Performance in the SEM (November 2016), available here
SEM/14/111 Generator Financial Performance in the SEM (December 2014), available here
SEM/13/031 Generator Financial Performance in the SEM (May 2013), available here

[5] SEM/19/036 Updates to Generator Financial Performance Reporting Requirements (August 2019), available here

Figure 1.2.1: Wholesale electricity market prices from 2012 - 2020



Gas has been the marginal fuel for much of the 2012-2019 period and consequently, electricity prices often follow the shape of the gas prices as is evident from Figure 1.2.2. This was also the case during 2019, where the trend of downward fluctuations in averaged wholesale energy prices in SEM correlates, to a large extent, with averaged gas prices falling across much of the reporting period.

Figure 1.2.2 Comparison of electricity market prices with gas prices from 2012 – 2020

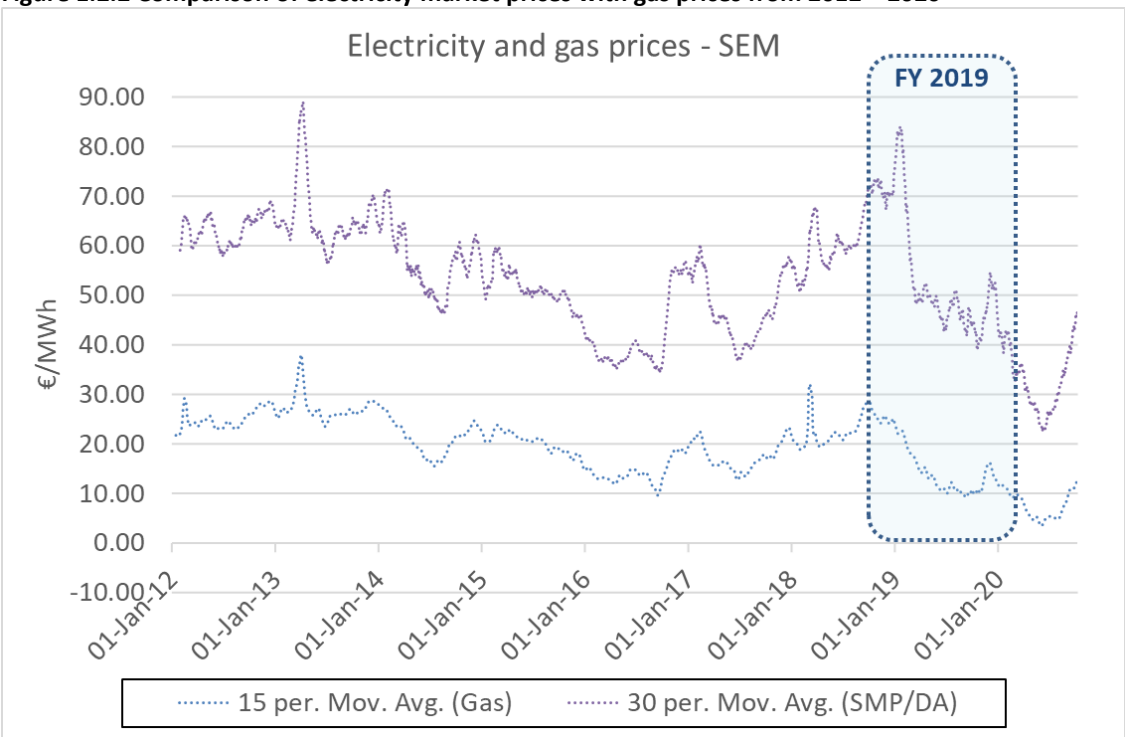


Figure 1.2.3: Commodity prices from 2012 - 2019

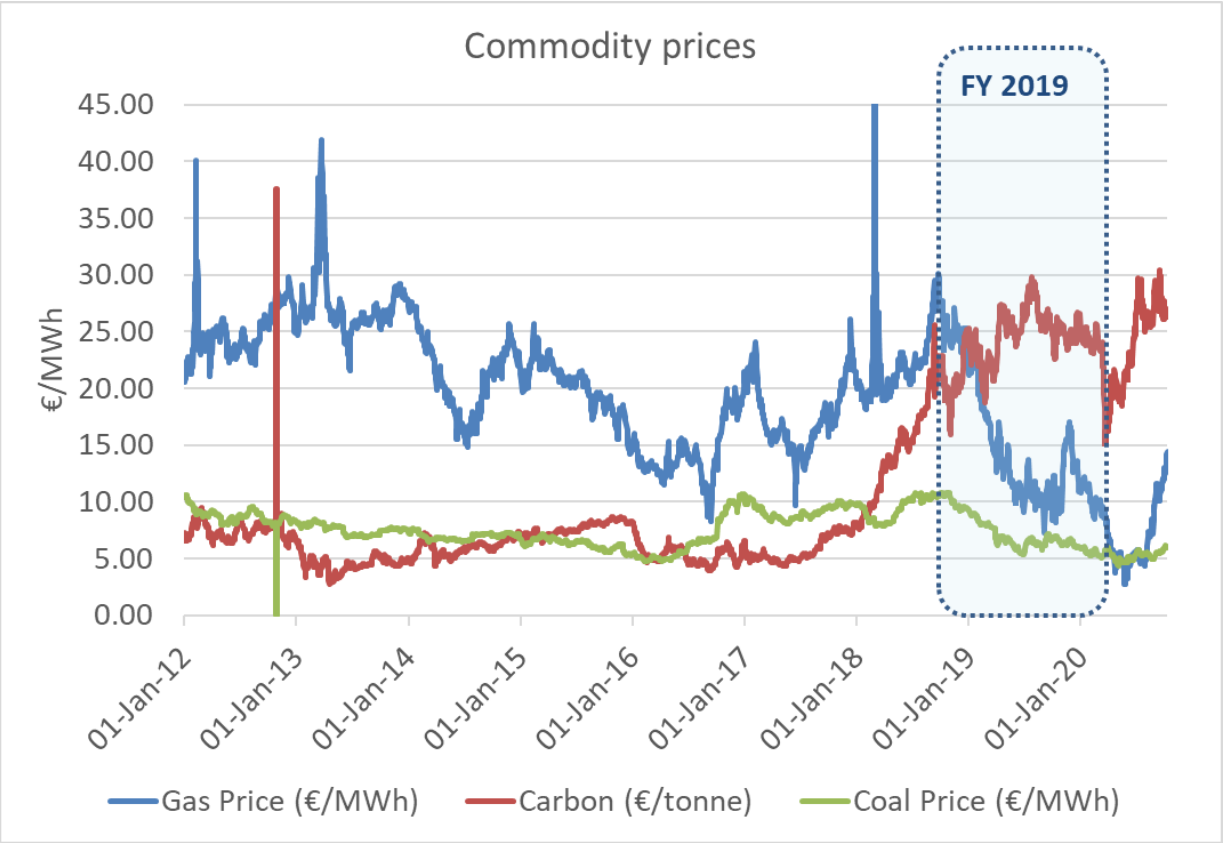


Figure 1.2.3 shows that **Coal** prices continued to fall gradually in 2019. **Carbon** prices, having risen dramatically in 2018, remained high during the FY2019 reporting period.

1.3. SPARK & DARK SPREADS

Of significance to thermal generators are spreads between power prices and fuel/input costs. This section presents the following two spreads:

- **Clean Spark Spread:** The spark spread is the theoretical gross margin of a gas-fired power plant from selling a unit of electricity, having bought the fuel required to produce this unit of electricity, with an efficiency of 49.13%. The *clean spark spread* (which is also known as the "*spark green spread*") reduces the spark spread by taking the cost of carbon into account.
- **Clean Dark Spread**: The dark spread is the gross margin of a coal plant accounting for the coal input and the assumed efficiency level of 35%; the *clean dark spread* (which is also known as the "*dark green spread*") reduces the dark spread by taking the cost of carbon into account.

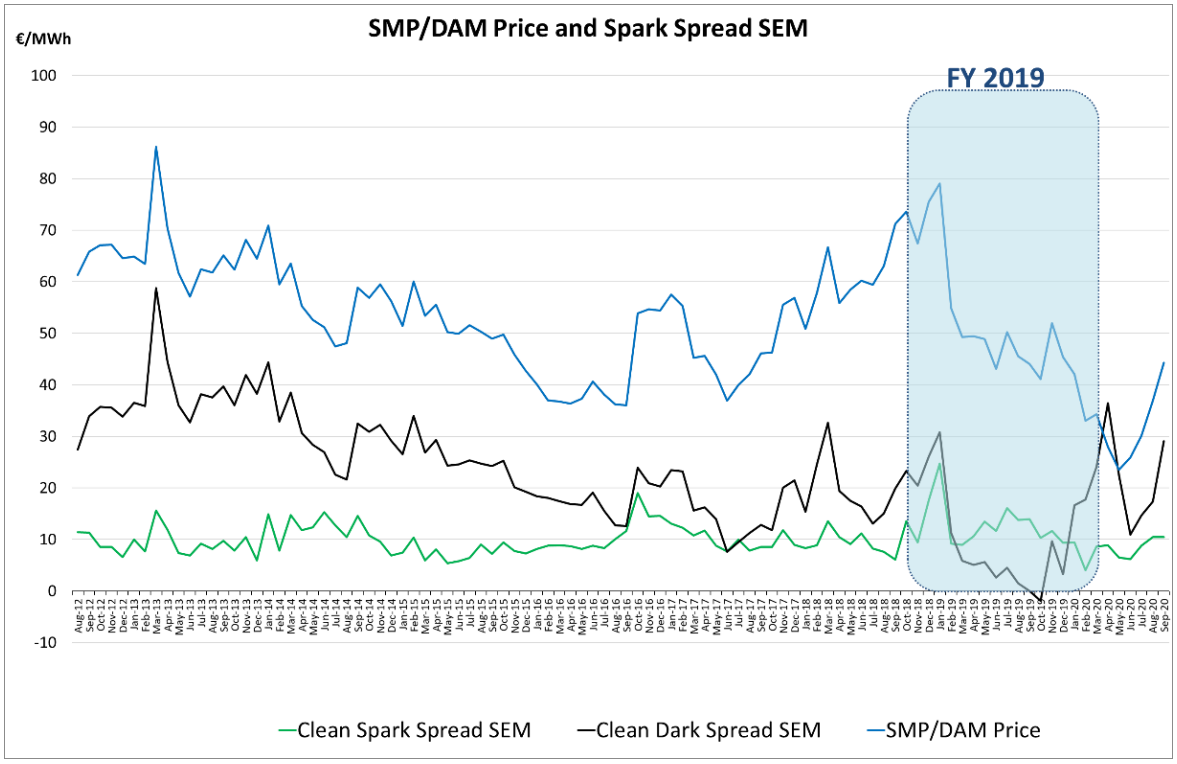
These spreads are the theoretical gross income of a plant selling a unit of electricity, which must recover all of its additional costs (operation, maintenance, capital) from this spread to be able

to break even or earn a profit. The clean/green spreads include the costs of carbon permits through European Carbon Emission Allowances. When analysing and comparing spreads, it is worth considering the following points:

- Higher/lower spreads do not necessarily translate into higher/lower generator profits. This is because the total revenue earned from energy production depends on the level of utilisation of the plant (i.e. the production volume). When the utilisation level goes down, the generator is likely to require a higher spread in order to cover its fixed costs, start up and maintenance costs.
- The gross profit of each individual thermal generator is also related to the individual generator's specific efficiency level rather than the assumed standard mid-range generator efficiency level of 49.13% used in the aggregated analysis in this report.
- Capacity or fuel transportation costs have not been included in the calculation of the SEM spark spreads. This is consistent with the methodology used in common practice.

Figure 1.3.1 presents the clean spark spread (for gas) and the clean dark spread (for coal) levels in the SEM over the period 2012 to March 2020. The Clean Spark spread remains relatively steady over the reporting period. The Clean Dark spread shows broadly similar downward trends to average market prices, driven by high carbon price rises and higher coal prices, relative to gas, whose units set the price across the majority of periods. The exception to the downward trend is a spike in clean dark spread in early 2020 associated with a drop in carbon Prices (see Figure 1.2.3).

Figure 1.3.1: Spark spread in the SEM from FY2012 - FY2019



2. FY2019 FINANCIAL PERFORMANCE & 2012-2019 TRENDS FOR ALL GENERATORS

2.1. FY2019 FINANCIAL PERFORMANCE TABLE FOR ALL GENERATORS

Table 2.1 presents the total FY2019 results. The total reported installed capacity in FY2019 was 11855 MW, very similar to the 11885 MW total reported installed capacity in FY2018. Total reported volumes of electricity sold in FY2019 amounted to 32.9TWh, an increase of 4% (1.1 TWh) over the 31.8TWh sold in FY2018.

The results are presented across three columns as shown:

- total values
- per MW of installed capacity
- per MWh of electricity sold (pumped storage not included due to status as net consumer of electricity)

Table 2.1.1. FY2019 Financial performance table for All Generators

Financial Year 2019	Total	Per MW of installed capacity	Per MWh of electricity sold*
Installed capacity - MW	11,855		
Volume of Electricity Sold - MWh	32,868,895		
(*excluding Pumped Storage)	33,100,308		
Revenue	**€'000**	**€'000/MW**	**€/MWh**
Revenue from Electricity Markets	€1,609,010	€136	€48
Revenue from Contract/Difference Payments	€188,085	€16	€6
Revenue from Capacity Market	€268,444	€23	€8
Other Revenue	€693,617	€59	€20
Total Revenue	**€2,759,172**	€233	€82
Operating Costs	**€'000**	**€'000/MW**	**€/MWh**
Fuel Related Operating Costs	€1,244,796	€105	€38
Non-fuel Operating Costs	€863,853	€73	€26
Total Operating Costs	**€2,107,740**	€178	€63
EBITDI	€651,433	€55	€19
Depreciation & Impairment	€347,754	€29	€10
EBIT	€303,678	€26	€8
Interest & Tax	€122,656	€10	€4
Net Profit	€181,023	€15	€5
Gross Margin - %	**24%**	**24%**	**23%**
Net Margin - %	**7%**	**7%**	**6%**

Notes:

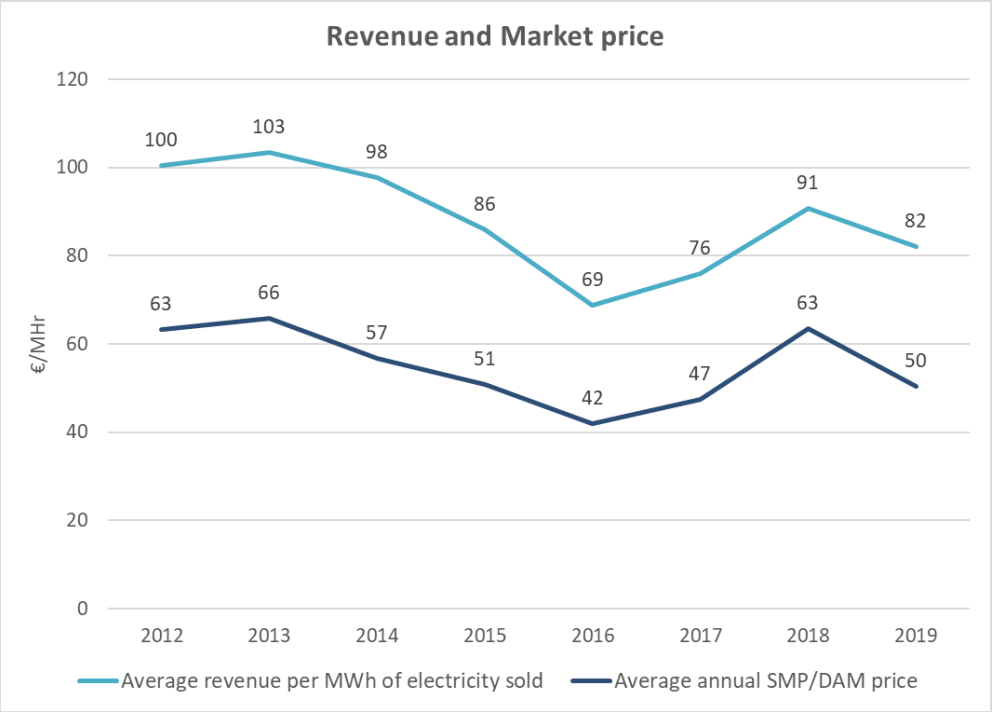
Pumped storage, as a net consumer of electricity, has been excluded from the per MWh analysis. This increases the figures for overall volume sold and resulting margins.

2.2. TOTAL REVENUES ACROSS ALL GENERATORS

Total reported revenue in FY2019 amounted to €2.8 billion, translating to revenues of €233,000/MW of installed capacity and €82/MWh of electricity sold.

Market revenues are closely correlated with market prices as shown in the figure below where average revenue per MWh tracks average annual SMP/DAM prices. Average revenue dropped from €91/MWh in 2018 to €82/MWh in 2019.

Figure 2.2.1 Average annual revenue and market prices in the SEM from FY2012 - FY2019



Within the financial reporting template generators are asked to disaggregate revenue into four categories:

- Energy payments, previously from the SEM Pool, now from Electricity Markets (Day ahead, Intraday, Balancing)
- Contract for Difference (CfD) & Contract payments. CfDs are bilateral agreements in which one party gets a fixed price for electric energy (the strike price) plus an adjustment (either negative or positive) to cover the difference between the strike price and the spot price.
- Capacity revenue, previously from Capacity Payments, now from the Capacity Market
- Other revenue (System Services, other support mechanisms, sale of assets, etc.)

Figure 2.2.3 Breakdown of revenue for All Generators from 2012-2019, in revenue and percentage terms

The trend in the breakdown of total revenue across all generation types from 2012 to 2019 is shown in Figure 2.2.2, both in revenue and percentage terms. The proportion of revenue coming from "Other Revenue", including DS3 / ancillary services revenue and revenue from support schemes, has increased over time to a maximum in FY2019. The proportion of revenue from capacity payments has decreased to a minimum in FY2019, while the proportion of total revenue coming from the electricity market has stayed relatively stable over time.

Revenue from the new Electricity Markets (Day ahead, Intraday and Balancing) accounted for 58% of total revenue in 2019 (€1.6 billion), down from the 70% coming from the SEM Pool in 2018 (€2.0 billion). This 20% reduction in revenue brought figures back in line with 2017 revenues figures from the SEM Pool (€1.7 billion), resulting from a combination of the drop in market prices and proportional growth in certain other revenue sources as follows.

'Other Revenue', which includes revenue from both system/ancillary services and support mechanisms (PSO, NIRO), was the next biggest source of revenue at 25% of total (€694 million), growing from 18.7% of total (€546 million) in 2018. This likely stems from the foreseen increase in ancillary and system services revenue, which allows for the support of more intermittent generation sources on the system by facilitating flexible generation.

Revenue from CfDs and Contracts at 7% of total (€188 million) was up from 0% of total (-€13 million) in 2018, reflecting the decrease in market prices relative to the point at which these CfDs would likely have been struck. This increase may also reflect increased contracting in the context of the new market arrangements, as the number of generators reporting revenue in this category has increased significantly from 22 in 2018 to 58 in 2019.

Conversely, Capacity revenue at 10% of total (€268 million) was down from 12% of total in 2018 (€348 million), reflecting the move from the old Capacity Payments Mechanism to the new Capacity Market.

2.3. TOTAL COSTS ACROSS ALL GENERATORS

The general trend of decreasing wholesale market prices and revenues in FY2019 is countered by a slight overall decrease in total costs. Total reported costs in FY2019 amounted to €2.6 billion, translating to costs of €217,000/MW of installed capacity and costs of €77/MWh of electricity sold, dropping from €82/MWh in FY2018.

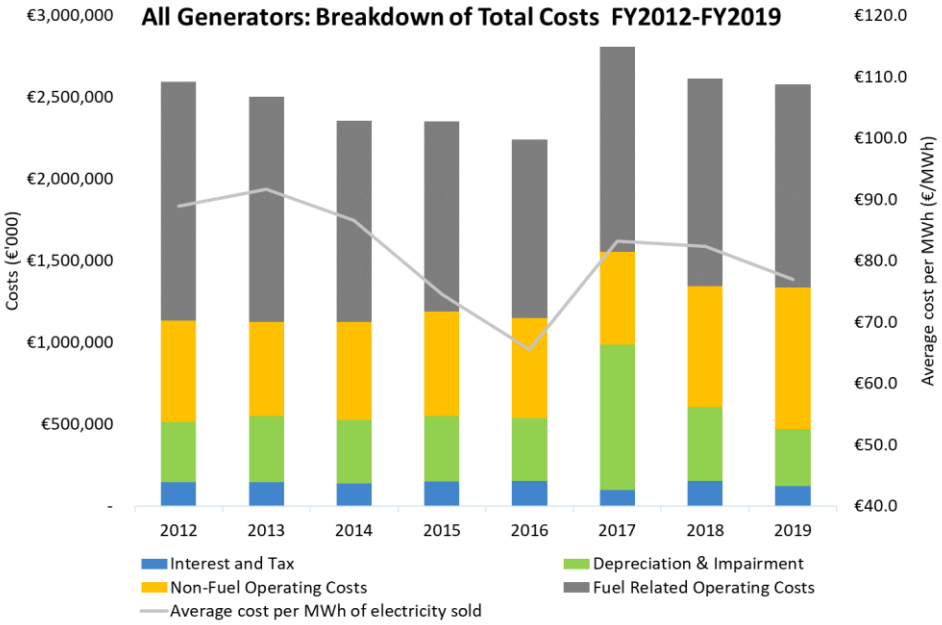
Within the financial reporting template generators are asked to disaggregate costs into four categories:

- Fuel related operating costs
- Non-fuel related operating costs
- Depreciation and impairment
- Interest and tax

A breakdown of costs across all generators is shown in Figure 2.3.1 below, with overall proportions of costs from Depreciation & Impairment, and Interest & Tax decreasing, while overall proportions of costs from both Fuel and Non-fuel Operating costs increase.

Proportional contributions from generator cost categories have remained relatively constant since FY2012, particularly when excluding impairment charges which were anomalously high in FY2017. Despite a general trend of falling fuel prices from 2013 up until Q4 2016, relatively stable shares of fuel costs have prevailed throughout, given that fuel costs vary with volumes of electricity generated much more than non-fuel costs.

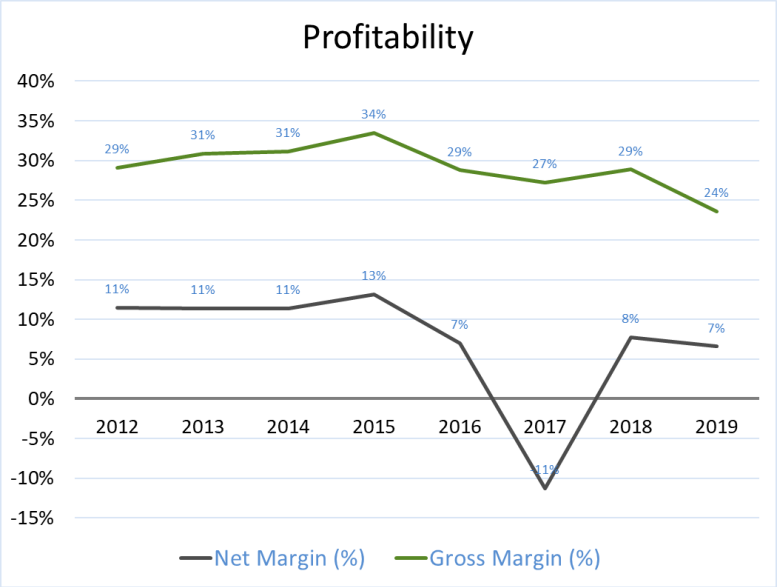
Figure 2.3.1 Breakdown of costs for All Generators from 2012-2019



2.4. TOTAL PROFITABILITY ACROSS ALL GENERATORS

Figure 2.4.1 shows that the decrease in market price and revenue, along with the increase in non-fuel related operating costs, in FY2019 resulted in gross profit margins across all generators falling to an 8-year low of 24%. Net profit margins saw a smaller decrease however, from 8% in 2018 to 7% in 2019, consistent with decreasing revenues overall but partially countered by decreasing levels of Interest and Tax and Depreciation and Impairment costs.

Figure 2.4.1 Profit margins for All Generators from FY2012 to FY2019



3. FY2019 FINANCIAL PERFORMANCE & 2012-2019 TRENDS BY GENERATION FUEL SOURCE

3.1. FY2019 FINANCIAL PERFORMANCE TABLES BY GENERATION FUEL SOURCE

Generation from the following fuel sources, in aggregated form, has been included in the analysis since 2012; Wind, Hydro, Gas, Coal, Peat, Distillate & Oil, and Pumped Storage.

FY2019 represents the first year a solar generator has passed the 25MW threshold for reporting. To maintain confidentially the solar generator has been classified as wind and this report refers to a combined category of Wind & Solar.

The results aggregated by generation fuel source are presented across the following three tables as shown:

- Table 3.1.1 provides the total values for each generation fuel source in FY2019
- Table 3.1.2 provides a breakdown of the results by generation fuel source per MW of installed capacity in FY2019
- Table 3.1.3 provides a breakdown of the results by generation fuel source per MWh of electricity sold in FY2019

Subsequent subsections explore capacities, volumes, revenues, costs and profitability across the different generation fuel sources, both in-year and via trends across 2012-2019.

Table 3.1.1 FY2019 Financial performance table by Generation Fuel Source

Financial Year 2019	Total	Wind & Solar	Hydro	Gas	Coal	Peat	Distillate & Oil	Pump St.
Volume of Electricity Sold - MWh	32,868,895	7,687,764	645,147	21,116,015	1,427,596	2,091,255	132,530	(231,413)
Share of Electricity Sold (%)		23.4%	2.0%	64.2%	4.3%	6.4%	0.4%	-0.7%
Revenue	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**
Revenue from Electricity Markets	€1,609,010	€282,715	€33,905	€1,013,597	€122,413	€111,274	€29,296	€15,810
Revenue from Contract/Difference Payments	€188,085	€163,596	-	€19,796	-	€4,693	-	-
Revenue from Capacity Market	€268,444	€1,094	€6,452	€151,613	€44,787	€12,425	€42,886	€9,187
Other Revenue	€693,617	€186,034	€3,544	€325,494	€22,488	€124,933	€8,310	€22,815
Total Revenue	**€2,759,172**	**€633,455**	**€43,901**	**€1,510,500**	**€189,687**	**€253,325**	**€80,492**	**€47,812**
Operating Costs	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**
Fuel Related Operating Costs	€1,244,796	€3,994	-	€965,313	€112,685	€137,576	€25,228	-
Non-fuel Operating Costs	€863,853	€204,111	€21,269	€418,047	€140,643	€40,295	€25,610	€13,879
Total Operating Costs	**€2,107,740**	**€207,196**	**€21,269**	**€1,383,360**	**€253,327**	**€177,871**	**€50,838**	**€13,879**
EBITDI	€651,433	€426,259	€22,632	€127,141	(€63,640)	€75,453	€29,654	€33,933
Depreciation & Impairment	€347,754	€210,296	€4,948	€72,518	€6,549	€40,516	€9,314	€3,612
EBIT	€303,678	€215,963	€17,684	€54,623	(€70,189)	€34,937	€20,340	€30,321
Interest & Tax	€122,656	€109,811	-	€16,429	(€3,910)	(€369)	€694	-
Net Profit	€181,023	€106,152	€17,684	€38,194	(€66,280)	€35,306	€19,646	€30,321
Gross Margin - %	**24%**	**67%**	**52%**	**8%**	**-34%**	**30%**	**37%**	**71%**
Net Margin - %	**7%**	**17%**	**40%**	**3%**	**-35%**	**14%**	**24%**	**63%**

NOTES:

"€" indicates a positive value which is in the range 0 to + 0.5 €'000

"(€)" indicates a negative value which is in the range 0 to - 0.5 €'000

"-" indicates that no figure was reported for this breakdown category

Table 3.1.2 FY2019 Financial performance table by Generation Fuel Source per MW of installed capacity in FY2019

Financial Year 2019	Total	Wind & Solar	Hydro	Gas	Coal	Peat	Distillate & Oil	Pump St.
Installed Capacity - MW	11,855	3,185	170	5,329	1,331	346	1,202	292
Volume of Electricity Sold - MWh per MW installed	2,773	2,414	3,795	3,962	1,073	6,044	110	(793)
Revenue	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**
Revenue from Electricity Markets	€136	€89	€199	€190	€92	€322	€24	€54
Revenue from Contract/Difference Payments	€16	€51	-	€4	-	€14	-	-
Revenue from Capacity Market	€23	€	€38	€28	€34	€36	€36	€31
Other Revenue	€59	€58	€21	€61	€17	€361	€7	€78
Total Revenue	€233	€199	€258	€283	€143	€732	€67	€164
Operating Costs	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**	**€'000/MW**
Fuel Related Operating Costs	€105	€1	-	€181	€85	€398	€21	-
Non-fuel Operating Costs	€73	€64	€125	€78	€106	€116	€21	€48
Total Operating Costs	€178	€65	€125	€260	€190	€514	€42	€48
EBITDI	€55	€134	€133	€24	(€48)	€218	€25	€116
Depreciation & Impairment	€29	€66	€29	€14	€5	€117	€8	€12
EBIT	€26	€68	€104	€10	(€53)	€101	€17	€104
Interest & Tax	€10	€34	-	€3	(€3)	(€1)	€1	-
Net Profit	€15	€33	€104	€7	(€50)	€102	€16	€104
Gross Margin - %	**24%**	**67%**	**52%**	**8%**	**-34%**	**30%**	**37%**	**71%**
Net Margin - %	**7%**	**17%**	**40%**	**3%**	**-35%**	**14%**	**24%**	**63%**

NOTES:

"€" indicates a positive value which is in the range 0/MW to+ 0.5/MW

"(€)" indicates a negative value which is in the range 0/MW to -0.5/MW

"-" indicates that no figure was reported for this breakdown category

Table 3.1.3 FY2019 Financial performance table by Generation Fuel Source per MWh of electricity sold in FY2019*

Financial Year 2019 (per MWh of electricity sold)	Total	Wind & Solar	Hydro	Gas	Coal	Peat	Distillate & Oil
Volume of Electricity Sold - MWh	33,100,308	7,687,764	645,147	21,116,015	1,427,596	2,091,255	132,530
Revenue	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**
Revenue from Electricity Markets	€48	€37	€53	€48	€86	€53	€221
Revenue from Contract/Difference Payments	€6	€21	-	€.9	-	€2	-
Revenue from Capacity Markets	€8	€	€10	€7	€31	€6	€324
Other Revenue	€20	€24	€5	€15	€16	€60	€63
Total Revenue	€82	€82	€68	€72	€133	€121	€607
Operating Costs	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**
Fuel Related Operating Costs	€38	€.52	-	€46	€79	€66	€190
Non-fuel Operating Costs	€26	€27	€33	€20	€99	€19	€193
Total Operating Costs	€63	€27	€33	€66	€177	€85	€384
EBITDI	€19	€55	€35	€6	(€45)	€36	€224
Depreciation & Impairment	€10	€27	€8	€3	€5	€19	€70
EBIT	€8	€28	€27	€3	(€49)	€17	€153
Interest & Tax	€4	€14	-	€1	(€3)	(€.18)	€5
Net Profit	€5	€14	€27	€2	(€46)	€17	€148
Gross Margin - %	**23%**	**67%**	**52%**	**8%**	**-34%**	**30%**	**37%**
Net Margin - %	**6%**	**17%**	**40%**	**3%**	**-35%**	**14%**	**24%**

NOTES:

*Pumped storage, as a net consumer of electricity, is not shown in the per MWh analysis. This increases the total volume sold figure.

"€" indicates a positive value which is in the range 0/MWh to+ 0.5/MWh

"(€)" indicates a negative value which is in the range 0/MWh to -0.5/MWh

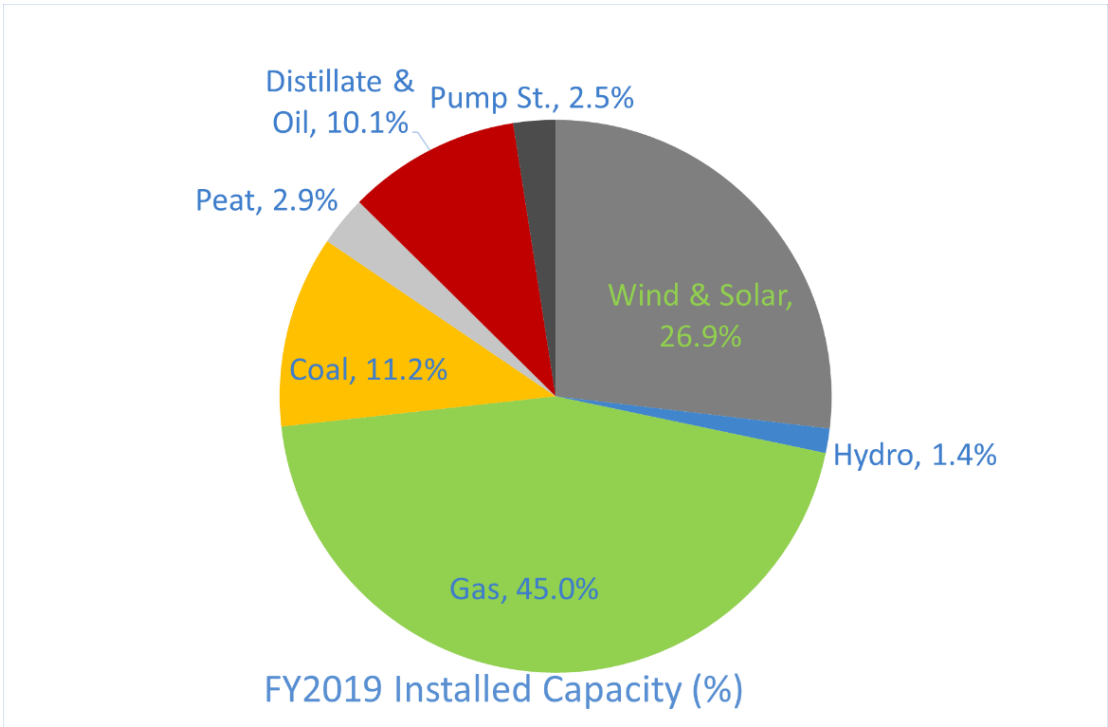
"-" indicates that no figure was reported for this breakdown category

3.2. INSTALLED CAPACITIES & VOLUMES SOLD BY GENERATION FUEL SOURCE

Figure 3.2.1 presents installed capacity in FY2019, broken down by generation fuel source, for generation over the reporting threshold (>25MW). **Gas** at 45% and the new combined category of **Wind & Solar** generation at 27% together account for over 70% of all installed capacity. **Coal** and **Distillate & Oil** at ~10% each constitute a further 20% of installed capacity, while **Peat**, **Pumped Storage** and **Hydro** make up the remaining 10%.

As noted in the Generator Financial Performance report for 2018, wind continues to be under-reported. The total aggregate capacity of **Wind & Solar** generation reported for FY2019 was 3,185MW. However, the total installed all-island capacity for **Wind** was 4,790MW. The remaining wind capacity in 2019 likely results from the exemption from reporting for those generation companies where the capacity ownership of the company is less than 25MW in aggregate.

Figure 3.2.1 Breakdown of installed capacity (MW) by Generation Fuel Source in FY2019



Figures 3.2.2 and 3.2.3 below illustrate the changing positions of **Coal** and **Wind** in the market over time with respect to overall generation. **Coal** share continued to decrease in FY2019, making up 4.3% (7% decrease on FY2018) of the market in terms of volume of electricity sold, due to high carbon costs and forced outages at coal plants. **Gas** grew to account for 64.2% (6% increase) of the market in terms of volume of electricity sold. This increase in the share of total generation from gas reflects the increased utilisation of gas generation to provide flexibility, which complements variable wind generation. **Wind** increased by a percentage point to account for 23.3% of volume of electricity sold.

Figure 3.2.2: Breakdown of volumes sold (MWh) by Generation Fuel Source in FY2019

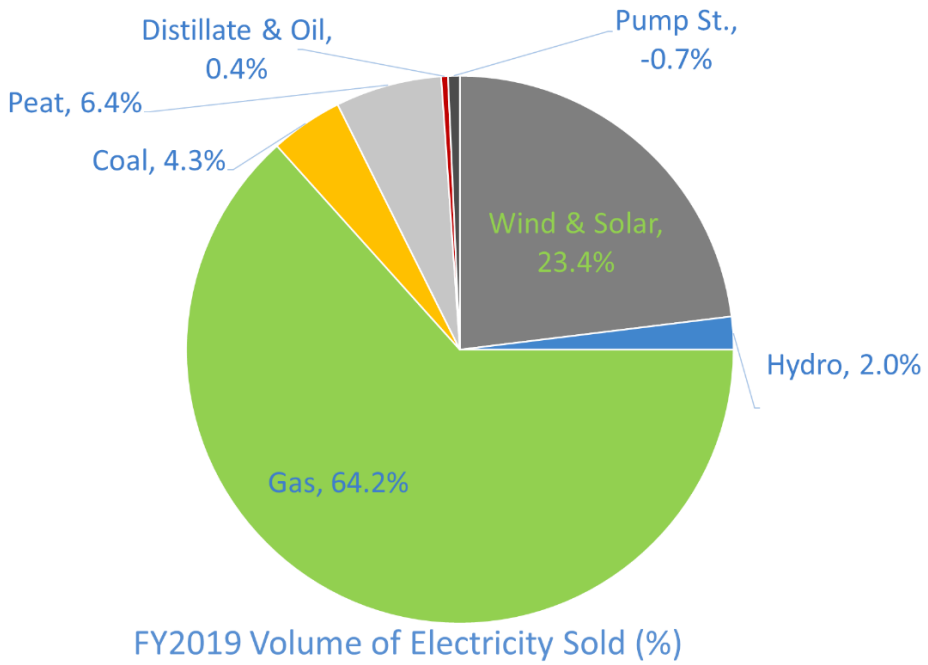
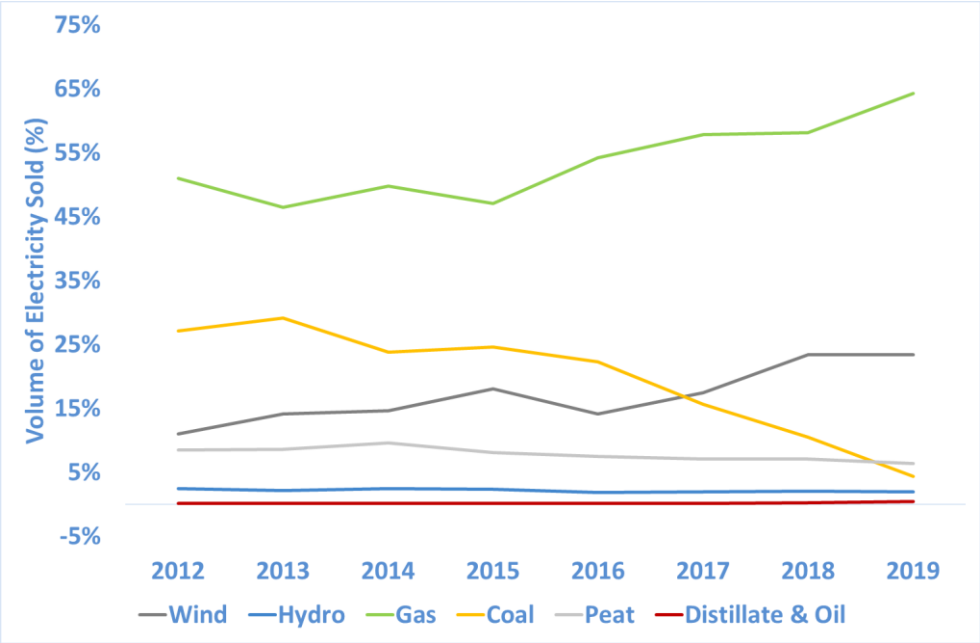


Figure 3.2.3: Electricity generation trends by Generation Fuel Source from FY2012 - FY2019



Notes:

Wind figure in FY2019 includes Wind & Solar generation

3.3. REVENUES BY GENERATION FUEL SOURCE

Figure 3.3.1 shows the breakdown of total revenue by fuel source for FY2019. There is generally a close correlation between the total generation volumes by fuel source and total revenues by fuel source. Coal share continued to decrease in FY2019, shrinking to 7% of the

market in terms of revenue (5% decrease on FY2018). Gas grew to account for 55% of the market (2% increase on FY2018) in terms of revenue. In line with volumes sold, Wind & Solar increased by a percentage point to account for 23% of revenue. Figure 3.3.2 illustrates a similar pattern as that seen in 3.2.3, relating to the changing positions of Coal and Wind in the market over time with respect to overall revenue.

Figure 3.3.1: Breakdown of revenues by Generation Fuel Source in FY2019

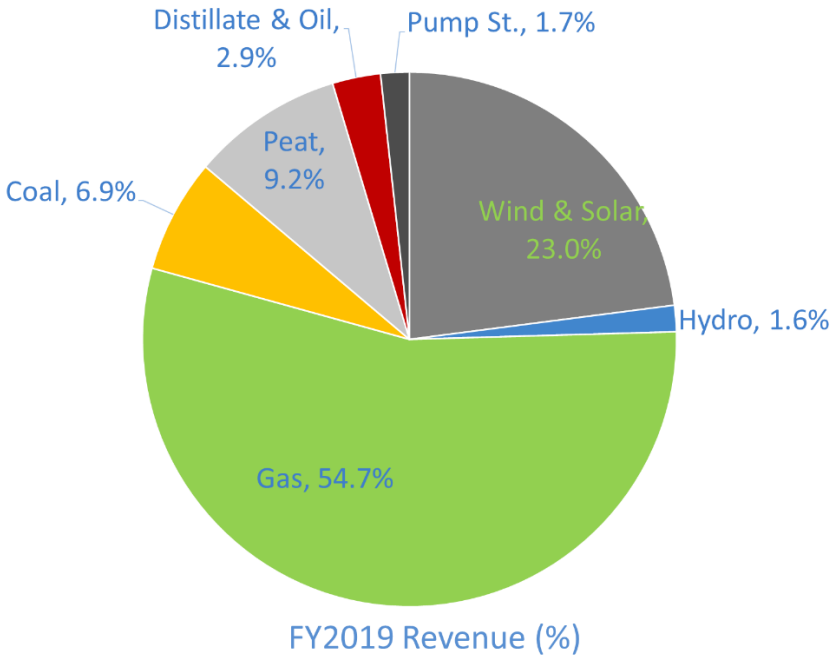
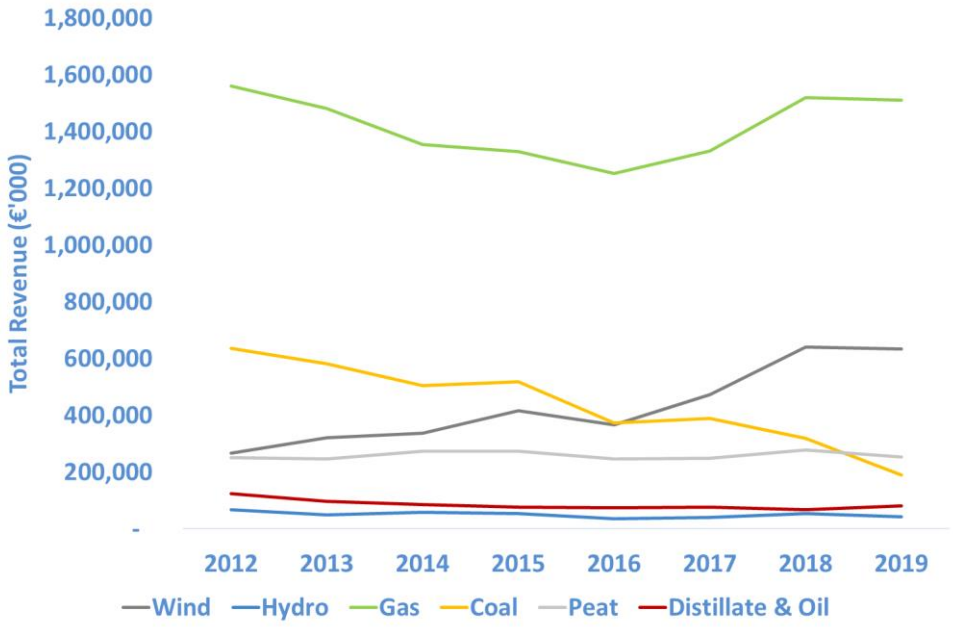


Figure 3.3.2 Revenue trends by Generation Fuel Source from FY2012 - FY2019



Notes:
Wind figure in FY2019 includes Wind & Solar generation

The drop in average wholesale energy price in FY2019 has translated into decreased average **total** revenues of €82/MWh of electricity sold as shown in Table 3.3.1, which explores the

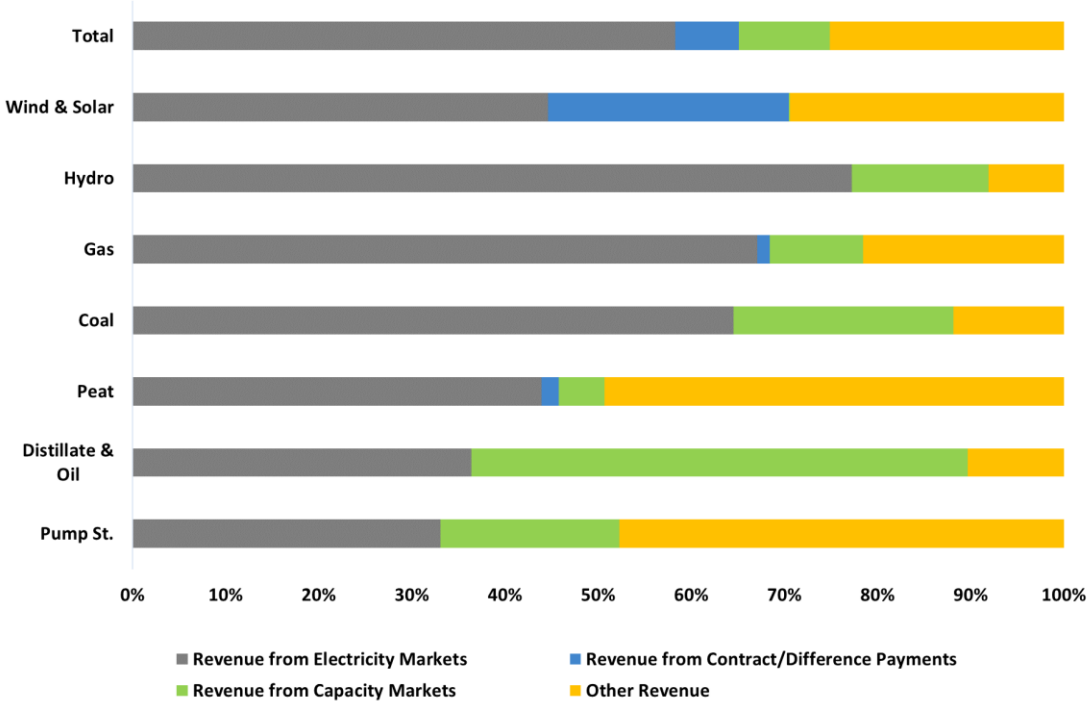
trend in average revenue from 2012-2019. Average revenues decreased to varying degrees across all generation fuels except for Coal which increased from €95/MWh to €133/MWh. This anomalous increase in the case of coal is linked to the greatly reduced coal generation volumes in FY2019 and to the fact that capacity revenue under the Capacity Remuneration Mechanism is independent of actual volumes generated.

Table 3.1.1: Revenue per MWh of electricity sold by Generation Fuel Source from FY2012 - FY2019

Revenue per MWh of electricity sold	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Total	€100	€103	€98	€86	€69	€77	€92	€82 ↓
Wind	€83	€83	€85	€73	€76	€80	€88	€82 ↓
Hydro	€94	€87	€90	€72	€57	€64	€84	€68 ↓
Gas	€105	€117	€100	€90	€68	€68	€82	€72 ↓
Coal	€80	€73	€78	€67	€49	€74	€95	€133 ↑
Peat	€101	€105	€106	€108	€97	€105	€124	€121 ↓
Distillate & Oil	€2,629	€3,118	€3,206	€1,384	€1,220	€1,703	€935	€607 ↓

Pumped storage has been excluded from this table as it reports (negative) net electricity generation figures (electricity generated minus electricity used to pump water).

Figure 3.3.3: Sources of revenue as % of total by Generation Fuel Source in FY2019

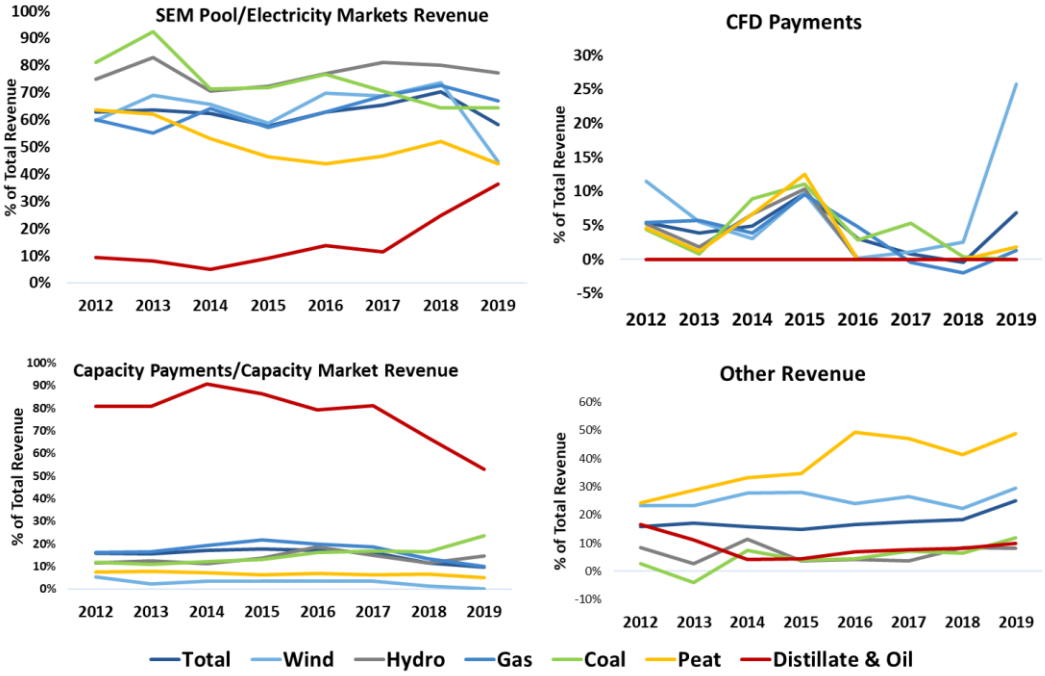


As shown in Figure 3.3.3 the main sources of revenue vary significantly across different generation fuel sources in FY2019, as follows:

- **Wind & Solar**, **Hydro**, **Gas** and **Coal** generators earned the majority of their revenue through Electricity Markets.
- **Peat** and **Pumped Storage** generation earned the majority of their revenue from the 'Other Revenue' stream (which incorporates both PSO support in the case of Peat and flexibility services in the case of **Pumped Storage**)
- **Distillate & Oil** generators earned the majority of their revenue through capacity payments.

Figure 3.3.4 provides a percentage breakdown of generator revenue by fuel source between FY2012 and FY2019. Over time the relative importance of each revenue stream fluctuates quite significantly, which is especially noticeable for CfD revenue. The proportion of total revenue accounted for by CfD & Contract payments for **Wind** generation has increased from less than 2% in FY2018 to 26% in FY2019, with an additional 36 generators reporting CfD & Contracts revenue. This increase may reflect increased contracting in the context of the new market arrangements. In addition, the decrease in wholesale market prices over FY2019 relative to the point at which forward contracts were likely to have been struck is likely to have contributed to the increased proportion of total revenue coming from CfDs & Contracts. Also noticeable is the drop in revenue as a percentage of total from capacity payments, which is most evident for **Distillate & Oil** generators. The difference in Capacity revenue for Distillate & Oil generators from 2018 (€45 million) to 2019 (€38.6 million) represents a 14% drop in absolute terms but revenue from these generators has increased overall with an increased fraction of revenue coming from Electricity Markets, as shown in Appendix C.

Figure 3.3.4: Percentage breakdown of revenue by Generation Fuel Source from FY2012 - FY2019



The trends from 2012 to 2019 in the breakdowns of the revenues of each of the fuel categories of generation (Wind, Hydro, Gas, Coal, Peat, Distillate & Oil and Pumped Storage) are shown graphically in Appendix C.

3.4. COSTS BY GENERATION FUEL SOURCE

Generators were asked to report on the allocation of costs into four cost categories:

- Fuel related operating costs
- Non-fuel operating costs
- Depreciation & Impairment
- Interest & Tax

Figures 3.4.1 and 3.4.2 present the make-up of generator costs grouped under different fuel sources. Overall, fuel related operating costs represent 50% of **total costs** for FY2019. Non-fuel operating costs are the second largest contributor to total generator costs with a share of 35% in FY2019. Depreciation and Impairment at 10% and Interest and Tax at 5% account for the remainder of costs.

The source of generator costs differs substantially between generators using different fuel sources. Renewable electricity sources (**Wind & Solar** and **Hydro**) have negligible fuel related operating costs. **Wind & Solar** generators have relatively high capital costs, which is reflected in higher proportions of 'Interest & Tax' and 'Depreciation & Impairment' costs, whereas the majority of **Hydro** and **Distillate & Oil** generator costs are accounted for by non-fuel operating costs. In contrast, **Gas**, **Coal** and **Peat** generators have higher proportions of fuel related operating costs.

Figure 3.4.1. Source of generator costs as % of total by Generation Fuel Source in FY2019

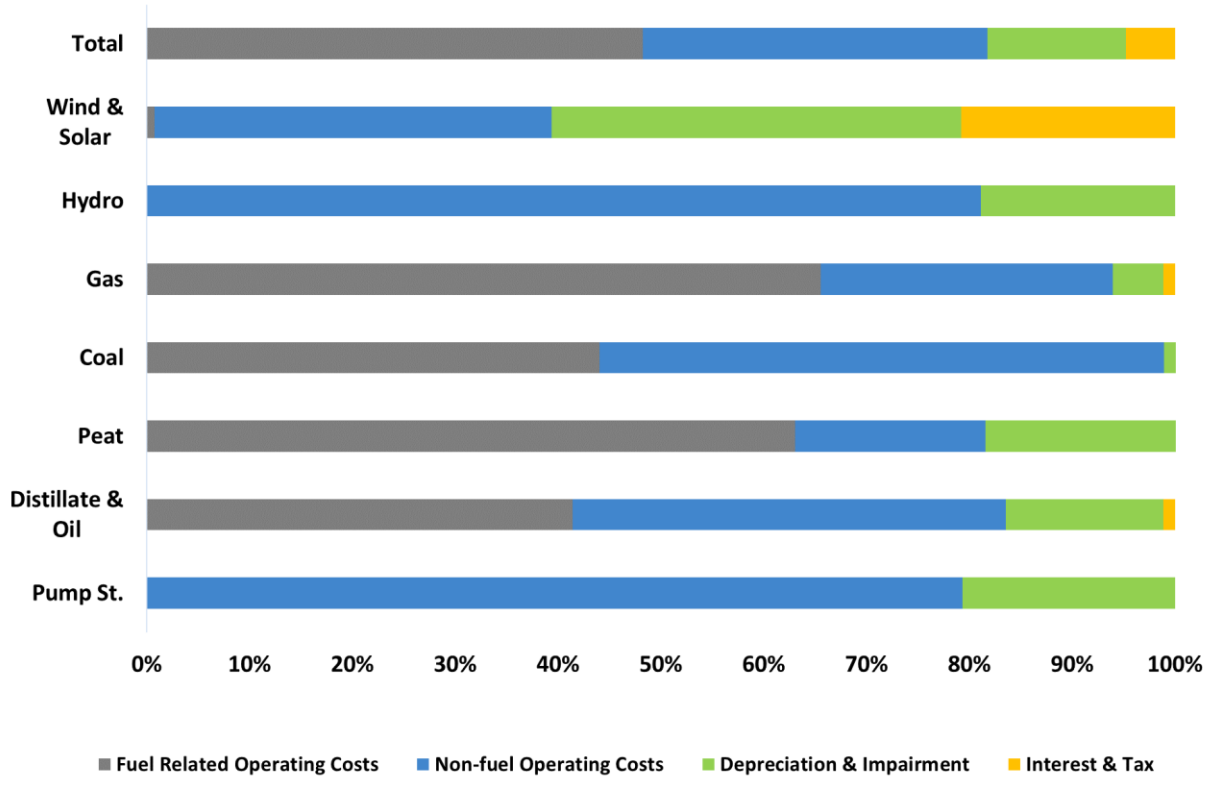


Figure 3.4.2 Costs and net profit per MW of installed capacity by Generation Fuel Source in FY2019

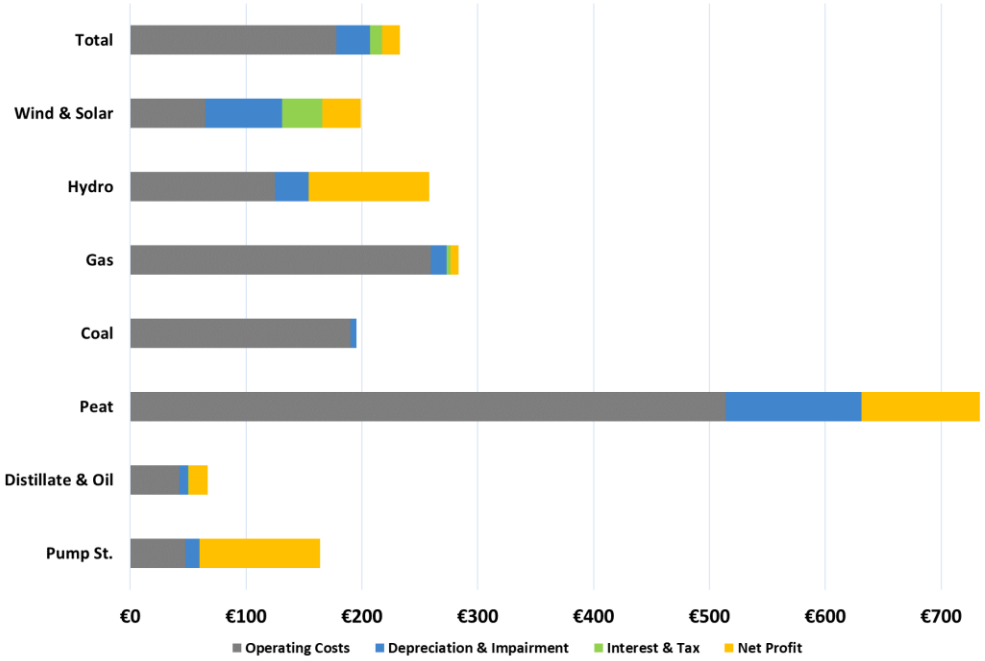
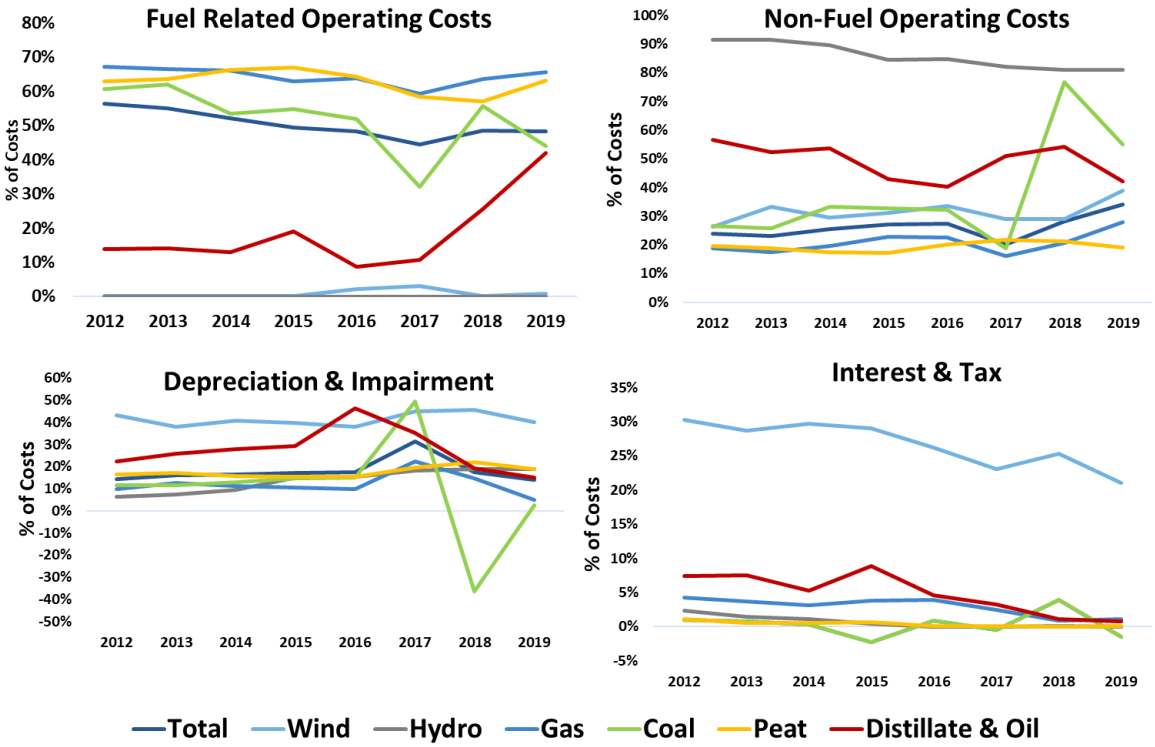


Figure 3.3.4 below provides a percentage breakdown of generator revenue by fuel source between FY2012 and FY2019. **Coal** has suffered the greatest fluctuations in costs across that period, followed by **Distillate & Oil**.

Figure 3.4.3 Percentage breakdown of costs by Generation Fuel Source from FY2012 - FY2019



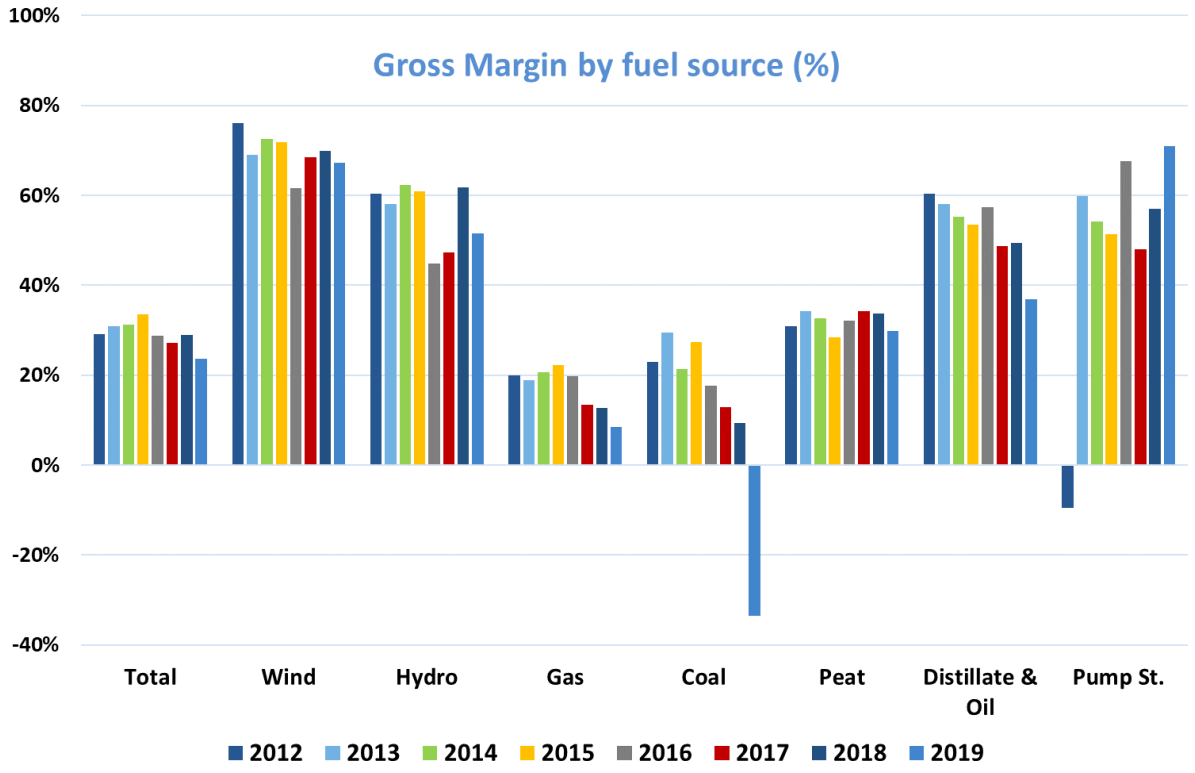
The trends from 2012 to 2019 in the breakdowns of the revenues and costs of each of the fuel categories of generation (Wind, Hydro, Gas, Coal, Peat, Distillate & Oil and Pumped Storage) are shown graphically in the Appendix C.

3.5. PROFITABILITY BY GENERATION FUEL SOURCE

The total average gross and net margins for FY2019 were 24% (decrease of 5% from FY2018) and 7% (1% decrease from FY2018) and Table 3.1.1 shows how these margins varied across generation fuel source in FY2019. Figures 3.5.1 and 3.5.2 explore the trends in gross and net margins by fuel source across FY2012 - FY2019.

- **Pumped Storage** reported the highest margins (71% gross and 63% net) although revenue accounted for less than 2% of total. Both **Pumped Storage and Hydro (**52% gross and 40% net) plants benefit from low operating costs and low financing costs due to their age**.**
- **Wind** generation (which included Solar in FY2019) at 67% had the second highest gross margin in FY2019 and has experienced gross margins in excess of 67% over the last 3 years. High gross margins for wind generators are driven by low operating costs. Net margin for wind generation is significantly lower, caused by high financing and depreciation/impairment costs, although it increased from 12% in FY2018 to 17% in FY2019 with the growth in revenue from both CfDs & Contracts and "Other revenue".
- As Peaking plants, **Distillate & Oil generators** have previously earned the second highest net margin, mostly generating electricity when demand is high, supply is scarce, and prices are high. However, margins are continuing to drop, to 37% gross (down from 49% in 2018) and 24% net in FY2019 (down from 36% in 2018).
- **Gas-fired generators:** Wholesale energy prices in the SEM frequently correlate to a large extent with gas prices (refer to figure 1.2.2). Decrease in gas prices and further decrease in impairment in 2019 offset reduced market prices as **Gas** gross margins increased to 8% and net margin to 2%.
- **Coal** generators: The downward trend in coal profitability continued in FY2019, with negative gross margins of over 30%. This is consistent with an ongoing decrease in total revenue from coal generation, due principally to significantly lower generated volumes.
- By comparison, **Peat** has remained relatively stable over time, with margins of 30% (down from 34% in 2018) gross and 14% net in FY2019 (down from 15% in 2018).

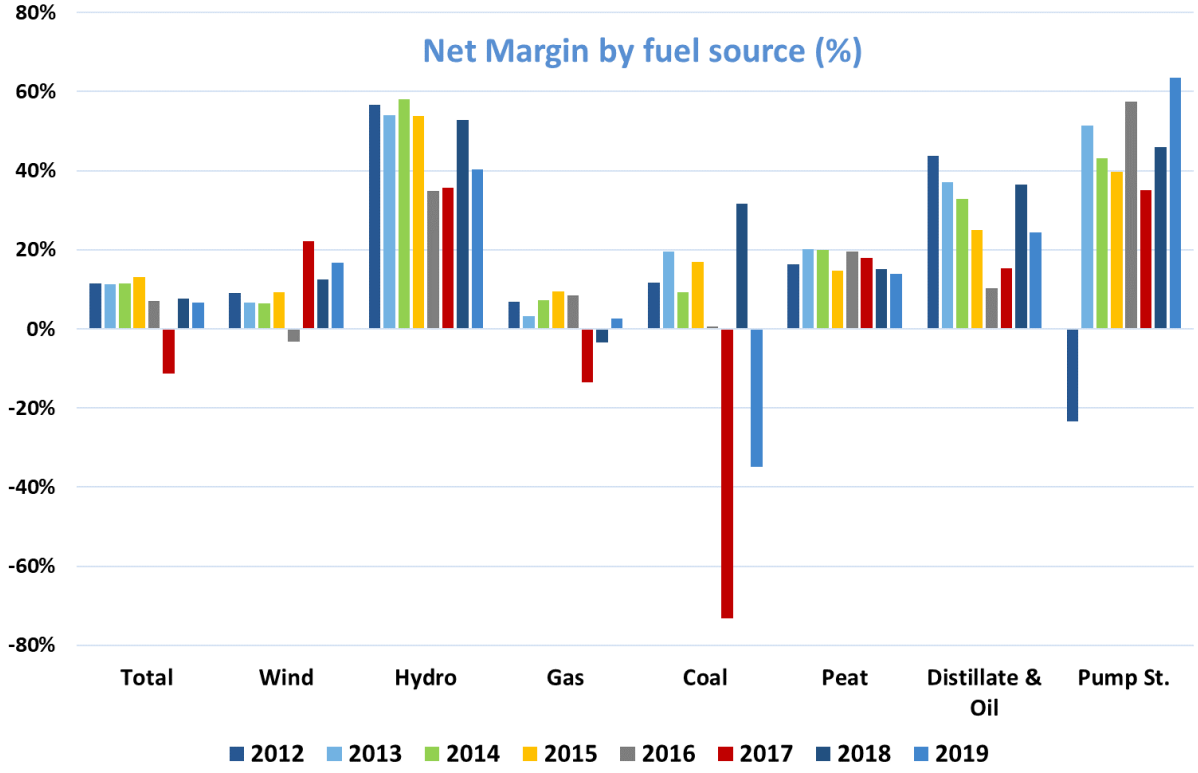
Figure 3.5.1 Gross margins by Generation Fuel Source for FY2012 - FY2019



Notes:

The negative margin for Pumped Storage in FY2012 is associated with an extensive outage of the four pumped storage units in the first half of 2012.

Figure 3.5.2: Net margins by Generation Fuel Source from FY2012 - FY2019



4. FY2019 FINANCIAL PERFORMANCE & 2012-2019 TRENDS BY GENERATION TYPE

4.1. FY2019 FINANCIAL PERFORMANCE TABLES BY GENERATION TYPE

This section assesses generation financial performance by generation type, namely: Renewables, Price-takers, Baseload, Mid-Merit and Peakers. The **Renewables** grouping includes all Wind (and Solar in FY2019), Hydro and Pumped Storage plants. Note that electricity generated by **Pumped Storage** may not be renewable as this depends on the renewable credentials of the electricity used to pump water into the upper reservoir. The variable renewable fraction of the electricity generated is a function of the fuel mix of the electricity instantaneously used to pump water into the upper reservoir. Nevertheless, for the purpose of the analysis in this section, pumped storage has been grouped with renewables.

Price-takers are defined as conventional plants that bid into the market at zero and are willing to take any clearing price, i.e. peat plants.

The remaining plants are sorted into **Baseload, Mid-Merit and Peaking** plants based on their load factor over the year. Plants with a load factor of 75% or greater are classified as Baseload, plants with load factor less than 15% are classified as Peak, and plants with intermediate load factors (16-74%) are classified as Mid-Merit. It should be noted that the categorisation of these plants can change year on year depending on their load factor, and that this can impact on the assessment of trends over time.

The aggregated data by generation type are presented across three tables as follows:

- Table 3.1.1 provides the total values for each generation type in FY2019
- Table 3.1.2 provides a breakdown by generation type per MW of installed capacity in FY2019
- Table 3.1.3 provides a breakdown by generation type per MWh of electricity sold in FY2019

Note that the Renewables installed capacity figure for FY2019, mostly comprising wind generation, has been obtained by aggregating the capacity of all wind and solar farms that have submitted financial reporting templates. The capacity of some new windfarms increases incrementally during build out. The total capacity estimated may thus not capture situations where the capacity of some of the wind farms has changed during the period covered by the reporting templates. Windfarms are also under-represented on account of the 25MW (in aggregate) ownership threshold for reporting to the Regulatory Authorities.

Table 4.1.1: FY2019 Financial performance table by Generation Type

Financial Year 2019	Total	Renewables & PS	Price Taker	Baseload#	Mid Merit*	Peak
Volume of Electricity Sold - MWh	32,868,895	8,101,499	2,091,255	-	22,253,263	422,879
Revenue	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**
Revenue from Electricity Markets	€1,609,010	€332,430	€111,274	-	€1,102,910	€62,396
Revenue from Contract/Difference Payments	€188,085	€163,596	€4,693	-	€19,796	-
Revenue from Capacity Markets	€268,444	€16,733	€12,425	-	€154,377	€84,909
Other Revenue	€693,617	€212,393	€124,933	-	€333,063	€23,228
Total Revenue	€2,759,172	€725,168	€253,325	-	€1,610,146	€170,533
Operating Costs	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**
Fuel Related Operating Costs	€1,244,796	€3,994	€137,576	-	€1,050,862	€52,363
Non-fuel Operating Costs	€863,853	€239,259	€40,295	-	€547,591	€36,708
Total Operating Costs	€2,107,740	€242,344	€177,871	-	€1,598,454	€89,071
EBITDI	**€651,433**	**€482,824**	**€75,453**	**-**	**€11,693**	**€81,462**
Depreciation & Impairment	€347,754	€218,857	€40,516	-	€78,571	€9,810
EBIT	**€303,678**	**€263,968**	**€34,937**	**-**	**(€66,879)**	**€71,653**
Interest & Tax	€122,656	€109,811	(€369)	-	€12,519	€694
Net Profit	**€181,023**	**€154,157**	**€35,306**	**-**	**(€79,398)**	**€70,959**
Gross Margin - %	**24%**	**67%**	**30%**		**1%**	**48%**
Net Margin - %	**7%**	**21%**	**14%**		**-5%**	**42%**

Notes:

*One Baseload plant is included in the Mid Merit category for FY2019.

Baseload category combined into Mid Merit category in FY2019

"€" indicates a positive value which is in the range 0 €'000 to+ 0.5 €'000

"(€)" indicates a negative value which is in the range 0 €'000 to -0.5 €'000

"-" indicates that no figure was reported for this breakdown category.

Table 4.1.2: FY2019 Financial performance table by Generation Type per MW of installed capacity

Financial Year 2019	Total	Renewables & PS	Price Taker	Baseload	Mid Merit*	Peak
Installed Capacity - MW	11,855	3,647	346	-	5,389	2,473
Electricity Sold - MWh per MW installed	2,773	2,222	6,044	-	4,129	171
Revenue (€'000/MW)	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**
Revenue from SEM Pool	€136	€91	€322	-	€205	€25
Revenue from Contract/Difference Payments	€16	€45	€14	-	€4	-
Revenue from Capacity Payments	€23	€5	€36	-	€29	€34
Other Revenue	€59	€58	€361	-	€62	€9
Total Revenue	€233	€199	€732	-	€299	€69
Operating Costs (€'000/MW)	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**
Fuel Related Operating Costs	€105	€1.10	€398	-	€195	€21
Non-fuel Operating Costs	€73	€66	€116	-	€102	€15
Total Operating Costs	€178	€66	€514	-	€297	€36
EBITDI (€'000/MW)	**€55**	**€132**	**€218**	**-**	**€2**	**€33**
Depreciation & Impairment	€29	€60	€117	-	€15	€4
EBIT (€'000/MW)	**€26**	**€72**	**€101**	**-**	**(12)**	**€29**
Interest & Tax	€10	€30	(1)	-	€2	€.28
Net Profit (€'000/MW)	**€15**	**€42**	**€102**	**-**	**(15)**	**€29**
Gross Margin - %	**24%**	**67%**	**30%**		**1%**	**48%**
Net Margin - %	**7%**	**21%**	**14%**		**-5%**	**42%**

Notes:

*One Baseload plant is included in the Mid-Merit category for FY2019.

"€" indicates a positive value which is in the range 0/MWh to+ 0.5/MWh

"(€)" indicates a negative value which is in the range 0/MWh to -0.5/MWh

"-" generally indicates that no figure was reported for this breakdown category.

Table 4.1.3: FY2019 Financial performance table by Generation Type per MWh of electricity sold

Financial Year 2019 per MWh of electricity sold	Total	Renewables & PS	Price Taker	Baseload	Mid Merit*	Peak
Volume of Electricity Sold - MWh	32,868,895	8,101,499	2,091,255	-	22,253,263	422,879
Revenue	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**
Revenue from Electricity Markets	€49	€41	€53		€50	€148
Revenue from Contract/Difference Payments	€6	€20	€2		€1	-
Revenue from Capacity Market	€8	€2	€6		€7	€201
Other Revenue	€21	€26	€60		€15	€55
Total Revenue	€84	€90	€121		€72	€403
Operating Costs	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**	**€/MWh**
Fuel Related Operating Costs	€38	€.49	€66		€47	€124
Non-fuel Operating Costs	€26	€30	€19		€25	€87
Total Operating Costs	€64	€30	€85		€72	€211
EBITDI	**€20**	**€60**	**€36**		**€1**	**€193**
Depreciation & Impairment	€11	€27	€19		€4	€23
EBIT	**€9**	**€33**	**€17**		**(€3)**	**€169**
Interest & Tax	€4	€14	(€.18)		€.56	€1.64
Net Profit	**€6**	**€19**	**€17**		**(€4)**	**€168**
Gross Margin - %	**24%**	**67%**	**30%**		**1%**	**48%**
Net Margin - %	**7%**	**21%**	**14%**		**-5%**	**42%**

Notes:

*The figures in this column do not correspond exactly to the figures in Table 3.1.3 "FY2019 Results table by Generation Fuel Source per MWh of electricity sold in FY2019" as Pumped Storage volumes of electricity sold *have* been included in this table, unlike in Table 3.1.3. This approach is consistent with previous reporting.

**One Baseload plant is included in the Mid-Merit category for FY2019.

"€" indicates a positive value which is in the range 0/MWh to+ 0.5/MWh

"(€)" indicates a negative value which is in the range 0/MWh to -0.5/MWh

"-" indicates that no figure was reported for this breakdown category

4.2. INSTALLED CAPACITIES & VOLUMES SOLD BY GENERATION TYPE

Figures 4.2.1 and 4.2.2 show the breakdown of installed capacities and volumes of electricity sold across the different generation types as classified in FY2019. **Mid-Merit & Baseload** plants account for the largest share of capacities and volumes, with a 45% share of total installed capacity and a 68% share of total volumes sold in FY2019. **Renewables** accounted for 31% installed capacity and 25% of volumes sold. **Price-takers** accounted for 4% of installed capacity and accounted for 6% of volumes sold. **Peaking plants** made up 20% of installed capacity but accounted for only 1% of volumes sold.

Figure 4.2.1: Breakdown of installed capacity (MW) by Generation Type in FY2019

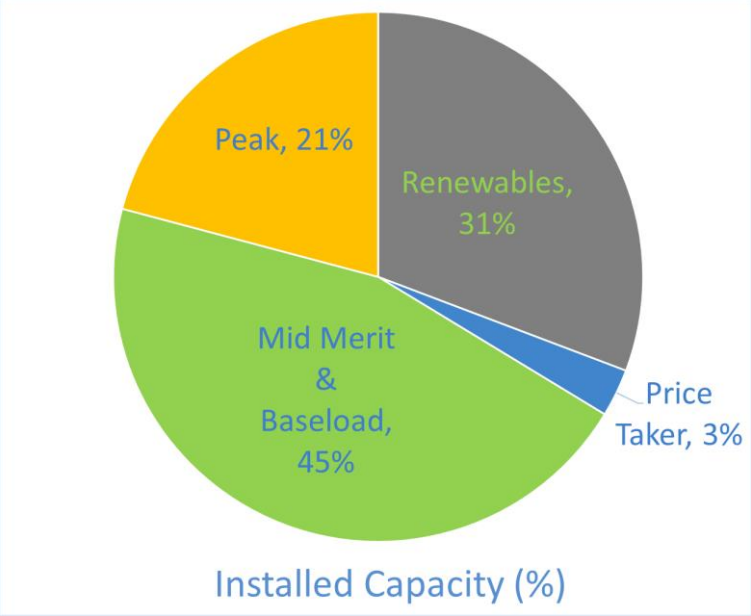
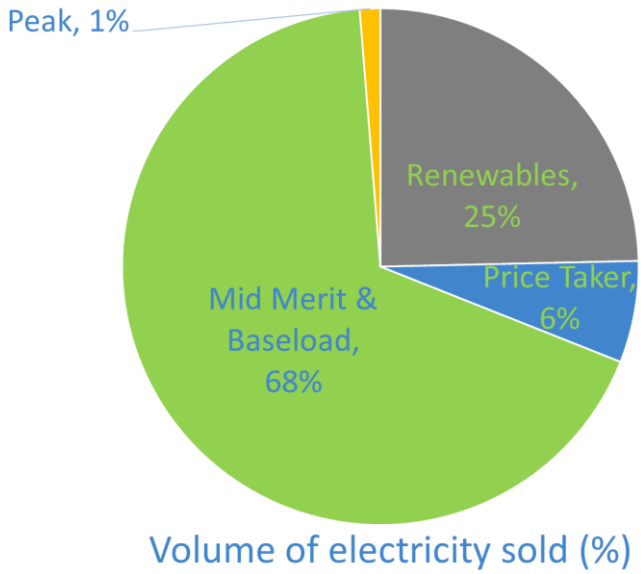


Figure 4.2.2: Breakdown of volumes sold (MWh) by Generation Type in FY2019



4.3. REVENUES BY GENERATION TYPE

Figure 4.3.1 presents the breakdown of FY2019 revenues by generation type. While **Peak** generators provided 1% of total generation, they accounted for 6% of total revenues in FY2019, both values unchanged from the previous year. This results from the fact that peaking plants operate in very few hours during peak demand when the wholesale market prices for electricity are higher.

The share of revenues earned by renewable generation has generally increased every year since FY2012, in line with increasing volumes of electricity produced from renewable sources.

Renewables and **Price Taker** generators continue to provide approximately the same share of electricity as they earn in revenue**. Mid-Merit & Baseload** generators account for a smaller share of revenue than their share of volume sold.

Figure 4.3.1: Breakdown of total revenues by Generation Type in FY2019

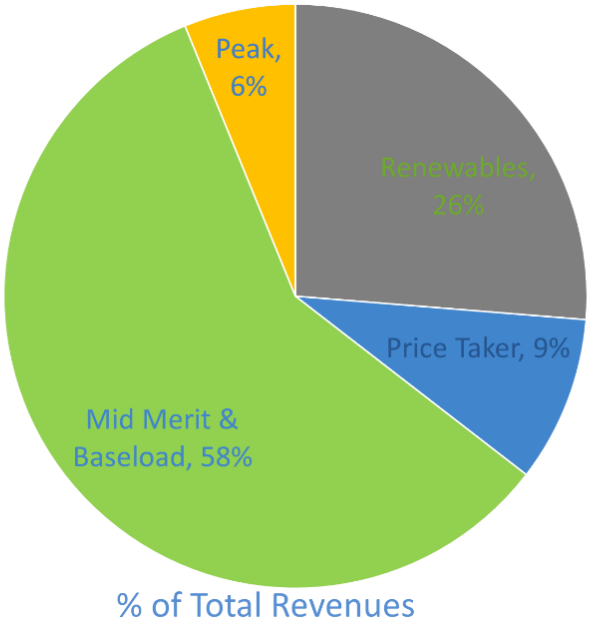


Table 4.3.1 provides the trend in revenue per MWh of electricity sold across the different generation types. **Peak** generators earn by far the most per MWh of electricity given they only generate electricity when demand is high and prices are high. The total revenue per MWh for all generation-type categories decreased from FY2018. This is consistent with the general trend of decreasing wholesale market prices in FY2019. This is countered however by an associated decrease in operating costs.

Table 4.3.1: Revenue per MWh of electricity sold by Generation Type from FY2012 - 2019

Revenue per MWh of electricity sold	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Total	€100	€103	€98	€86	€70	€77	€92	€84 ↓
Renewables	€92	€95	€96	€80	€82	€84	€95	€90↓
Price Taker	€101	€105	€106	€108	€97	€105	€124	€121↓
Baseload	€78	€72	€64	€62	€45	€47	N/A	N/A
Mid-Merit	€86	€83	€85	€76	€70	€75	€81	€72↓
Peak	€595	€654	€652	€757	€772	€2,274	€594	€403↓

Figure 4.3.2 shows the composition of revenue received by each generation type for FY2019, as a percentage of total. Revenue from Electricity Markets contributed 58% (down from 70% in FY2018) of generators' total revenue. **Peaking** plants continue to receive most of their revenue from the Capacity Market while **Mid-Merit & Baseload** plants earn the majority of their revenue from Electricity Markets. **Price-takers** and **Renewable** generators earned a large proportion of their revenue from other revenue sources largely reflecting support mechanisms for renewables and security of supply.

Figure 4.3.2: Breakdown of total revenue by Generation Type in FY2019

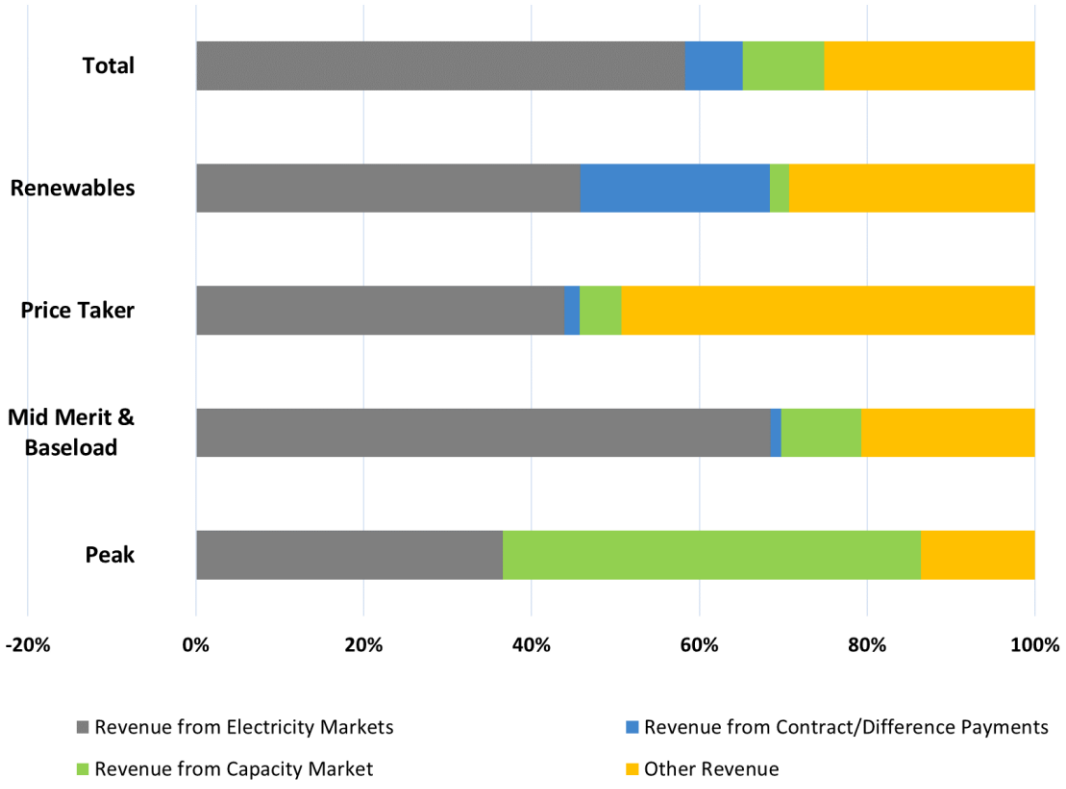
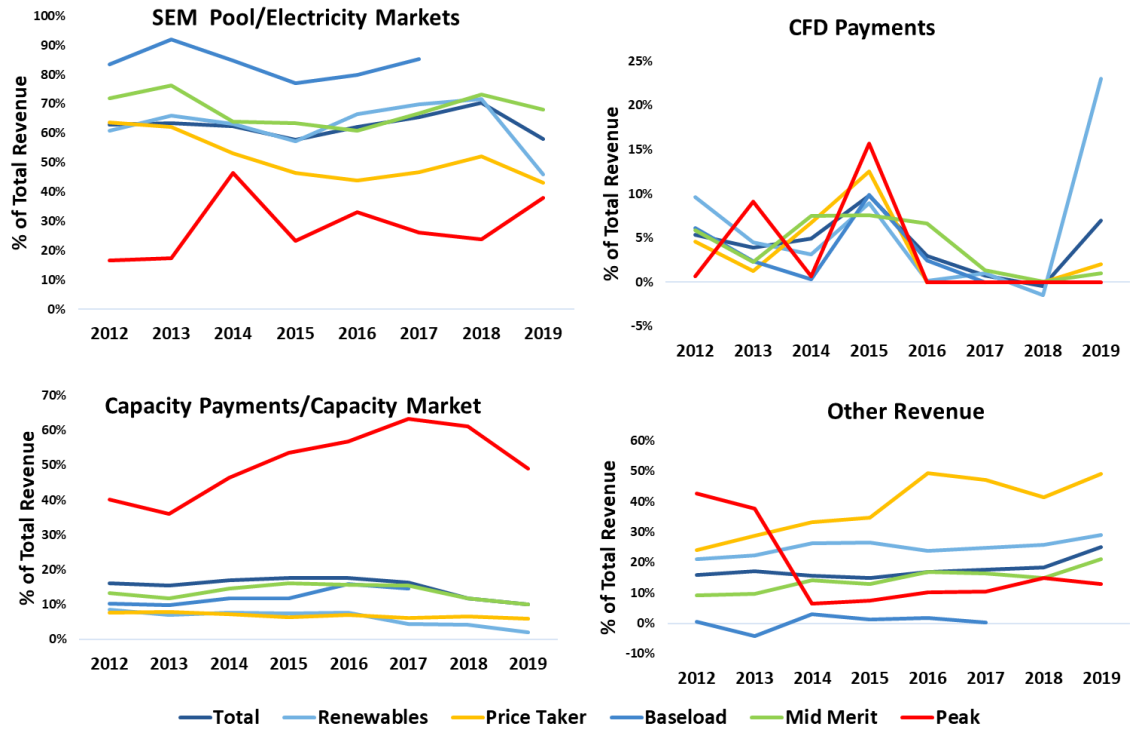


Figure 4.3.3 shows the percentage breakdown of generator revenue by generation type between FY2012 and FY2019. The share of revenue earned by generators from CfDs & Contracts is volatile but has generally decreased in FY2016, FY2017 and FY2018 as electricity prices in the SEM picked up and increased again in 2019 as electricity prices decreased (as discussed in the context of Wind & Solar in section 3.3). The proportion of revenue accounted for by capacity payments has dipped for the majority of generation types in FY2019. This relates to the reduction – commencing Q4 2018 - in the overall capacity-related revenues resulting from the introduction of the capacity remuneration mechanism. The share of energy revenue earned by Peaking plants from the SEM/Electricity Markets has increased in FY2019.

Figure 4.3.3 Percentage breakdown of revenue by Generation Type from FY2012 to FY2019



Notes:

No units have been designated as Baseload for FY2018 or 2019

The trends from 2012 to 2019 in the breakdowns of the revenues of each of the generation type categories (Renewables, Price Taker, Baseload, Mid Merit and Peak) are shown graphically in Appendix D.

4.4. COSTS BY GENERATION TYPE

Figures 4.4.1 and 4.4.2 provide a breakdown of costs by generation type for FY2019. Each generation type has a very different make-up of costs. Renewable generators have minimal fuel related operating costs. In contrast the majority of **Peak**, **Mid-Merit & Baseload**, and **Price Taker** costs are fuel related. **Renewable** generators have the highest proportions of 'Depreciation & Impairment' and 'Interest & Tax' costs out of all generation types, with the latter caused by relatively higher capital and financing costs.

Figure 4.4.1 Breakdown of generator costs as % of total costs by Generation Type in FY2019

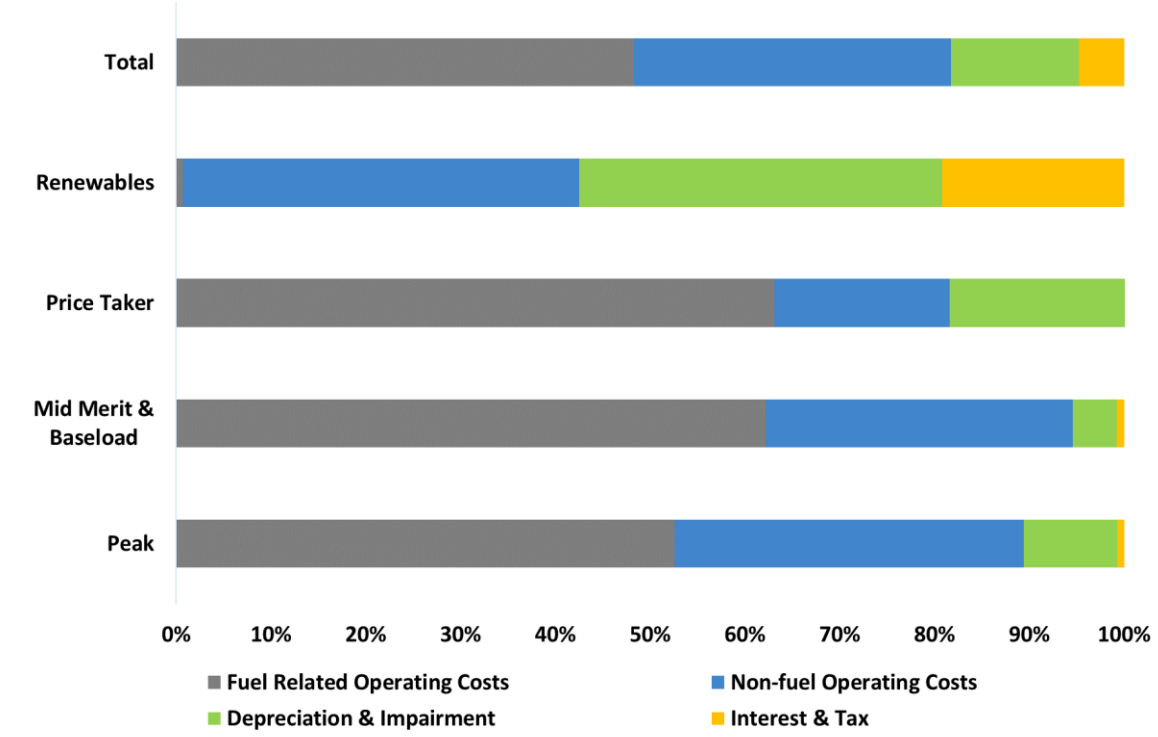


Figure 4.4.2 Breakdown of costs per MW of installed capacity by Generation Type in FY2019

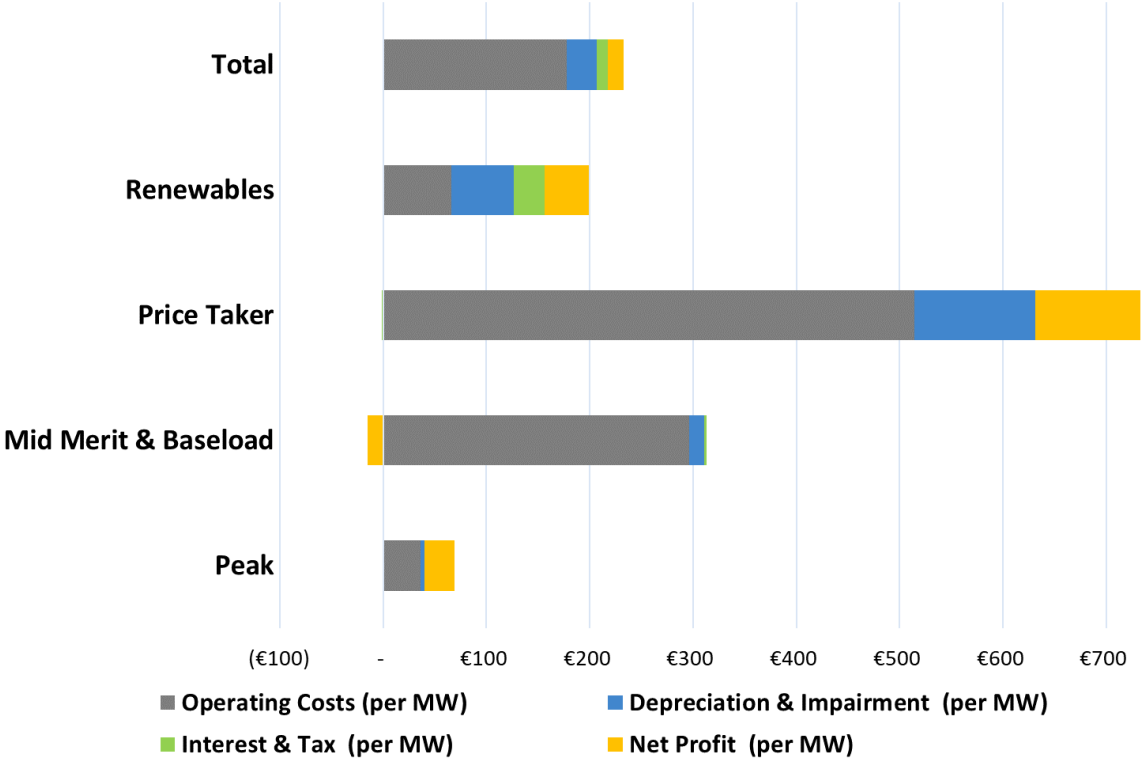
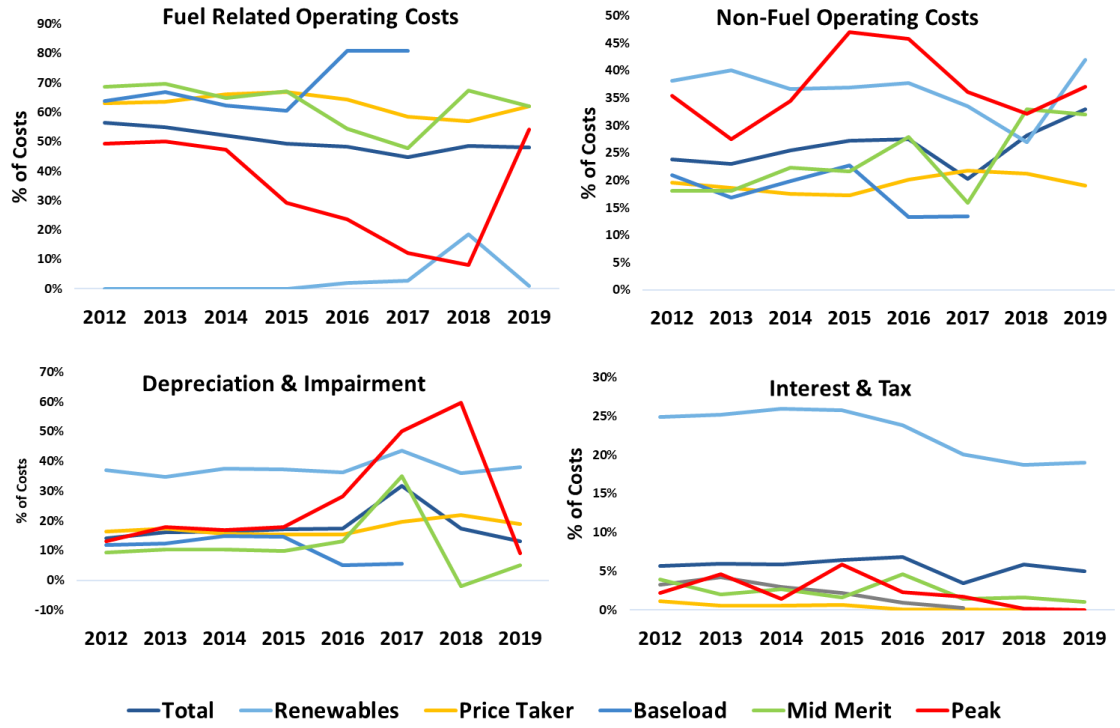


Figure 4.3.3 shows the percentage breakdown of generator costs by generation type between FY2012 and FY2019. **Mid-Merit** and **Peak** plants have reported significant volatility in the share of costs attributed both to depreciation & impairment, and fuel related operating costs.

Total proportions of costs from Depreciation & Impairment in **Mid-Merit & Baseload** generators continue to decrease from a peak in 2017, with the small level of reported impairment in the chart. **Peak** plants reported a peak in Depreciation and Impairment costs in 2018 with a steep decline in 2019.

Figure 4.4.3 Percentage breakdown of costs by Generation Type from FY2012 to FY2019



Notes:

No units have been designated as Baseload for FY2018 or 2019

The trends from 2012 to 2019 in the breakdowns of the costs of each of the generation type categories (Renewables, Price Taker, Baseload, Mid Merit and Peak) are shown graphically in Appendix D.

4.5. PROFITABILITY BY GENERATION TYPE

Figures 4.5.1 and 4.5.2 present gross and net margins for different generation types. **Renewables** had by far the highest gross profit margins across all generation types, which is to be expected given their low operating costs. Renewables had the second highest net margins in FY2019 at 21%.

Peakers have consistently experienced the second highest gross profits in recent years but a high degree of volatility in net profit (per MWh) on account of fluctuations in reported levels of impairment. This is reflected in net losses in FY2017 and FY2018, and a large increase to 42% net profit in FY2019 from -38% in FY2018. It is also notable that the revenues of Peak generators are less correlated than other generation types with the quantity of electricity sold into the market. Hence the per MWh figures tend to be very sensitive to changes in the quantity of electricity sold into the market.

Mid-Merit plants, with some of the tightest gross margins, also show a high degree of volatility in net margins. This is reflected in net losses in FY2016 and FY2017, net profits in FY2018 and a return to net losses in FY2019, noting that two baseload plants were included in the Mid-Merit category in FY2018 and one in FY2019. Mid-Merit plants are often the marginal price setting generator in the market due to their place in the merit order, which means that they tend to earn less inframarginal rent from the units of electricity sold relative to lower cost generators. In contrast to Peak plants, they also tend to earn relatively less revenue per unit of electricity generated from capacity payments.

Price-takers continued to experience consistent gross and net profit margins, with an increase to 15% net in FY2019.

Figure 4.1.1 Gross margins by Generation Type from FY2012 - FY2019

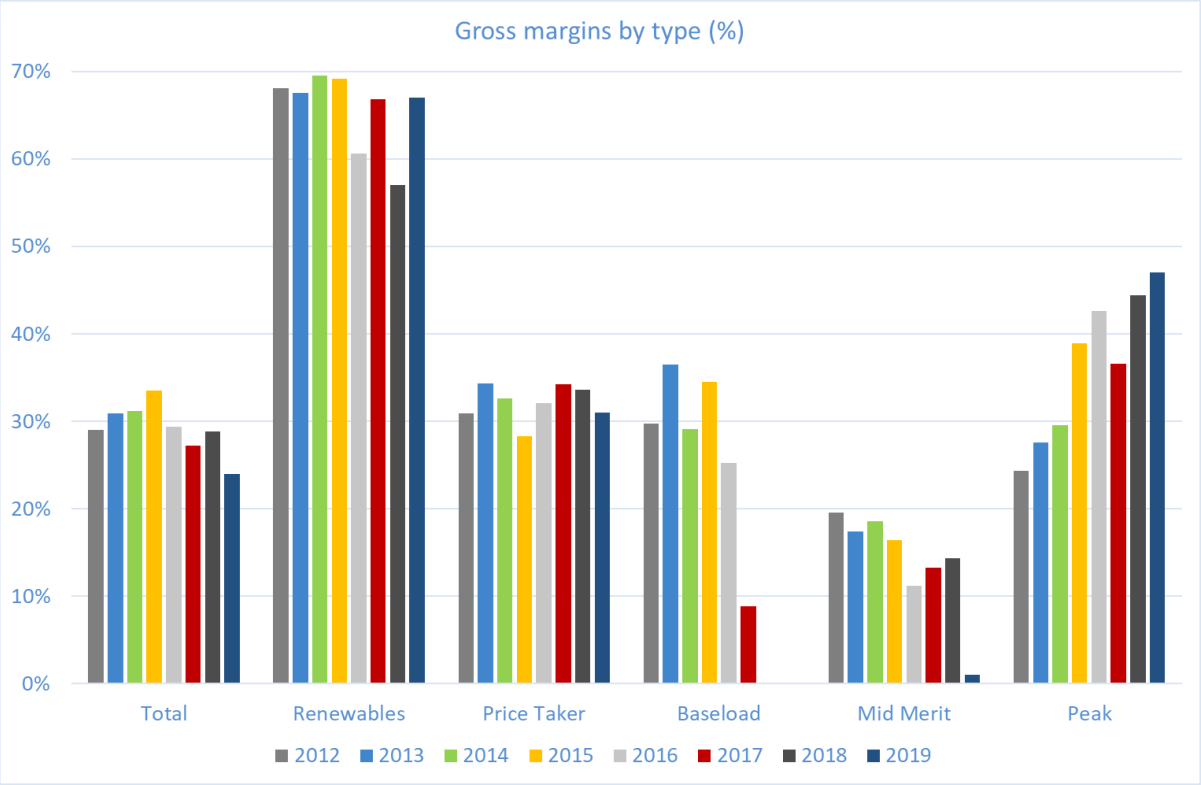
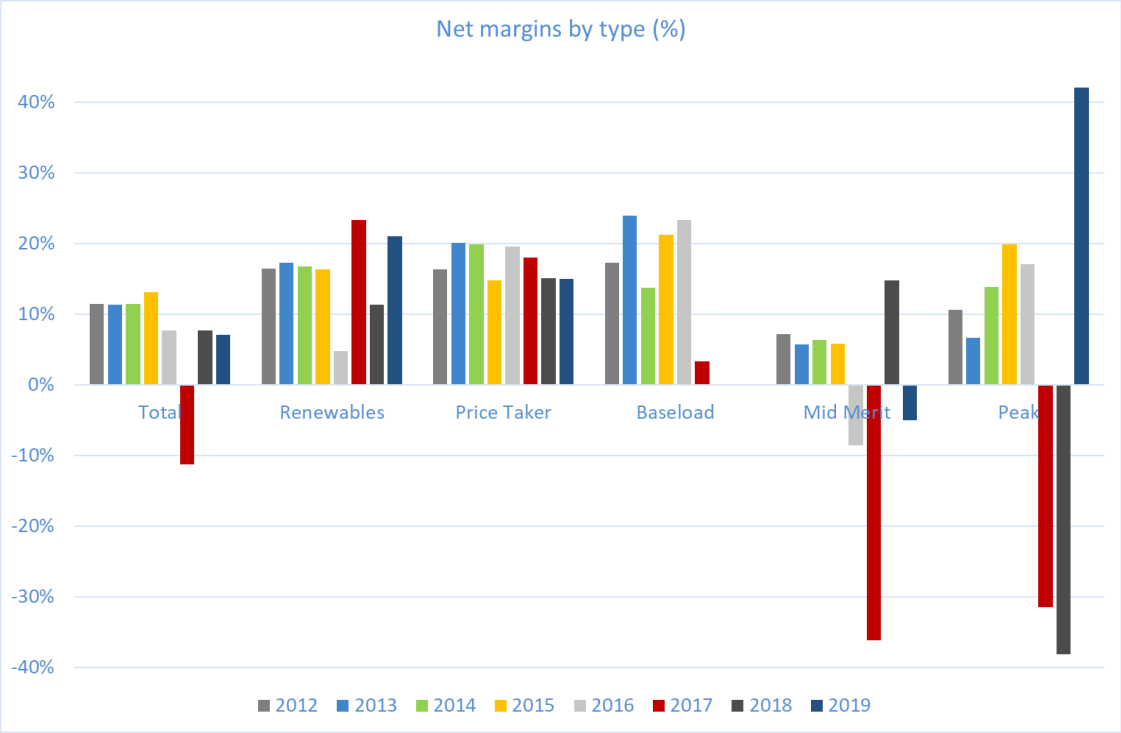


Figure 4.2.2 Net margins by Generation Type from FY2012 - FY2019



APPENDIX A FINANCIAL TERMS

The following are brief explanations of financial terms and abbreviations, as relate to the context and scope of this report.

Amortization refers to the process of writing down the value of either a loan or an intangible asset.

Depreciation is a method of allocating the cost of an asset over its useful life. It reflects the decrease in the value of the asset over time due to wear and tear.

EBIT (Earnings before interest and tax): the Gross Profit minus operating costs minus depreciation.

EBITDI/EBITDA (Earnings before interest, tax, depreciation and impairment/amortization): the Gross Profit minus operating costs minus depreciation and minus impairment/ amortization.

Gross Profit: the total generator revenue received from all sources minus the fuel and non-fuel operating costs.

Gross Margin: gross profit expressed as a percentage of total revenue.

Impairment of an asset reflects a substantial reduction in the estimated value of the asset. For a non-current asset, it is included under expenses when the book value exceeds the future cash flow or benefit of the asset. For an intangible asset, it is included under expenses when the asset is deemed less valuable than is stated on the balance sheet after amortization.

Net Profit: the gross profit minus semi-fixed and fixed costs such as depreciation/finance.

Net Margin: net profit expressed as a percentage of total revenue.

APPENDIX B REPORTING TEMPLATE FY2019

The reporting template uses the term 'Gross Margin' to refer to the margin calculated by dividing EBITDI by total revenue.

More detailed explanations of the constituent breakdown elements of: a) revenue; and b) cost, can be found in SEM/19/036 "*Updates to Generator Financial Performance Reporting Requirements*".

Total Revenue reported in the template is broken down into the following component parts:

- **Revenue from Electricity Markets** – All energy revenue earned from the sale of electricity through the SEM during the financial year, including constraint payments. This is sometimes referred to as "Electricity from SEM Pool" or "Energy Revenue from SEM".
- **Revenue from CfDs and Contracts** – Difference payments from Contracts for Differences (CfDs) hedging arrangements in relation to the wholesale energy price with a supplier or another third party. These could be positive or negative for the generator. In addition, if generators enter into a Power Purchase Agreement (PPA) with an intermediary, the difference between revenue earned in the SEM by the intermediary and the payment to the electricity generator under the PPA is also included in this revenue category.
- **Revenue from Capacity Market –** All payments associated with the Capacity Renumeration Mechanism (CRM) are included here, including Reliability Option Difference Payments
- **Other Revenue** – Any other revenues, for example revenue from ancillary services, are included here. The disaggregation of Other Revenues should also include revenues under the various support mechanisms such as the Public Service Obligation (PSO) levy in the Republic of Ireland and the Northern Ireland Renewables Obligation (NIRO).

Total Operating Costs - as reported **-** consist of:

- **Fuel Related Operating Costs** – All fuel costs incurred during the financial year in question for the purpose of electricity generation and any associated variable fuel transportation costs.
- **Non-fuel Operating Costs** – All additional plant operating costs, including fixed fuel transport charges, transmission network use of system charges (TUoS), plant maintenance, salaries and insurance.

Generators are also requested to provide information to the RAs in order to uniquely identify generation units via the Energy Identification Code (EIC) and to identify who is responsible for providing the requested financial information for the report.

Figure B.1: Financial reporting template for FY2019 data collection

Ref.	INFORMATION REQUESTED (Refer to Appendix A of SEM-19-036 for explanation of fields)	Complete in either Euro or Sterling as appropriate	Explanatory Information (as appropriate)
1	Name of generation asset owner		
2	Company making this submission		
3	Name of Generation Site		
4	Name of Generation Unit		
5	Technology Class		
6	EIC **W** Code of the generation **Unit**		
7	Capacity (MW) of the Generation Unit		
8	Financial Year	FY2019	
9	End-Month of Generator's financial year-end		
10	**Total Volume of Electricity Sold , consisting of:**	0	
	Day Ahead - MWh	0	
	Intra Day - MWh	0	
	Balancing Market - MWh	0	
11	**Currency**	**Euro**	
12	**Revenue**	**€'000 or £'000**	
13	Revenue from Electricity Markets, consisting of:	0	
14	*Net Energy Payments*	0	
15	*> Day Ahead*	0	
16	*> Intra Day*	0	
17	*> Balancing Market*	0	
18	*Net Constraints Payments*	0	
19	Revenue from CfDs and Contracts	0	
20	Revenue from Capacity Payments	0	
21	Reliability Option Difference Charges	0	
22	Total of Other Revenue, made up of:	0	
23	> Revenue from DS3 System Services	0	
24	> Revenue from Ancillary Services	0	
25	> Revenue from Support Mechanisms	0	
26	> Other Revenue Sources	0	
27	**Total Revenue**	**0**	
28	**Operating Costs**	**€'000 or £'000**	
29	Fuel Related Operating Costs	0	
30	Non-fuel Operating Costs	0	
31	**Total Operating Costs**	**0**	
	Earnings & Profit	**€'000 or £'000**	
32	**EBITDI**	0	
33	Depreciation	0	
34	Impairment	0	
35	**EBIT**	0	
36	Interest & Tax	0	
37	**Net Profit**	**0**	

38	**Gross Margin**	100.0%	
39	**Net Margin**	100.0%	

Legend	
Data entry required, as applicable	
Sub-totals - calculated	
Totals - calculated	

APPENDIX C REVENUE AND COST DETAIL FROM 2012-2019 FOR EACH GENERATION FUEL SOURCE

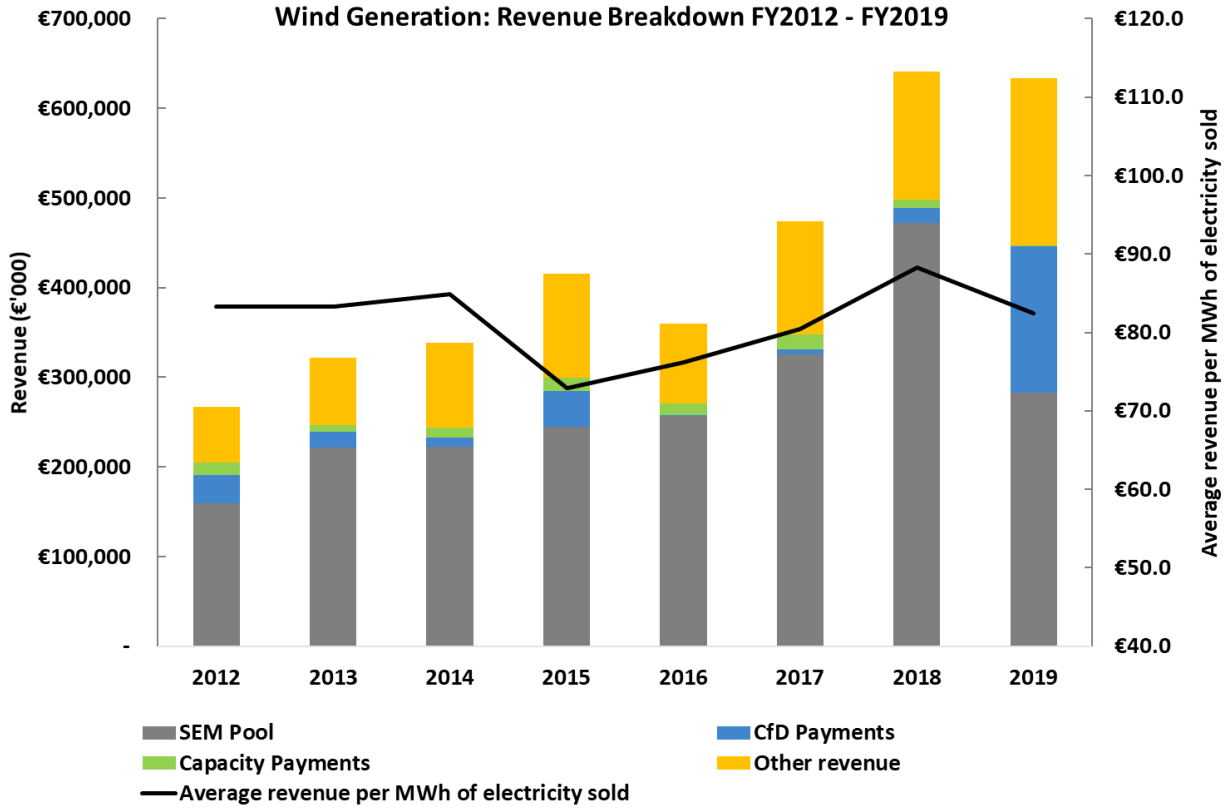
This section presents revenue and costs breakdown FY2012 to FY2019 for each generation fuel as follows:

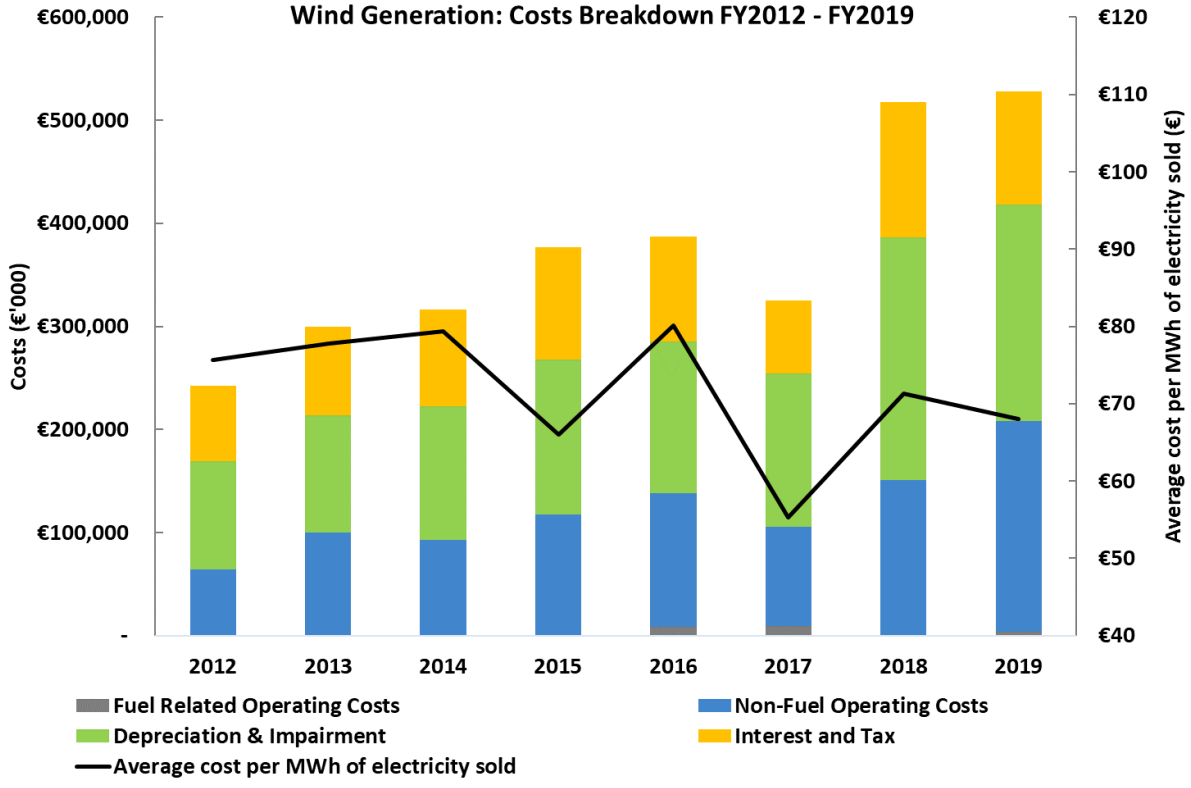
i. Wind (which includes solar in FY2019)
ii. Hydro
iii. Gas
iv. Coal
v. Peat
vi. Distillate & Oil
vii. Pumped Storage

In each of the revenue breakdown charts, the average revenue for each MWh of electricity sold within that category is plotted to give an indication of whether revenue is moving in line with the volume of electricity generation.

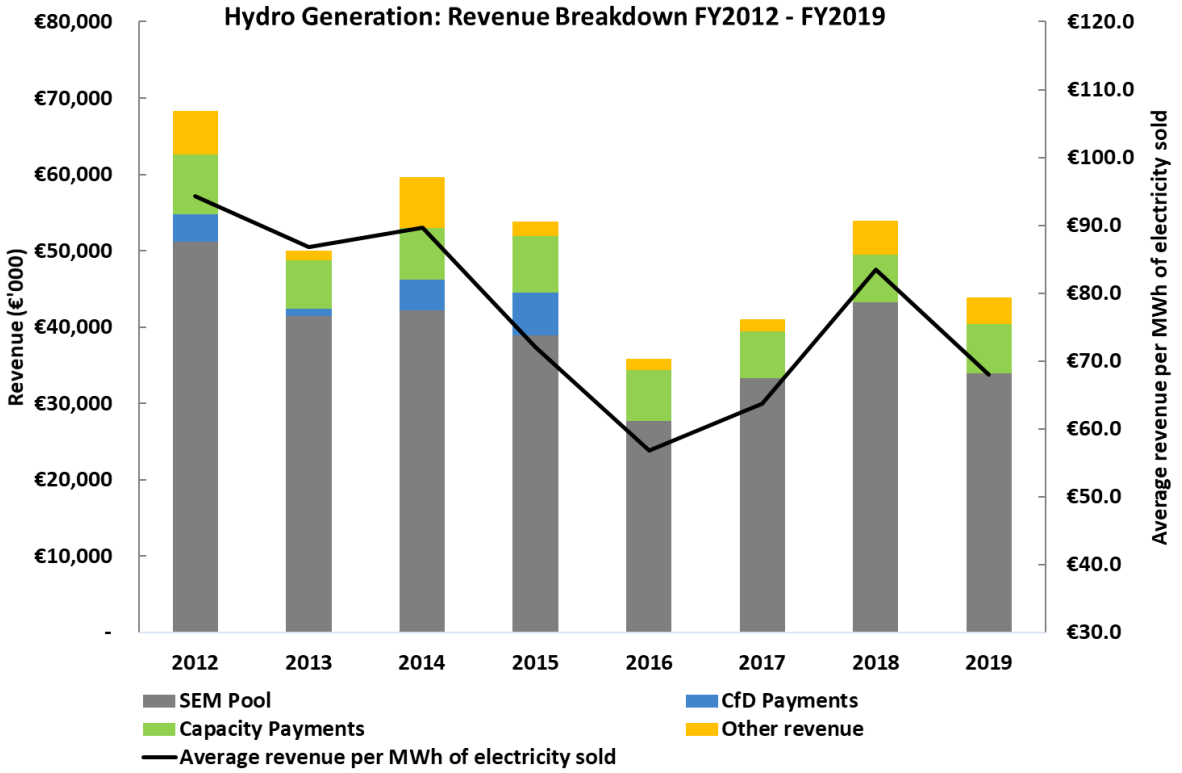
Similarly, in each cost breakdown chart, the average costs for each MWh of electricity sold within that category is plotted to give an indication of whether total costs are moving in line with the volume of electricity generation.

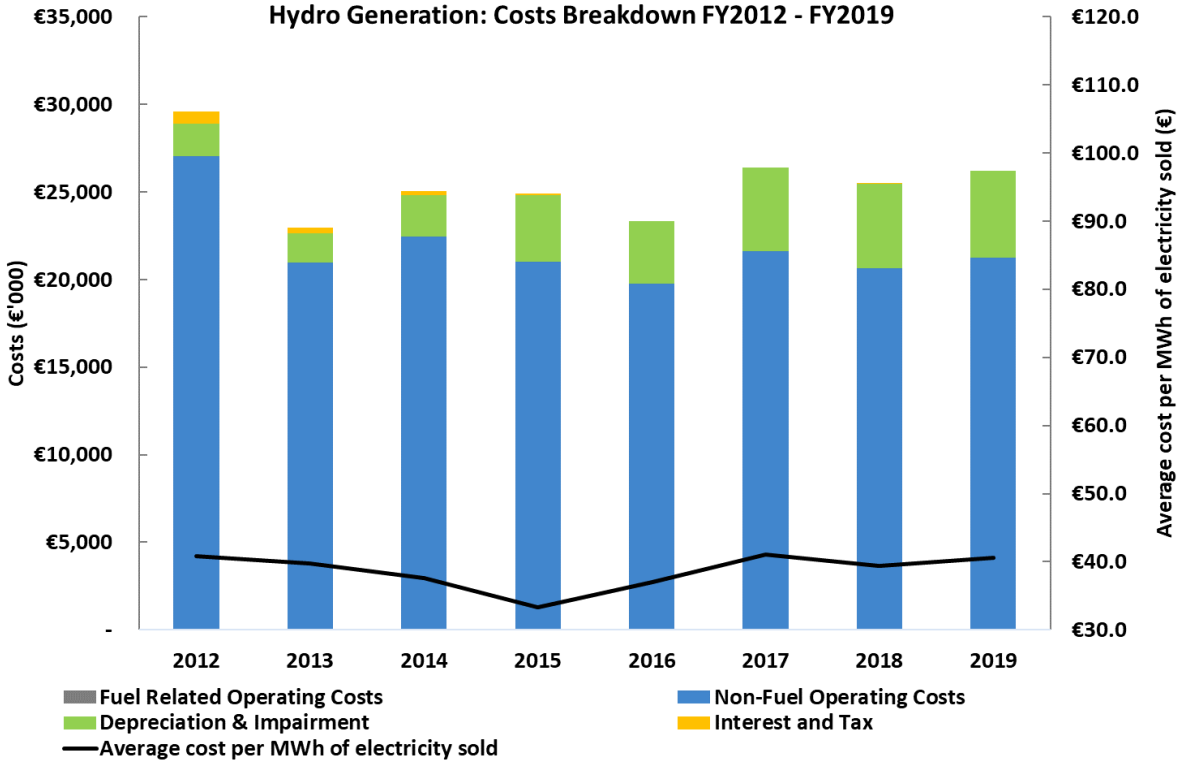
i. Wind Generation - Revenue and Costs Breakdown FY2012 to FY2019



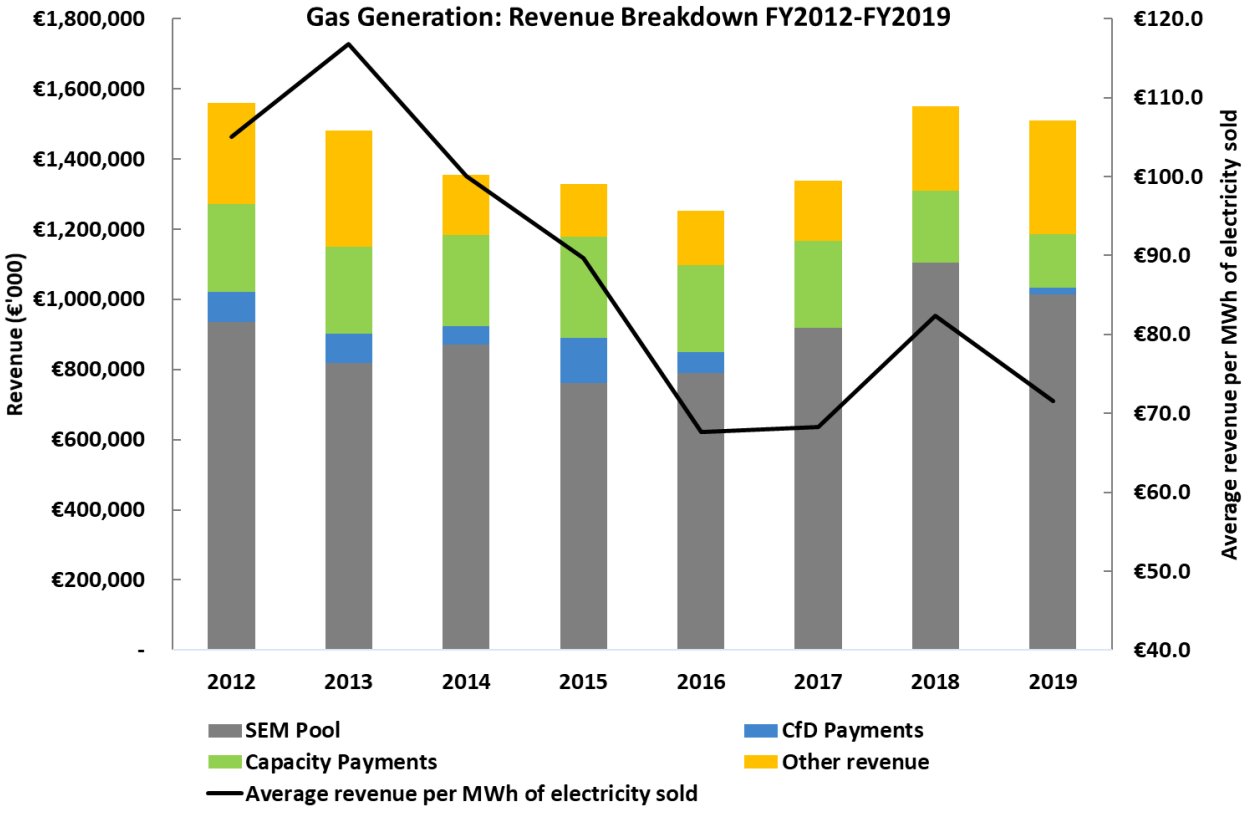


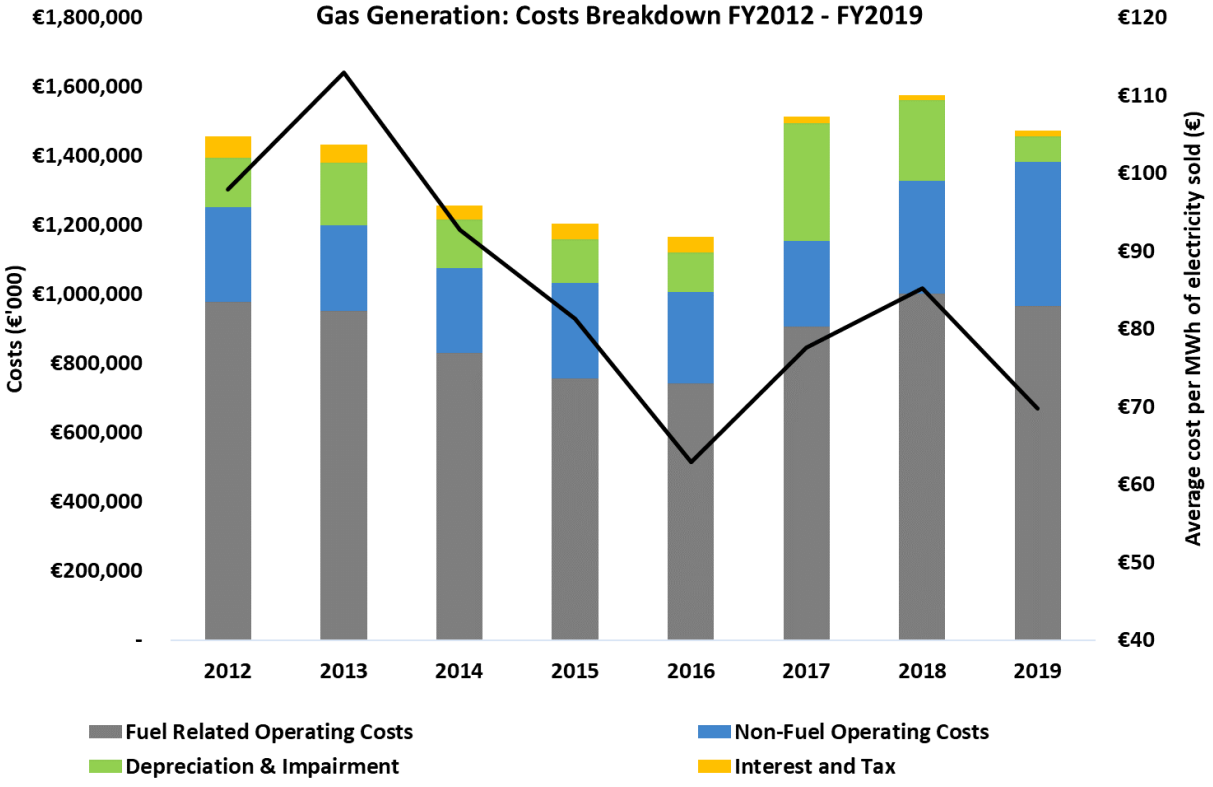
ii. Hydro Generation - Revenue and Costs Breakdown FY2012 to FY2019



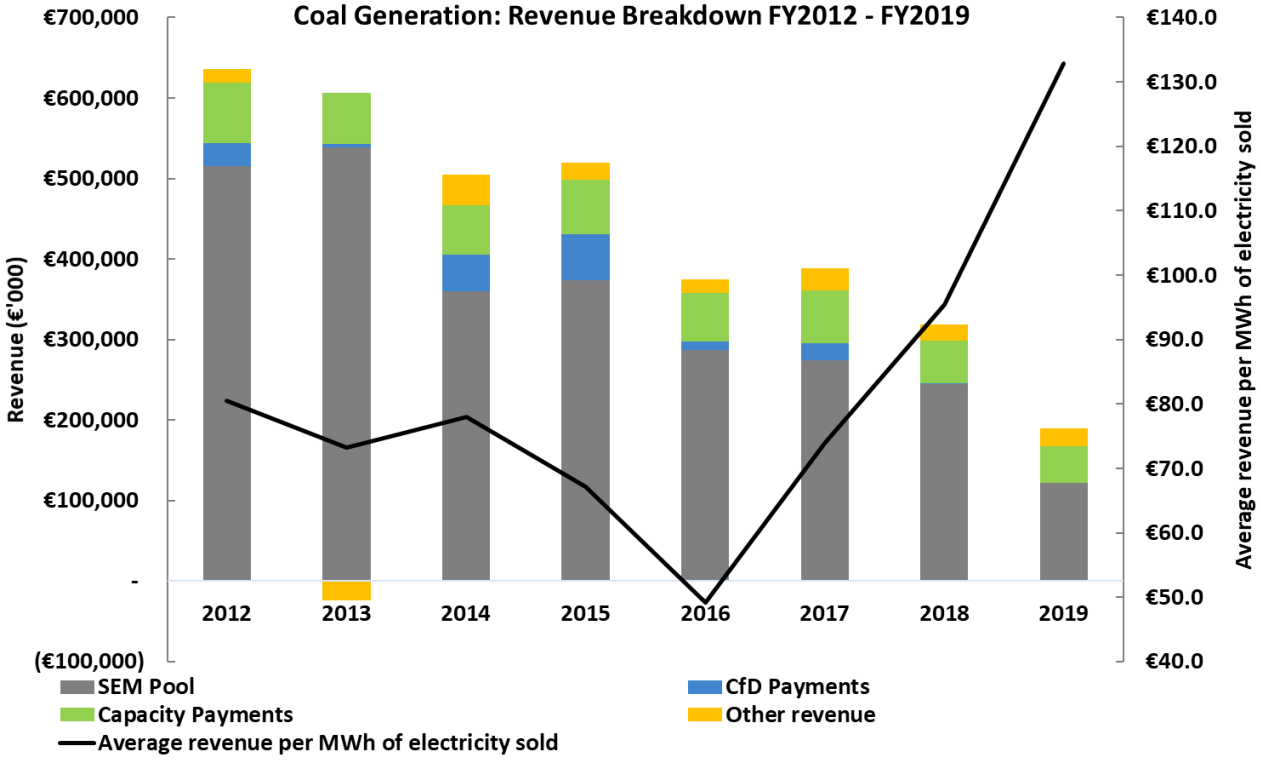


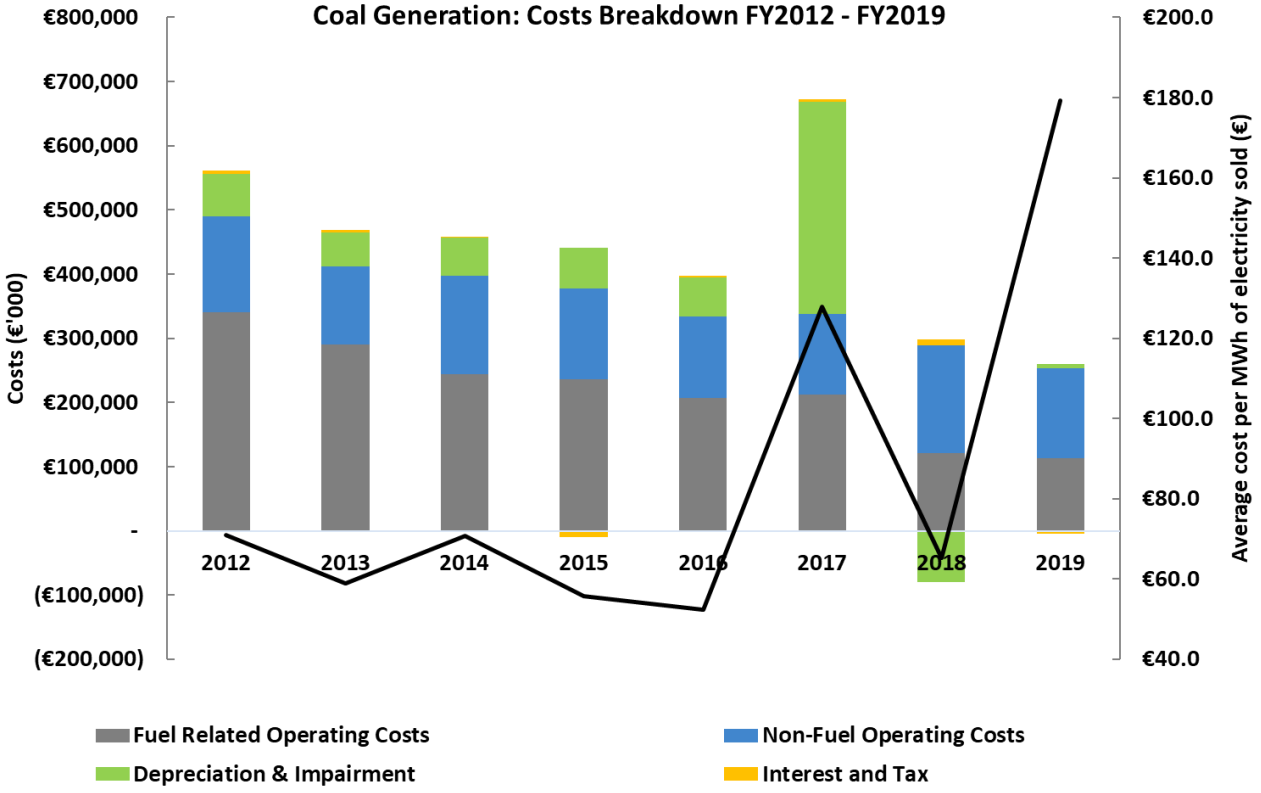
iii. Gas Generation - Revenue and Costs Breakdown FY2012 to FY2019



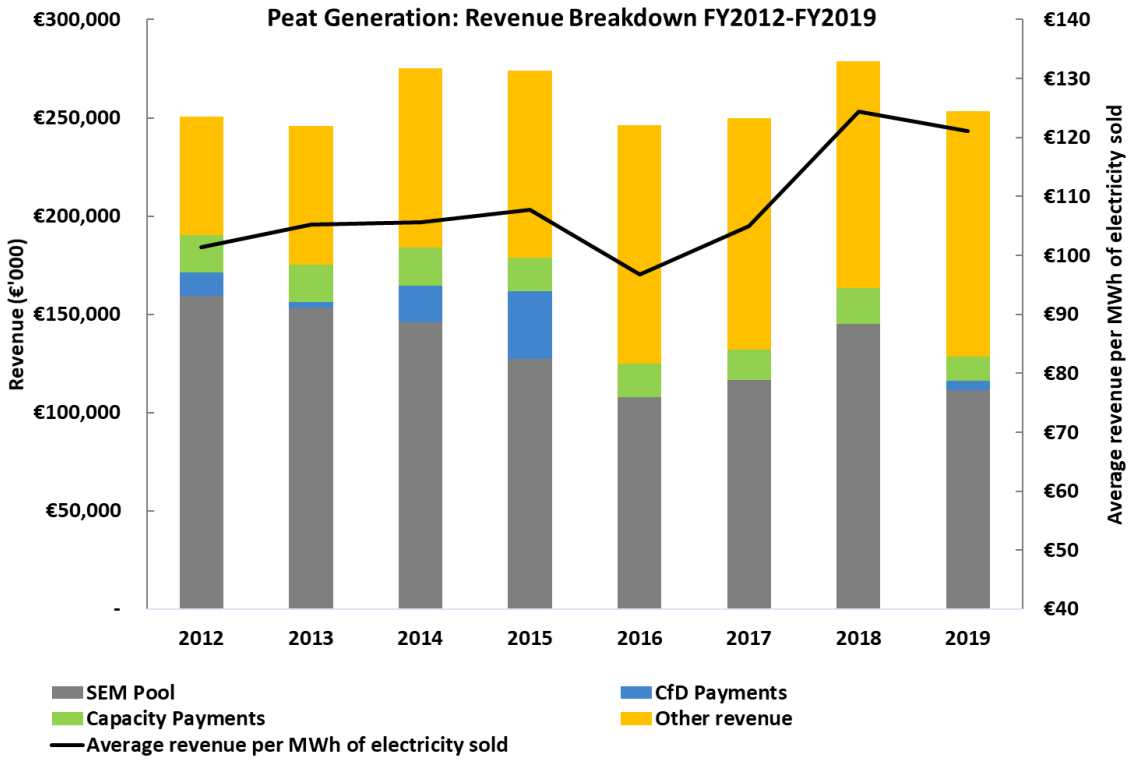


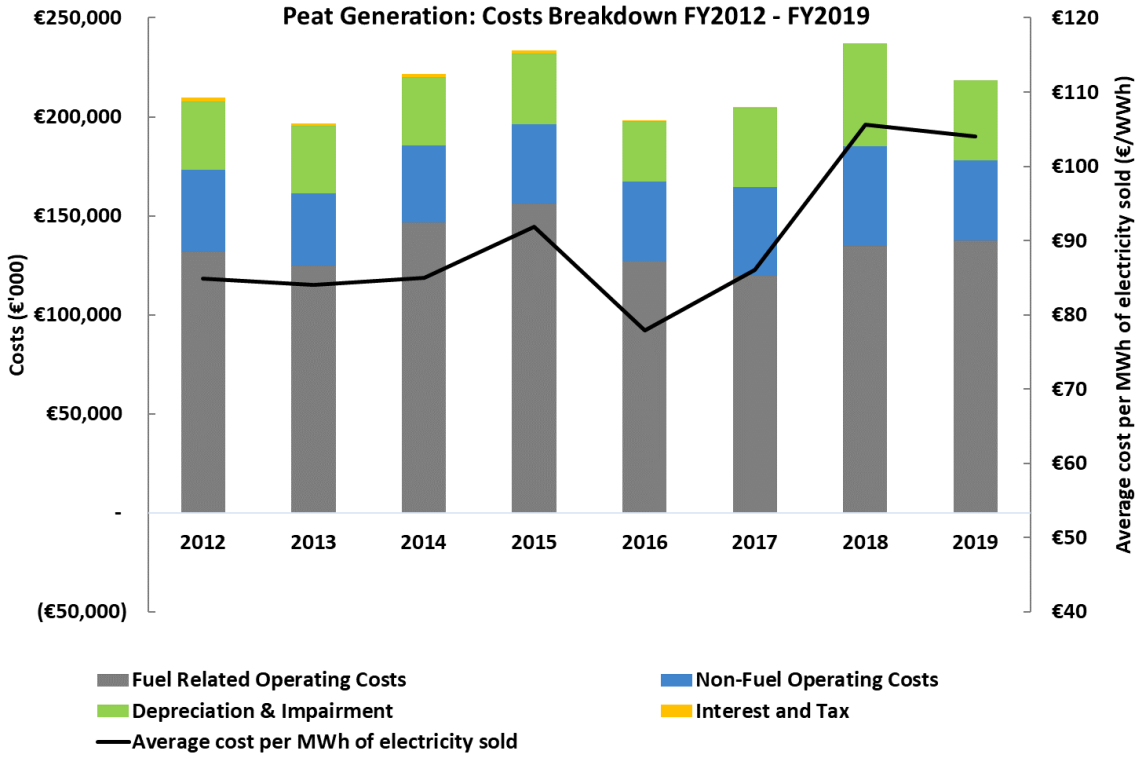
iv. Coal Generation – Revenue and Costs Breakdown FY2012 to FY2019



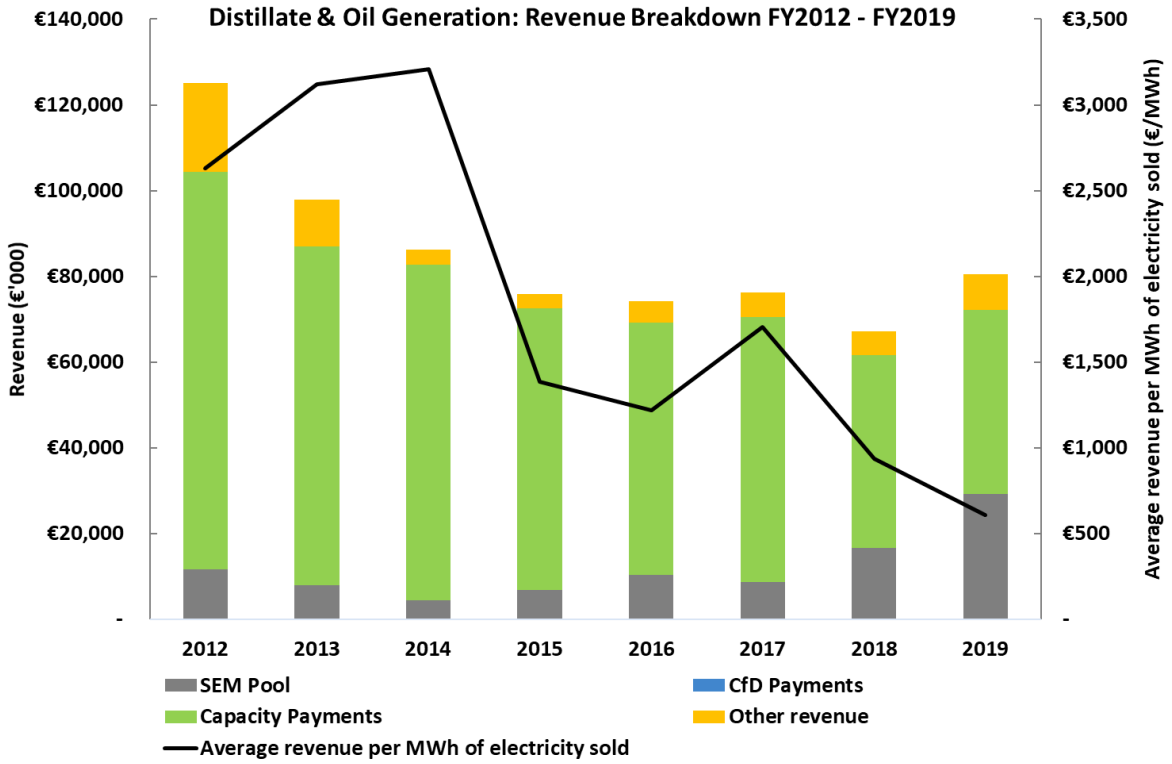


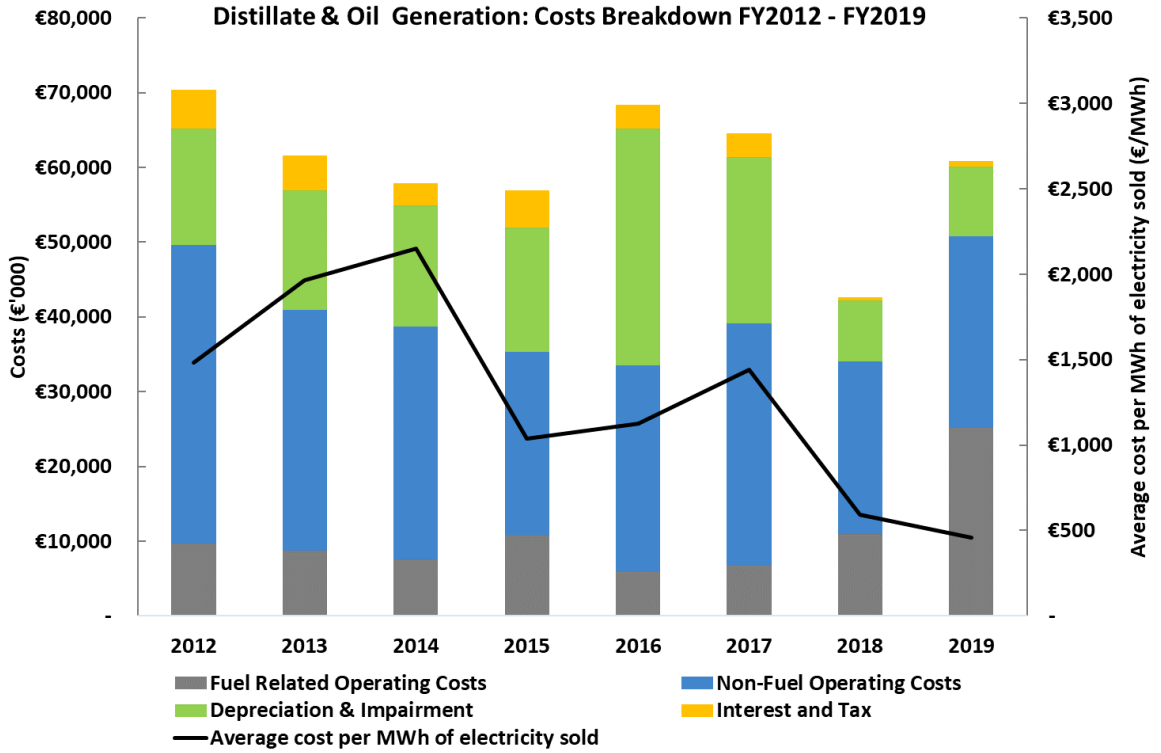
v. Peat Generation – Revenue and Costs Breakdown FY2012 to FY2019



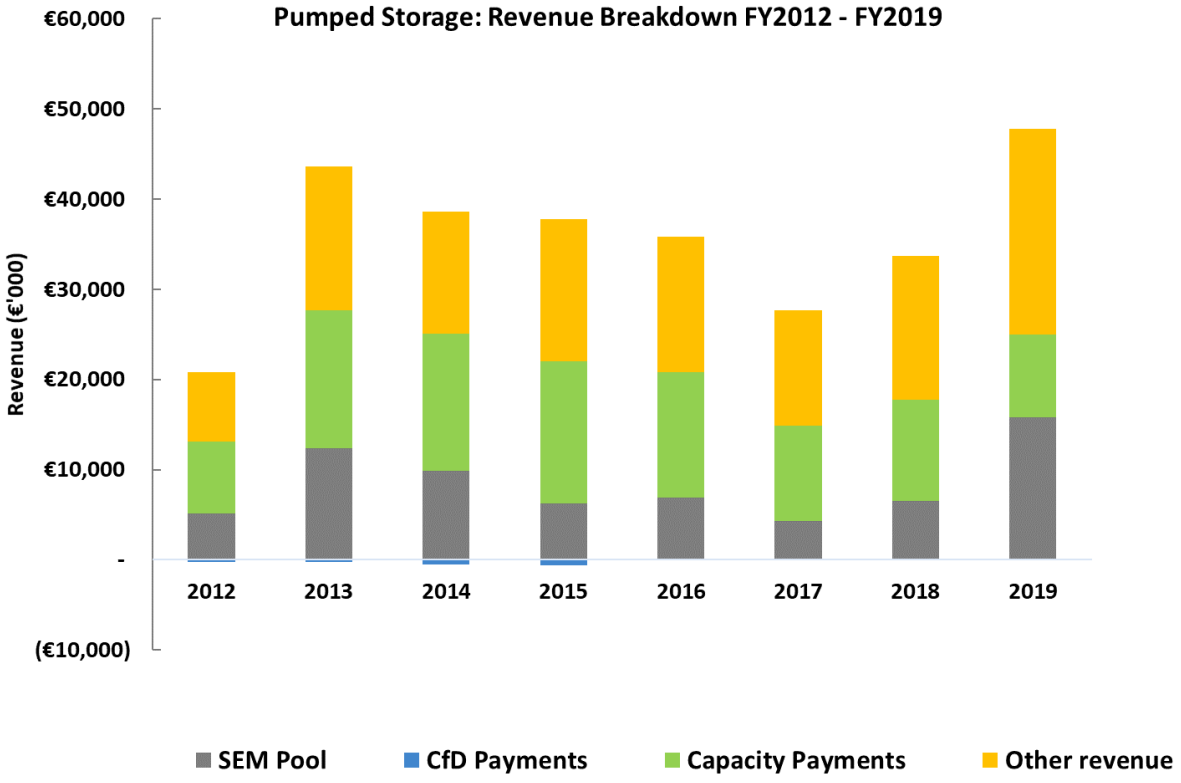


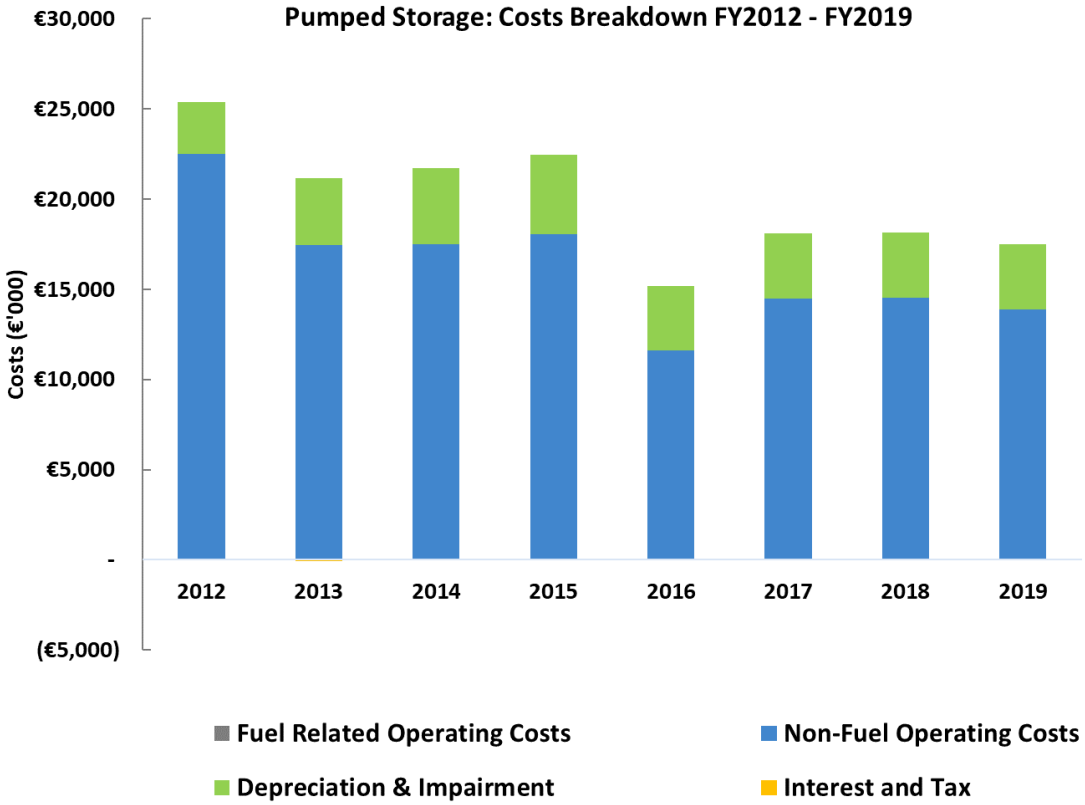
vi. Distillate & Oil Generation – Revenue and Costs Breakdown FY2012 to FY2019





vii. Pumped Storage Generation – Revenue and Costs Breakdown FY2012 to FY2019





APPENDIX D REVENUE AND COST DETAIL FROM 2012-2019 FOR EACH GENERATION TYPE

This section presents revenue and costs breakdown, from FY2012 to FY2019 for each generation type as follows:

i. Renewable generation plants

ii. Price-taker generation plants

iii. Baseload generation plants to 2017, at which point this category was merged with Mid-merit

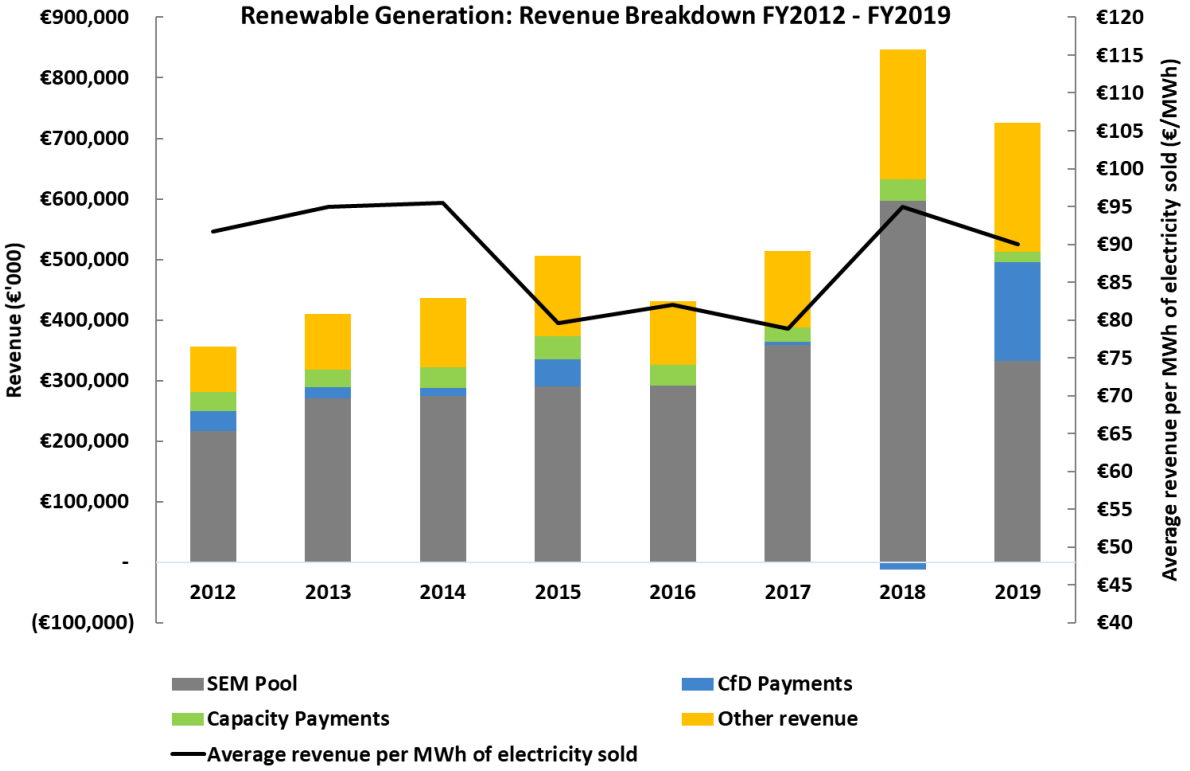
iv. Mid-merit generation plants (including Baseload generation plants from 2017)

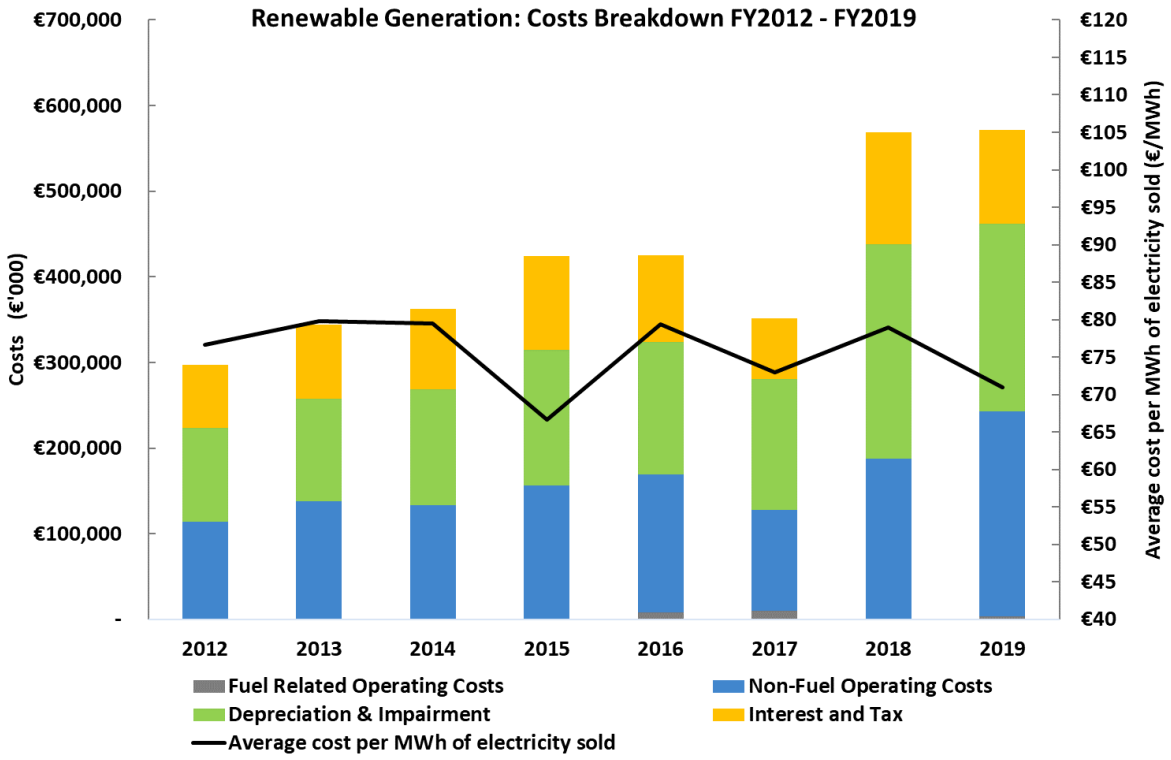
v. Peak generation plants

In each of the revenue breakdown charts, the average revenue for each MWh of electricity sold within that category is also plotted to give an indication of whether revenue is moving in line with the volume of electricity generation.

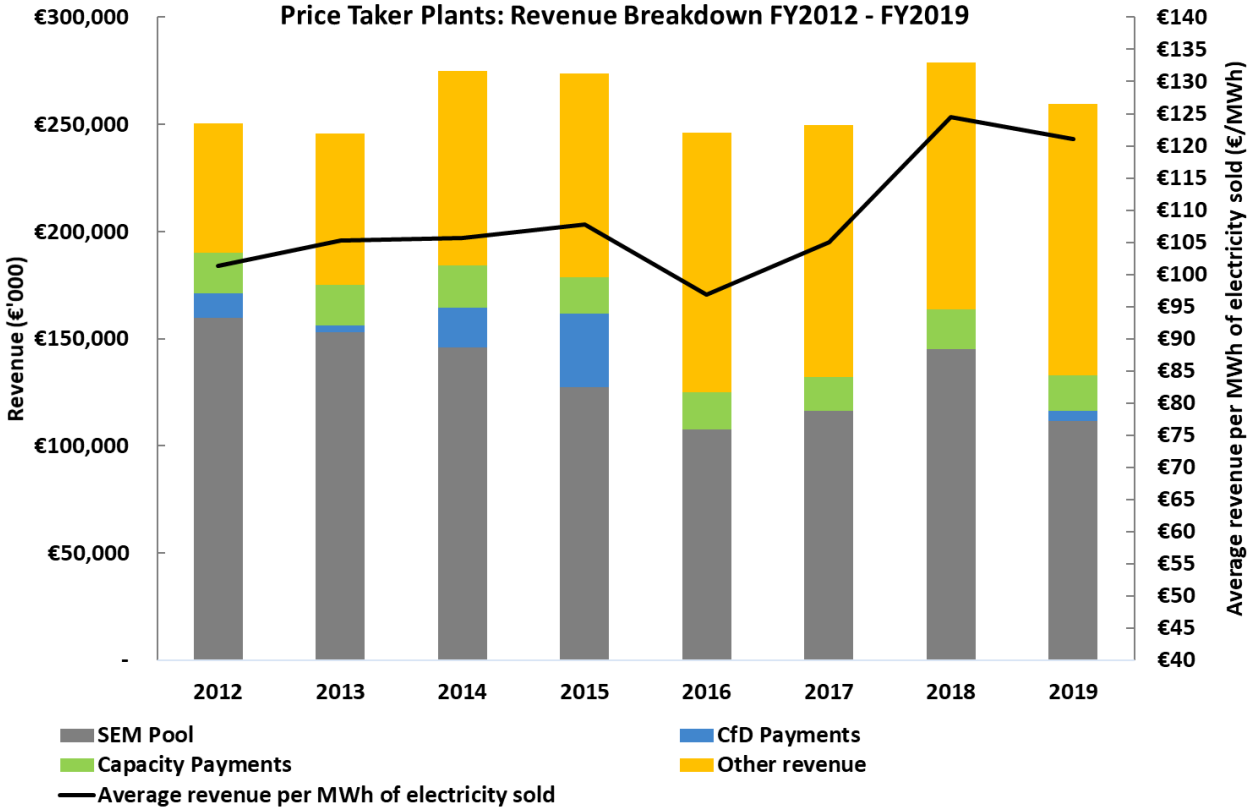
Similarly, in each cost breakdown chart, the average costs for each MWh of electricity sold within that category is plotted to give an indication of whether total costs are moving in line with the volume of electricity generation.

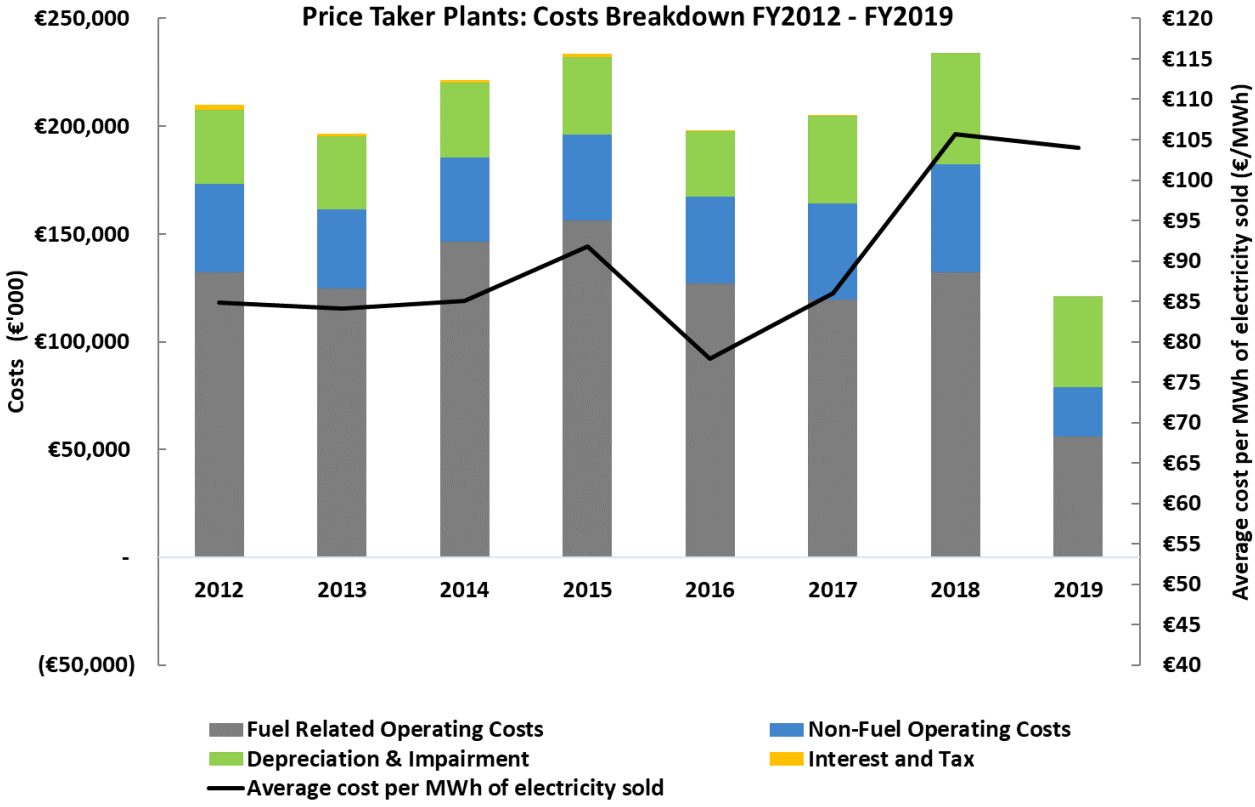
i. Renewable Generation: Revenue and Costs Breakdown FY2012 to FY2019



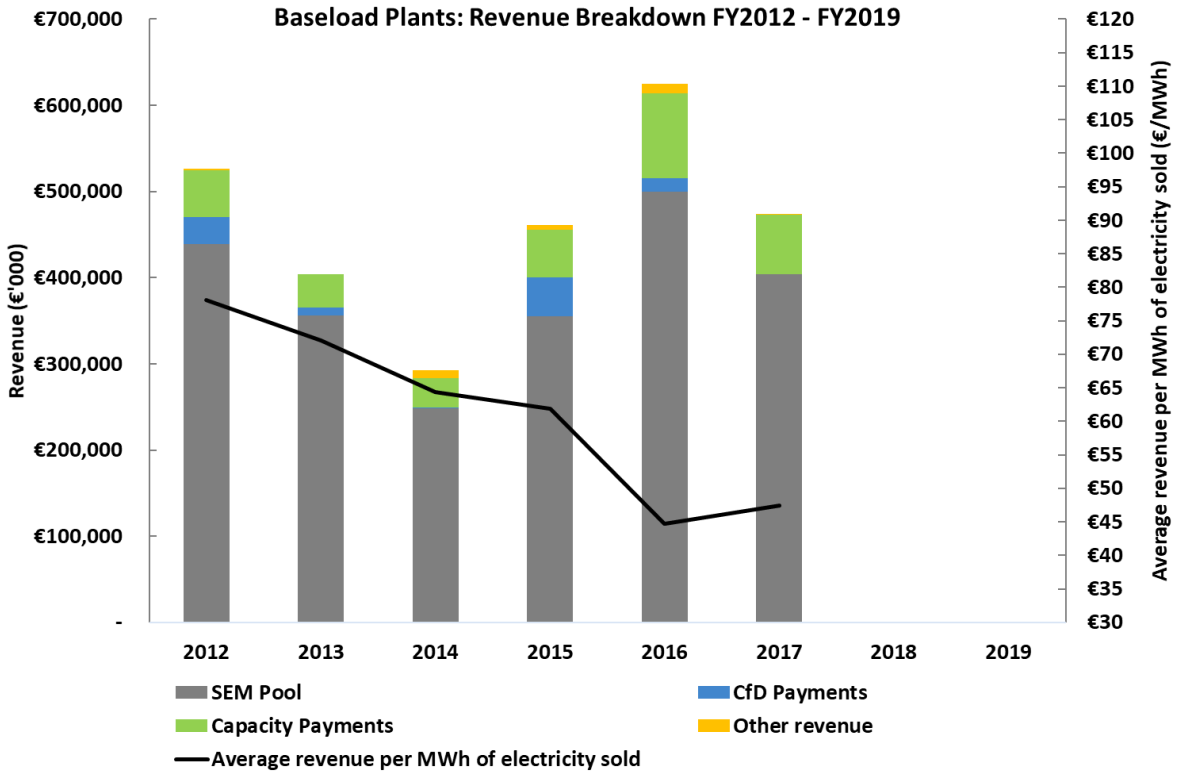


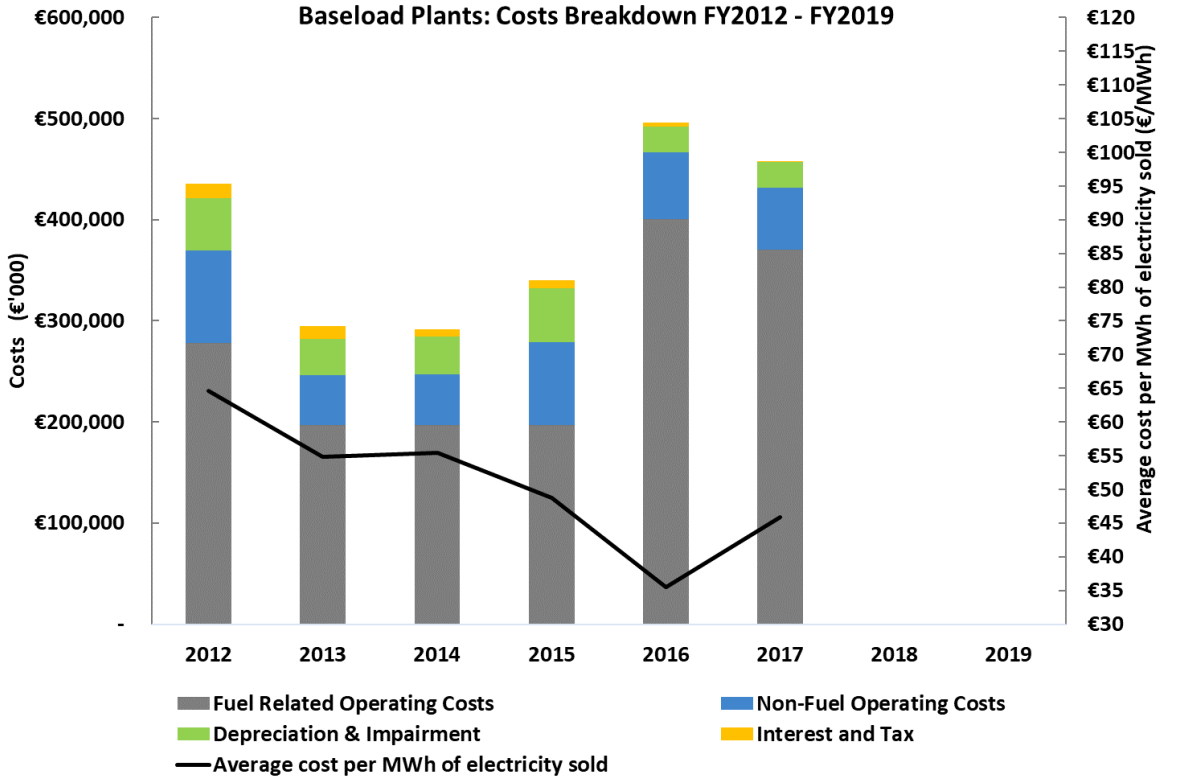
ii. Price-Taker Generation: Revenue and Costs Breakdown FY2012 to FY2019



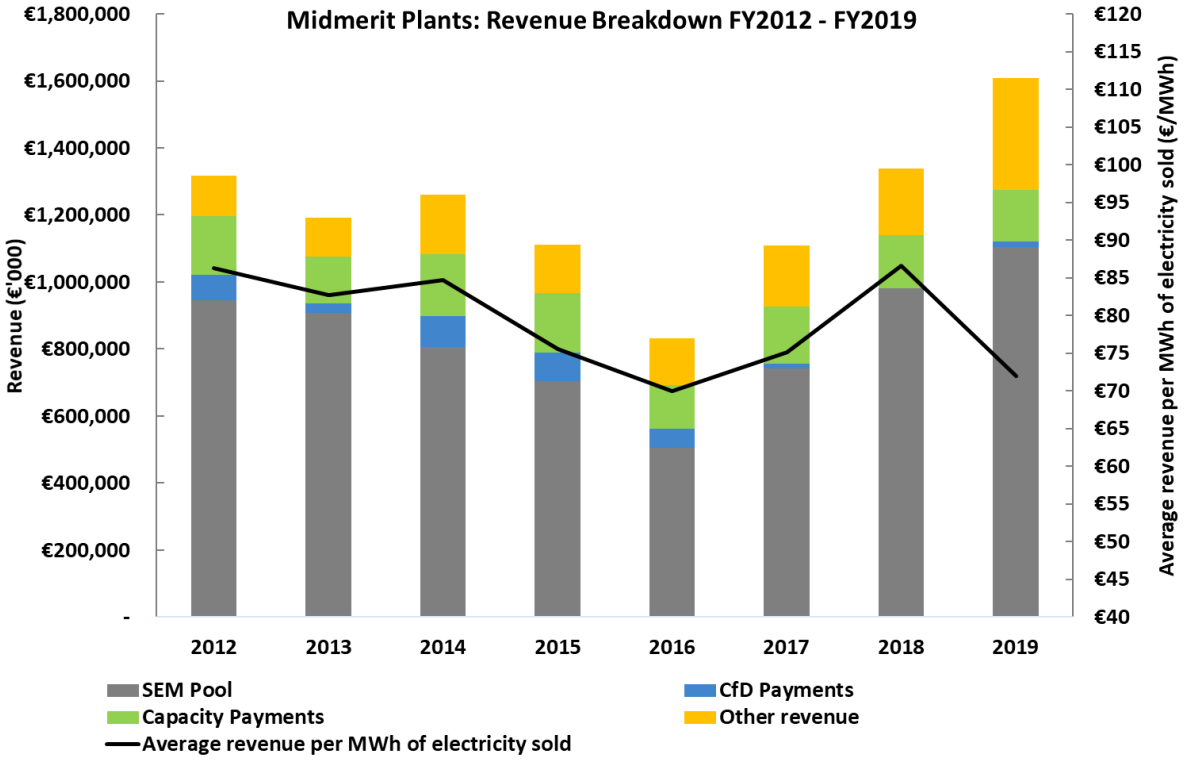


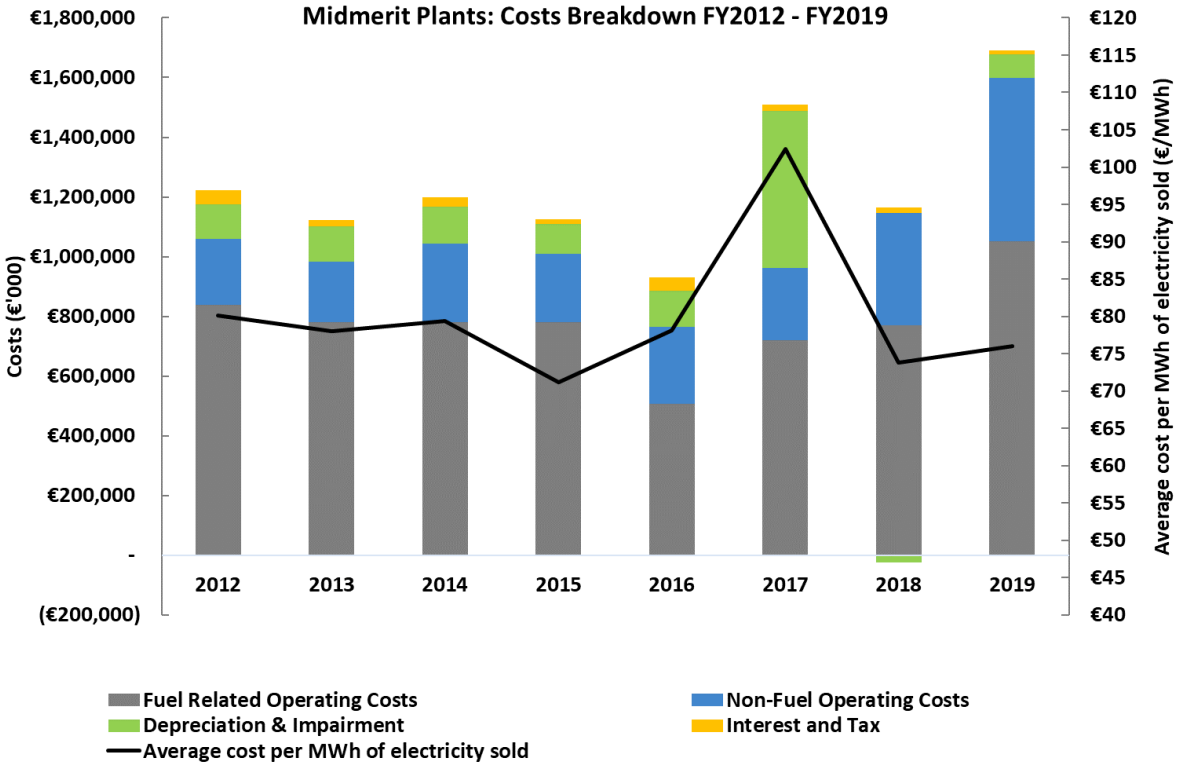
iii. Baseload Generation Plants – Revenue and Costs Breakdown FY2012 to FY2019





iv. Mid-Merit Generation Plants – Revenue and Costs Breakdown FY2012 to FY2019





v. B.2.5 Peak Generation Plants– Revenue and Costs Breakdown FY2012 to FY2019