

Single Electricity Market

(SEM)

GENERATOR FINANCIAL PERFORMANCE IN THE SEM FOR FINANCIAL YEAR 2020 Report

SEM-22-021

21 June 2022

EXECUTIVE SUMMARY

The Generator Financial Performance 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 2020 financial year and follows on from 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.

Due to the time taken for generation companies to have their financial audits completed for a given year, and for the subsequent submission and collation of the relevant data, there is a lag between the reporting period covered in the Generator Financial Performance Report and its publication. The latest data included in this current report relates to the 2020 financial year. The context for this report was therefore markedly different in terms of commodity prices, and their impact on electricity prices, to the context at the time of publication of this report. The impact on generator financial performance of the increases in commodity and electricity prices that have occurred over the past year would be expected to become evident in next year's Generator Financial Performance Report, which will be published in 2023 and will incorporate the 2021 financial year.

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 FY2020 report is provided below.

KEY FINDINGS FROM THE GENERATOR FINANCIAL PERFORMANCE ANALYSIS FOR FINANCIAL YEAR 2020

Financial Year 2020 - Summary	All Generators
Installed Capacity - MW	12,109
Volume of Electricity Sold - MWh	31,122,395
Revenue, Costs and Profits	€'000
Total Revenue	€2,405,292
Total Operating Costs	€1,834,411
EBITDI	€570,881
Net Profit	€16,731
Gross Margin - %	24%
Net Margin - %	0.7%

MARKET PRICES:

- The average Day-ahead market price fell from €50/MWh in 2019 to €38/MWh in 2020, closely correlated with a drop in gas prices.
- ➤ The impact of the Covid-19 pandemic caused electricity demand to fall to its lowest average monthly value for April and May since 2014. The drop in demand was closely associated with a drop in wholesale electricity market prices. However, the average value of €38/MWh for 2020 masks a steady increase in the Day-ahead prices in the later months of the year, as a result of easing restrictions and increasing electricity demand.

MARGINS:

- The gross margin for all generators was 24% in FY2020 (no change from FY2019, although the underlying revenue and operating costs did decrease).
- The net margin for all generators was 0.7%, indicating that generators made a slight profit in FY2020. 0.7% is a notable decrease from FY2019, when net margin for all generators was 7%. This change is driven by a decrease in total revenue, an increase in Depreciation & Impairment and slight increase in Interest & Tax.
- Gas generation had net losses in FY2020 with a net margin of -6%, a notable switch from net profits in FY2019.
- Coal also posted net losses in FY2020 (net margin of -17%), although the net margin for this Generation Type was less negative than in FY2019 (-35%).
- > Peat plants recorded a switch to net losses in FY2020, with a net margin of

-28%, a significant decrease from 14% in FY2019.

- Mid-Merit generations losses increased further in FY2020, with a gross margin of 5% and a net margin of -9%, driven by an increase in Depreciation & Impairment.
- Peak generation plants again maintained their high profitability in FY2020 at 33%, down from 42% in FY2019 but still the most profitable type of generator.
- Renewables had the highest gross margin in FY2020 with 66%, but accounting for Depreciation & Impairment and Interest & Tax, had a net margin of 18%.

REVENUE:

- ➤ Total revenue per MWh decreased from €82/MWh in FY2019 to €77/MWh in FY2020 (€75/MWh excluding Pumped Storage, which is a net consumer of electricity). This decrease can be attributed to a drop in wholesale electricity market prices.
- ➤ The share of revenue from Electricity Markets (Day-Ahead, Intraday and Balancing) was 57% of total revenue in FY2020 (€1.4 billion), marginally down from 58% in 2019 (€1.6 billion). The actual amount of revenue from Electricity Markets is significantly reduced due to a decrease in wholesale market prices, which fell due to low gas prices.
- Other Revenue, which includes revenue from system/ancillary services and support mechanisms (PSO, NIRO), was the next largest revenue source at 23% (€553 million) of total revenue, falling from 25% of total (€694 million) in FY2019.
- ➢ Revenue from Contracts for Difference (CfD) & Contracts accounted for its highestever share at 8% of total revenue (€192 million) in FY2020, slightly up from 7% of total (€188 million) in FY2019. This reflects the decrease in market prices and is potentially also a continuation of increased contracting in the context of the new market arrangements. The predominant driver of this effect was Gas generation, which saw its share of revenue from CfDs & Contracts increase from 1% in FY2019 to 4% in FY2020.
- Capacity Market revenue returned to FY2018 levels at 12% of total revenue in FY2020 (€286 million), having fallen to 10% in FY2019. In absolute terms, actual revenue from this source also increased (from €268 million in FY2019).
- Trends from 2012-2020: The proportion of revenue from Electricity Markets decreased slightly from FY2019 to FY2020 and but was still in line with the share of revenue from this source in previous reporting years. Revenue from CfDs & Contracts increased slightly, while Capacity Market revenue continued at a similar level since the introduction of the new market arrangements. 'Other Revenue', including DS3 / ancillary services revenue and revenue from support schemes, decreased but maintained a significant share of total revenue in FY2020.

COSTS:

- Average costs per MWh of electricity sold of €77/MWh in FY2020 did not change significantly from FY2019. However, the underlying contributions of different cost categories changed.
- Specifically, Fuel and Non-fuel related Operating Costs decreased in FY2020 and Depreciation & Impairment and Interest & Tax both increased, although by a lesser amount than the decrease in operating costs. However, as the total volumes of electricity sold decreased leading to an increase in average costs, the net result was the approximately the level of average costs per MWh as in FY2019.

VOLUMES & MARKET SHARE:

- Total reported volumes of electricity sold in FY2020 amounted to 31.1 TWh, a decrease of 5% (1.8 TWh) from the 32.9 TWh reported in FY2019. A decrease in demand as a consequence of the COVID-19 pandemic may have contributed to this drop off.
- Coal rebounded slightly following a steady decrease in its share of electricity sold in previous years, accounting for 5.6% of total volume of electricity sold in FY2020.
- Wind & Solar maintained its level from previous years at 23% of electricity sold in FY2020.

DEMAND:

- Total annual All-island demand was marginally lower in 2020 (36.98 TWh) than in 2019 (37 TWh).
- However, in April and May the system had the lowest monthly average demand than the same months in any other year in the period of analysis (2015-2020).
- The drop in demand during these months of 2020 was driven by social and economic restrictions brought in to manage the Covid-19 pandemic.
- Demand figures rebounded in the later months of 2020 and were in line with the monthly average for previous years.

Table of Contents

EXECUT	IVE SUMMARY	2
1.	Introduction and context	8
1.1.	Purpose	8
1.2.	Market & Commodity Price Context	9
1.3.	Spark & Dark Spreads	. 13
2.	FY2020 Financial Performance & 2012-2020 trends for All Generators	15
2.1.	FY2020 Financial Performance table for All Generators	. 15
2.2.	Total Revenues for All Generators	. 16
2.3.	Total Costs for All Generators	. 18
2.4.	Total Profitability for All Generators	. 20
3.	FY2020 Financial Performance & 2012-2020 trends by Generation Fuel Source	21
3.1.	FY2020 Financial Performance tables by Fuel Source	. 21
3.2.	Installed Capacities & Volumes Sold by Fuel Source	. 25
3.3.	Revenues by Fuel Source	. 27
3.4.	Costs by Generation Fuel Source	. 32
3.5.	Profitability by Fuel Source	. 35
4.	FY2020 Financial Performance & 2012-2020 trends by Generation Type	37
4.1.	FY2020 Financial Performance tables by Generation Type	. 37
4.2.	Installed Capacities & Volumes Sold by Generation Type	. 41
4.3.	Revenues by Generation Type	. 42
4.4.	Costs by Generation Type	. 45
4.5.	Profitability by Generation Type	. 47
5.	Conclusion	50
Append	ix A FINANCIAL TERMS	51
Append	ix B REPORTING TEMPLATE FY2020	52
Append	ix C REVENUE AND COST DETAIL FROM 2012-2020 BY Generation FUEL SOURCE	54
Append	ix D REVENUE AND COST DETAIL FROM FY2019 - FY2020 BY GENERATION TYPE	62

Tables included in main body of report

Table 2.1.1: FY2020 Financial performance table for All Generators	15
Table 3.1.1: FY2020 Financial Performances table by Generation Fuel Source (GFS)	22
Table 3.1.2: FY2020 Financial Performance table by GFS per MW of installed capacity	23
Table 3.1.3: FY2020 Financial Performance table by GFS per MWh of electricity sold	24
Table 3.3.1: Revenue per MWh of electricity sold by GFS from FY2012 - FY2020	29
Table 4.1.1: FY2020 Financial Performance table by Generation Type (GT)	.388
Table 4.1.2: FY2020 Financial Performance table by GT per MW of installed capacity in FY2020	.399
Table 4.1.3: FY2020 Financial Performance table by GT per MWh of electricity sold in FY2020	40
Table 4.3.1: Revenue per MWh of electricity sold by GT from FY2012	2 -
FY2020	

Figures included in main body of report

Figure 1.2.1: Wholesale electricity market prices from 2012 - 2020	10
Figure 1.2.2: Comparison of electricity market prices with gas prices from 2012 – 2020	12
Figure 1.2.3: Commodity prices from 2012 - 2020	
Figure 1.3.1: Spark spread in the SEM from FY2012 - FY2020	14
Figure 2.2.1: Average annual revenue and market prices in the SEM from FY2012 - FY2020	16
Figure 2.2.3: Breakdown of revenue for All Generators from FY2012 - FY2020	17
Figure 2.3.1: Breakdown of costs for All Generators from FY2012 - FY2020	19
Figure 2.4.1: Profit margins for All Generators from FY2012 to FY2020	20
Figure 3.2.1: Breakdown of installed capacity (MW) by Generation Fuel Source in FY2020	25
Figure 3.2.2: Breakdown of volumes sold (MWh) by Generation Fuel Source in FY2020	26
Figure 3.2.3: Electricity generation trends by Generation Fuel Source from FY2012 - FY2020	26
Figure 3.3.1: Breakdown of revenues by Generation Fuel Source in FY2020	27
Figure 3.3.2: Revenue trends by Generation Fuel Source from FY2012 - FY2020	28
Figure 3.3.3: Sources of revenue as % of total by Generation Fuel Source in FY2020	29
Figure 3.3.4: Percentage breakdown of revenue by Generation Fuel Source from FY2012 - FY2020	32
Figure 3.4.1: Source of generator costs as % of total by Generation Fuel Source in FY2020	33
Figure 3.4.2: Percentage breakdown of costs by Generation Fuel Source from FY2012 - FY2020	34
Figure 3.5.1: Gross margins by Generation Fuel Source for FY2012 - FY2020	36
Figure 3.5.2: Net margins by Generation Fuel Source from FY2012 - FY2020	36
Figure 4.2.1: Breakdown of installed capacity (MW) by Generation Type in FY2020	41
Figure 4.2.2: Breakdown of volumes sold (MWh) by Generation Type in FY2020	42
Figure 4.3.1: Breakdown of total revenues by Generation Type in FY2020	43
Figure 4.3.2: Breakdown of total revenue by Generation Type in FY2020	44
Figure 4.3.3: Percentage breakdown of revenue by Generation Type from FY2012 to FY2020	45
Figure 4.4.1: Breakdown of generator costs as % of total costs by Generation Type in FY2020	46
Figure 4.4.2: Percentage breakdown of costs by Generation Type from FY2012 to FY2020	47
Figure 4.5.1: Gross margins by Generation Type from FY2012 - FY2020	49
Figure 4.5.2: Net margins by Generation Type from FY2012 - FY2020	49

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. To accommodate this variance, the report provides analysis for financial year 2020 as relates to the 12-month period up to September 2020 for generators with a September year-end, December 2020 for generators with December year-end and up to March 2021 for generators with a March financial year-end.

Following the decision papers in May 2012² and August 2019³, 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 and return an annual financial performance reporting template after 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 **Fuel Sources**, in aggregated form, is included in this analysis:

- Wind & Solar
- 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)
- Peaking plants

¹ Information on the MMU can be found <u>here</u> while publications produced by the MMU can be accessed <u>here</u>.

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 <u>here.</u>

This is the seventh report to be published following the SEM Committee's "*Decision Paper on Generator Financial Reporting in the SEM*"². It follows a broadly similar structure to the previous six reports⁴.

However, some changes to the reporting were introduced³ in August 2019 following a consultation in June 2019, primarily to reflect the new SEM trading arrangements from 1 October 2018.

Although this report focuses on annual generator financial 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 presents the monthly average all-island electricity demand from 2015-2020. A sharp drop in demand from March 2020 to April 2020 can be identified as a consequence of Covid-19 restrictions. The monthly average values in April 2020 and May 2020 were lower than the same months in any other year in the period of analysis. Figure 1.2.2 shows the evolution of the monthly average market prices in the SEM since 2012. The reduction in demand was a factor as average prices fell from ξ 50/MWh in 2019 to ξ 38/MWh 2020. This follows a drop from ξ 63/MWh in 2018. The lowest monthly average wholesale electricity price occurred in May 2020, corresponding to the lowest monthly average demand.

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

⁴ SEM/21/052 Generator Financial Performance in the SEM (June 2021), available <u>here</u> SEM/20/021 Generator Financial Performance in the SEM (April 2020), available <u>here</u> SEM/19/016 Generator Financial Performance in the SEM (April 2019), available <u>here</u> SEM/16/086 Generator Financial Performance in the SEM (November 2016), available <u>here</u> SEM/14/111 Generator Financial Performance in the SEM (December 2014), available <u>here</u> SEM/13/031 Generator Financial Performance in the SEM (May 2013), available <u>here</u>

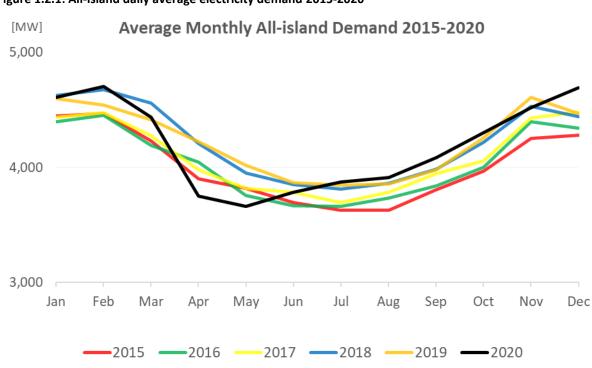
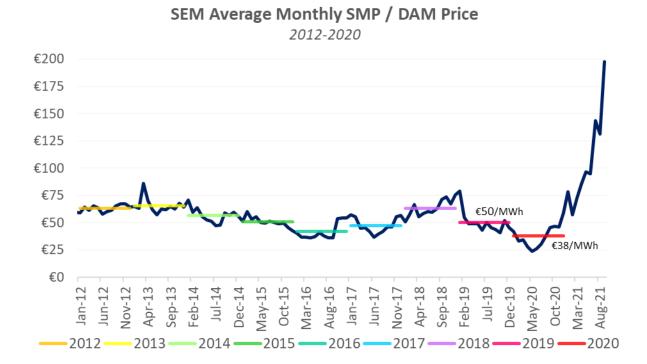


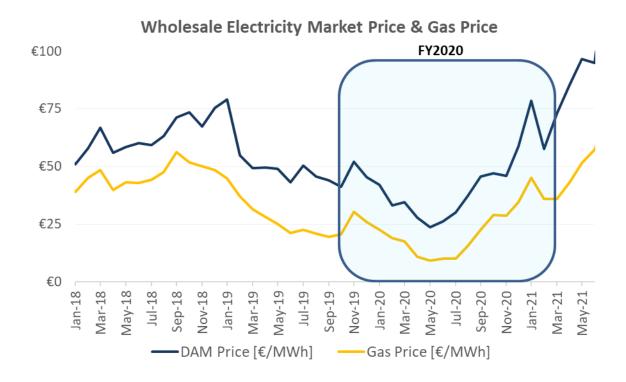
Figure 1.2.2: Wholesale electricity market prices 2012 - 2020

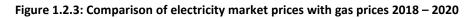


The trend in wholesale electricity prices in the SEM is in line with wholesale gas prices during this period. Wholesale electricity prices are set by the marginal generator, which is typically a gas-fired power plant. When the fuel cost of the marginal generator increases or decreases, the wholesale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

Figure 1.2.1: All-island daily average electricity demand 2015-2020

Gas has been the marginal fuel for much of the 2012-2020 period and consequently, electricity prices often follow the shape of the gas prices, as is evident from Figure 1.2.3. This was also the case during 2020, where the Day-ahead Market price initially continued the downward trend of 2019 until May 2020, before increasing throughout the rest of the year. This correlates closely with the gas prices (converted to €/MWh) for the reporting period.







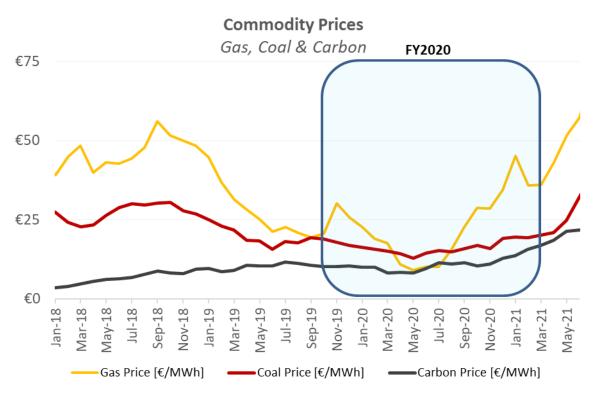


Figure 1.2.4 shows that **Coal** prices fell slightly in early 2020, before steadily and slowly increasing from May 2020 onwards. **Carbon** prices initially dipped from 2019 levels, before again climbing up to record high prices in late 2020.

1.3. SPARK & DARK SPREADS

Spreads between power prices and fuel/input and carbon costs are of great significance to thermal generators. 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%. In simple terms, the *spark spread* is the difference between the wholesale market price of electricity and the fuel cost of gas-fired generation.

The *clean spark spread* (which is also known as the "*spark green spread*") takes the cost of carbon into account in addition to the fuel cost of gas-fired generation.

• **Clean Dark Spread**: The *dark spread* is the gross margin of a coal plant accounting for the coal input and an assumed efficiency level of 35%. In simple terms, the *dark spread* is the difference between the wholesale market price of electricity and the fuel cost of coal-fired generation.

The *clean dark spread* (which is also known as the *"dark green spread"*) takes the cost of carbon into account in addition to the fuel cost of coal-fired generation.

These spreads are the theoretical gross income of a plant selling a unit of electricity. The plant must recover all its additional costs (e.g., operation, maintenance, capital) from this spread to be able to break even or earn a profit. 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 spark spreads in this report. 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) in the SEM over the period 2012 to March 2021. The Clean Spark Spread is quite steady over the reporting period. This is because the wholesale market price of electricity correlates with the price of gas and so the spread between these variables is almost constant. The Clean Dark Spread shows similar downward trends to average market prices. It is clear from Figure 1.2.4 that coal prices remained quite stable across the reporting period. With a stable coal price,

increases and decreases in the wholesale electricity market price along with steadily increasing carbon prices will lead to corresponding changes in the Clean Dark Spread. For a period during FY2020, the Clean Dark Spread was negative, meaning that the cost of coal and the associated carbon price for coal combustion were greater than the revenue obtained through the sale of the electricity from coal generation. However, the Clean Dark Spread then reached positive levels again after September 2020.



SEM Spark & Dark Spreads 2013-2020 €150 FY2020 €125 €100 €75 €50 €25 €0 -€25 Sep-19 Jan-20 Jan-13 May-13 Jan-16 Sep-16 Jan-18 Sep-18 Jan-19 May-20 Sep-20 Sep-13 Jan-14 Sep-14 May-15 Sep-15 May-16 Jan-17 May-17 Sep-17 May-18 May-19 May-21 Jan-15 Jan-21 May-1⁴ -Clean Spark Spread SEM -SMP/DAM Price -Clean Dark Spread SEM



2. FY2020 FINANCIAL PERFORMANCE & 2012-2020 TRENDS FOR ALL GENERATORS

2.1. FY2020 FINANCIAL PERFORMANCE TABLE FOR ALL GENERATORS

Table 2.1.1 presents the total FY2020 results, across all Fuel Sources and Generation Types. The total reported installed capacity in FY2020 was 12,109 MW, more than the 11,855 MW total reported installed capacity in FY2019. Total reported volumes of electricity sold in FY2020 amounted to 31.1 TWh, a decrease of 5% (1.8 TWh) from the 32.9 TWh sold in FY2019.

The results for All Generators are presented across three columns, as shown below:

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

Financial Year 2020	Total	Per MW of installed capacity	Per MWh of electricity sold*
Installed Capacity - MW	12,109		
Volume of Electricity Sold - MWh	31,122,395		
(*excluding Pumped Storage)	31,369,611		
Revenue	€'000	€'000/MW	€/MWh
Revenue from Electricity Markets	€1,375,160	€114	€43
Revenue from Contract/Difference Payments	€191,671	€16	€6
Revenue from Capacity Market	€285,590	€24	€9
Other Revenue (System Services, Support, etc)	€552,871	€46	€17
Total Revenue	€2,405,292	€199	€75
Operating Costs	€'000	€'000/MW	€/MWh
Fuel Related Operating Costs	€1,049,324	€87	€33
Non-fuel Operating Costs	€785,086	€65	€25
Total Operating Costs	€1,834,411	€151	€58
Earnings	€'000	€'000/MW	€/MWh
EBITDI	€570,881	€47	€17
Depreciation & Impairment	€425,511	€35	€13
EBIT	€145,370	€12	€4
Interest & Tax	€128,639	€11	€4
Net Profit	€16,731	€1	(€1)
Gross Margin - %	24%	24%	23%
Net Margin - %	0.7%	0.7%	-1%

Table 2.1.1: FY2020 Financial performance table for All Generators

Note: 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 FOR ALL GENERATORS

Total reported revenue in FY2020 amounted to €2.41 billion, translating to revenues of €199,000/MW of installed capacity and €77/MWh of electricity sold (€75/MWh excluding Pumped Storage).

Market revenues are closely correlated with market prices as shown in Figure 2.2.1 below, where average revenue per MWh tracks average annual SMP/DAM prices. Average revenue dropped from &2/MWh in FY2019 to ₹77/MWh in FY2020. Note that the decrease in average annual DAM price was greater than the decrease in average revenue per MWh. This is because other revenue streams, such as Contracts for Difference and Capacity Payments, contribute to the revenue stream, while the DAM price mostly drives Electricity Market revenue.

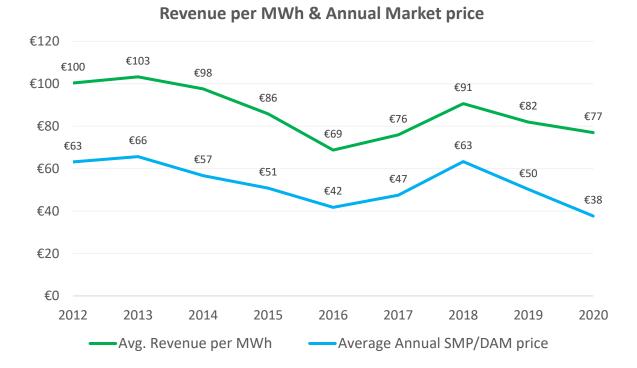


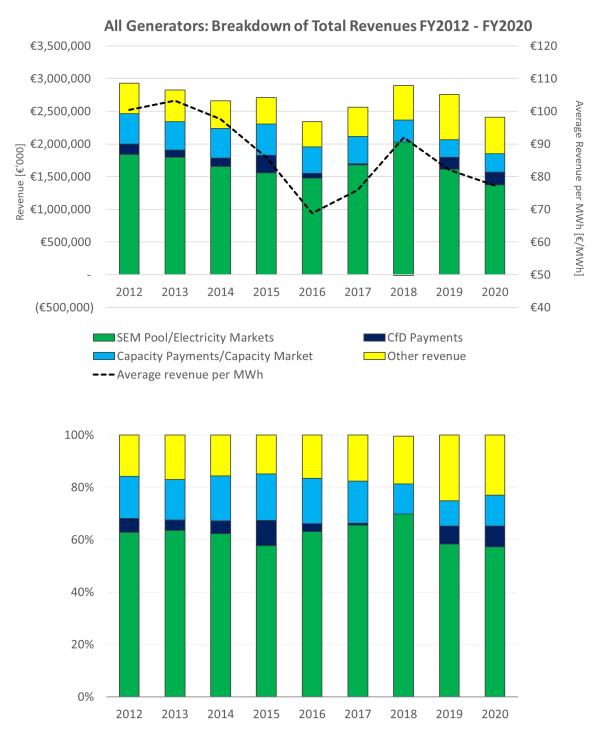
Figure 2.2.1: Average annual revenue and market prices in the SEM from FY2012 - FY2020

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

- Energy payments, from the SEM Pool until FY2018, now from Electricity Markets (Day ahead Market, Intraday Market, and Balancing Market).
- Contract for Difference (CfD) & Contract payments. CfDs are bilateral agreements stipulating that the buyer will pay to the seller the difference between an agreed fixed price (the strike price) and a market reference price (the spot price), such that the holder of the CfD is guaranteed to receive the strike price for its energy. These can be two-way contracts.

- Capacity revenue, from Capacity Payments until FY2018, now from the Capacity Market.
- Other revenue (System Services, other support mechanisms, sale of assets, etc).

Figure 2.2.2: Breakdown of revenue for All Generators from 2012-2020, in revenue and percentage terms



The trend in the breakdown of total revenue across All Generators from 2012 to 2020 is shown in Figure 2.2.2, in both revenue and percentage terms. In actual terms, revenues from Electricity Markets and Other Revenue decreased from 2019 to 2020, while revenues from CfDs & Contracts and Capacity Market increased. The drop in Electricity Market revenue and, possibly also the rise in CfDs and Contracts revenue, is due in part to lower wholesale market prices. Of the total revenue, the share from Electricity Markets and Other Revenue also decreased while the share from the Capacity Market and CfDs & Contracts both increased.

Revenue from the Electricity Markets (Day ahead, Intraday and Balancing) accounted for 57% of total revenue in 2020 (€1.4 billion), down from the 58% coming from Electricity Markets in 2019 (€1.6 billion). 57% of revenue from Electricity Markets is the lowest share from this revenue source across the reporting period (2012-2020), although it is nevertheless still close to the average percentage of revenue from this source since 2012 (63%). The drop in actual revenue from Electricity Markets is primarily a result of low market prices and lower volumes of electricity sold. The actual amounts of the revenue coming from sources such as CfDs and the Capacity Market increased slightly and therefore increased their relative share of total revenue.

'Other Revenue', which includes revenue from both system/ancillary services and support mechanisms (PSO, NIRO), was the second largest source of revenue at 23% of total (€553 million), falling from 25% of total (€694 million) in FY2019.

Revenue from CfDs and Contracts at 8% of total (€192 million) was marginally up from 7% of total (€188 million) in FY2019, reflecting the decrease in market prices relative to the point at which these CfDs would likely have been struck. Capacity Market revenue at 12% of total revenue (€286 million) also increased somewhat in actual and percentage terms from 10% of total in FY2019 (€268 million).

2.3. TOTAL COSTS FOR ALL GENERATORS

The general trend of decreasing wholesale market prices and revenues in FY2020 is countered by a slight overall decrease in total costs. Total reported Fuel and Non-fuel Operating Costs in FY2020 amounted to €2.39 billion, Depreciation & Impairment were €426 million, and Interest & Tax were €127 million. In combination, this translated to costs of €197,000/MW of installed capacity and costs of €77/MWh of electricity sold.

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

- Fuel related Operating Costs
- Non-fuel related Operating Costs
- **Depreciation & Impairment**

• Interest & Tax

A breakdown of costs across all generators is shown in Figure 2.3.1 below. In actual cost terms, the Fuel and Non-Fuel Operating Costs have fallen significantly in FY2020 due to lower volumes of electricity sold, while the costs of Interest & Tax and Depreciation & Impairment have increased. The share of total costs from Depreciation & Impairment and Interest & Tax increased as a result, while the share of costs from both Fuel related Operating Costs and Non-fuel Operating Costs decreased. However, these changes in the contributions of each cost source in FY2020 compared to FY2019 were minor.

Proportional contributions from generator cost categories have remained stable since FY2012, particularly when excluding impairment charges which were exceptionally 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.

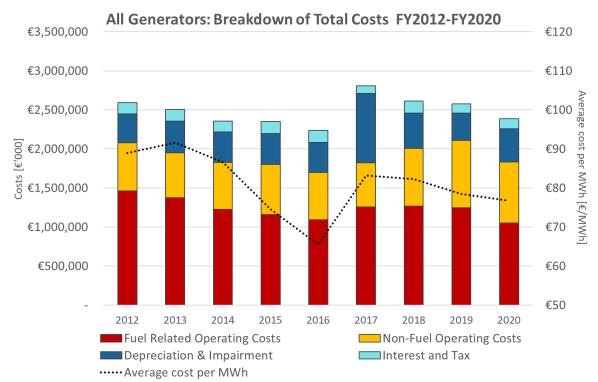


Figure 2.3.1: Breakdown of costs for All Generators from 2012-2020

2.4. TOTAL PROFITABILITY FOR ALL GENERATORS

Figure 2.4.1 shows the trend of gross margins and net margins from FY2012 to FY2020. The decrease in market price and revenues in FY2020 compared to FY2019 was offset by a decrease in Operating Costs, resulting in a gross margin of 24% for FY2020. The gross margin was the same in FY2019, although the levels of total revenue and total operating costs were different. However, net profit margins saw a sharp decrease from 7% in FY2019 to 0.7% in FY2020.

As total revenue decreased by a larger actual amount than operating costs decreased, the overall gross profit in FY2020 was less than in FY2019. Depreciation & Impairment also significantly increased (from €348 million in FY2019 to €426 million in FY2020) and there was a slight increase in Interest & Tax (from €123 million in FY2019 to €129 million in FY2020). The combination of these effects led to the decrease in net margins.

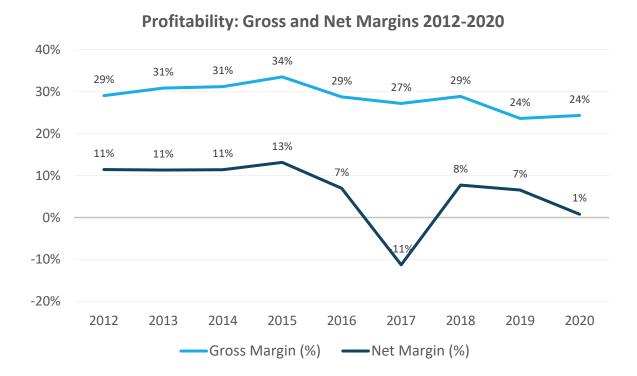


Figure 2.4.1: Profit margins for All Generators from FY2012 to FY2020

3. FY2020 FINANCIAL PERFORMANCE & 2012-2020 TRENDS BY GENERATION FUEL SOURCE

3.1. FY2020 FINANCIAL PERFORMANCE TABLES BY FUEL SOURCE

Generation from the following Fuel Sources, in aggregated form, has been included in the analysis since 2012: Wind & Solar, Hydro, Gas, Coal, Peat, Distillate & Oil, Pumped Storage.

In FY2019 a solar generator passed the 25MW threshold for reporting for the first time. To maintain confidentially the solar generator was classified in the same category as wind and the report therefore referred to a combined category of Wind & Solar. In FY2020, there was again only one solar generator to pass the threshold, so the same approach has been taken.

The results aggregated by Fuel Source are presented across the following three tables as shown:

- Table 3.1.1 provides the total values for each Fuel Source in FY2020.
- Table 3.1.2 provides a breakdown of the results by Fuel Source <u>per MW of installed</u> <u>capacity</u> in FY2020.
- Table 3.1.3 provides a breakdown of the results by Fuel Source <u>per MWh of electricity</u> <u>sold</u> in FY2020.

Later subsections report on installed capacities, volumes, revenues, costs, and profitability across the different Fuel Sources, both in-year and via trends across 2012-2020.

Table 3.1.1: FY2020 Financial performance table by Fuel Source

Financial Year 2020	Total	Wind & Solar	Hydro	Gas	Coal	Peat	Distillate & Oil	Pump St.
Volume of Electricity Sold - MWh	31,122,395	7,165,305	865,749	20,223,140	1,754,925	1,226,654	133,837	(247,215)
Share of Electricity Sold (%)	-	23.0%	2.8%	65.0%	5.6%	3.9%	0.4%	-0.8%
Installed Capacity - MW	12,109	2,962	217	5,828	1,369	346	1,096	292
Share of Capacity (%)	-	24.5%	1.8%	48.1%	11.3%	2.9%	9.1%	2.4%
Average Load Factor (%)		27.6%	45.5%	39.6%	14.6%	40.5%	1.4%	-
Revenue	€'000	€'000	€'000	€'000	€'000	€'000	€'000	€'000
Revenue from Electricity Markets	€1,375,160	€238,624	€37,980	€827,055	€139,699	€63,505	€50,890	€17,406
Revenue from Contract/Difference Payments	€191,671	€139,111	-	€51,052	-	€1,508	-	-
Revenue from Capacity Market	€285,590	€273	€8,573	€157,024	€55,214	€10,690	€44,011	€9,806
Other Revenue (System Services, Support, etc)	€552,871	€213,360	€3 <i>,</i> 506	€268,522	€8,681	€23,370	€10,176	€25,255
Total Revenue	€2,405,292	€591,368	€50,059	€1,303,653	€203,594	€99,074	€105,078	€52,467
Operating Costs	€'000	€'000	€'000	€'000	€'000	€'000	€'000	€'000
Fuel Related Operating Costs	€1,049,324	€23	-	€813,196	€127,804	€66,551	€41,750	-
Non-fuel Operating Costs	€785,086	€192,767	€26,096	€369,177	€102,809	€53,754	€24,190	€16,292
Total Operating Costs	€1,834,411	€192,790	€26,096	€1,182,373	€230,614	€120,306	€65,940	€16,292
Earnings	€'000	€'000	€'000	€'000	€'000	€'000	€'000	€'000
EBITDI	€570,881	€398,578	€23,962	€121,280	(€27,020)	(€21,232)	€39,138	€36,175
Depreciation & Impairment	€425,511	€211,734	€4,995	€183,907	€3,755	€6,399	€11,043	€3,678
EBIT	€145,370	€186,844	€18,967	(€62,627)	(€30,774)	(€27,631)	€28,095	€32,497
Interest & Tax	€128,639	€112,890	-	€12,182	€2,905	€325	€336	-
Net Profit	€16,731	€73,953	€18,967	(€74,809)	(€33,680)	(€27,956)	€27,759	€32,497
Gross Margin - %	24%	67%	48%	9%	-13%	-21%	37%	69%
Net Margin - %	1%	13%	38%	-6%	-17%	-28%	26%	62%

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

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

							-	
Financial Year 2020	Total	Wind	Hydro	Gas	Coal	Peat	Distillate & Oil	Pump St.
Installed Capacity - MW	12,109	2,962	217	5,828	1,369	346	1,096	292
Volume of Electricity Sold - MWh per MW installed	13,982	2,419	3,990	3,470	1,282	3,545	122	(847)
Revenue per MW	€'000/MW	€'000/MW						
Revenue from Electricity Markets	€114	€81	€175	€142	€102	€184	€46	€60
Revenue from Contract/Difference Payments	€16	€47	-	€9	-	€4	-	-
Revenue from Capacity Market	€24	€	€40	€27	€40	€31	€40	€34
Other Revenue (System Services, Support, etc)	€46	€72	€16	€46	€6	€68	€9	€86
Total Revenue	€199	€200	€231	€224	€149	€286	€96	€180
Operating Costs per MW	€'000/MW	€'000/MW						
Fuel Related Operating Costs	€87	€	-	€140	€93	€192	€38	-
Non-fuel Operating Costs	€65	€65	€120	€63	€75	€155	€22	€56
Total Operating Costs	€151	€65	€120	€203	€168	€348	€60	€56
Earnings per MW	€'000/MW	€'000/MW						
EBITDI	€47	€135	€110	€21	(€20)	(€61)	€36	€124
Depreciation & Impairment	€35	€71	€23	€32	€3	€18	€10	€13
EBIT	€12	€63	€87	(€11)	(€22)	(€80)	€26	€111
Interest & Tax	€11	€38	-	€2	€2	€1	€	-
Net Profit per MW	€1	€25	€87	(€13)	(€25)	(€81)	€25	€111
Gross Margin - %	24%	67%	48%	9%	-13%	-21%	37%	69%
Net Margin - %	1%	13%	38%	-6%	-17%	-28%	26%	62%

Table 3.1.2: FY2020 Financial performance table by Fuel Source per MW of installed capacity in FY2020

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

"(\mathfrak{E})" 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

Financial Year 2020 (per MWh of electricity sold)	Total	Wind	Hydro	Gas	Coal	Peat	Distillate & Oil
Volume of Electricity Sold - MWh	31,369,611	7,165,305	865,749	20,223,140	1,754,925	1,226,654	133,837
Revenue per MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh
Revenue from Electricity Markets	€43	€33	€44	€41	€80	€52	€380
Revenue from Contract/Difference Payments	€6	€19	-	€3	-	€1	-
Revenue from Capacity Markets	€9	€.04	€10	€8	€31	€9	€329
Other Revenue (System Services, Support, etc)	€17	€30	€4	€13	€5	€19	€76
Total Revenue	€75	€83	€58	€64	€116	€81	€785
Operating Costs per MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh
Fuel Related Operating Costs	€33	€.00	-	€40	€73	€54	€312
Non-fuel Operating Costs	€25	€27	€30	€18	€59	€44	€181
Total Operating Costs	€58	€27	€30	€58	€131	€98	€493
Earnings per MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh
EBITDI	€17	€56	€28	€6	(€15)	(€17)	€292
Depreciation & Impairment	€13	€30	€6	€9	€2	€5	€83
EBIT	€4	€26	€22	(€3)	(€18)	(€23)	€210
Interest & Tax	€4	€16	-	€1	€2	€	€3
Net Profit	(€1)	€10	€22	(€4)	(€19)	(€23)	€207
Gross Margin - %	23%	67%	48%	9%	-13%	-21%	37%
Net Margin - %	-1%	13%	38%	-6%	-17%	-28%	26%

Table 3.1.3: FY2020 Financial performance table by Fuel Source per MWh of electricity sold in FY2020*

NOTE: *Pumped Storage, as a net consumer of electricity, is not included in the per MWh analysis. This increases the figure for total volume sold.

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

"(\in)" 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 FUEL SOURCE

Figure 3.2.1 presents installed capacity in FY2020, broken down by Fuel Source, for generation over the reporting threshold (>25MW). **Gas** at 48.1% and the combined category of **Wind & Solar** generation at 24.5% together account for nearly 75% of all installed capacity. **Coal** and **Distillate & Oil** at 11.3% and 9.1% respectively constitute nearly 20% of installed capacity. **Peat**, **Pumped Storage** and **Hydro** make up the remaining capacity.

As noted in the previous two Generator Financial Performance reports, wind continues to be under-reported. In FY2020, the total aggregate capacity of **Wind & Solar** generation reported was 2,962MW but the total installed all-island capacity of wind generators was 5,596MW in FY2020. The difference in the installed wind capacity likely results from the exemption from reporting for those generation companies where the capacity ownership of the company is less than 25MW in aggregate, as in previous years.

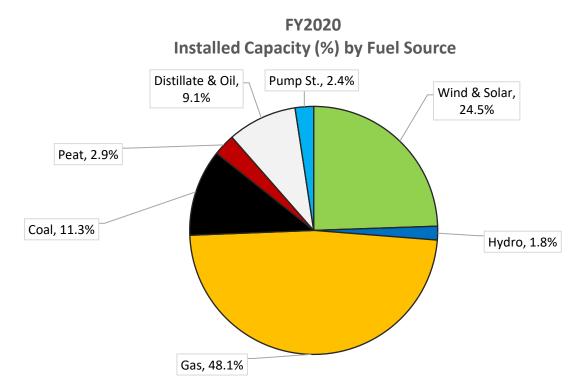


Figure 3.2.1 Breakdown of installed capacity (MW) by Fuel Source in FY2020

Figures 3.2.2 and 3.2.3 below illustrate the changing positions of generators in the market over time in terms of % volumes sold using different fuel sources. In FY2020, **Wind & Solar** sold 23% of total electricity volumes, the same share as in FY2019 and FY2018 at 23%. Note that this excludes a significant proportion of electricity sold from installed wind and solar capacity due to the reporting limit of <25MW. **Coal** share, decreasing from FY2015 to FY2019, increased in FY2020 to 5.6%. This may have been due to constrained running of the coal plants for system operation reasons. **Gas** also increased its share to 65% of the market in terms of volume of electricity sold. **Hydro** slightly increased its share to 2.8% while **Peat** maintained its decreasing trend, with an all-time low share of 3.9%.

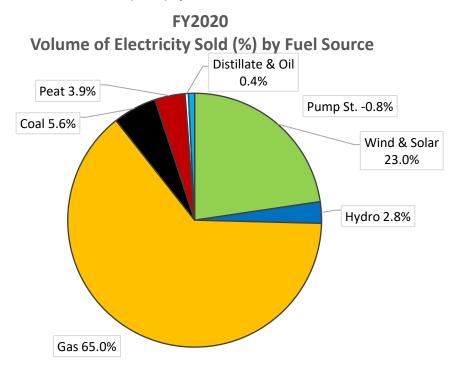
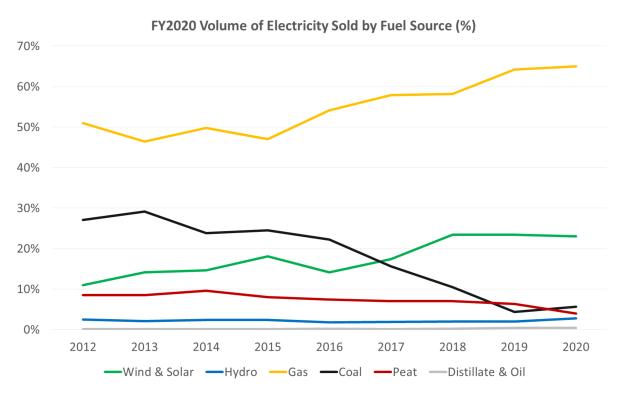


Figure 3.2.2: Breakdown of volumes sold (MWh) by Fuel Source in FY2020





3.3. REVENUES BY FUEL SOURCE

Figure 3.3.1 shows the breakdown of total revenue by Fuel Source for FY2020. The share of total generation volumes for each fuel source and the total revenues for each fuel source are generally closely correlated. The share of **Gas** was 54.2% of total revenues earned. **Coal** had a share of 8.5% of total revenue. **Wind & Solar** had a share of 24.6%. Figure 3.3.2 displays the change in actual total revenue by fuel source and demonstrates a similar pattern to Figure 3.2.3. Actual revenue for **Gas** generators decreased in FY2020 while actual revenue for **Coal** generators increased. Actual revenue for **Wind & Solar** slightly fell in FY2020, despite its share of the total revenue increasing. **Wind & Solar** slightly increased its share to 24.6%.

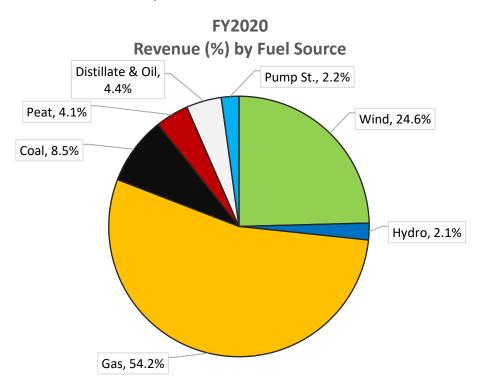
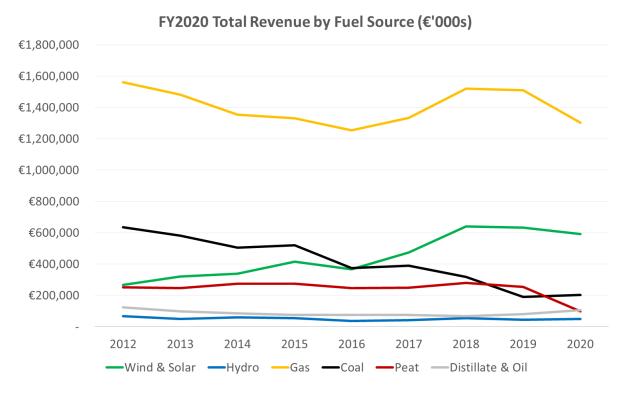


Figure 3.3.1: Breakdown of revenues by Fuel Source in FY2020





Note:

No solar generator passed the 25MW threshold for inclusion in the aggregated data before FY2020.

Falling average wholesale energy prices in FY2020 (€38/MWh) have in part led to decreased average **total** revenues of €77/MWh of electricity sold as shown in Table 3.3.1, which presents the trend in average revenue per MWh of electricity sold from 2012-2020. Average revenues per MWh of electricity sold increased for **Wind & Solar**, decreased to varying degrees across **Hydro, Coal, Peat** and **Gas.** Revenue per MWh increased for **Distillate & Oil.** The increase in the case of **Distillate & Oil** is linked to the reduced generation volumes in FY2020 and to the fact that capacity revenue under the Capacity Remuneration Mechanism is independent of actual volumes generated.

Revenue per MWh of Electricity Sold	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Wind & Solar	€83	€83	€85	€73	€76	€80	€88	€82	€83
Hydro	€94	€87	€90	€72	€57	€64	€84	€68	€58
Gas	€105	€117	€100	€90	€68	€68	€82	€72	€64
Coal	€80	€73	€78	€67	€49	€74	€133	€133	€116
Peat	€101	€105	€106	€108	€97	€105	€124	€121	€81
Distillate & Oil	€2,629	€3,118	€3,206	€1,384	€1,220	€1,703	€935	€607	€785
Total	€100	€103	€98	€86	€69	€76	€91	€82	€77

Table 3.3.1: Revenue per MWh of electricity sold by Fuel Source from FY2012 - FY2020

Note:

Pumped Storage as a fuel source has been excluded from this table as it reports *negative* net electricity generation figures (electricity generated minus electricity used to pump water). However, the figure for Total Revenue per MWh of Electricity Sold includes revenue and volumes from Pumped Storage.

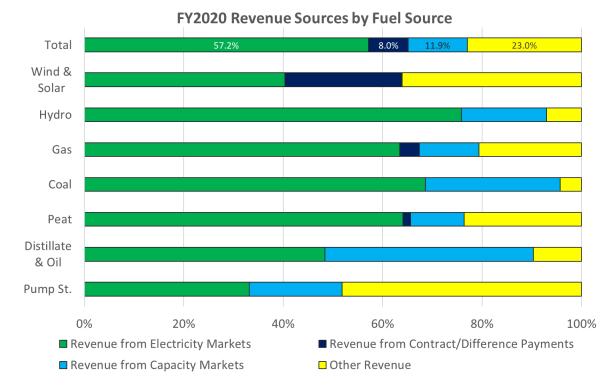
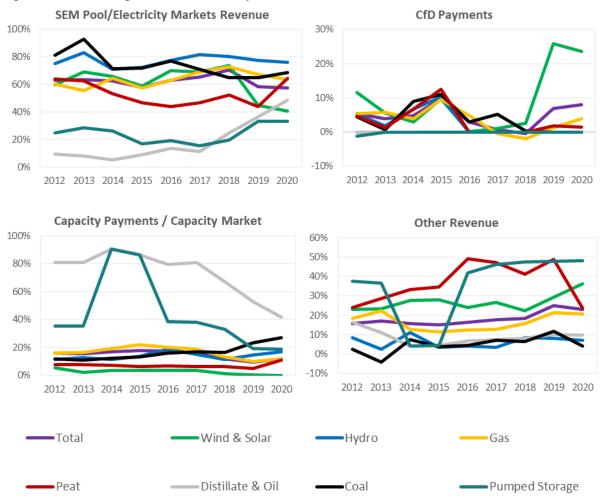


Figure 3.3.3: Sources of revenue as % of total by Fuel Source in FY2020

As shown in Figure 3.3.3 the main sources of revenue varied significantly across different fuel sources in FY2020, as follows:

- Wind & Solar, Hydro, Gas, Coal, and Peat generators earned the majority of their revenue through Electricity Markets.
- **Pumped Storage** generation earned most of their revenue from the 'Other Revenue' stream (which incorporates flexibility services).
- **Distillate & Oil** generators earned the largest share of their revenue through the Capacity Remuneration Mechanism.

Figure 3.3.4 provides a percentage breakdown of generator revenue by Fuel Source between FY2012 and FY2020. The relative contribution of each revenue stream can substantially vary in importance over time. The share of revenue arising from the Electricity Markets has remained relatively constant for **Hydro** and **Gas**, while it reached a record low over the reporting period for **Wind & Solar** in FY2020 at 40%. **Coal** slightly increased its share of revenue earned from the Electricity Markets to 69%. Revenue from CfD & Contract Payments remained at above 20% for **Wind & Solar**, having sharply increased in FY2019. Revenue from Capacity Markets did not change significantly in FY2020. The share of revenue from 'Other' sources noticeably fluctuated in FY2020 compared to previous years, with **Coal** decreasing its 'Other' revenue stream to 4% and **Wind & Solar** reaching 36% after growth since FY2018. These increases in 'Other' revenue shares for **Coal** and **Wind & Solar** reflected the decrease in revenue from Electricity Markets. For **Peat**, the share of revenue from 'Other' sources dropped to an all-time low.





Graphs illustrating the trends from 2012 to 2020 in the breakdowns of the revenues of each of the fuel categories of generation (Wind & Solar, Hydro, Gas, Coal, Peat, Distillate & Oil and Pumped Storage) are presented 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
- Depreciation & Impairment

• Non-fuel Operating Costs

• Interest & Tax

Figures 3.4.1 and 3.4.2 present categories of generator costs grouped by Fuel Source. Overall, Fuel related Operating Costs represent 43.9% of **total costs** for FY2020, down from 50% in FY2019. The decreasing share of Fuel related Operating Costs is due to this cost category falling for both **Gas** and **Peat** generation in FY2020. Non-fuel Operating Costs are the second largest contributor to total generator costs with a share of 32.9% in FY2020. Depreciation and

Impairment at 17.8% (a significant increase from FY2019 at 10%) and Interest and Tax at 5.4% account for the remainder of costs.

The relative share of cost categories differs considerably 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** generator costs are accounted for by 'Non-fuel Operating Costs'. In contrast, the largest contribution to total costs for **Gas**, **Coal**, **Peat** and **Distillate & Oil** generators is from 'Fuel related Operating Costs'.

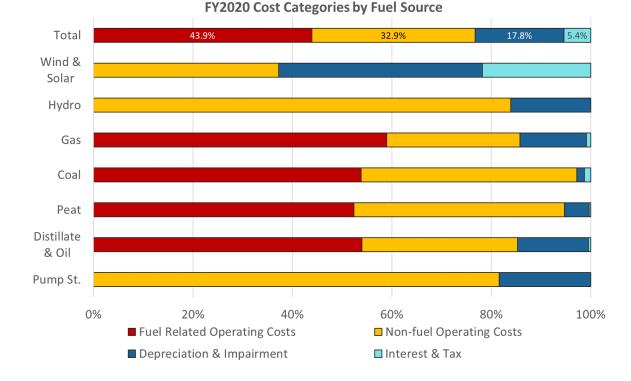
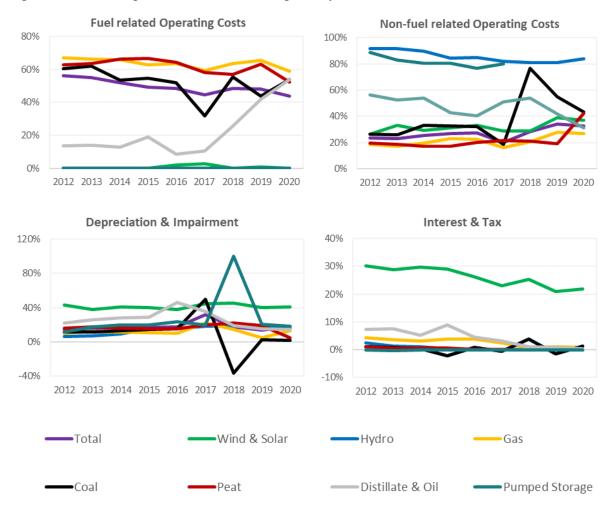


Figure 3.4.1: Source of generator costs as % of total by Fuel Source in FY2020

Figure 3.4.2 below provides a percentage breakdown of generator cost categories by Fuel Source between FY2012 and FY2020. Fuel-related Operating Costs for **Wind & Solar** and **Hydro** are near zero across the entire reporting period, while remaining around 60% of total costs for **Gas**. Non-fuel operating costs have remained relatively stable for most Fuel Sources, accounting for above 80% of **Hydro** costs and between 20%-40% for most other Fuel Sources. **Coal** has suffered the greatest fluctuations in costs across the reporting period with sharp increases and decreases for both Fuel Sources across Fuel related Operating Costs, Non-fuel related Operating Costs and Depreciation & Impairment. Depreciation & Impairment and Interest & Tax account for a large share of **Wind & Solar** costs, reflecting the high capital requirements of such renewable generation.





Graphs illustrating the trends from 2012 to 2020 in the breakdowns of costs of each of the fuel categories of generation (Wind & Solar, Hydro, Gas, Coal, Peat, Distillate & Oil and Pumped Storage) are presented in Appendix C.

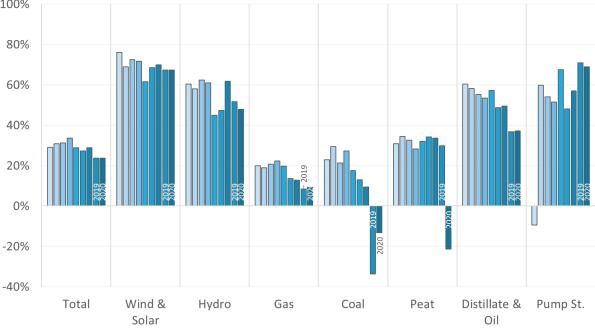
3.5. PROFITABILITY BY FUEL SOURCE

The total average gross and net margins for FY2020 were 24% (no change from FY2019) and 0.7% (6.3% decrease from FY2019), respectively. Table 3.1.1 shows how these margins varied by Fuel Source in FY2020. Figures 3.5.1 and 3.5.2 illustrate the trends in gross and net margins by Fuel Source across FY2012 - FY2020.

- Pumped Storage reported the highest margins (69% gross margin and 62% net margin) although revenue accounted 2% of total revenue across all generators. Both Pumped Storage and Hydro (48% gross margin and 38% net margin) plants benefit from low operating costs and low financing costs due to their age.
- Wind & Solar generation at 67% had the second highest gross margin in FY2020 and has experienced gross margins in excess of 67% over the last 4 years. High gross margins for wind generators are driven by low operating costs. Net margin for Wind & Solar generation is significantly lower at 13%, caused by high financing and Depreciation & Impairment costs.
- The gross margin for **Distillate & Oil** generators marginally increased in FY2020 to 37%. These plants are mostly generating electricity when demand is high, supply is scarce, and prices are high.
- Wholesale energy prices in the SEM frequently correlate to a large extent with gas prices (refer to figure 1.2.2). Gas operating costs decreased more than total revenue in FY2020, leading to a minor increase in gross margins to 9%. However, a significant increase in Depreciation & Impairment costs meant that net margins for Gas dropped to -6% in FY2020.
- **Coal** remained unprofitable in FY2020; however, the gross and net margins were less negative than in FY2019, at -13% and -17% respectively. This is a reverse of the trend over the previous years of decreasing total revenue from coal generation.
- Peat generation recorded a notable switch to negative gross (-21%) and net (-28%) margins in FY2020, due to revenue decreasing more than costs, with Non-fuel Operating Costs actually increasing in FY2020. Costs associated with the closure of two peat-fired power plants in late 2020 may have contributed to the increase in Non-fuel Operating Costs.



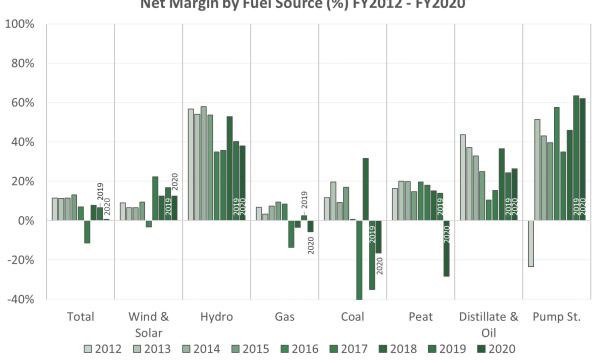
Figure 3.5.1: Gross margins by Fuel Source for FY2012 - FY2020



Note:

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.





Net Margin by Fuel Source (%) FY2012 - FY2020

Note:

The negative margin for Coal in FY2016 was -73%.

4. FY2020 FINANCIAL PERFORMANCE & 2012-2020 TRENDS BY GENERATION TYPE

4.1. FY2020 FINANCIAL PERFORMANCE TABLES BY GENERATION TYPE

This section assesses generation financial performance by Generation Type, namely: Renewables, Price-takers, Baseload, Mid-Merit and Peaking. The **Renewables** grouping includes all Wind, Solar, 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 Peaking, 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. In FY2020, no plants reached a load factor of 75% or greater and so the **Baseload** category is empty, as it was in FY2019 and FY2018.

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 FY2020.
- Table 3.1.2 provides a breakdown by Generation Type <u>per MW of installed capacity</u> in FY2020.
- Table 3.1.3 provides a breakdown by Generation Type <u>per MWh of electricity sold</u> in FY2020.

Note that the Renewables installed capacity figure for FY2020, 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.

Financial Year 2020	Total	Renewables & PS	Price Taker	Baseload	Mid Merit	Peak
Volume of Electricity Sold - MWh	31,122,395	7,783,839	1,226,654	-	21,778,173	333,729
Share of Electricity Sold (%)		25%	4%		70%	1%
Installed Capacity – MW	12,109	3,471	346	-	5,900	2,393
Share of Capacity (%)		29%	3%		49%	20%
Average Load Factor (%)		26%	40%		42%	2%
Revenue	€'000	€'000	€'000	€'000	€'000	€'000
Revenue from Electricity Markets	€1,375,160	€294,010	€63,505	-	€947,010	€70,635
Revenue from Contract/Difference Payments	€191,671	€139,111	€1,508	-	€51,052	-
Revenue from Capacity Markets	€285,590	€18,651	€10,690	-	€182,154	€74,095
Other Revenue (System Services, Support, etc)	€552,871	€242,121	€23,370	-	€272,379	€15,000
Total Revenue	€2,405,292	€693,894	€99,074	-	€1,452,594	€159,730
Operating Costs	€'000	€'000	€'000	€'000	€'000	€'000
Fuel Related Operating Costs	€1,049,324	€23	€66,551	-	€925,523	€57,227
Non-fuel Operating Costs	€785,086	€235,156	€53,754	-	€458,771	€37,405
Total Operating Costs	€1,834,411	€235,178	€120,306	-	€1,384,295	€94,632
Earnings	€'000	€'000	€'000	€'000	€'000	€'000
EBITDI	€570,881	€458,715	(€21,232)	-	€68,300	€65,099
Depreciation & Impairment	€425,511	€220,408	€6,399	-	€187,363	€11,342
EBIT	€145,370	€238,308	(€27,631)	-	(€119,063)	€53,757
Interest & Tax	€128,639	€112,890	€325	-	€15,088	€336
Net Profit	€16,731	€125,417	(€27,956)	-	(€134,150)	€53,421
Gross Margin - %	24%	66%	-21%		5%	41%
Net Margin - %	1%	18%	-28%		-9%	33%

Note: Baseload was incorporated into Mid-Merit in FY2019, but no generators were classified as Baseload in FY2020.

"€" 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

Financial Year 2020	Total	Renewables & PS	Price Taker	Baseload	Mid Merit	Peak
Installed Capacity - MW	12,109	3,471	346	-	5,900	2,393
Electricity Sold - MWh per MW installed	2,570	2,243	3,545	-	3,691	139
Revenue (€/MW)	€'000/MW	€'000/MW	€'000/MW	€'000/MW	€'000/MW	€'000/MW
Revenue from Electricity Markets / SEM Pool	€114	€85	€184	-	€161	€30
Revenue from Contract/Difference Payments	€16	€40	€4	-	€9	-
Revenue from Capacity Payments	€24	€5	€31	-	€31	€31
Other Revenue (System Services, Support, etc)	€46	€70	€68	-	€46	€6
Total Revenue	€199	€200	€286	-	€246	€67
Operating Costs (€/MW)	€'000/MW	€'000/MW	€'000/MW	€'000/MW	€'000/MW	€'000/MW
Fuel Related Operating Costs	€87	€	€192	-	€157	€24
Non-fuel Operating Costs	€65	€68	€155	-	€78	€16
Total Operating Costs	€151	€68	€348	-	€235	€40
Earnings (€/MW)	€'000/MW	€'000/MW	€'000/MW	€'000/MW	€'000/MW	€'000/MW
EBITDI (€/MW)	€47	€132	(€61)	-	€12	€27
Depreciation & Impairment	€35	€64	€18	-	€32	€5
EBIT (€/MW)	€12	€69	(€80)	-	(€20)	€22
Interest & Tax	€11	€33	€1	-	€3	€
Net Profit (€/MW)	€1	€36	(€81)	-	(€23)	€22
Gross Margin - %	24%	66%	-21%		5%	41%
Net Margin - %	1%	18%	-28%		-9%	33%

Table 4.1.2: FY2020 Financial performance table by Generation Type per MW of installed capacity

Note: Baseload was incorporated into Mid-Merit in FY2019, but no generators were classified as Baseload in FY2020.

" ${\ensuremath{\mathbb C}}$ " indicates a positive value which is in the range 0/MWh to+ 0.5/MWh

"(\in)" 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.

Financial Year 2020 per MWh of electricity sold	Total	Renewables & PS*	Price Taker	Baseload	Mid Merit	Peak
Volume of Electricity Sold - MWh	31,122,395	7,783,839	1,226,654	-	21,778,173	333,729
Revenue (€/MWh)	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh
Revenue from Electricity Markets	€44	€38	€52	-	€43	€212
Revenue from Contract/Difference Payments	€6	€18	€1	-	€2	-
Revenue from Capacity Market	€9	€2	€9	-	€8	€222
Other Revenue (System Services, Support, etc)	€18	€31	€19	-	€13	€45
Total Revenue	€77	€89	€81	-	€67	€479
Operating Costs (€/MWh)	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh
Fuel Related Operating Costs	€34	€	€54	-	€42	€171
Non-fuel Operating Costs	€25	€30	€44	-	€21	€112
Total Operating Costs	€59	€30	€98	-	€64	€284
Earnings (€/MWh)	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh	€/MWh
EBITDI	€18	€59	(€17)	-	€3	€195
Depreciation & Impairment	€14	€28	€5	-	€9	€34
EBIT	€5	€30,616	(€23)	-	(€5)	€161
Interest & Tax	€4	€15	€.3	-	€1	€1
Net Profit	€.5	€16	(€23)	-	(€6)	€160
Gross Margin - %	24%	66%	-21%		5%	41%
Net Margin - %	1%	18%	-28%		-9%	33%

Table 4.1.3: FY2020 Financial performance table by Generation Type per MWh of electricity sold

Note: *The figures in this column do not correspond exactly to the figures in Table 3.1.3 as Pumped Storage volumes of electricity sold *have* been included in this table, unlike in Table 3.1.3. This is consistent with previous reporting.

Baseload was incorporated into Mid-Merit in FY2019, but no generators were classified as Baseload in FY2020.

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

"(\in)" 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

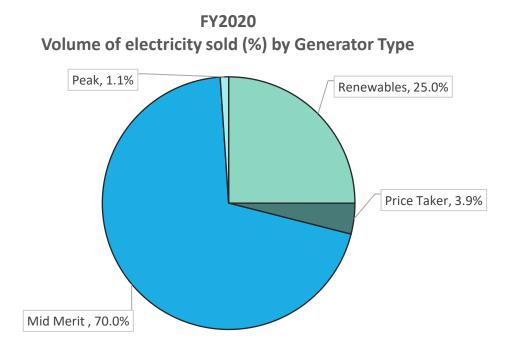
4.2. INSTALLED CAPACITIES & VOLUMES SOLD BY GENERATION TYPE

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 FY2020. **Mid-Merit** plants account for the largest share of capacities and volumes, with a 49% share of total installed capacity and a 70% share of total volumes sold in FY2020. **Renewables** accounted for 28% installed capacity and 25% of volumes sold. **Price-takers** accounted for 3% of installed capacity and accounted for 3.9% of volumes sold. **Peak** plants made up 20% of installed capacity but reported only 1.1% of volumes sold.

FY2020 Installed Capacity (MW) by Generator Type

Figure 4.2.1: Breakdown of installed capacity (MW) by Generation Type in FY2020

Figure 4.2.2: Breakdown of volumes sold (MWh) by Generation Type in FY2020



4.3. REVENUES BY GENERATION TYPE

Figure 4.3.1 presents the breakdown of FY2020 revenues by Generation Type. While **Peak** generators provided 1.1% of total generation, they accounted for 7% of total revenues in FY2020. 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.

Renewables have earned an increasing share of the total revenue in the market since FY2012, in line with an increasing share of the total volume from electricity produced by renewable sources.

Renewables and **Price Taker** generators continue to provide approximately the same share of electricity as they earn in revenue. **Mid-Merit** generators account for a smaller share of revenue than their share of volume sold, as these generators are operating most frequently, including during low demand periods in which the wholesale market prices are lower than average.

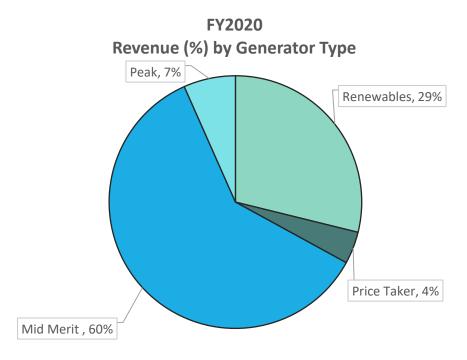


Figure 4.3.1: Breakdown of total revenues by Generation Type in FY2020

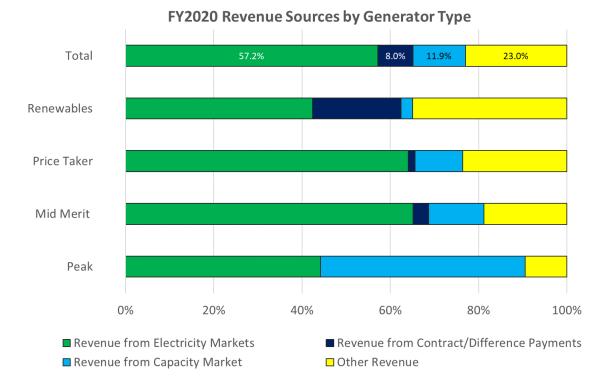
Table 4.3.1 displays the trend in revenue per MWh of electricity sold across the different Generation Types. **Peak** generators earn by far the most per MWh of electricity given they only generate electricity during peak demand when prices are high. **Mid-Merit** earn the least per MWh of electricity as they are often producing electricity during periods in which prices are low. The revenue per MWh sold decreased for all Generator Types from FY2019, apart from **Peak** generators. The total revenue per MWh for all generation-type categories also decreased from FY2019. This is consistent with the general trend of decreasing wholesale market prices in FY2020.

Revenue per MWh of electricity sold	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	2018	2019	2020
Renewables	€92	€95	€96	€80	€82	€84	€95	€90	€89
Price Taker	€101	€105	€106	€108	€97	€105	€124	€124	€81
Baseload	€78	€72	€64	€62	€45	€47			
Mid-Merit	€86	€83	€85	€76	€70	€75	€81	€72	€67
Peak	€595	€654	€652	€757	€772	€2,274	€594	€390	€479
Total	€100	€103	€98	€86	€70	€77	€92	€84	€77

Table 4.3.1: Revenue per MWh of electricity sold by Generation Type from FY2012 - 2020

Figure 4.3.2 shows the breakdown of total revenue by Generation Type in FY2020. **Peaking** plants received most of their revenue from the Capacity Market while **Mid-Merit** plants earned most of their revenue from Electricity Markets. **Renewable** generators earned a large

proportion of their revenue from CfDs & Contract Payments as well as from other revenue sources, largely reflecting support mechanisms for renewables. **Price Taker** plants received over 60% of their revenue from Electricity Markets and also a large proportion from 'Other' revenue sources.



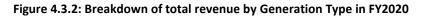
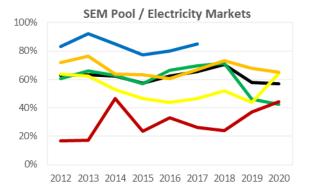


Figure 4.3.3 shows the percentage breakdown of generator revenue by Generation Type between FY2012 and FY2020. Total Electricity Markets revenue has remained relatively stable throughout the reporting years, although **Renewables** have seen a decreasing share of their revenue from this source, in part due to decreasing wholesale market prices. The share of revenue earned by generators from CfDs & Contracts is volatile but generally decreased in FY2016, FY2017 and FY2018 as electricity prices in the SEM picked up and increased again in FY2019 as electricity prices decreased (as discussed in the context of Wind & Solar in section 3.3). In FY2020, CfDs & Contract Payments again increased its share of total revenue and remained an important revenue stream for many generator types, especially for **Renewables** at 20%. The proportion of revenue from the Capacity Market slightly increased for most Generation Types (apart from **Peaking** plants) in FY2020. In terms of 'Other' revenue sources, **Renewables** increased their share of revenue from this category to 35%, primarily because of support schemes, while all other Generation Types reduced their share.



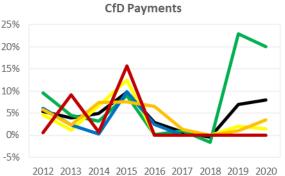
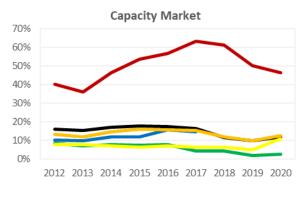
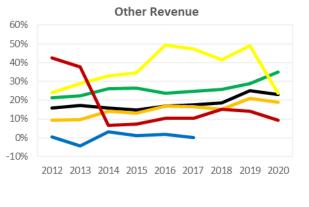


Figure 4.3.3: Percentage breakdown of revenue by Generation Type from FY2012 to FY2020





Peak Price Taker

Note:

No units have been designated as Baseload for FY2018, FY2019 or FY2020.

The trends from 2012 to 2020 in the breakdowns of the revenues of each of the Generation Type categories (Renewables, Price Taker, Baseload, Mid-Merit and Peak) are shown in Appendix D.

–Renewables –––Baseload –––Mid Merit –

4.4. COSTS BY GENERATION TYPE

•Total 💻

Figures 4.4.1 and 4.4.2 provide a breakdown of costs by Generation Type for FY2020. Each Generation Type has a very different make-up of costs. **Renewable** generators have near-zero fuel related operating costs. In contrast the majority of **Peak**, **Mid-Merit**, 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.

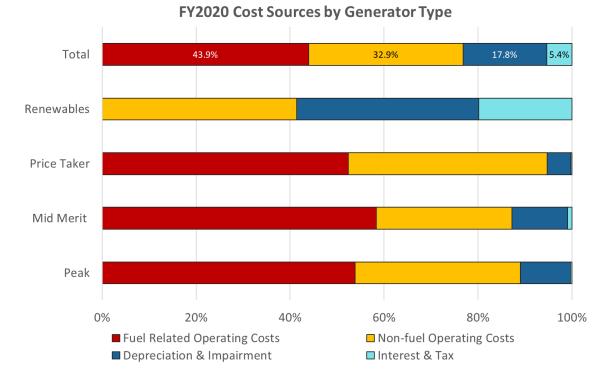
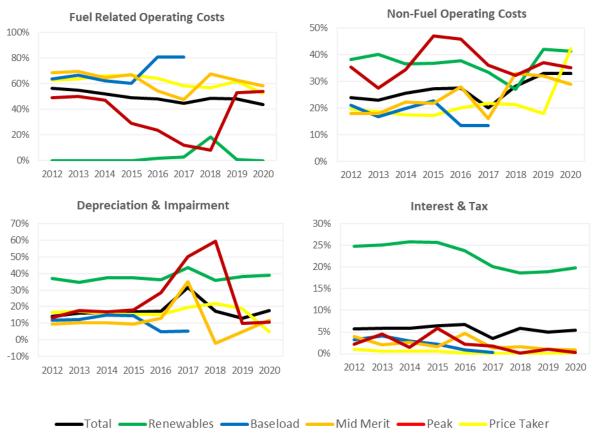


Figure 4.4.1 Breakdown of generator costs as % of total costs by Generation Type in FY2020

Figure 4.4.2 shows the percentage breakdown of generator costs by Generation Type between FY2012 and FY2020. The share of Fuel related Operating Costs for **Mid-Merit, Peak** and **Price Takers** remained about 60% in FY2020. There was a significant increase in the share of Non-fuel related Operating Costs for **Price Takers**, which may be linked to the closure of 2 of the peat plants at the end of 2020.

Mid-Merit and **Peak** plants have shown volatility in the share of costs attributed both to Fuel related Operating Costs and Depreciation & Impairment. **Renewables** and **Price Takers** had the highest share from Non-fuel related Operating Costs in FY2020.

The share of costs from Depreciation & Impairment in **Mid-Merit** generators continued to increase from its lowest point over the reporting period in FY2018 to 12% in FY2020. This is in line with the share of costs from this source pre-FY2017. **Peak** plants reported a peak in Depreciation and Impairment costs in FY2018 with a steep decline in FY2019 to a level which remained stable into FY2020. For Depreciation & Impairment and Interest & Tax costs, **Renewables** have the highest share as these generators have high capital costs.





Notes:

No units have been designated as Baseload for FY2018, FY2019, or FY2020.

The trends from 2012 to 2020 in the breakdowns of the costs of each of the Generation Type categories (Renewables, Price Taker, Baseload, Mid-Merit and Peak) are shown in Appendix D.

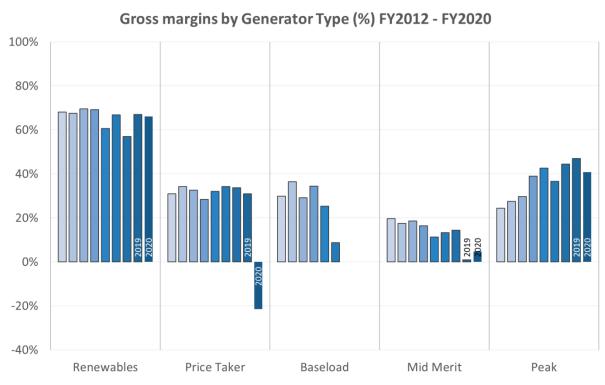
4.5. PROFITABILITY BY GENERATION TYPE

Figures 4.5.1 and 4.5.2 present gross and net margins for different Generation Types in FY2020. **Renewables** had the highest gross profit margins across all generation types, as a consequence of their low operating costs. **Renewables** had the second highest net margins in FY2020 at 18%, down from 21% in FY2019.

Peak generators have consistently experienced the second highest gross profits in recent years, at 41% in FY2020, but also a high degree of volatility in net profit (per MWh) on account of changing levels of reported impairment. This is reflected in the fluctuations in **Peak** net margins from net losses in FY2017 and FY2018 to net profits in FY2019 and FY2020 (33%). 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.

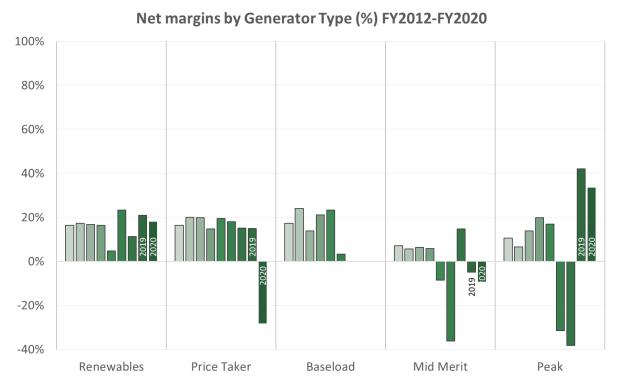
Mid-Merit plants have the tightest gross margins at 5% in FY2020 (excluding the large negative margins of **Price-takers**). **Mid-merit** plants also show a high degree of volatility in net margins. This is demonstrated in net losses in FY2016 and FY2017, net profits in FY2018 and a return to net losses in FY2019 and FY2020 (-9%). 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.

In FY2020, **Price-takers** saw a notable drop in gross margins to -21% and an even larger fall in net margins to -28%, as their revenues fell by more than their costs, and with Non-fuel Operating Costs increasing.









5. CONCLUSION

The context for the financial reporting year FY2020 was the lowest wholesale electricity market prices over the FY2012-FY2020 reporting period (an average of ≤ 38 /MWh in 2020), driven by falling gas prices in the first half of the year. Total volumes of electricity sold were also 5% lower than in FY2019. As a consequence, total revenue decreased in FY2020 compared to FY2019. However, Fuel and Non-fuel related Operating Costs fell by a comparable percentage, resulting in a total gross margin of 24% in FY2020 (no change from FY2019).

Depreciation & Impairment costs rose significantly in FY2020 (from €348 million in FY2019 to €426 million in FY2020) and Interest & Tax also slightly increased (from €123 million in FY2019 to €129 million in FY2020). Net margin across all generators from 7% in FY2019 to 0.7% in FY2020 as a result of the decrease in total revenue and the increase in Depreciation & Impairment. Wind & Solar, Hydro, Distillate & Oil and Pumped Storage retained positive net margins, although net margins decreased for all generators apart from Distillate & Oil. Gas, Peat, and Coal were reported negative net margins in FY2020. From a Generation Type perspective, Renewables and Peak generators reported positive net margins but Mid-merit plants and Price Takers had negative net margins.

APPENDIX A FINANCIAL TERMS

Appendix A provides brief explanations of financial terms and abbreviations that 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 depreciation & impairment.

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, impairment, interest, and tax.

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

APPENDIX B REPORTING TEMPLATE FY2020

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 <u>SEM/19/036</u> "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 FY2020 data collection

1 Name 2 Comp 3 Name 4 Name 5 Techn 6 EIC V 7 Capa 8 Finan 9 End-N 10 Day 11 12	er to Appendix A of SEM19-036 for explanation of fields) a of generation asset owner any making this submission a of Generation Site a of Generation Unit nology Class V Code of the generation Unit city (MW) of the Generation Unit Currency inue	FY2020 December 2020 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(as appropriate)
3 Name 4 Name 5 Techr 6 EIC V 7 Capa 8 Finan 9 End-N 10 Day 10 Day 11 12	e of Generation Site e of Generation Unit nology Class V Code of the generation Unit city (MW) of the Generation Unit city (MW) of the Generation Unit city (MW) of the Generation Unit city Year Wonth of Generator's financial year-end Total Volume of Electricity Sold , consisting of: r Ahead - MWh a Day - MWh ancing Market - MWh Currency	December 2020 0 0 0 0 0	
4 Name 5 Techr 6 EIC V 7 Capa 8 Finan 9 End-N 10 Day Intri Bak 11 12	a of Generation Unit nology Class V Code of the generation Unit city (MW) of the Generation Unit cial Year Month of Generator's financial year-end V Chead - MWh a Day - MWh ancing Market - MWh Currency	December 2020 0 0 0 0 0	
6 EIC V 7 Capa 8 Finar 9 End-t 10 Day Intra Bala 11 12 Reve	V Code of the generation Unit city (MW) of the Generation Unit cital Year Wonth of Generator's financial year-end Total Volume of Electricity Sold , consisting of: A Ahead - MWh a Day - MWh ancing Market - MWh Currency	December 2020 0 0 0 0 0	
7 Capa 8 Finan 9 End-1 10 Day 10 Day 11 12	city (MW) of the Generation Unit cial Year Month of Generator's financial year-end Total Volume of Electricity Sold , consisting of: A head - MWh a Day - MWh ancing Market - MWh Currency	December 2020 0 0 0 0 0	
8 Finan 9 End-1 10 Dey Intra Bali 11 12 Reve	Icial Year Month of Generator's financial year-end Total Volume of Electricity Sold , consisting of: A Ahead - MWh a Day - MWh ancing Market - MWh Currency	December 2020 0 0 0 0 0	
9 End-1 10 Day Intri Bali 11 12 Reve	Month of Generator's financial year-end Total Volume of Electricity Sold , consisting of: / Ahead - MWh a Day - MWh ancing Market - MWh Currency	December 2020 0 0 0 0 0	
10 Day Intri Bali 11 12 Reve	Total Volume of Electricity Sold , consisting of: / Ahead - MWh a Day - MWh ancing Market - MWh Currency	0 0 0 0	
Day Intr Intr Bali 11 12 Reve	y Ahead - MWh a Day - MWh ancing Market - MWh Currency	0 0 0	
Bak 	a Day - MWh ancing Market - MWh Currency	0 0	
11 Bala 11 12 Reve	ancing Market - MWh Currency		
12 Reve		Euro	
12 Reve			
	nue		
13 Reve		E	
	nue from Electricity Markets, consisting of:		
		€ 0	
	Energy Payments	€ 0 € 0	
15 > L 16 > l	Day Ahead ntra Day	€ 0 € 0	
17 > E	Balancing Market	€ 0	
18 Net	Constraints Payments	€ 0	
19 Reve	nue from CfDs and Contracts	€ 0	
20 Reve	nue from Capacity Payments	€ 0	
21 Reliat	bility Option Difference Charges	€ 0	
22 Total	of Other Revenue, made up of:	€ 0	
23 > F	Revenue from DS3 System Services	€ 0	
	Revenue from Ancillary Services Revenue from Support Mechanisms	€ 0 € 0	
	Other Revenue Sources	e 0	
	otal Revenue	€ 0	
28 Oper	ating Costs	€ 0 €	
29 Fue	el Related Operating Costs	€ 0	
30 Nor	n-fuel Operating Costs	€ 0	
31 To	otal Operating Costs	€ 0	
Earni	ings & Profit	E	
32 EBITI		€ 0	
	oreciation	€ 0	
	vairment	€ 0	
35 EBIT 36 Intere	est & Tax	€ 0	
	et Profit	€ 0	
38 Gros	s Margin	€ 0	
	Aargin		
		1	l
Legen			
	entry required, as applicable		
	otals - calculated s - calculated		
	e submission to the RAs, please cross check the data entrie		-

APPENDIX C REVENUE AND COST DETAIL FROM 2012-2020 BY GENERATION FUEL SOURCE

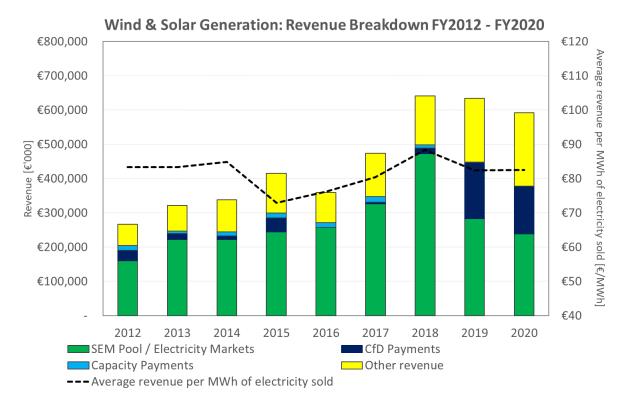
This section presents revenue and costs breakdown FY2012 to FY2020 for each generation fuel as follows:

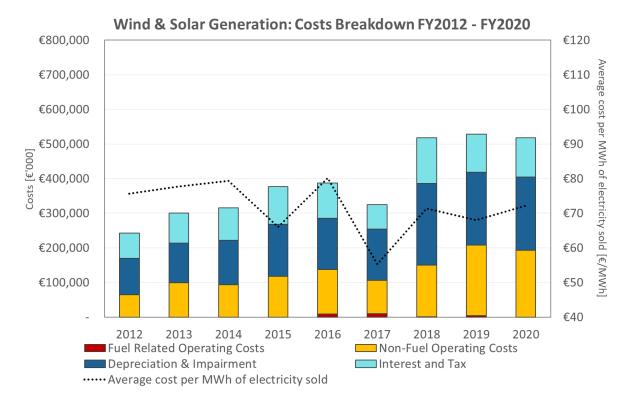
- i. Wind & Solar
- ii. Hydro
- iii. Gas
- iv. Coal
- v. Peat
- vi. Distillate & Oil
- vii. Pumped Storage

In each of the revenue breakdown charts, the average revenue per 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.

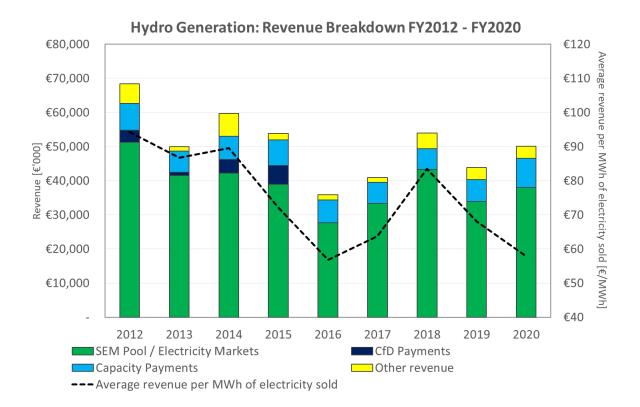
Similarly, in each cost breakdown chart, the average costs per MWh of electricity sold within that category is plotted to give an indication of whether total costs are moving in line with the volume of electricity generation.

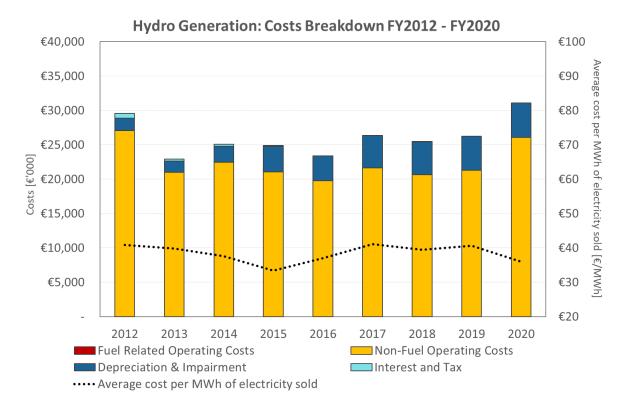
i. Wind Generation - Revenue and Costs Breakdown FY2012 to FY2020



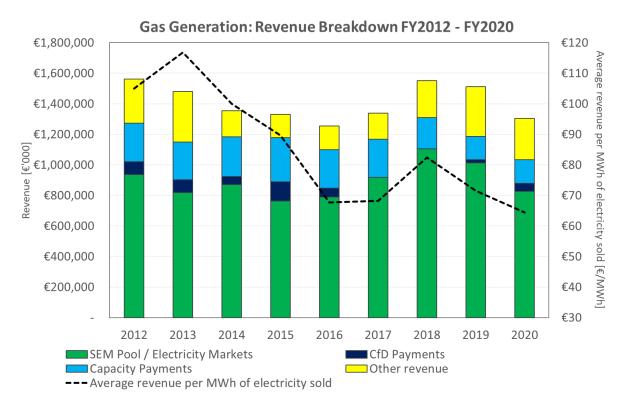


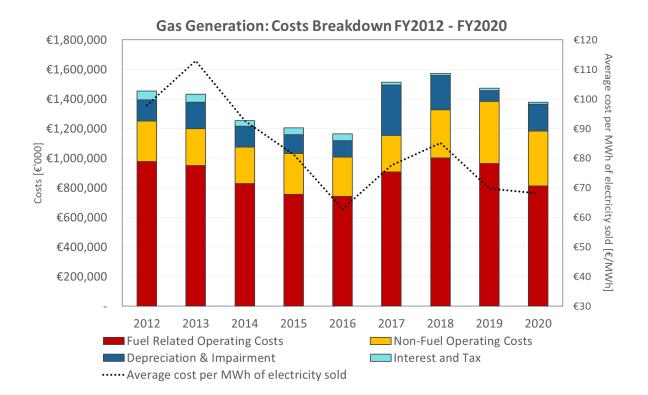
ii. Hydro Generation - Revenue and Costs Breakdown FY2012 to FY2020



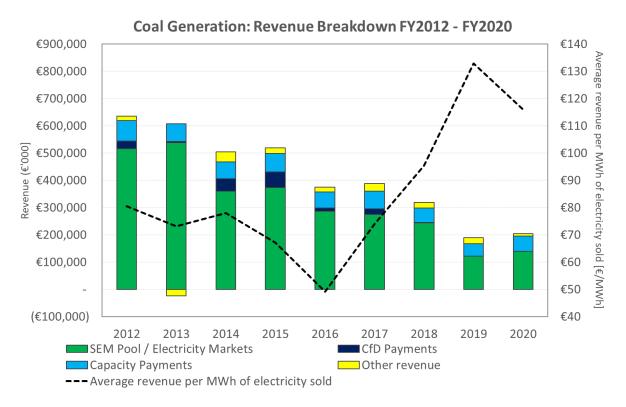


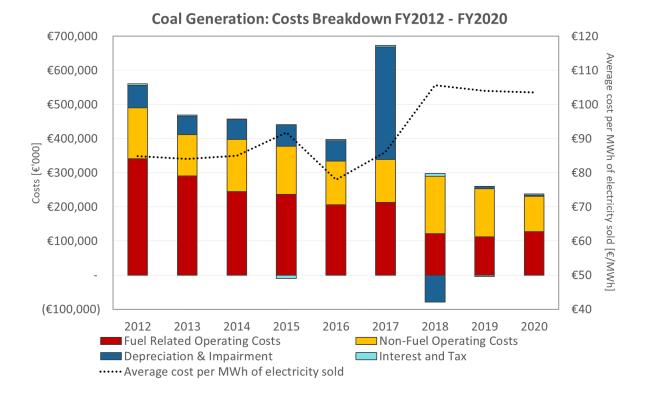
iii. Gas Generation - Revenue and Costs Breakdown FY2012 to FY2020



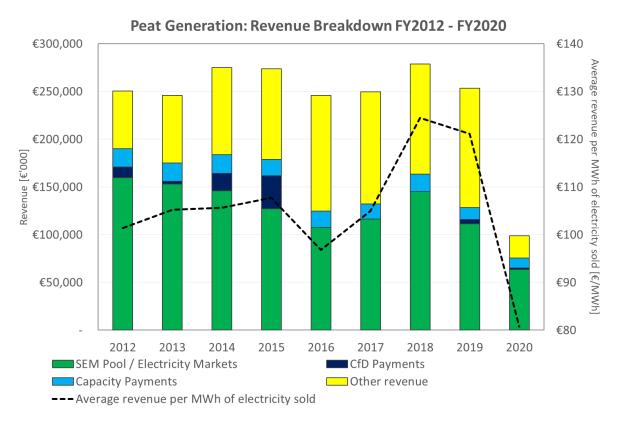


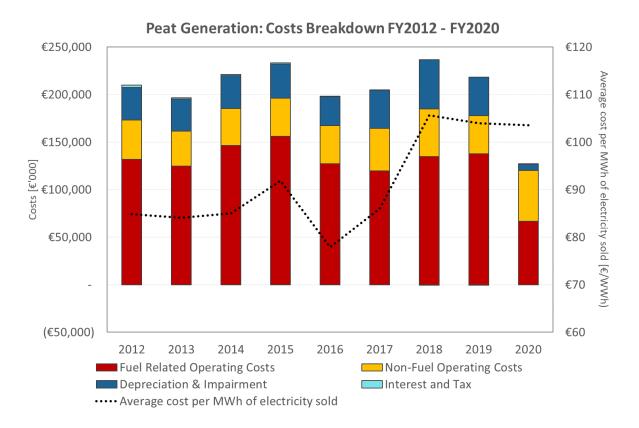
iv. Coal Generation – Revenue and Costs Breakdown FY2012 to FY2020



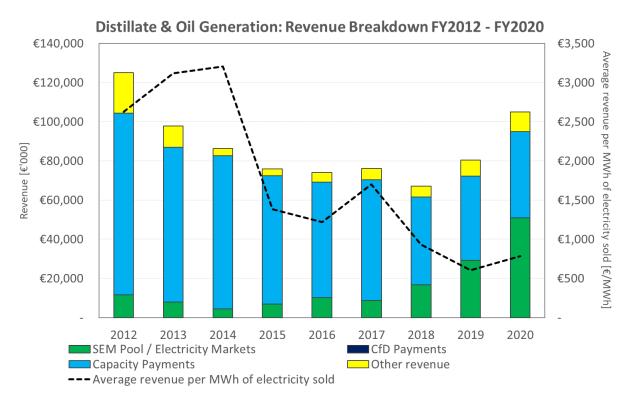


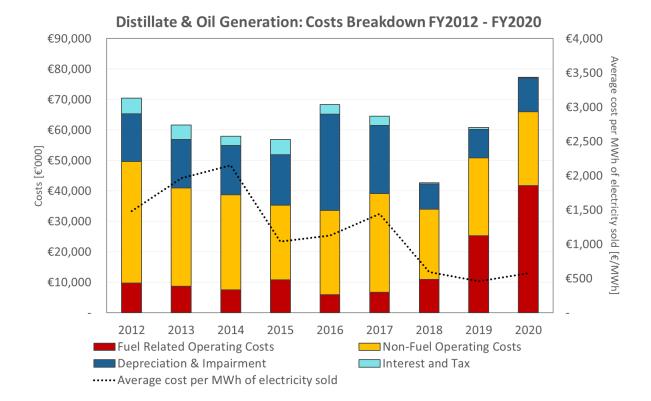
v. Peat Generation – Revenue and Costs Breakdown FY2012 to FY2020



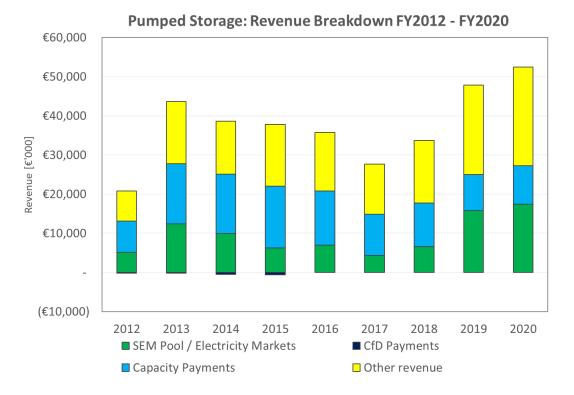


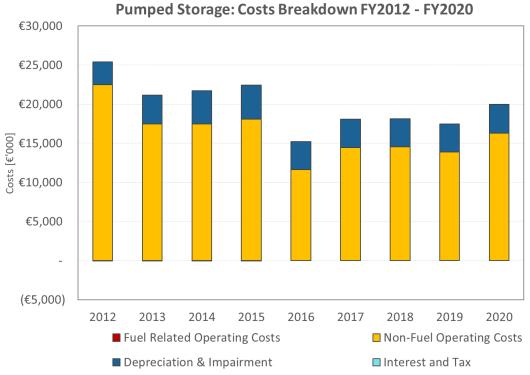
vi. Distillate & Oil Generation – Revenue and Costs Breakdown FY2012 to FY2020





vii. Pumped Storage Generation – Revenue and Costs Breakdown FY2012 to FY2020





APPENDIX D REVENUE AND COST DETAIL FROM FY2019 - FY2020 BY GENERATION TYPE

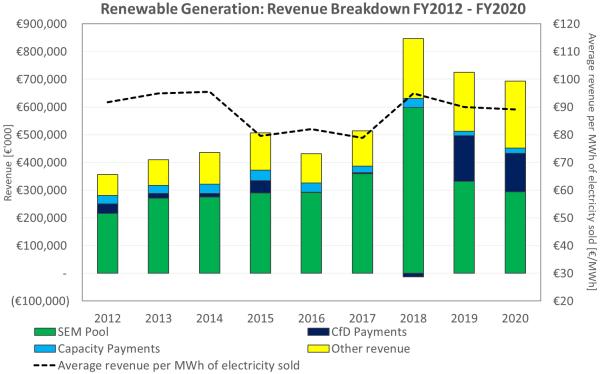
This section presents revenue and costs breakdown, from FY2012 to FY2020 for each generation type as follows:

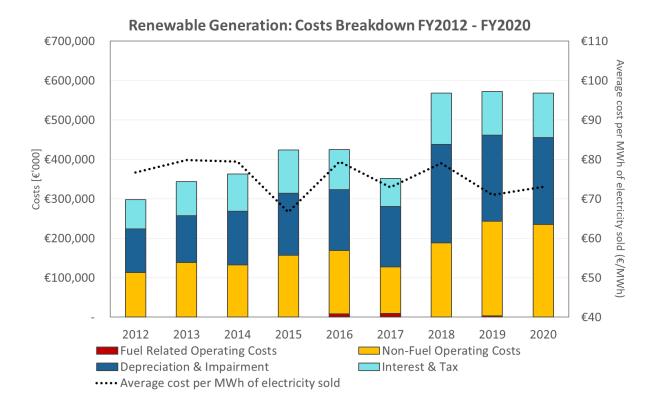
- i. Renewable generation plants
- ii. Price-taker generation plants
- iii. Baseload generation plants to 2017, at which point this category was merged with Mid-Merit. No plants met the criteria for Baseload in FY2020.
- iv. Mid-Merit generation plants (including Baseload generation plants from 2017-2019)
- v. Peak generation plants

In each of the revenue breakdown charts, the average revenue per 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.

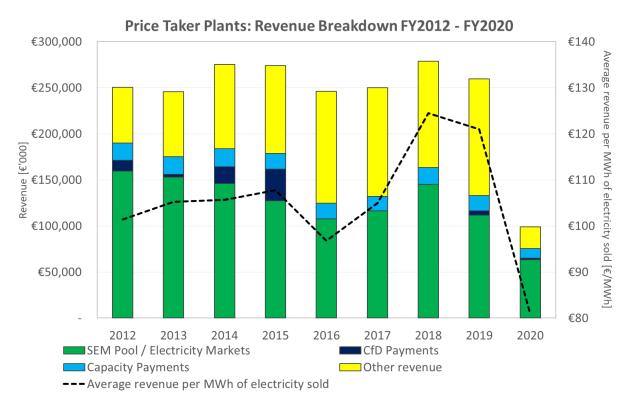
Similarly, in each cost breakdown chart, the average costs per MWh of electricity sold within that category is plotted to give an indication of whether total costs are moving in line with the volume of electricity generation.

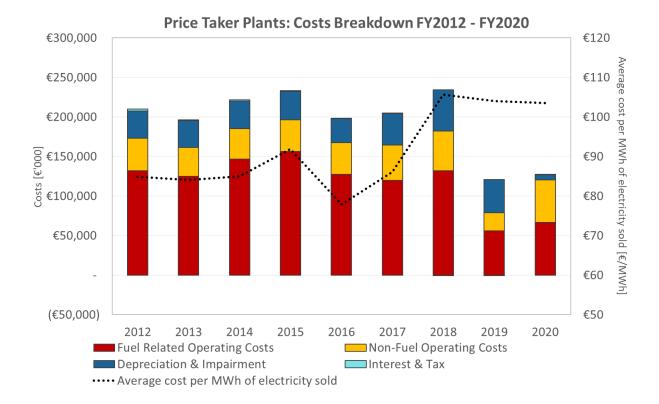
i. Renewable Generation: Revenue and Costs Breakdown FY2012 to FY2020



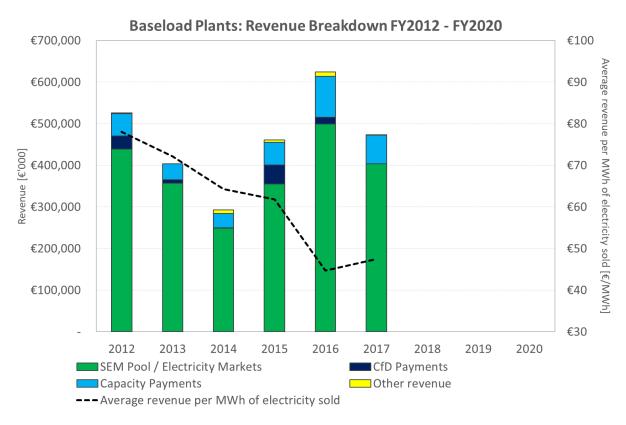


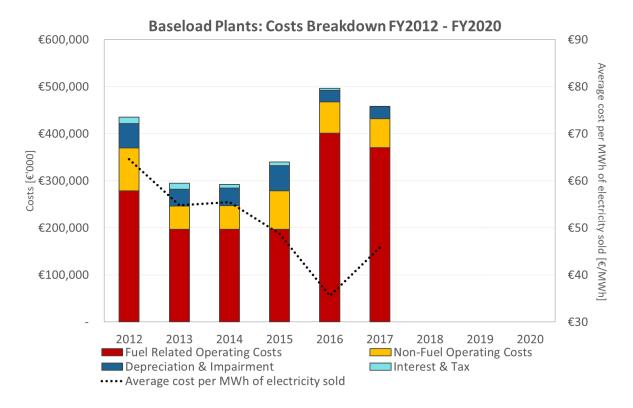
ii. Price-Taker Generation: Revenue and Costs Breakdown FY2012 to FY2020



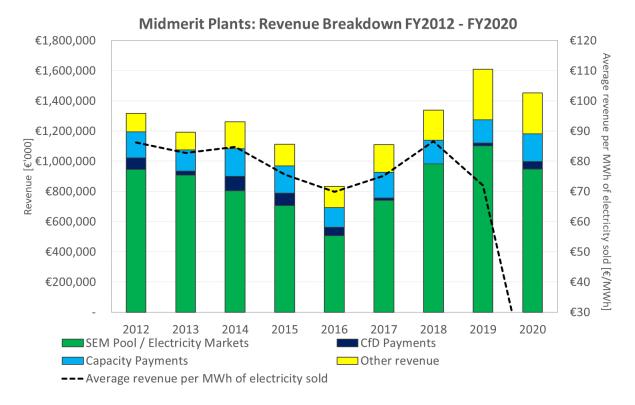


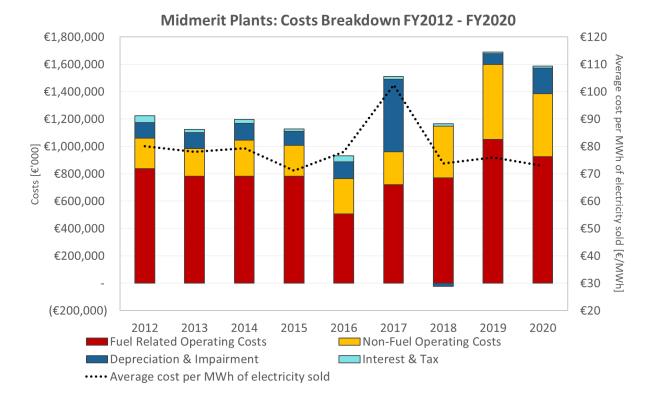
iii. Baseload Generation Plants – Revenue and Costs Breakdown FY2012 to FY2020





iv. Mid-Merit Generation Plants – Revenue and Costs Breakdown FY2012 to FY2020





v. Peak Generation Plants- Revenue and Costs Breakdown FY2012 to FY2020

