Contracting in the SEM

2007-2013

Information Paper

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Contents

1. Introduction

1.1 Background

Since 1st November 2007 the Northern Ireland Authority for Utility Regulation (Utility Regulator) and the Commission for Energy Regulation (CER), together referred to as the Regulatory Authorities or RAs, have jointly regulated the all-Island wholesale electricity market known as the Single Electricity Market (SEM) covering both Northern Ireland and the Republic of Ireland. Further details on the project can be found on the AIP website at www.allislandproject.org.

The SEM includes a centralised gross pool (or spot) market which, given its mandatory nature for generators (above 10 MW) and suppliers, is fully liquid. In this pool electricity is bought and sold through a market clearing mechanism, whereby generators bid in their Short Run Marginal Cost (SRMC) and receive the System Marginal Price (SMP) for each trading period for their scheduled market quantities, as well as other revenue streams. Suppliers purchasing energy from the pool pay the SMP for each trading period along with other costs. This is illustrated below - the SEM rules are set out in detail in the Trading and Settlement Code[1].

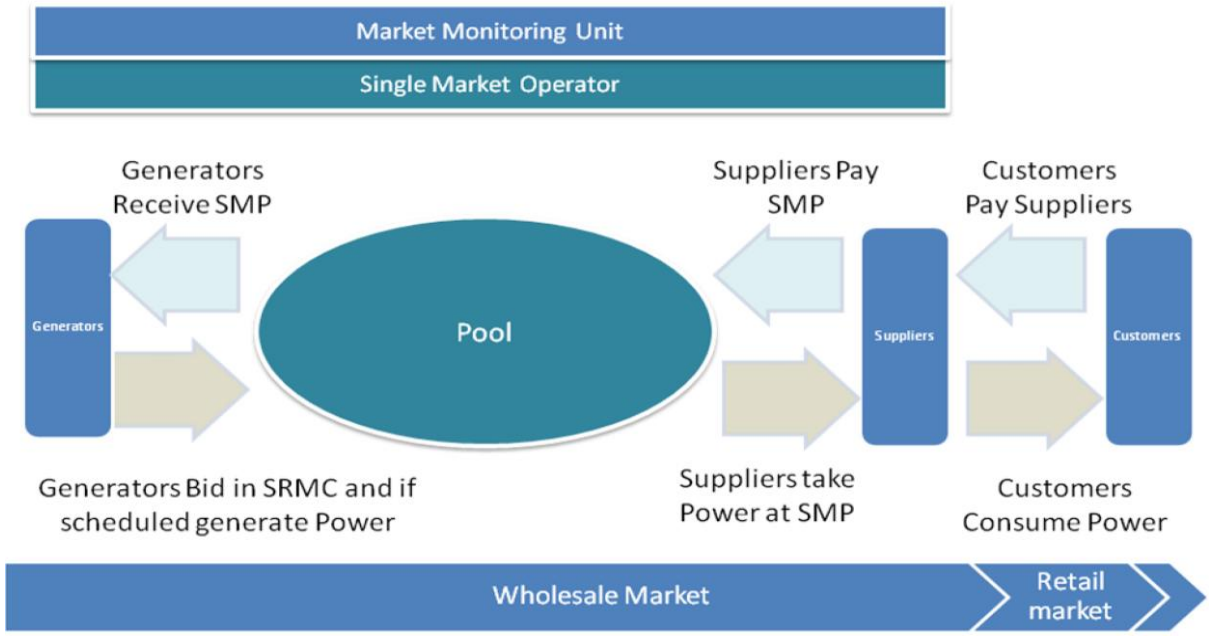

Figure 1 – All Island SEM

Contracting between suppliers and generators has been a feature of the Single Electricity Market (SEM) since it commenced in 2007. In markets such as the SEM, the spot price of electricity can be volatile, influenced by demand, availability and the type of generation as well as fuel prices. To manage risk associated with volatile spot prices in the SEM, generators and suppliers will contract for a certain amount of their volume, thereby providing price certainty. These Contracts for Differences (CfDs) products are out-side of the actual SEM pool market and are a financial product rather than a physical product. Figure 2 below provides an illustration of how CfDs operate in the SEM.

[1] Please see http://www.allislandproject.org/en/trading_and_settlement_code.aspx

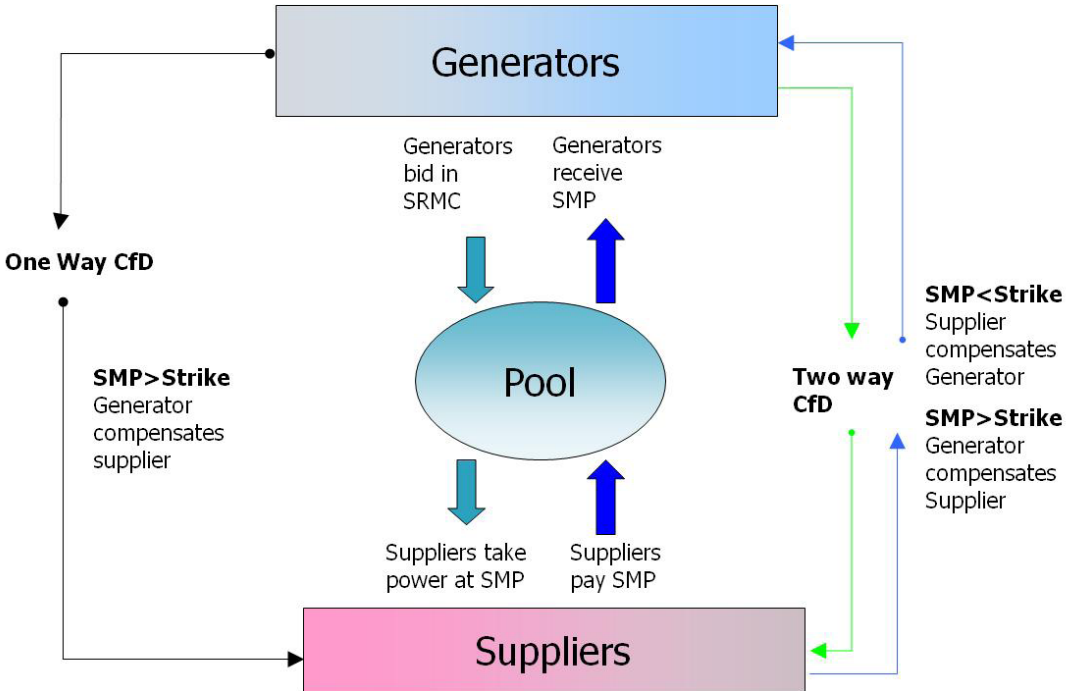

Figure 2: Illustration of two-way CfD's operating in the SEM.

1.2 Purpose of this Report

The purpose of this report is to improve the level of market data available to all industry stakeholders by providing information on contracting in the market over the past five years. The report provides details on the different contract products offered as well as the volume of contracts sold each year. In addition the report shows the price trends over the past number of years, both in terms of fuels and contracts.

There are also details on price and volumes of contracts for the current, 2012/13 contract year. However, this is a snapshot of the current position, and as more contracts are offered throughout the year average prices and total volumes will change.

2. Background to Contracts in SEM

This section provides further information on the different types of contract available and how they are used by suppliers to reduce their exposure to price volatility in the wholesale market.

CfDs allow the two parties to the contract (the generator as the seller and the supplier as the buyer) to reduce their exposure to volatile price movements in the SEM pool market. If the average SMP in the market is lower than the agreed price then the supplier compensates (pays) the generator the difference. If the average SMP in the market is higher, then the generator pays the supplier the difference. So through CfDs both parties transfer risk and achieve price certainty for the volume agreed. However both have lost the opportunity to make additional profits/losses when prices move contrary to market expectations. There are a number of different contract types currently in use as discussed below.

2.1 Directed Contracts (DCs)

Directed Contracts are CfDs which are imposed on the incumbent generators with market power in the SEM by the regulatory authorities (RAs) as part of the Market Power Mitigation Strategy. Over the course of the 2011/12 contract year, DCs account for approximately 1.66TWhs or 14% of the total contract volumes offered.

DCs are a mandated set of CfDs implemented at the direction of the RAs on entities with large shares of control over generation. As they are "directed", it is the RAs who decide upon the methodology, pricing and quantity of these DCs every year. The intent of these contracts is effectively to reduce the amount of generation that such entities will be receiving from spot based prices through the SEM. The DCs mitigate market power by reducing the incentive, for the generators who have been deemed to have market power, to submit bids into the market above competitive SRMC levels, for the purpose of influencing either the SMP or future contract prices. In the first years of the SEM both ESB and Power NI Power Procurement Business (PPB) were required to offer DCs, however since the 2009/10 contract year only ESB have been deemed to have sufficient market power to be required to offer DCs.

Traditionally in the SEM all the DCs for the following contract year were offered in a "one shot process" during auctions held over a number of weeks in the summer. However, earlier this year the SEM Committee made the decision to adopt a new "rolling quarterly approach" to the offering of DCs from October 2012. Under this new system the DC subscription windows is held every quarter, with DCs being allocated on a rolling basis up to 5 quarters ahead. This approach allows the DC quantities on offer and supplier eligibilities to be more up to date to market share forecasts and supplier Maximum Import Consumption (MIC) data than was the case previously. This new approach should therefore suit suppliers to a greater extent, allowing greater flexibility. The first round of these DC auctions was held in June with rolling DC auctions on a quarterly basis thereafter.

2.2 Non-Directed Contracts (NDCs)

Generators can offer forward Non-Directed Contracts for Difference (NDCs) in the SEM which suppliers are free to bid for. The RAs have no role in setting the price or volume of these forward contracts. Although it is possible for any generator to offer NDCs, to date, only two parties have offered them to all participants in the market, ESB and Power NI PPB. For the 2011/12 contract year, ESB NDCs accounted for approximately 5.71TWhs or 48% of the total contract volumes offered.

Because Power NI PPB NDCs are PSO backed, they are shown separately from the ESB NDCs. Power NI PPB has a number of generating unit agreements (GUAs) with different power stations in Northern Ireland and acts as an intermediary, bidding these generating units into the SEM. Power NI PPB also offers NDCs to market participants. Power NI PPB's CfD sales in 2011/12 totalled 0.90TWhs which equates to 7% of the total CfD volumes offered in the 2011/12 contract year. It should be noted that Power NI PPB is a regulated business and any net costs or benefits are recovered from or rebated to customers through the Public Service Obligation (PSO) in Northern Ireland.

NDCs are sold via the Ireland Power Auction platform, which is hosted by Tullett Prebon. Contracts are sold via one of two methods, as set out below:

1. The first method is an auction process and this is hosted by Tullett Prebon on a multi-lateral trading facility (MTF). Through this auction a generator can offer a product, set the volume, contract period and reserve price. Suppliers have a set window (2 hours) in which to bid on the product. They bid in 5MW bands at any price at or above the reserve. If the product being auctioned is oversubscribed then the bids are taken in descending order by price and the product is sold at the price where the full volume is taken up. If a product is not oversubscribed then it sells at the reserve price.

The table below shows an example of an auction in which Generator A is offering 20MW of Peak product in Q4 2012 and has set the reserve price at €100. As the auction has been oversubscribed the sale price is set at €103.50 – the clearing point for the 20MW. If the full volume is not subscribed then the product is sold at the reserve price. So for example if Supplier 3 was the only counterparty, they would pay the reserve price of €100, not the €101 they had bid in.

Instrument	Peak - 2012 Q4 - Eur	
	Offer	**Quantity**
Generator A	€100.00	20MW

Clearing Volume/Price →

Trader	**Bid**	**Quantity**
Supplier 1	€106.00	5MW
Supplier 1	€105.00	5MW
Supplier 2	€104.50	5MW
Supplier 2	€103.50	5MW
Supplier 2	€102.00	5MW
Supplier 3	€101.00	5MW

2. The second method is an Over The Counter (OTC) sale in which the generator offers a product, setting the volume, contract period and price. With an OTC sale the suppliers also have a set window (2 hours) in which to purchase the product. The difference is that if a supplier makes a bid at the price set by the generator, then they are able to purchase it instantly and the product is removed from the shelf. In this sense the product is sold on a "first-come, first-served" basis. In addition a supplier can bid below the offer price and the generator can then choose to accept this lower bid or not. It is possible that several suppliers can make bids below the offer price.

   There have been a number of auctions offering OTC products since October of last year. To date these OTC NDCs have been for short term (monthly) products offered close to the contract periods. OTC NDCs accounted for just under 20% of the total NDCs offered for the 2011/12 contract year, so while the volume is still relatively small this is a positive development for liquidity, given its interactive/flexible nature. It is the RA's understanding that, to date, ESB are the only generator to offer OTC NDCs.

2.3 PSO-related CfDs

As set out above, the NDCs offered by Power NI PPB are PSO backed and as such could be considered as PSO-related CfDs.

ESB also offer CfDs associated with the PSO levy in Ireland, which are similar to Power NI PPB's NDCs. The difference is that ESB do not include any hedging, such as fuel hedging - therefore any contract difference payments paid or received are incorporated into the Irish PSO levy. These CfDs are offered for auction on a quarterly basis by ESB with the reserve price for these contracts set by the CER. Over the course of the 2011/12 contract year ESB PSO related CfDs accounted for approximately 3.61TWhs or 30% of the total contract volumes offered.

2.4 Types of Contract

Between DCs, NDCs and PSO-related CfDs, there are four types of contract product offered by generators: Baseload, Mid Merit 1, Mid Merit 2 & Peak. The details of the period to which these CfDs apply are as follows:

- Baseload - 24 hours, 00:00 to 24:00.
- Mid Merit 1 - 07:00 to 23:00 on Business days and 80% of the contract quantity on non-business days.
- Mid-Merit 2 - 07:00 to 19:00 on weekdays.
- Peak - 17:00 to 21:00, available from October to March.

These can be offered as monthly, quarterly, seasonal or annual products by generators with the contract typically agreed from a few weeks up to 18 months in advance of the contract period.

By offering and having access to a wide a range of products over a varying time period and for different lengths of time, generators and suppliers now have a good mix of CfDs in the SEM. By offering a range of contracts, generators are able to hedge for their individual generation portfolio against movements in the SMP, while it also allows suppliers to build a portfolio of hedges that match the demand profile of their unique customer base.

For illustrative purposes Figure 3 below shows a supplier's demand profile for a single day, as well as the volume of hedges they have entered into. As can be seen the supplier has built a hedge portfolio the broadly matches its demand profile. Although there is still some exposure to the volatility of the SMP, the supplier has significantly reduced their exposure through hedging.

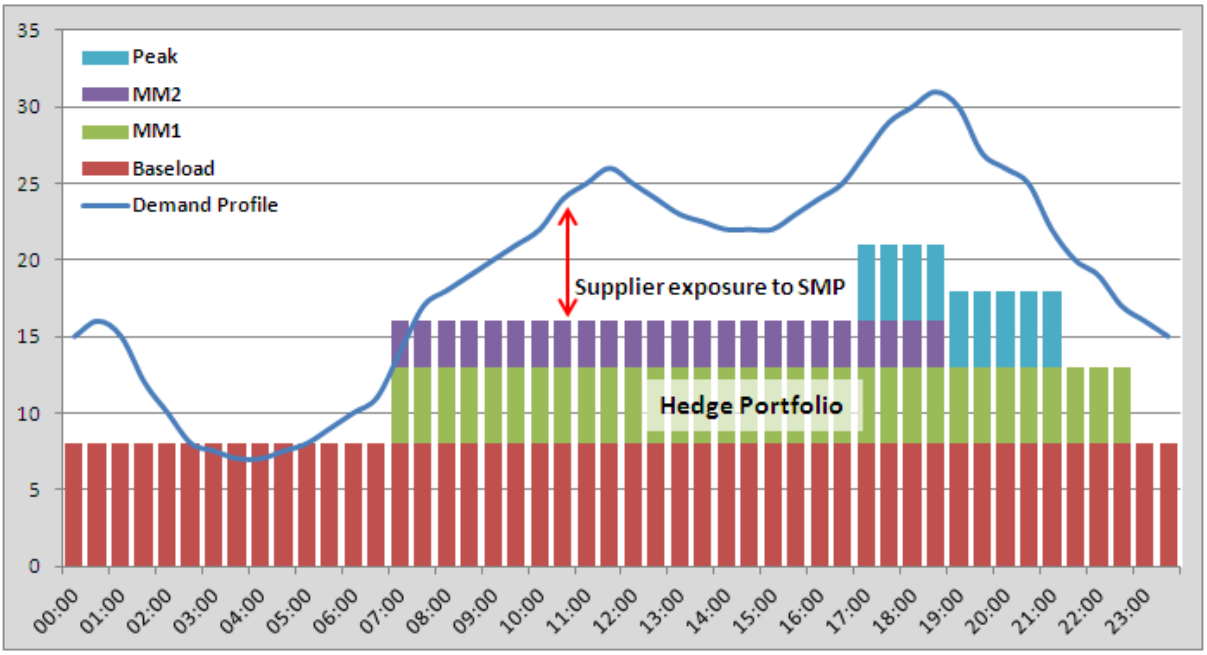

Figure 3: Illustration of supplier hedge portfolio.

3. Fuel, SMP and Contract Prices Overview

This section provides details of historic fuel prices and shows how they have impacted on SMP and contract prices. Changes in fuel prices and in particular gas prices tend to be the primary driver of SMP - and therefore CfD - movements in the SEM.

The graphs below show the movement in each of the major fuel prices since the start of the SEM up to the end of September. The graphs illustrate the volatility that exists on international fuel markets and Figures 10 & 11 in particular show how this volatility directly impacts the SMP and contracts. Figures 8 & 9 show the movement in exchange rates between the Euro and Sterling/ US Dollar. As can be seen there have been significant movements over the past five years in the exchange rates, which adds further to fuel price volatility.

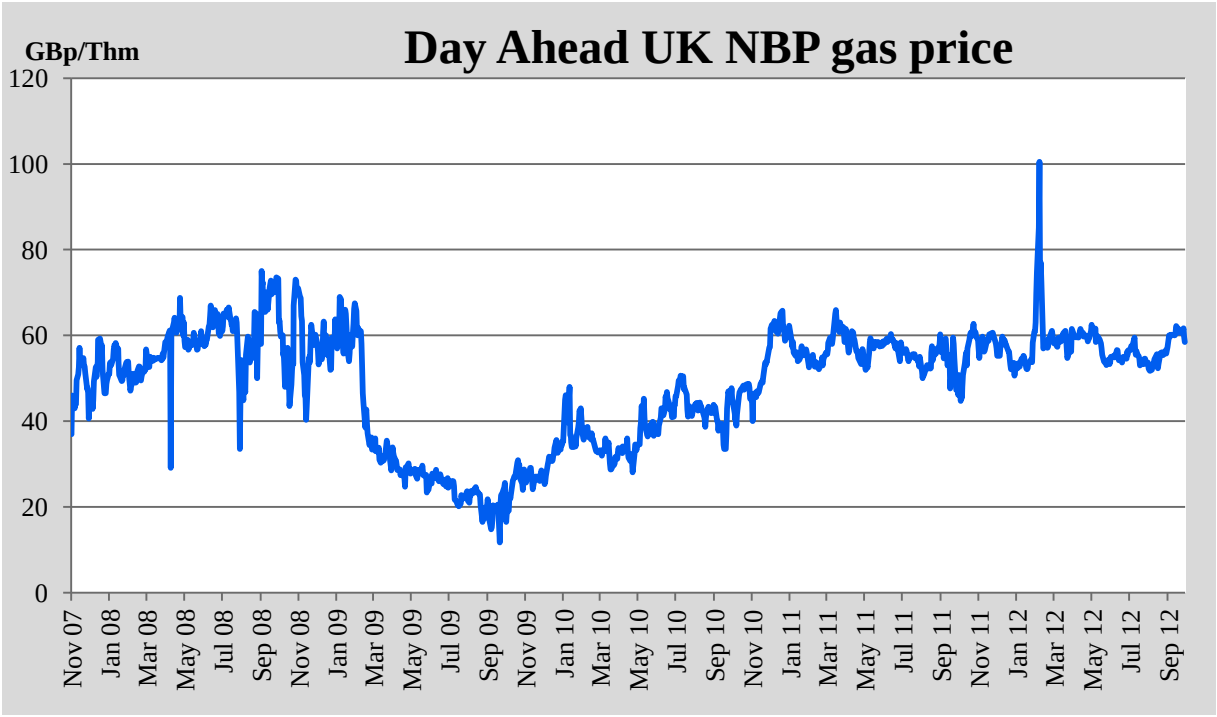

Figure 4: Day Ahead UK Gas Price, Nov'07- Sep'12 Source: Reuters

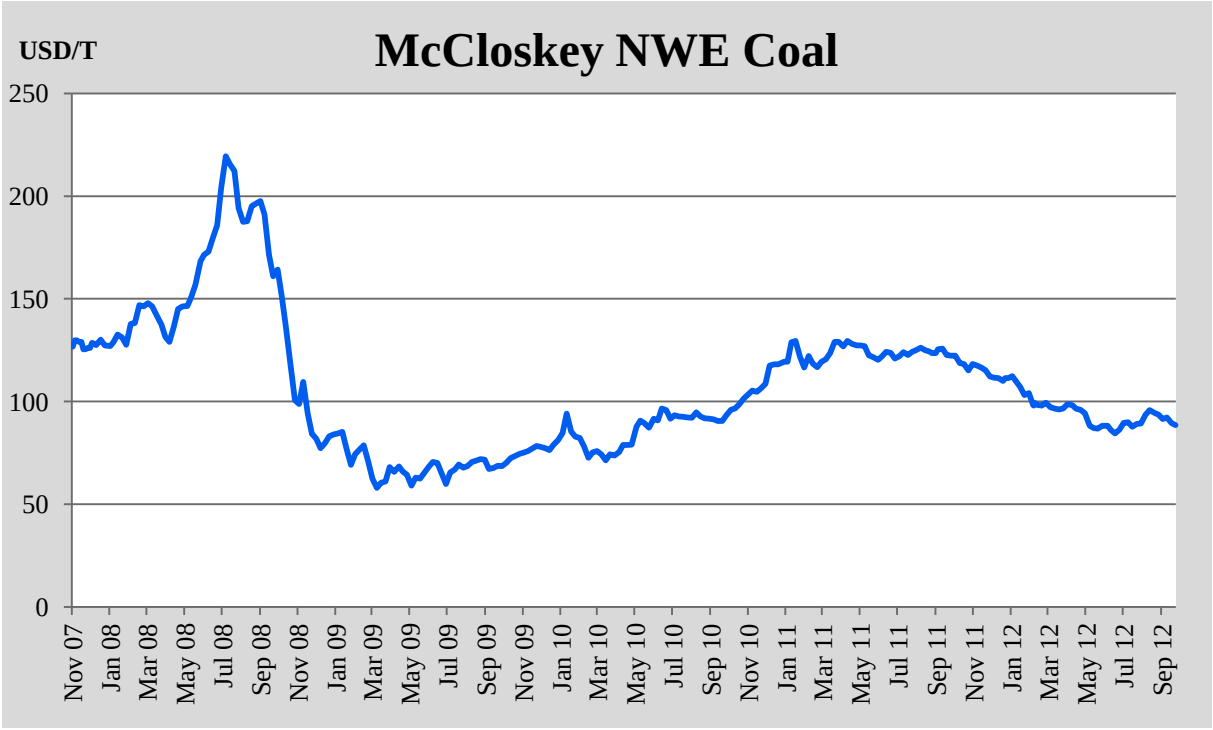

Figure 5: Coal Prices, Nov'07- Sep'12 Source: Reuters

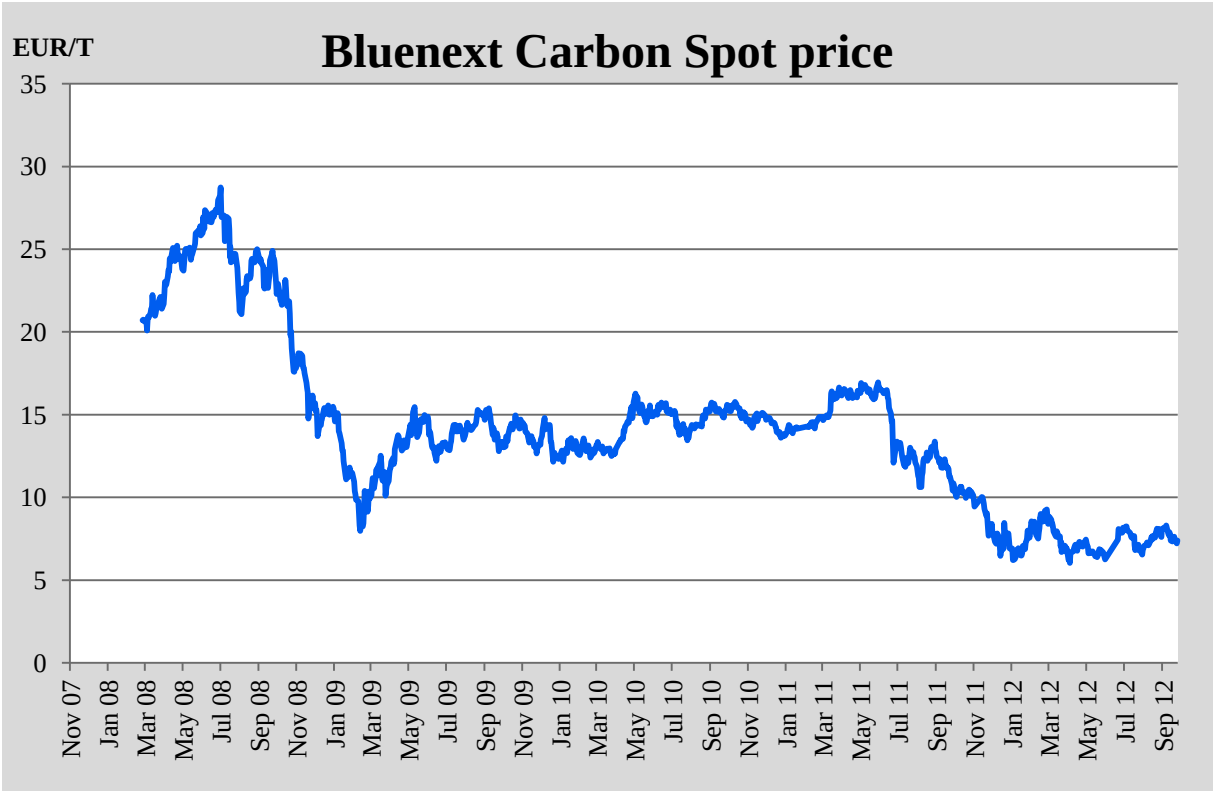

Figure 6: Carbon Prices, Jan'08- Sep'12 Source: Reuters

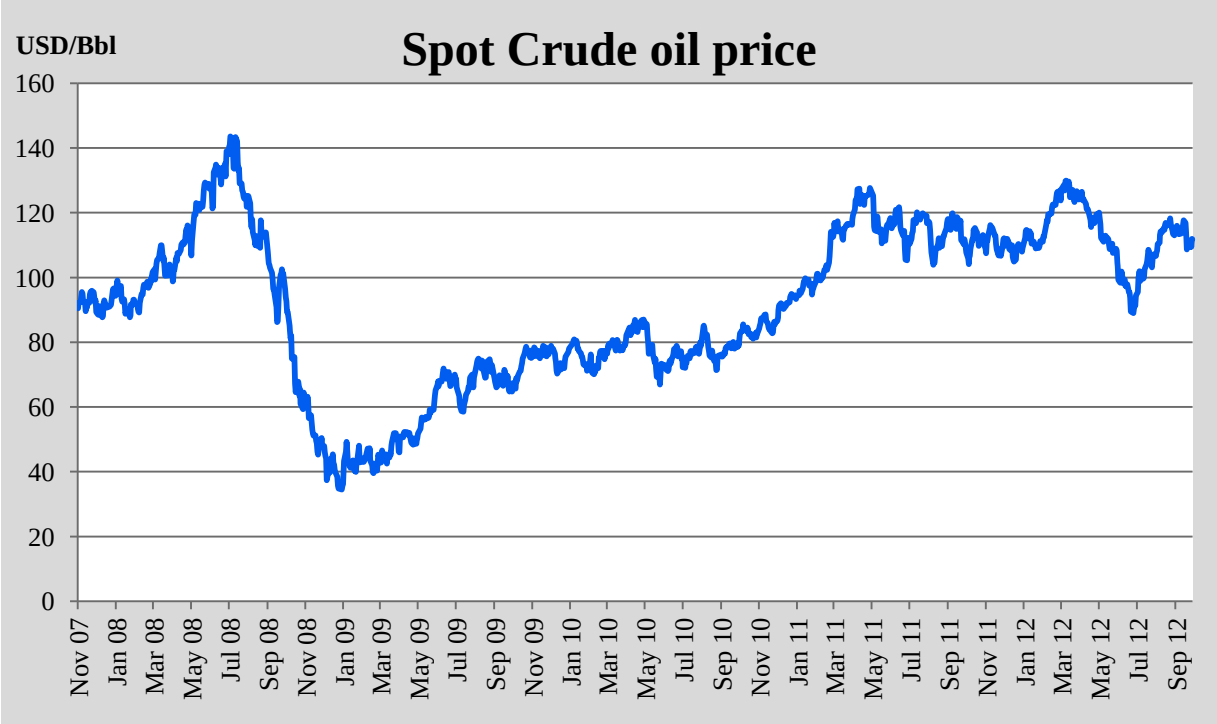

Figure 7: Sport Crude Oil Prices, Nov'07- Sep'12 Source: Reuters

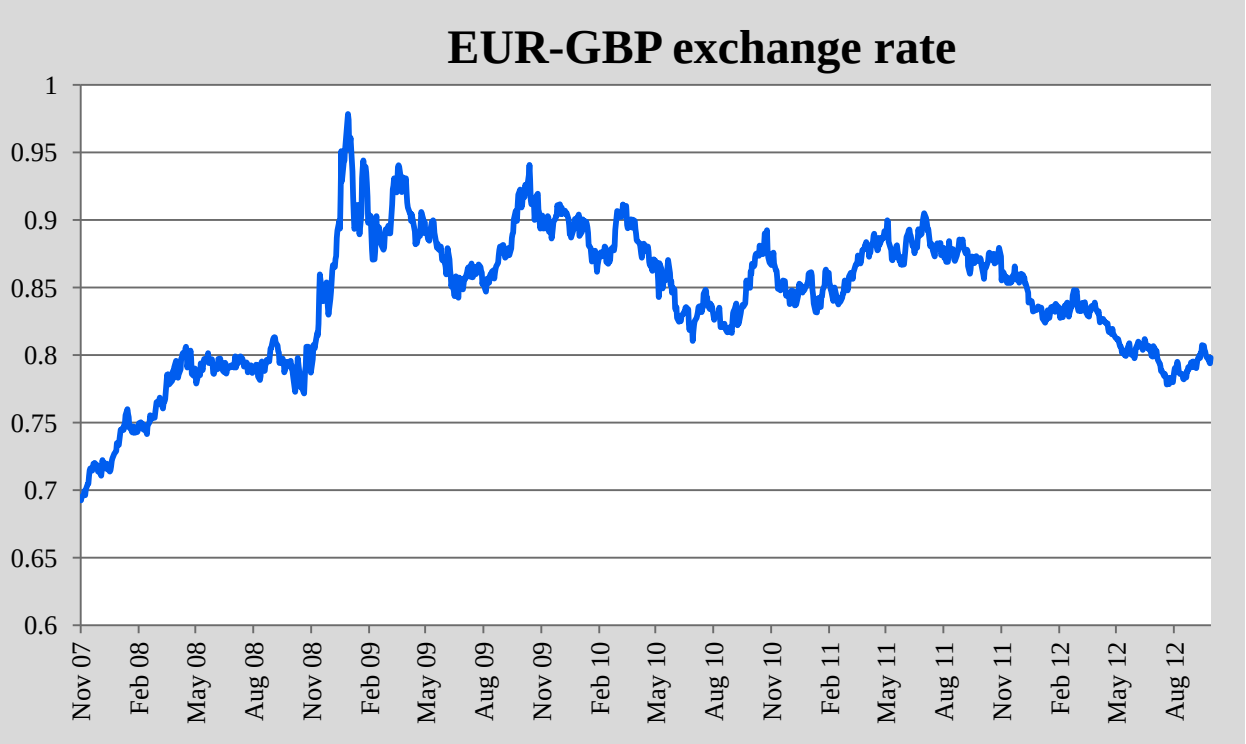

Figure 8: Euro-GBP Exchange Rate, Nov'07- Sep'12 Source: ECB

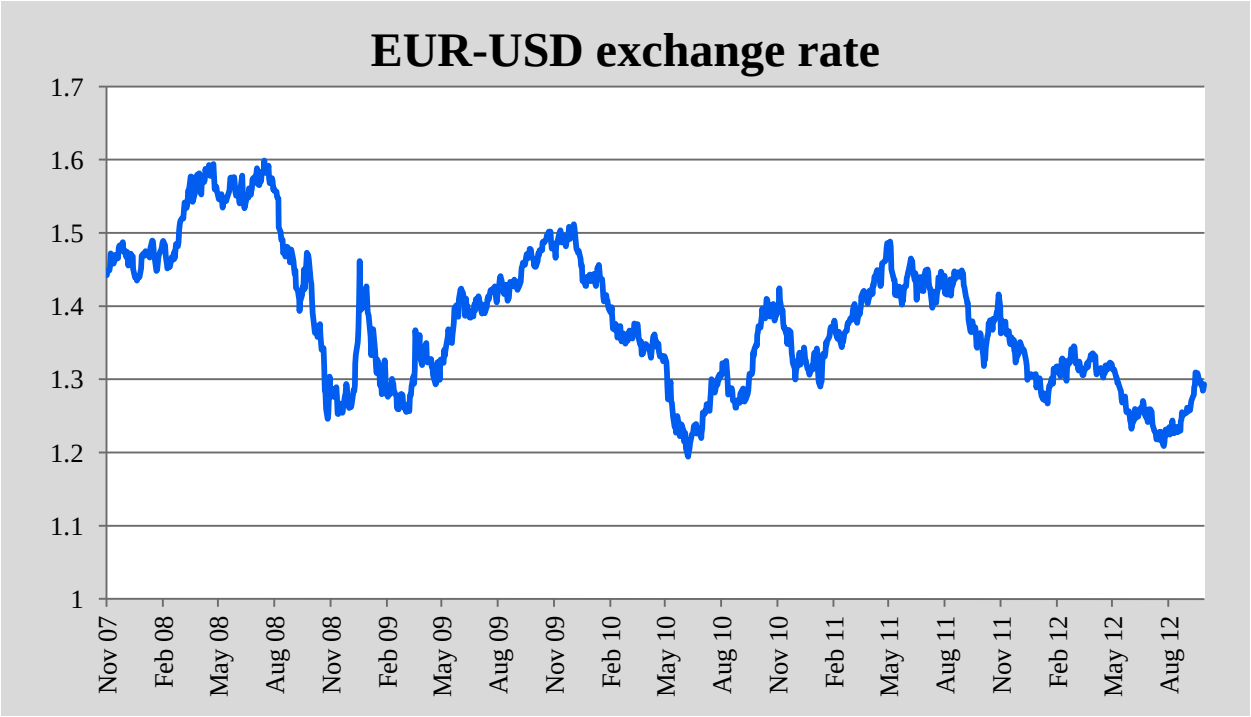

Figure 9: Euro-USD Exchange Rate, Nov'07-Sep'12 Source: ECB

Taking the average price for October 2007 as the base, Figure 10 below tracks the relative changes in all fuel prices (in Euro terms) since the start of the SEM, along with the change in the rolling monthly average SMP over that time. This graph illustrates the volatility in fuel prices that have been experienced over the last number of years. Over the first year of the SEM fuel prices increased significantly before collapsing in the second half of 2008 and early 2009. The fall in prices for most fuels bottomed out in the first half of 2009 with gas prices bottoming out some months later.

Since then the overall trend has been a steady increase in gas prices. Carbon prices have fallen significantly since Q1 2011 and although rising steadily from mid 2009 to mid 2011, coal prices have declined over the past year.

While there are other factors that influence SMP, the graph does clearly illustrate how the SMP follows the price trends of the fuel markets over time, especially the gas price, as one would expect given that gas contributes about 60% of generation output in SEM.

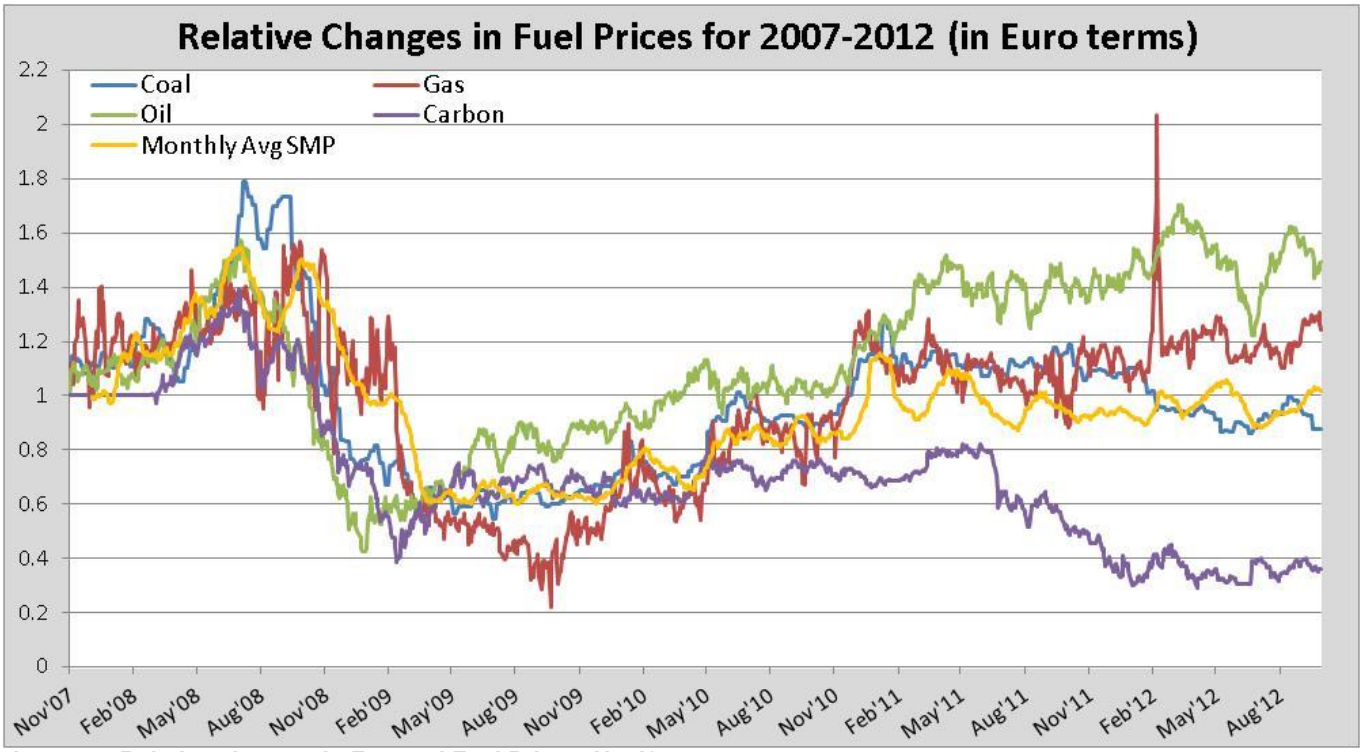

Figure 10: Relative changes in Forward Fuel Prices, Nov'07- Present

Figure 11 further illustrates the close correlation between the changes in the gas price and SMP. As can be see there is not the same correlation between the SMP and Baseload hedge prices (all products), for timing reasons. This is due to the way in which contracts were offered in the initial years of the SEM, with products for the forthcoming contract year, which runs from October to September, all being offered during the preceding summer months. This lag between the auctions and period in which the contract applies increases the potential that contract prices will differ significantly from SMP.

The initial hedging rounds for the SEM were held during June and July 2007. Subsequent to this there was a dramatic increase in fuel prices over the following 12 month period (due to fuel price rises, explained above), resulting in hedges prices being significantly lower than outturn SMP. The following year the situation was reversed with hedges being offered at the time of peak fuel prices in the summer of 2008. The collapse in fuel prices and SMP from the second half of 2008 resulted in the hedges for the 2008/09 period being well above the outturn SMP.

Since the dramatic fuel price swings in the SEM's first couple of years, there have been more stable fuel prices with a steady increase in gas prices over the last three years. There has also been a move away from offering all the hedges during a short window during the summer to more auctions being held throughout the year and there has been an increase in the volume of shorter term hedges being offered. The result of these two factors, combined with more stable fuel prices, has resulted in hedge prices moving much closer to the outturn SMP since 2009/10.

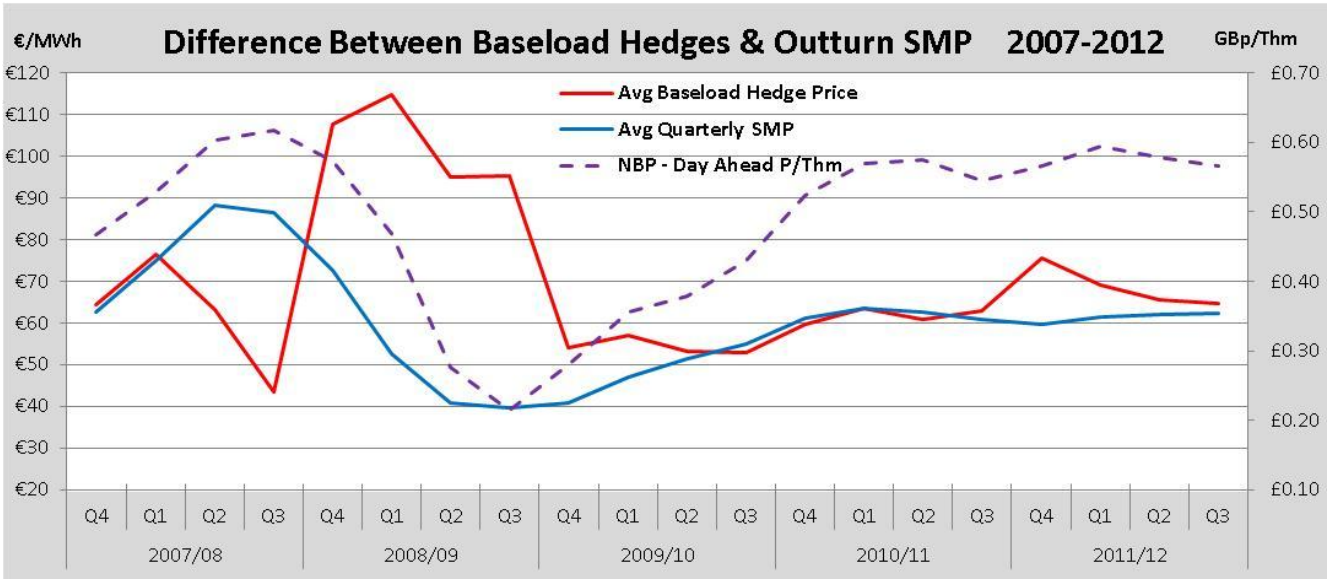

Figure 11: Baseload Hedges & Outturn SMP, 2007-2012

4. Contract Prices in Detail

This section contains a number of graphs showing in detail the contract prices since the start of the SEM. There are graphs showing the price movements for DCs, NDCs and PSO-related CfDs for both ESB and Power NI PPB, covering all four contract types (Baseload, Mid-Merit 1, Mid-Merit 2 and Peak). It is important to note that the prices shown are the simple average clearing prices and not demand weighted for the actual volume of contracts sold.

The graphs show the most up to date information on hedges sold, including products for the 2012/13 contracting period. This includes:

- The results of the front-loaded DC auctions held in late June and early July as well as the second round of quarterly DC auctions held in September;
- The ROI PSO auctions for Q4 2012 product, held in August:
- A small number of OTC CfD auctions held on the Tullet Prebon platform to date for 2012/13 products;
- ESB NDC auctions to date for the 2012/13 period and:
- Power NI PPB PSO-related NDCs for the 2012/13 period.

4.1 Product Prices

Generally the movement in contract prices follows that of fuel prices albeit with a delay/lag, resulting in 2008/09 prices generally being the highest, as illustrated in Figures 10 & 11 above.

In Table 1 below we can see the changes in average prices year-on-year for each of the four contract products (across DCs, NDCs and PSO-related CfDs). As can be seen there are significant changes between years, further reflecting what was illustrated in Figures 9 & 10 above. Although there is only a portion of the total 2012/13 contracts offered to date, the data at this early stage shows that the trend so far is for a fall in prices compared to the current year. The primary drivers of the reduction in contract prices are significant reductions in the price of coal and carbon as well as the introduction of the 500 MW East-West interconnector. More generally, the higher levels of wind generation on the system, increasing from an average of 2,092 MW in 2011/12 to 2,465 MW in 2012/13 (an 18% rise) and the return of Turlough Hill pumped storage plant are all helping to lower contract prices for the 2012/13 period.

Product	Contract	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Baseload	Avg Price	€ 62.02	€ 103.19	€ 54.43	€ 61.73	€ 68.82	€ 68.38
	Change		66.4%	-47.2%	13.4%	11.5%	-0.6%
MM1	Avg Price	€ 77.28	€ 117.00	€ 61.18	€ 68.49	€ 77.47	€ 74.09
	Change		51.4%	-47.7%	12.0%	13.1%	-4.4%
MM2	Avg Price	€ 85.45	€ 130.86	€ 61.70	€ 71.63	€ 78.99	€ 79.43
	Change		53.2%	-52.9%	16.1%	10.3%	0.5%
Peak	Avg Price	€ 110.83	€ 180.07	€ 90.05	€ 96.06	€ 117.88	€ 108.66
	Change		62.5%	-50.0%	6.7%	22.7%	-7.8%

Table 1: Change in average contract price 2007/08 – 2012/13

While Table 1 shows the movements in average prices across the different products, Figures 12 – 15 below break these out in to the different products and illustrate the movement for Baseload, Mid-Merit and peak contracts over the period.

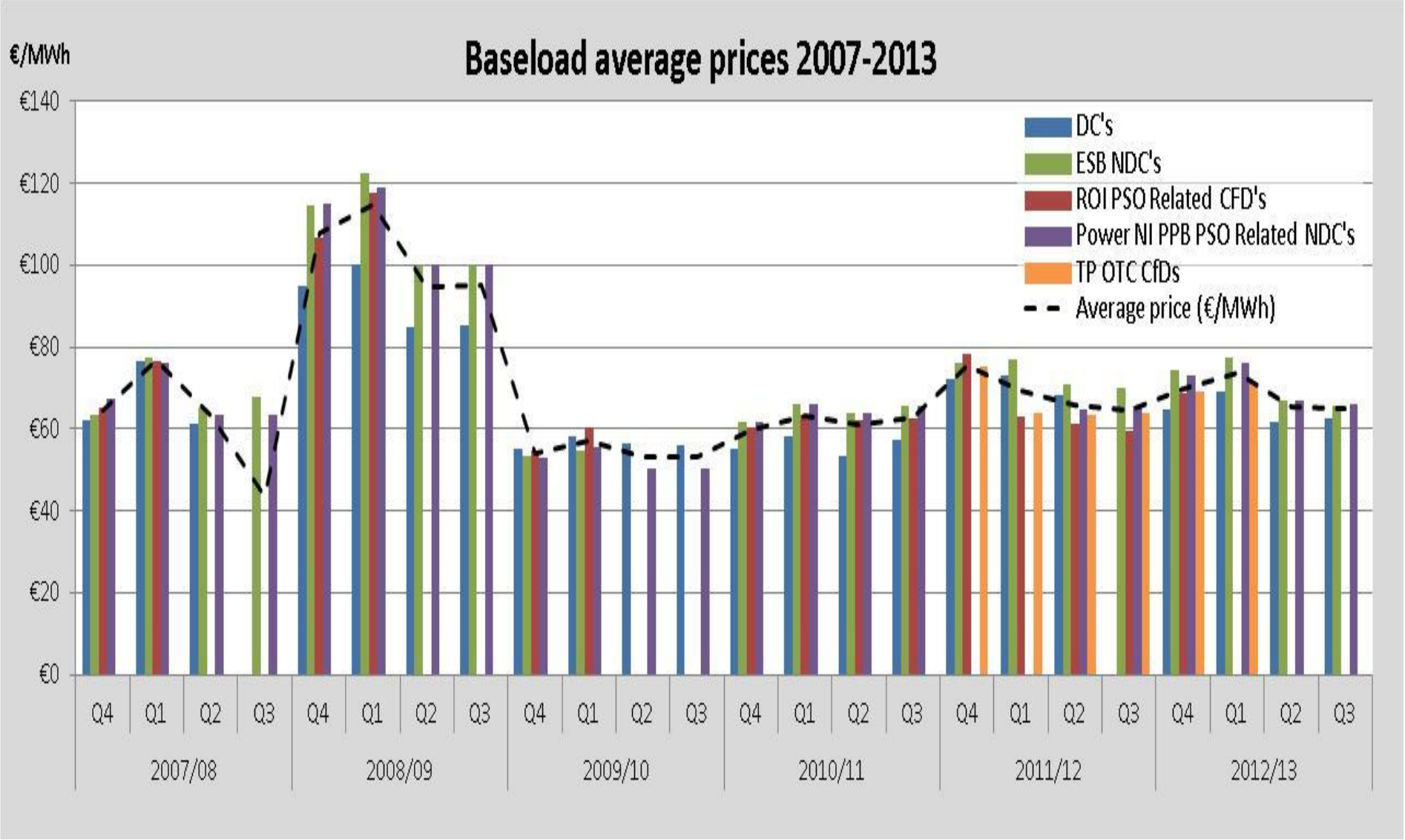

Figure 12: Baseload Average Prices, 2007-2013

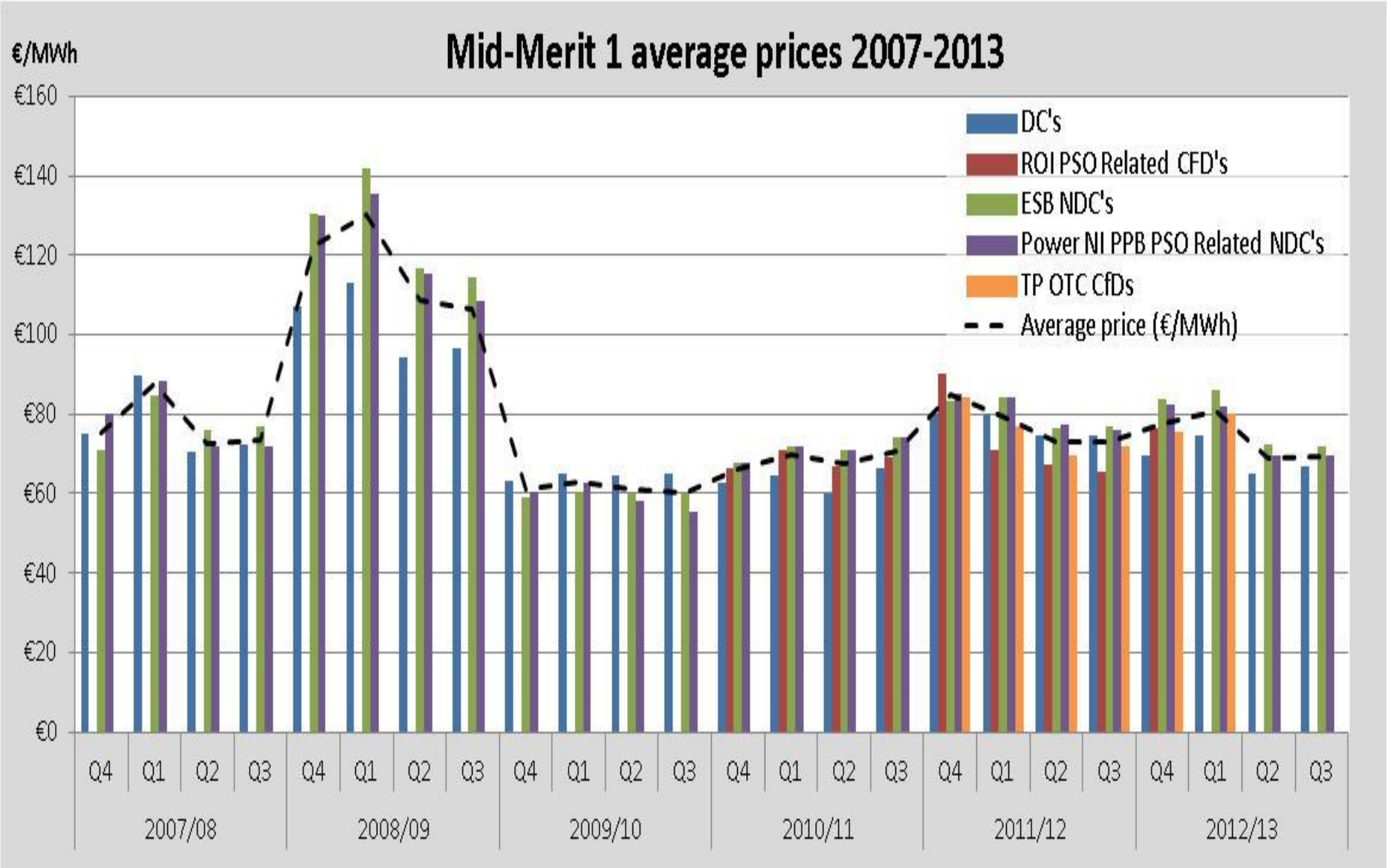

Figure 13: Mid-Merit 1 Average Prices, 2007-2013

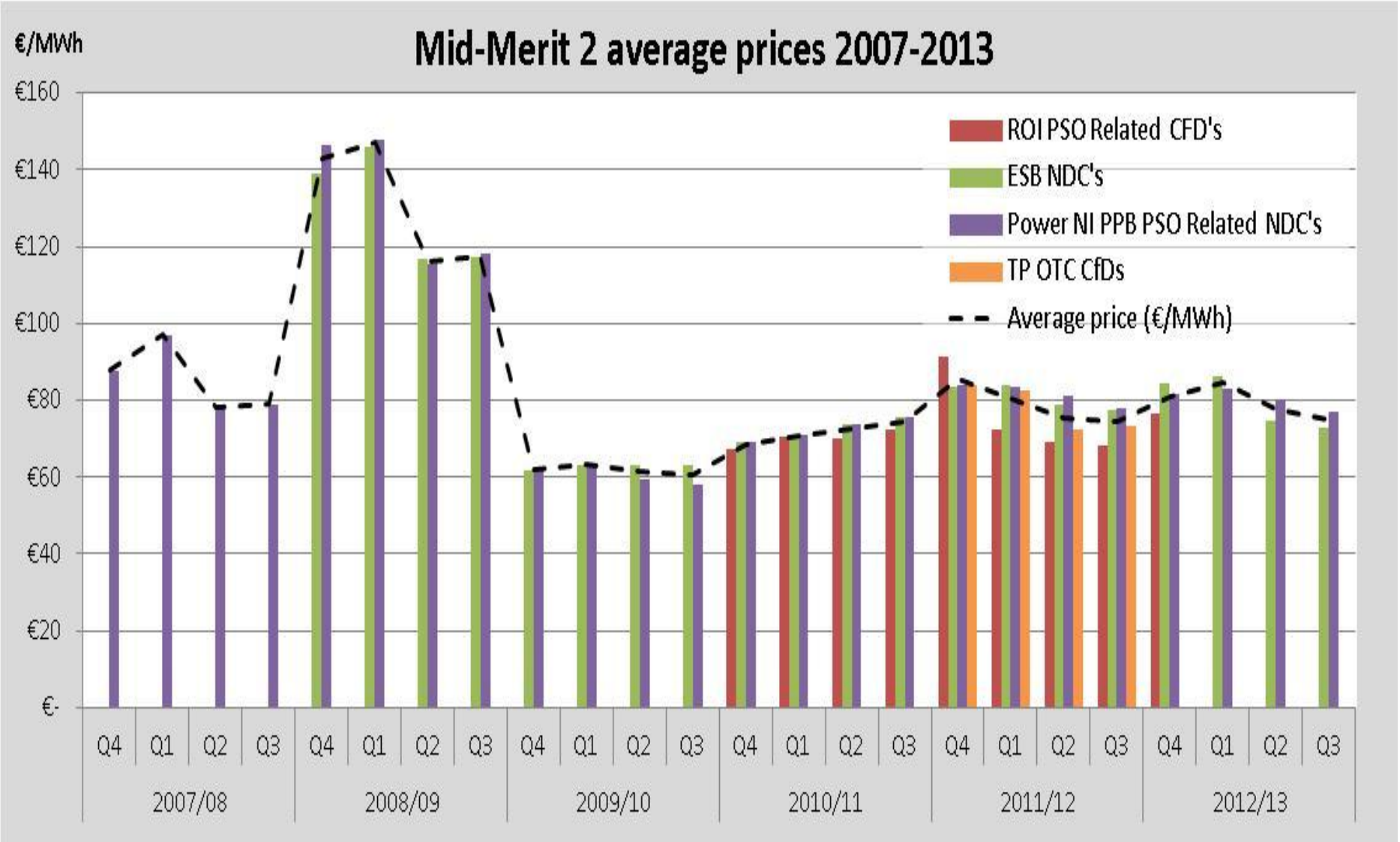

Figure 14: Mid-Merit 2 Average Prices, 2007-2013

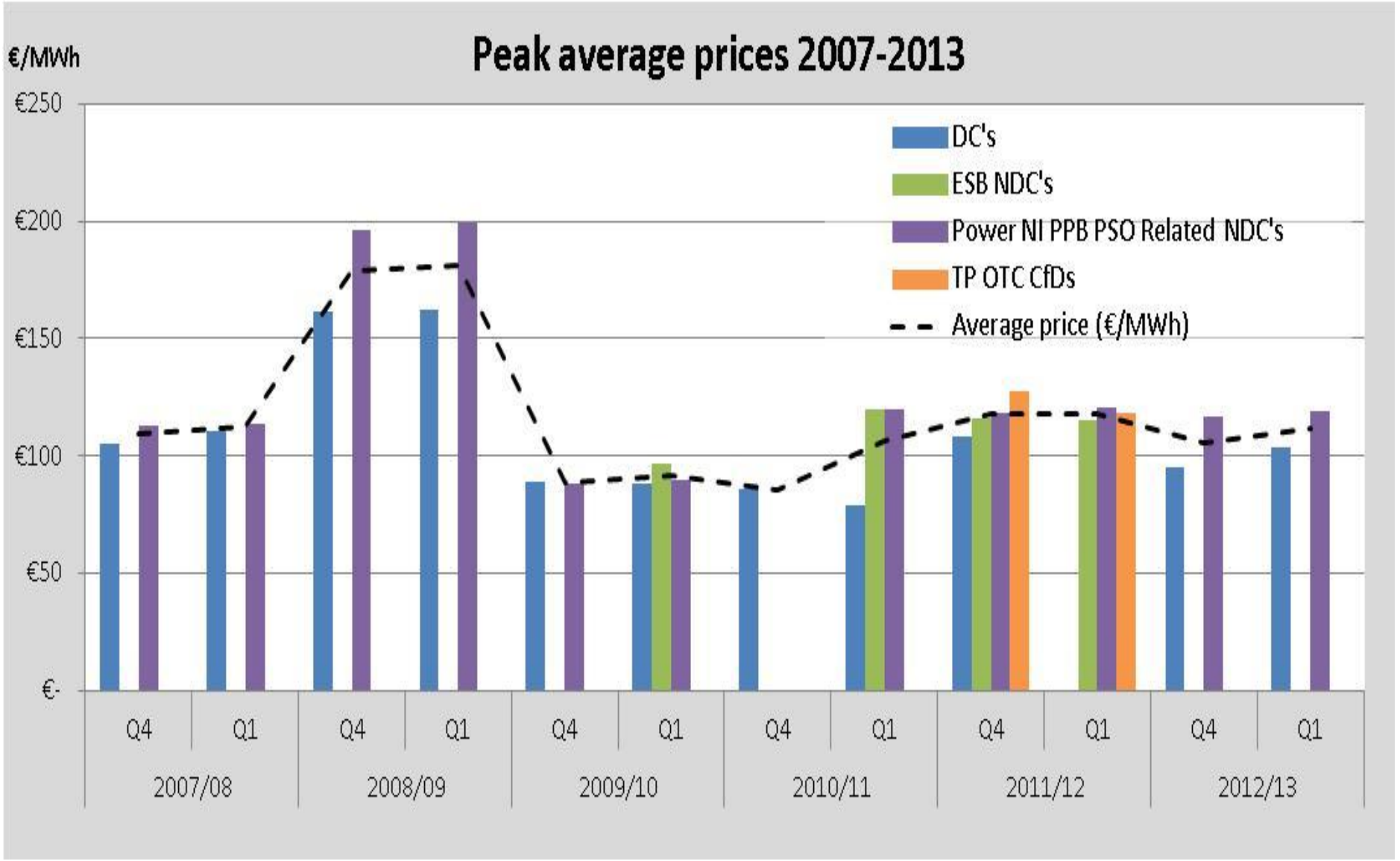

Figure 15: Peak Average Prices, 2007-2013

4.2 DC versus NDC Prices

To date DC contract prices for 2012/13 are approximately 8% lower than the DC prices for 2011/12 (for the reasons outlined above). However the average difference for all product types (as shown above) is lower than this.

The rationale for this difference is that DC prices are set by the RAs and do not include any risk premium, which is something that would be included by generators who offer NDCs. Further to the impact of a risk premium, differences will always emerge between forecast prices from the RAs and from market participants. This is due to the difference in methodologies and assumptions factored into the models employed. As a result there is always likely to be a price difference between DC contracts and other contract types.

Table 2 below shows the average price for DC and non-DC products for Baseload, Mid-Merit 1 and peak contracts in each year of the SEM. As can be seen there is a significant difference between the two, with Baseload and Mid-Merit 1 DC products being around 7% cheaper, on average, than other contract types. There is a larger difference in peak contracts, which is understandable as there is greater price risk involved and therefore generators are likely to include a larger risk premium.

Product	Contract	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	Average
Baseload	DC	€ 66.62	€ 91.30	€ 56.52	€ 56.12	€ 71.20	€ 64.60	€ 67.73
	Non-DC	€ 68.55	€ 109.56	€ 53.99	€ 63.60	€ 68.09	€ 70.51	€ 72.39
	Difference	**2.9%**	**20.0%**	**-4.5%**	**13.3%**	**-4.4%**	**9.2%**	**6.9%**
MM1	DC	€ 76.86	€ 102.77	€ 64.44	€ 63.36	€ 77.36	€ 68.92	€ 75.62
	Non-DC	€ 77.49	€ 124.12	€ 59.54	€ 70.21	€ 77.50	€ 77.18	€ 81.00
	Difference	**0.8%**	**20.8%**	**-7.6%**	**10.8%**	**0.2%**	**12.0%**	**7.1%**
Peak	DC	€ 108.14	€ 162.20	€ 88.75	€ 82.39	€ 108.28	€ 99.40	€ 108.19
	Non-DC	€ 113.52	€ 197.94	€ 91.44	€ 120.13	€ 119.43	€ 117.92	€ 126.73
	Difference	**5.0%**	**22.0%**	**3.0%**	**45.8%**	**10.3%**	**18.6%**	**17.1%**

Table 2: Difference between average prices of DC and Non-DC contracts

Other factors that may impact the price difference between DCs and NDCs are the timing of the auctions, both in terms of the prevailing fuel prices at the time auctions are held and also in terms of the proximity to the contract period. A particular example of this occurring was in 2008/09. The DC auctions for the 2008/09 contract year were held in April and May 2008, but the NDC and PSO auctions were held slightly later over May, June and July. This was a at a time of rapidly increasing fuel prices and therefore the timing of the auctions meant that on average, fuel prices had increased between the DC auctions and the PSO/NDC auctions. So, if this year alone were to be taken out the overall difference in both baseload and MM prices would reduce to 3.1%, with peak at 15.5%. The closer to the contract period an auction is held the less risk there is that there will be significant movements in fuel prices and consequently outturn SMP. For similar reasons the length of the contract may influence the price.

The above factors need to be taken into account when comparing DC and NDC prices.

4.3 Prices by Contract Type

The following tables and graphs provide more detail on the movement in prices for DC, NDC and PSO CfDs since the start of the SEM.

DC's average price (€/MWh)												
	Q4			Q1			Q2			Q3		
	Baseload	Mid-Merit	Peak	Baseload	Mid-Merit	Peak	Baseload	Mid-Merit	Peak	Baseload	Mid-Merit	Peak
2007/08	€ 62.31	€ 75.05	€105.51	€ 76.42	€ 89.73	€ 110.77	€ 61.13	€ 70.45			€ 72.22	
2008/09	€ 94.91	€ 107.30	€161.89	€100.00	€ 112.94	€ 162.51	€ 84.79	€ 94.28		€ 85.50	€ 96.55	
2009/10	€ 55.31	€ 63.25	€ 89.07	€ 58.10	€ 65.03	€ 88.44	€ 56.65	€ 64.41		€ 56.00	€ 65.09	
2010/11	€ 55.19	€ 62.49	€ 85.65	€ 58.14	€ 64.66	€ 79.12	€ 53.60	€ 60.12		€ 57.53	€ 66.18	
2011/12	€ 72.13	€ 80.28	€108.28	€ 73.15	€ 80.26		€ 68.33	€ 74.39			€ 74.49	
2012/13	€ 64.89	€ 69.70	€ 95.17	€ 69.29	€ 74.53	€ 103.63	€ 61.54	€ 64.79		€ 62.67	€ 66.65	

Table 3: Directed Contracts Average Price (€/MWh)

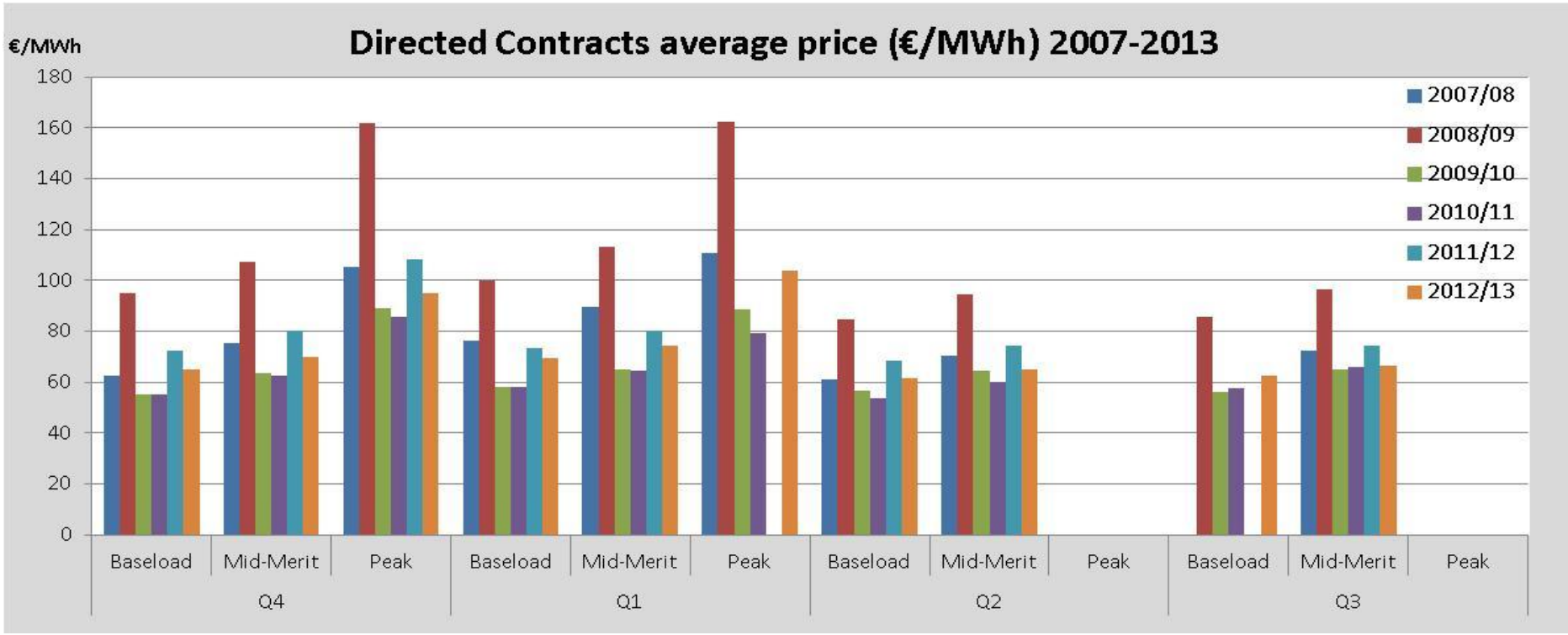

Figure 16: Directed Contracts Average Price (€/MWh), 2007-2013

ESB NDC's Average Price, €/MWh, 2007/08 to 2012/13																
	Q4				Q1				Q2				Q3			
	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak
2007/08	€ 63.47	€ 70.91			€ 77.57	€ 84.48			€ 65.11	€ 75.87			€ 67.64	€ 76.93		
2008/09	€ 114.40	€ 130.63	€ 139.19		€ 122.38	€ 142.00	€ 146.15		€ 99.61	€ 116.51	€ 116.77		€ 99.80	€ 114.44	€ 117.30	
2009/10	€ 53.33	€ 58.93	€ 61.90		€ 54.75	€ 60.58	€ 63.21	€ 96.41	€ -	€ 60.00	€ 63.15		€ -	€ 59.87	€ 63.00	
2010/11	€ 61.56	€ 67.62	€ 69.27		€ 66.06	€ 71.70	€ 70.94	€ 120.13	€ 63.78	€ 71.13	€ 73.86		€ 65.80	€ 74.29	€ 75.70	
2011/12	€ 76.20	€ 83.42	€ 83.42	€ 116.02	€ 77.04	€ 84.12	€ 84.13	€ 115.38	€ 70.78	€ 76.63	€ 78.87		€ 69.92	€ 76.68	€ 77.51	
2012/13	€ 74.44	€ 83.86	€ 84.28		€ 77.30	€ 85.93	€ 86.03		€ 67.00	€ 72.30	€ 74.82		€ 65.53	€ 71.71	€ 72.68	

Table 4: ESB NDC Average Price (€/MWh)

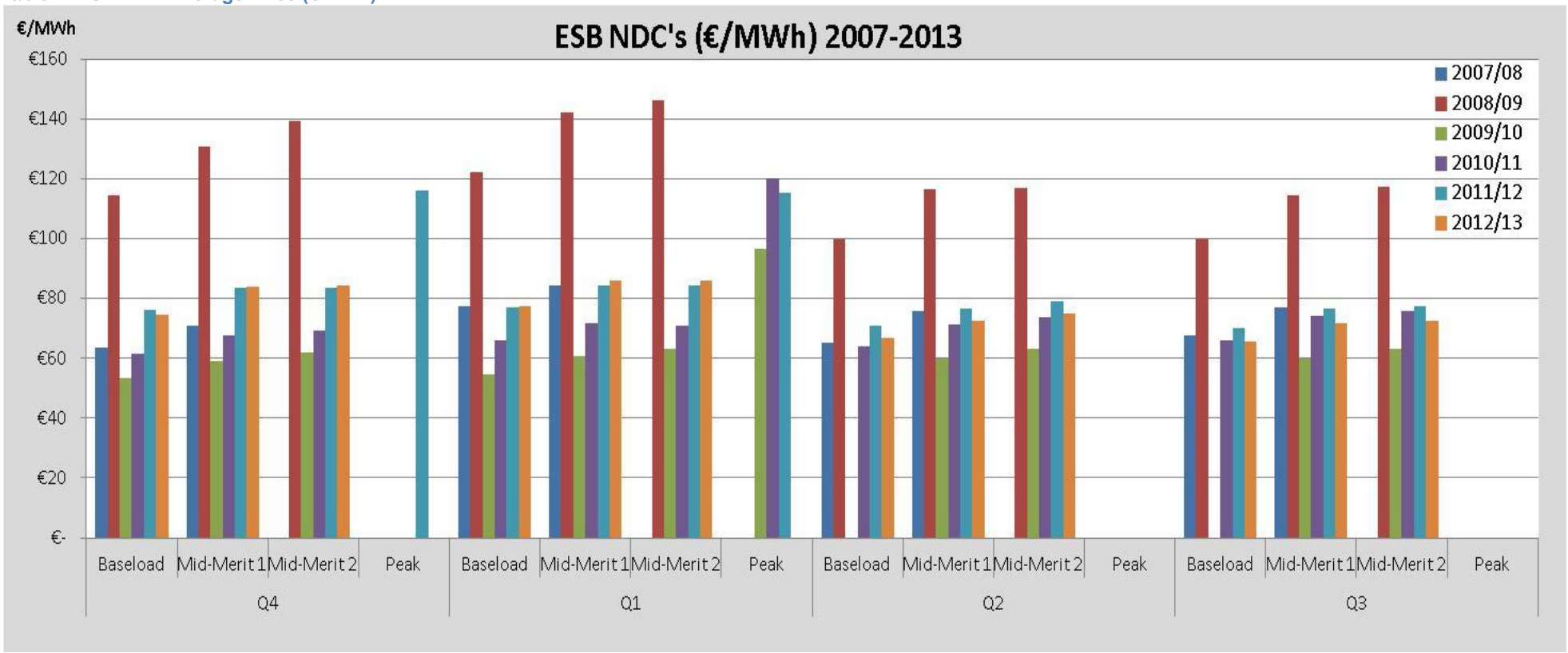

Figure 17: ESB NDC Average Price (€/MWh)

Tullet Prebon OTC CfD's- Average Price,€/MWh, 2007/08 to 2012/13																
	Q4				Q1				Q2				Q3			
	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak
2007/08																
2008/09																
2009/10																
2010/11																
2011/12	€ 75.47	€ 84.36	€ 84.05	€ 127.66	€ 63.74	€ 76.90	€ 82.41	€ 118.42	€ 63.39	€ 69.36	€ 72.57		€ 63.82	€ 71.85	€ 73.36	
2012/13	€ 69.04	€ 75.40			€ 71.23	€ 80.03										

Table 5: Tullet Prebon OTC CfD's Average Price (€/MWh) –

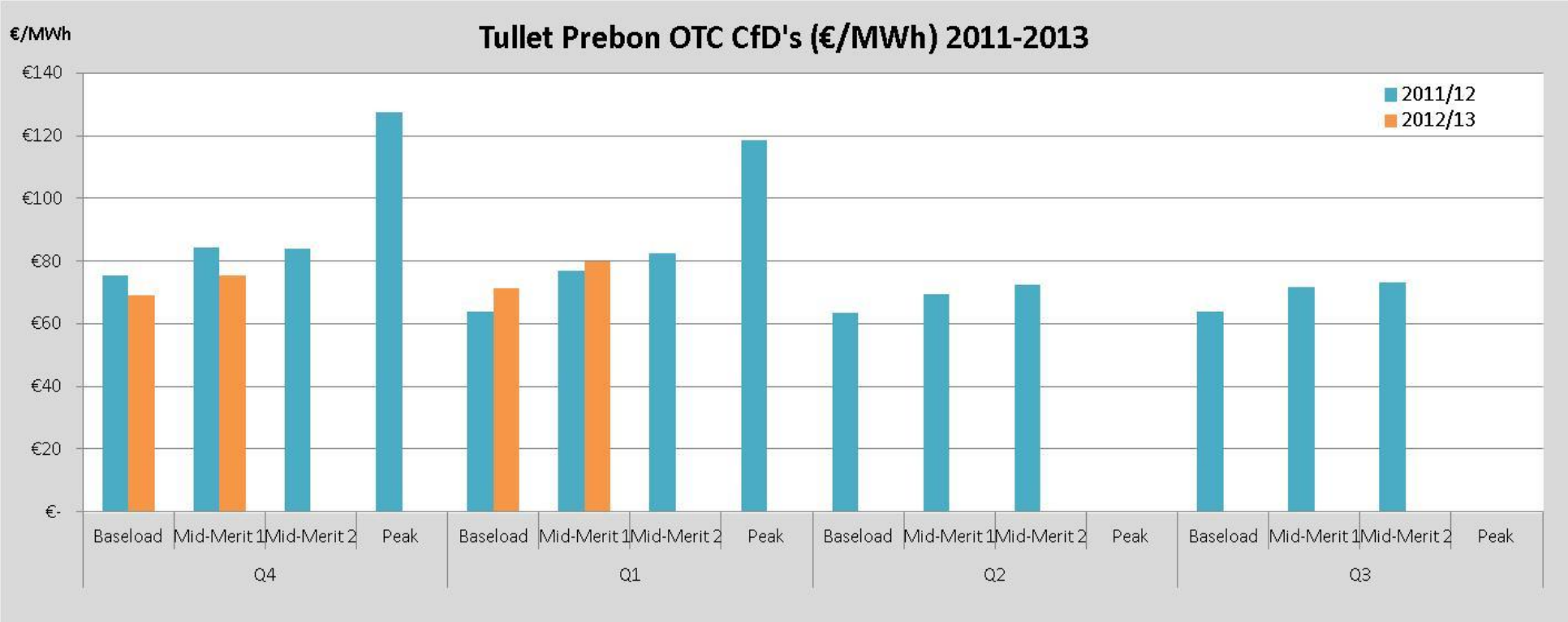

Figure 18: Tullet Prebon OTC CfD's Average Price (€/MWh)

Power NI PPB PSO-related CfD's- Average Price,€/MWh,2007/08 to 2012/13																
	Q4				Q1				Q2				Q3			
	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak
2007/08	€ 67.30	€ 80.16	€ 87.77	€ 113.07	€ 76.04	€ 88.26	€ 97.08	€ 113.96	€ 63.56	€ 71.65	€ 78.10		€ 63.37	€ 71.65	€ 78.84	
2008/09	€ 115.04	€ 130.04	€ 146.58	€ 196.20	€ 119.14	€ 135.61	€ 147.80	€ 199.68	€ 100.31	€ 115.23	€ 115.16		€ 100.35	€ 108.49	€ 117.97	
2009/10	€ 53.05	€ 60.48	€ 61.60	€ 87.85	€ 55.47	€ 62.55	€ 63.52	€ 90.06	€ 50.14	€ 58.34	€ 59.32		€ 50.14	€ 55.60	€ 57.88	
2010/11	€ 61.56	€ 67.62	€ 69.27		€ 66.06	€ 71.70	€ 70.94	€ 120.13	€ 63.78	€ 71.13	€ 73.86		€ 65.80	€ 74.29	€ 75.70	
2011/12	€ -	€ 85.25	€ 83.77	€ 118.34	€ -	€ 84.24	€ 83.55	€ 120.77	€ 64.61	€ 77.25	€ 81.11		€ 65.71	€ 75.84	€ 77.89	
2012/13	€ 72.99	€ 82.23	€ 81.61	€ 116.41	€ 76.26	€ 81.89	€ 83.17	€ 119.43	€ 67.17	€ 69.70	€ 80.13		€ 66.14	€ 69.70	€ 76.86	

Table 6: Power NI PPB PSO-related CfDs Average Price (€/MWh)

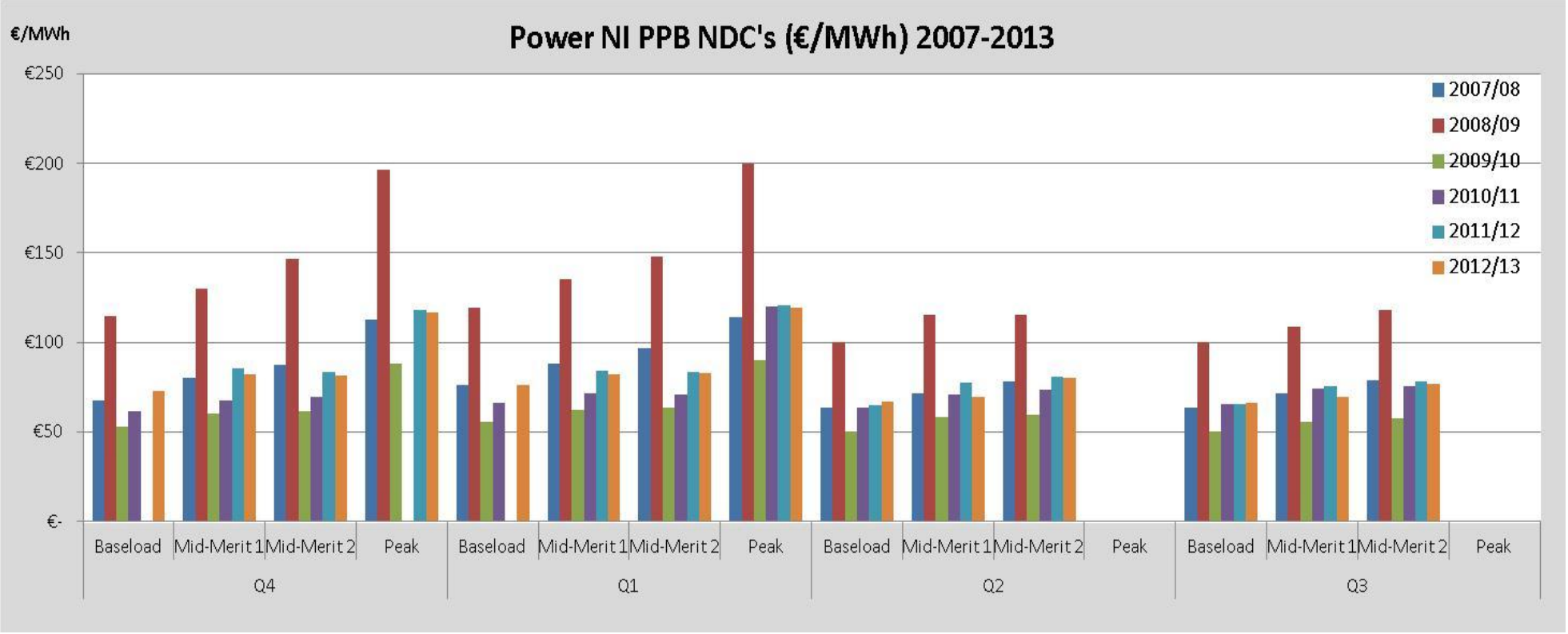

Figure 19: Power NI PPB PSO-related CfDs Average Price (€/MWh)

ROI PSO's average price (€/MWh)												
	Q4			Q1			Q2			Q3		
	Baseload	Mid-Merit	Mid-Merit 2	Baseload	Mid-Merit	Mid-Merit 2	Baseload	Mid-Merit	Mid-Merit 2	Baseload	Mid-Merit	Mid-Merit 2
2007/08	€ 65.08			€ 76.38			€ 62.37			€ 61.15		
2008/09	€ 106.85			€117.80			€ 99.68			€ 99.83		
2009/10	€ 54.81			€ 60.26			€ 56.48			€ 52.80		
2010/11	€ 60.39	€ 66.15	€ 67.25	€ 63.59	€ 70.81	€ 70.53	€ 62.37	€ 67.03	€ 69.98	€ 62.42	€ 69.01	€ 72.20
2011/12	€ 78.50	€ 90.33	€ 91.38	€ 63.19	€ 71.16	€ 72.37	€ 61.36	€ 67.11	€ 69.14	€ 59.50	€ 65.48	€ 68.33
2012/13	€ 68.57	€ 76.22	€ 76.71	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -

Table 7: ROI PSO Average Price (€/MWh)

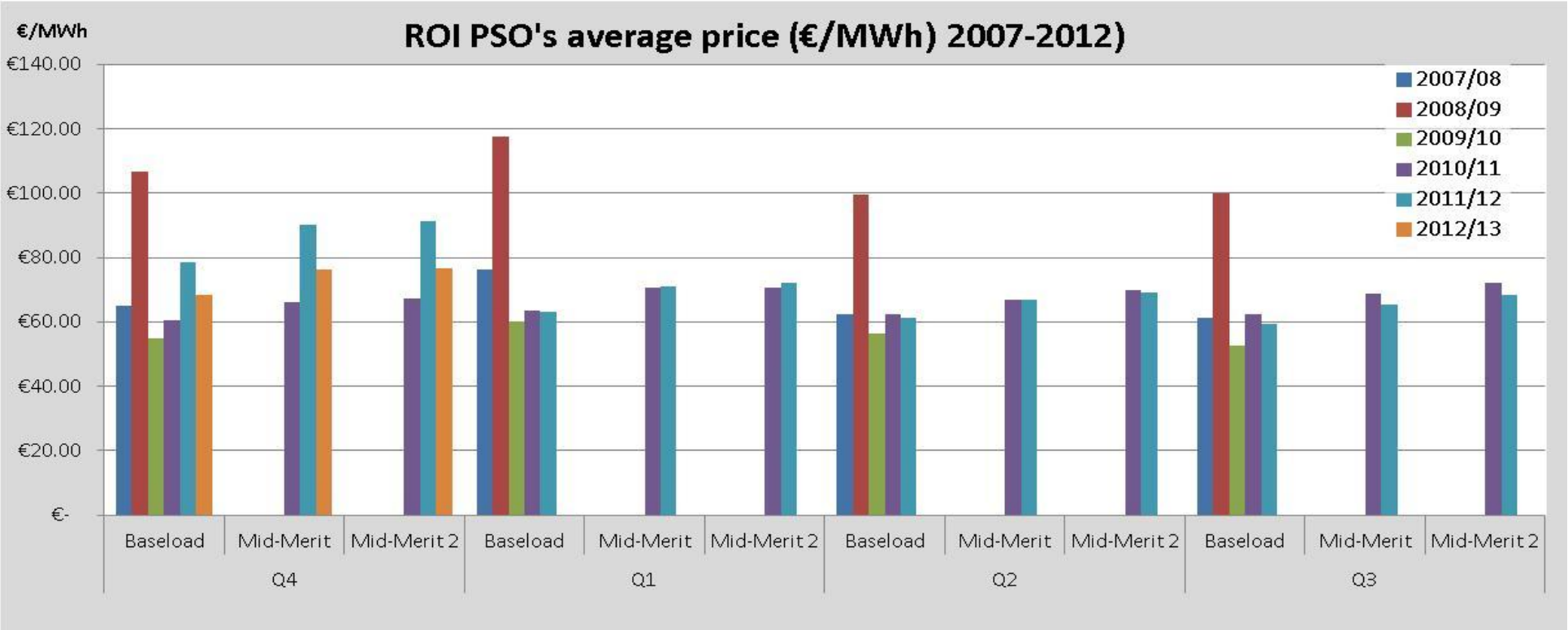

Figure 20: ROI PSO Average Price (€/MWh)

5. Contract Volumes

This section includes tables and graphs showing the volumes for DCs, NDCs and PSO-related CfDs for both ESB and Power NI PPB, covering all four contract types (Baseload, Mid-Merit 1, Mid-Merit 2 and Peak). It is important to note that the volumes shown represent the volume of contracts offered in each year since the start of the SEM and not the volume of contracts actually taken up by suppliers.

While contract volumes for the 2012/13 are shown, these represent contracts sold to date and the volume of contracts increase as more are offered throughout the year. The exception is the volume of RoI PSO related contracts. As a decision document[2] setting out the volumes for PSO contracts in 2012/13 was published in April the full volumes have been included in the tables and graphs below.

5.1 Overall Volumes

Table 8 and Figure 21 below show the changes in the source of CfDs being offered to the market. As can be seen, contract volumes have been relatively stable at around 12 GWhs or circa 1/3 of overall SEM pool throughput in each year. The slight reduction since SEM go-live seen has primarily been driven by the lower amounts of DCs (related to reduced ESB spot market power), although there has also been a decrease in the volumes of RoI PSO-related CfDs and of Power NI PPB contracts offered – increased NDCs offered from ESB have helped counteract these reduced volumes.

Total volume (GWh)	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
DC's	2948.2	3444.2	3424.1	1368.2	1660.1	2363.0
ROI PSO related CfD's	4824.0	5241.6	5884.3	4011.8	3612.6	2734.3
ESB NDC's	1969.8	2306.4	1437.9	4915.2	4844.1	4167.2
Power NI PSO CfD's	3121.8	2292.9	1862.1	2070.3	871.6	1117.1
TP OTC CfDs					864.1	135.7
% of SEM pool	38.%	38%	36%	36%	36%	
Total volume (GWh)	12864.0	13285.2	12608.3	12365.6	11852.6	10517.3
SEM MSQ	33,432	35,117	34,578	34,362	33,067	

Table 8: Total Contract Volumes by offering (GWh)

Other factors that influence contract volumes are the changes in the generation portfolio. As more interconnection and wind generation come online, they will displace other generation, and potentially reduce the level of generation offering contracts. In addition as other suppliers develop their own generation capacity, which acts as an internal hedge, there may be reduced demand for contracts.

While, the volumes for 2012/13 are currently lower than in previous years, as set out above the volumes are expected to increase as contracts are offered over the next several months. There will be further DC auctions held in December 2012 and March 2013 offering contracts for Q2 and Q3 of the 2012/13 contract year. In addition it is expected the there will be further NDC offerings over the course of the year.

Looking further at recent trends, the volume of RoI PSO-related contracts on offer in 2012/13 is down slightly from 3.6TWhs in 2011/12 to 3.28TWhs. This is due to the lower total forecast production volumes of the plant in 2012/13. However this will be more than made up by the increase in DC contracts, which is forecast to be circa 2.9TWhs, up from 1.66TWhs in

[2] SEM Contracting 2012-13 Information on PSO-related CfDs – SEM-12-025

2011/12. This increase in DC volumes for 2012/13 is as a result of the horizontal reintegration of ESB which will increase their market share. Given that ESB NDC contract volumes increased as DC and PSO volumes decreased over the past five years, the increase in DC contracts may impact the volume of NDC and OTC contracts offered by ESB in 2012/13. This will be kept under review by the RAs.

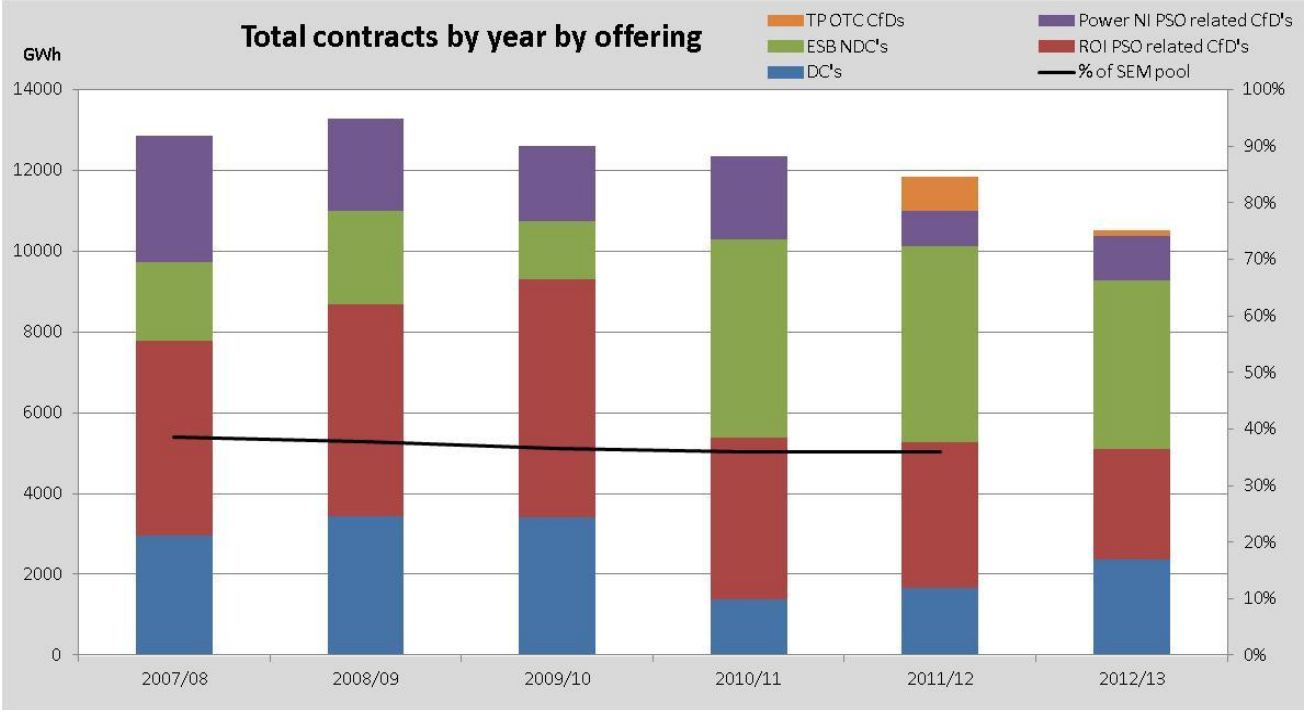

Figure 21: Total Contract Volumes by offering

5.1.1 Regulated v. Unregulated Contracts

As can be seen from Table 9 below, there have been significant year on year changes in the volume of contracts offered that are regulated (DCs and ROI PSO CfDs) versus unregulated (NDCs). While the percentage of regulated contracts decreased over the past couple of years, the horizontal generator reintegration of ESB has been assumed in the modelling of DC contracts and this has resulted in a significant increase in DC contracts. Therefore, while the volume of other contracts for the year is as yet unknown, the increase in DC contracts will most likely reverse the trend. Given the increase in DCs, we would expect that the volume of regulated contracts to exceed 50% of the total contracts offered in the 2012/13 contract period.

The majority of DCs already offered for the 2012/13 period and greater volumes of NDCs are likely to be offered over the course of the year. Therefore a comparison for 2012/13 has not been shown as the current volumes are likely to offer a skewed breakdown between Regulated and Unregulated contracts.

	2007/08	2008/09	2009/10	2010/11	2011/12
Regulated Contracts	60%	65%	74%	44%	44%
Unregulated Contracts	40%	35%	26%	56%	56%

Table 9: Percentage of contracts regulated

5.2 Product Types

Looking at product types (shown in tables and graphs below), the decrease in Baseload in the last couple of contract years is driven primarily by a reduction in the volume of DC Baseload product offered. However, this has increased already in the 2012/13 contract period with the horizontal reintegration of ESB. The volume of Mid-Merit product has increased over the past number of years and this is due to an increase in the volume of Mid-Merit NDCs offered by ESB as well as the introduction of RoI PSO-related Mid-Merit products from 2010/11 onwards. Peak products have fluctuated slightly from year to year, which has primarily been due to the level of DC peak products offered, which is determined by the make-up of the incumbent's generation plant type. In 2011/12 when the volume of DC peak products was significantly lower, generators offered more NDC peak products.

Total volume (GWh)	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Baseload	9338.75	9701.60	9315.98	6681.92	6765.52	8132.29
Mid-Merit 1	2825.05	2620.66	2487.80	3927.27	3418.32	1924.31
Mid-Merit 2	427.44	580.80	598.20	1453.33	1437.69	911.00
Peak	272.78	382.10	206.36	303.08	231.01	106.32
% of SEM pool	38.48%	37.83%	36.46%	35.99%	35.84%	
Total volume (GWh)	12864.02	13285.16	12608.33	12365.60	11852.55	
SEM MSQ	33,432	35,117	34,578	34,362	33,067	

Table 10: Total Contract Volumes by Product Type (GWh)

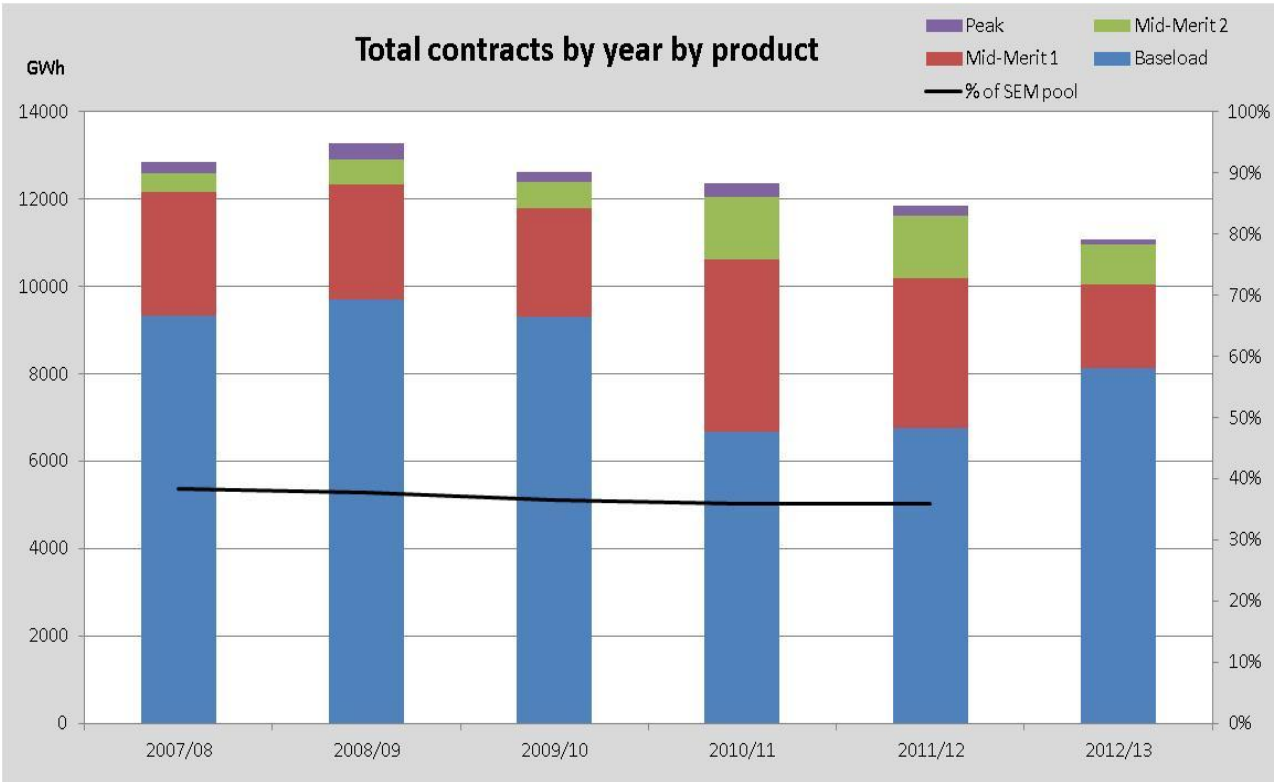

Figure 22: Total Contract Volumes by Product Type

It is worth noting again that the contract volumes for 2012/13, only show the volume of contracts sold to date and do not represent the full volume of contracts that are likely to be sold for the period. As discussed in Section 4 above, the DC process has moved to rolling auctions held on a quarterly basis. Although the front-loaded auctions included a large

portion of the total DC contracts in 2012/13, there will be further quarterly auctions throughout the year.

5.3 Tables & Graphs

The following tables and graphs provide more detail on the volumes of various contract types. This includes the volumes for DC, NDC and PSO CfDs since the start of the SEM. In addition the graphs show the movement in volumes for Baseload, Mid-Merit and Peak contracts over the period.

DC's volume (GWh)												
	Q4			Q1			Q2			Q3		
	Baseload	Mid-Merit	Peak	Baseload	Mid-Merit	Peak	Baseload	Mid-Merit	Peak	Baseload	Mid-Merit	Peak
2007/08	351.95	121.66	90.29	586.79	194.20	76.09	156.59	603.64	-	-	767.05	-
2008/09	537.29	186.24	169.27	604.80	48.64	176.03	517.60	294.15	-	289.08	621.16	-
2009/10	492.16	311.51	73.64	557.02	234.63	61.92	524.38	452.23	-	581.15	135.43	-
2010/11		259.28	112.60		209.30	72.72		423.30			291.01	
2011/12	461.68	143.10	13.25	336.17	101.62	-	259.89	130.49	-	-	213.90	-
2012/13	545.62	-	60.72	643.37	-	-	567.84	19.08	-	446.02	80.36	-

Table 11: DC Volumes (GWh)

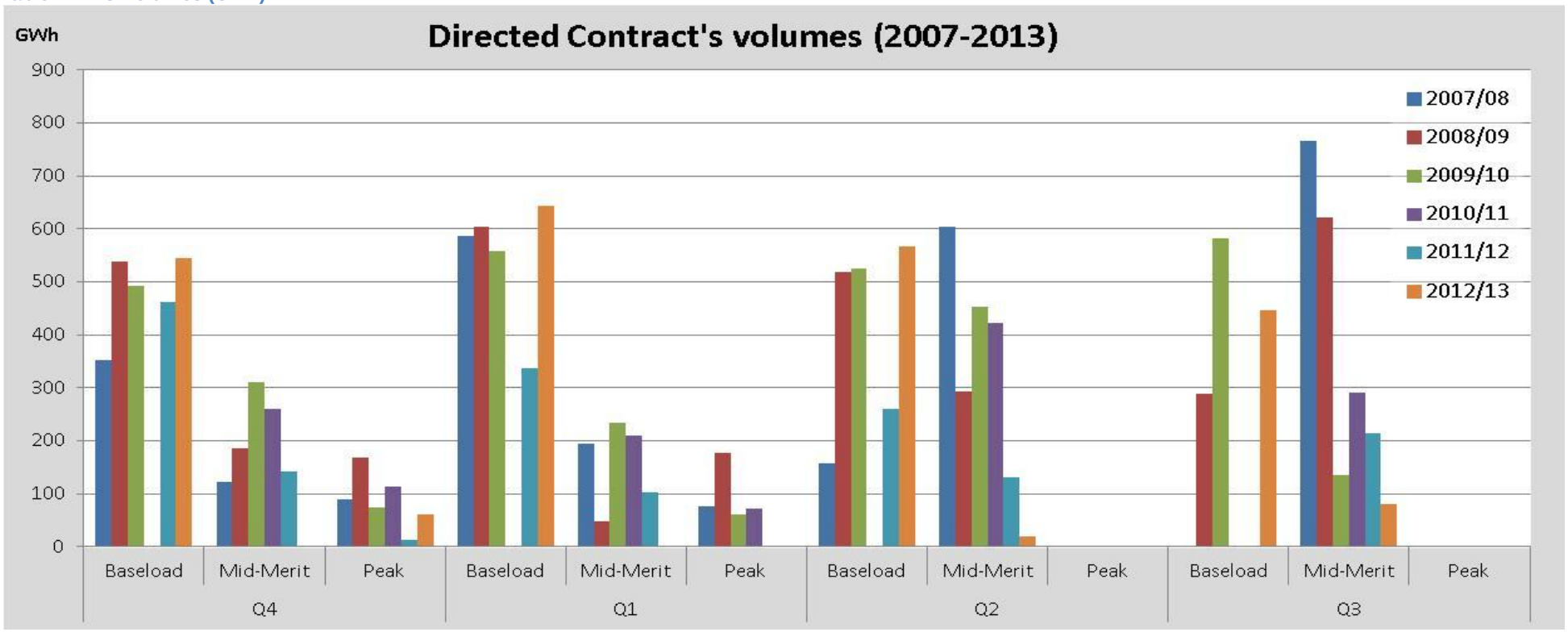

Figure 23: DC Volumes (GWh), 2007-2013

ESB NDC's- Volume, GWh, 2007/08 to 2012/13																
	Q4				Q1				Q2				Q3			
	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak
2007/08	453.84	203.21			545.75	210.80			218.40	118.85			165.60	53.44		
2008/09	594.54	137.92	39.60	-	496.80	189.06	30.72	-	109.20	284.93	54.60		219.00	95.42	54.60	
2009/10	165.60	124.13	75.24	-	302.26	148.54	53.76	7.20	43.68	74.45	39.00		-	324.86	79.20	
2010/11	839.86	245.79	141.78	-	710.52	303.95	132.72	2.48	846.72	221.39	155.88		808.08	303.97	202.08	
2011/12	607.48	426.56	230.10	29.44	1,047.84	321.10	171.60	21.84	611.52	291.71	167.70		496.80	268.32	152.10	
2012/13	861.51	289.63	166.32	-	831.22	229.02	130.56	-	611.52	218.11	81.90		507.84	180.13	59.40	

Table 12: ESB NDC Volumes (GWh)

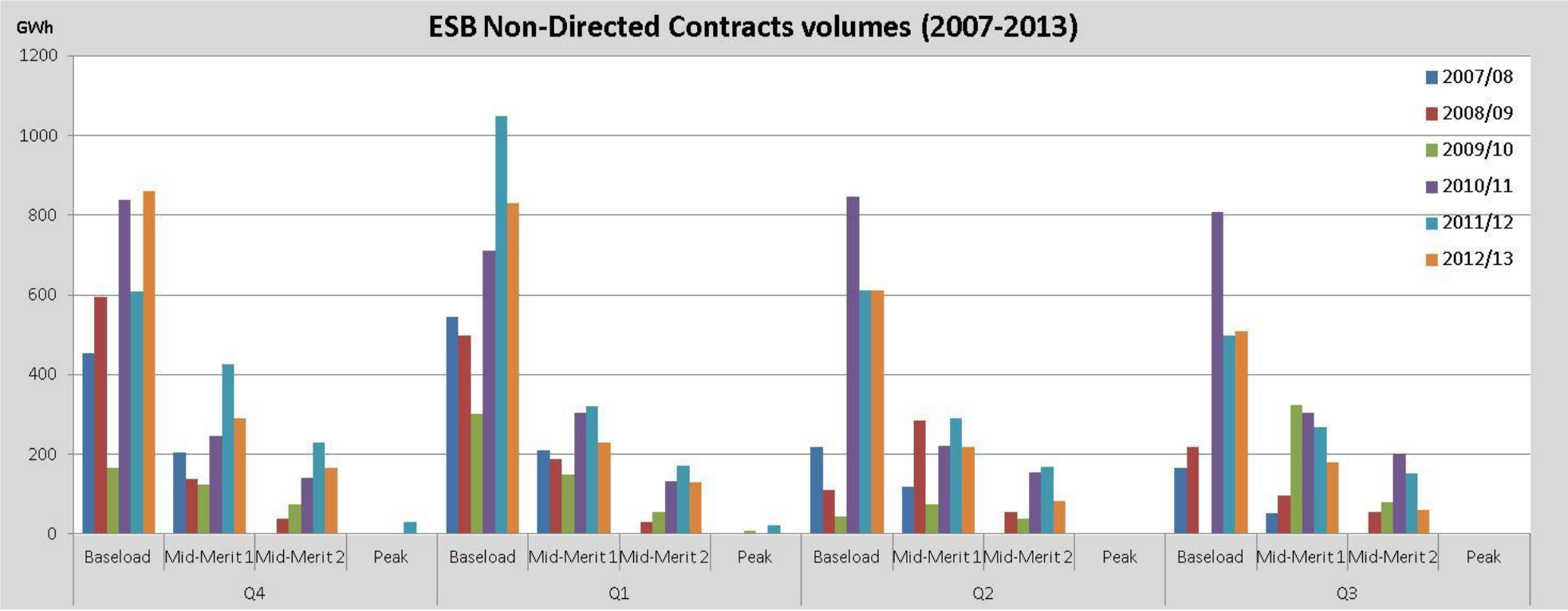

Figure 24: ESB NDC Volumes (GWh), 2007-2013

Tullet Prebon OTC NDC's- Volume, GWh,2011/12 to 2012/13																
	Q4				Q1				Q2				Q3			
	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak
2007/08																
2008/09																
2009/10																
2010/11																
2011/12	62.04	27.84	29.59	8.02	53.40	20.24	23.52	11.96	128.06	115.10	49.65		166.34	123.60	44.72	
2012/13	44.66	20.93	-	-	43.18	26.94	-	-	-	-	-		-	-	-	

Table 13: Tullet Prebon OTC NDC Volumes (GWh)

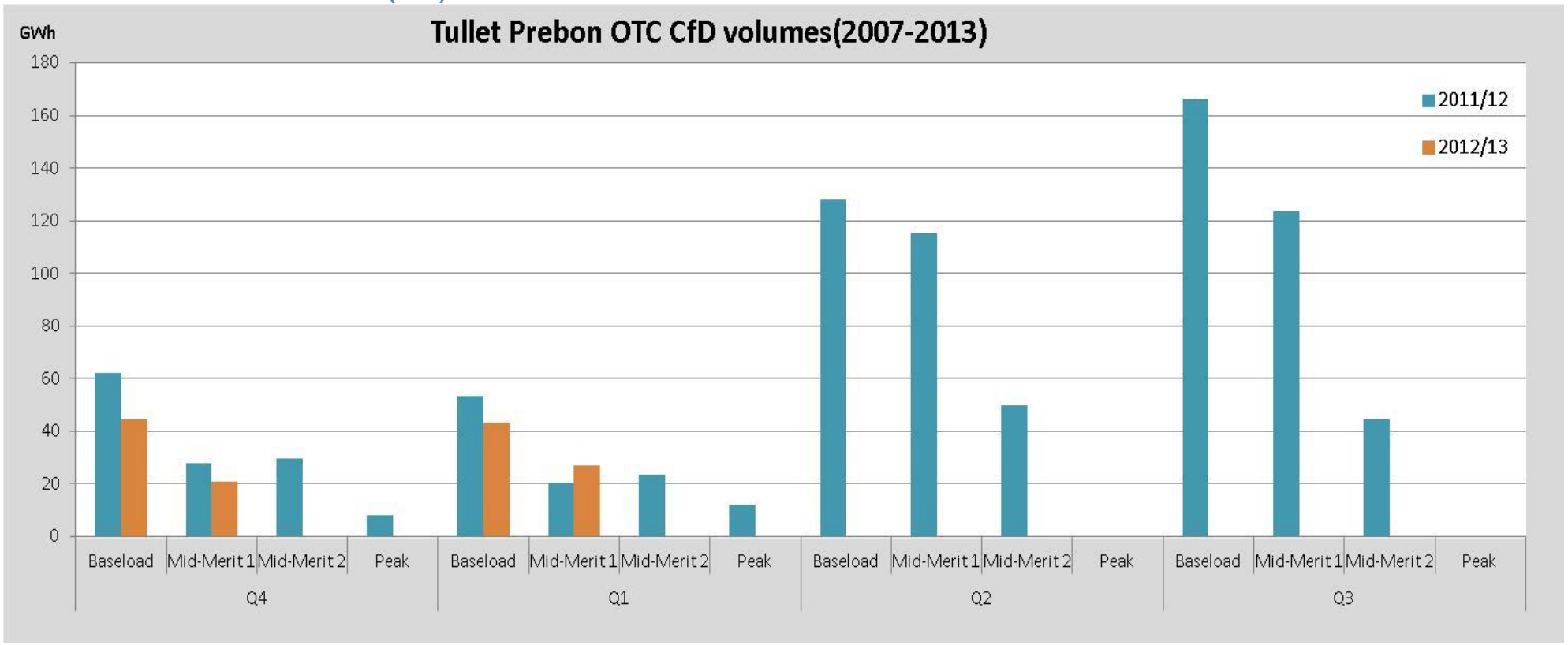

Figure 25: Tullet Prebon OTC NDC Volumes (GWh), 2007-2013

Power NI PPB PSO-related CfD's- Volume, GWh, 2007/08 to 2012/13																
	Q4				Q1				Q2				Q3			
	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak	Baseload	Mid-Merit 1	Mid-Merit 2	Peak
2007/08	365.21	88.35	82.56	50.66	599.04	131.75	120.90	55.74	534.49	165.08	113.10		537.10	167.01	110.88	
2008/09	330.30	275.84	91.08	36.80	324.00	270.08	115.20	-	218.40	189.95	78.00		219.00	27.26	117.00	
2009/10	276.00	275.84	99.00	27.60	269.88	270.08	134.40	36.00	109.20	101.52	78.00		110.40	34.56	39.60	
2010/11	132.54	120.13	53.04	68.48	215.90	141.79	107.52	46.80	218.40	257.79	62.40		264.96	317.22	63.36	
2011/12	-	103.20	19.50	82.80	-	68.32	39.00	63.70	43.68	169.60	39.00		66.24	137.60	39.00	
2012/13	121.50	68.96	7.92	27.60	129.54	33.68	19.20	18.00	283.92	34.08	31.20		287.04	34.64	19.80	

Table 14: Power NI PPB PSO-related CfD Volumes (GWh)

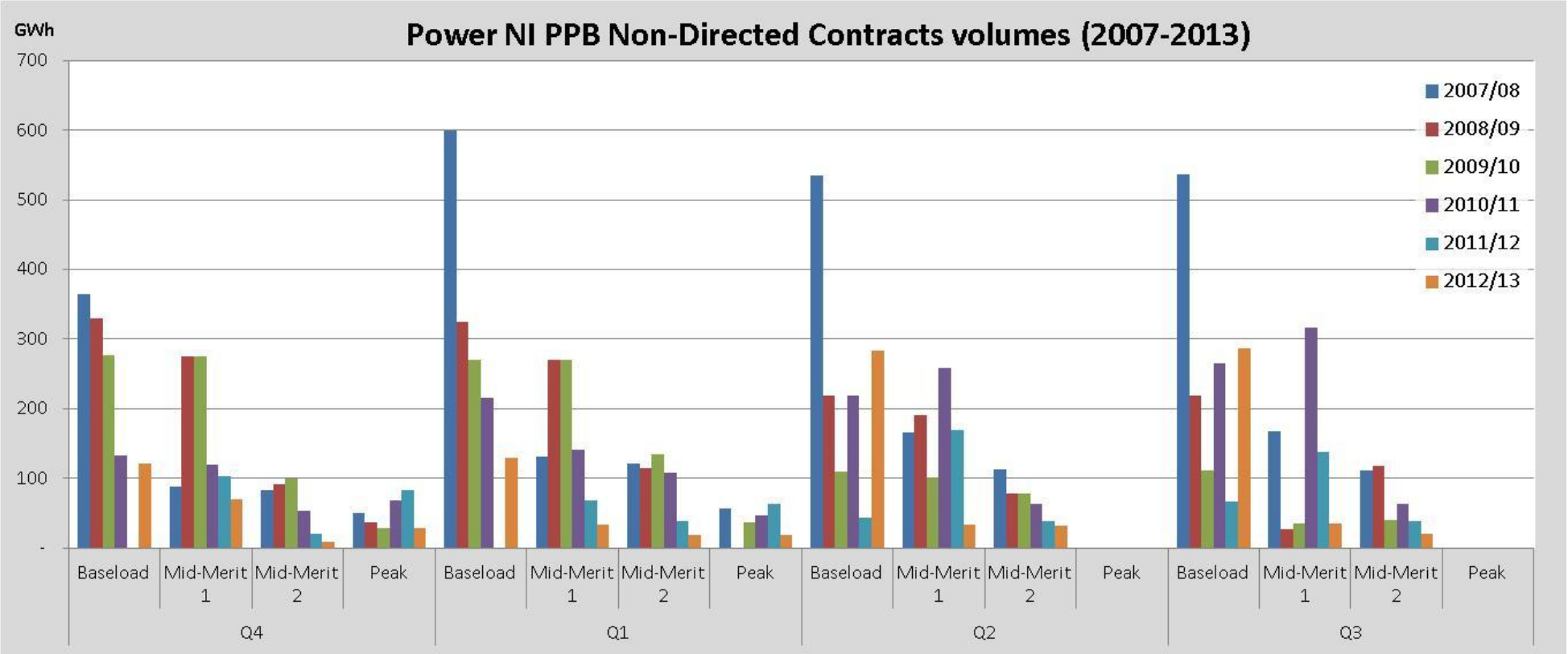

Figure 26: Power NI PPB PSO-related CfD Volumes (GWh), 2007-2013

ROI PSO's volume (GWh)												
	Q4			Q1			Q2			Q3		
	Baseload	Mid-Merit 1	Mid-Merit 2	Baseload	Mid-Merit 1	Mid-Merit 2	Baseload	Mid-Merit 1	Mid-Merit 2	Baseload	Mid-Merit 1	Mid-Merit 2
2007/08	878.40			1,310.40			1,310.40			1,324.80		
2008/09	1,321.20			1,296.00			1,310.40			1,314.00		
2009/10	1,324.80			1,295.40			1,629.26			1,634.80		
2010/11	662.70	210.57	124.34	647.70	202.54	115.20	655.20	203.52	129.48	679.34	215.71	165.53
2011/12	609.68	189.89	107.64	602.51	188.56	107.64	602.78	187.24	107.64	609.41	190.33	109.30
2012/13	556.67	173.78	99.79	544.07	169.75	96.77	550.37	171.36	98.28	556.42	173.84	99.86

Table 15: ROI PSO Volumes (GWh)

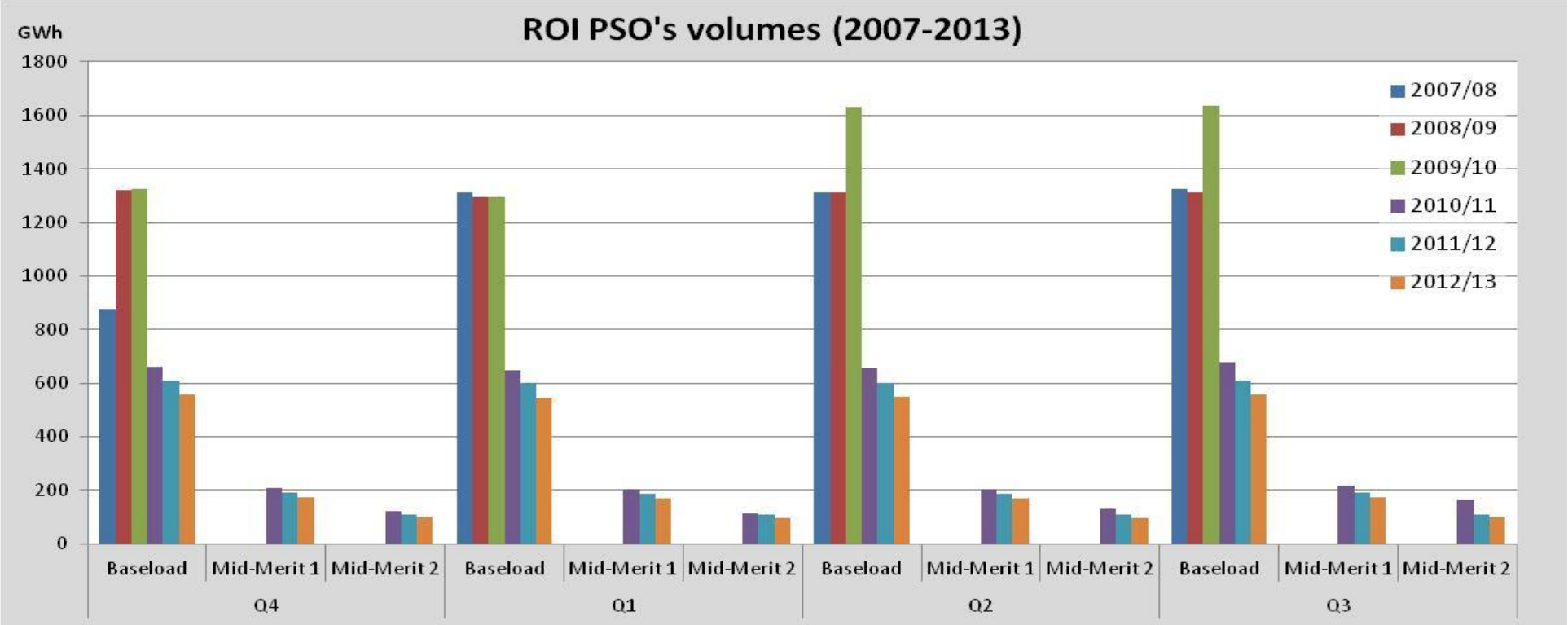

Figure 27: ROI PSO Volumes (GWh), 2007-2013

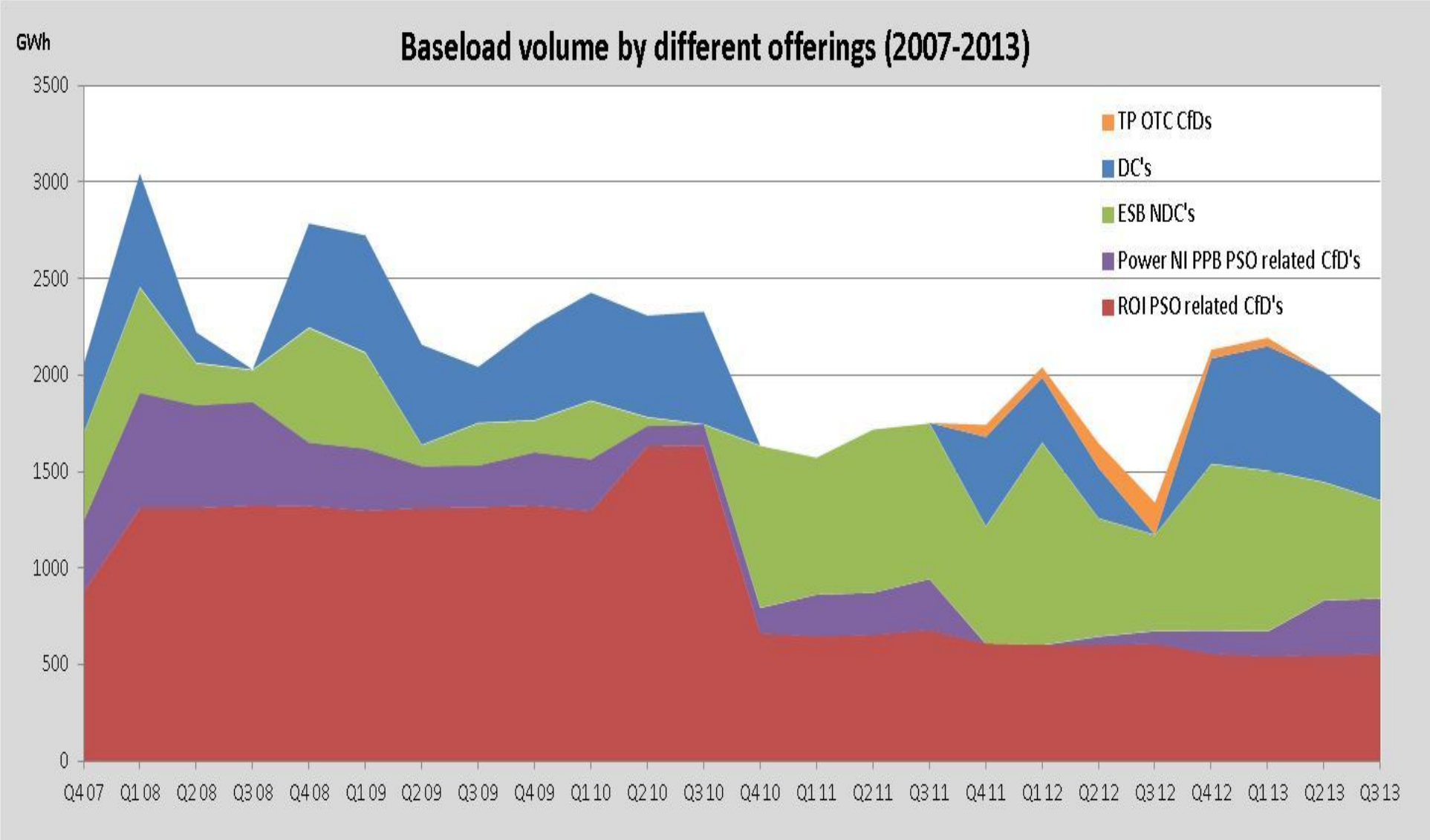

Figure 28: Baseload volume by different offerings, 2007-2013

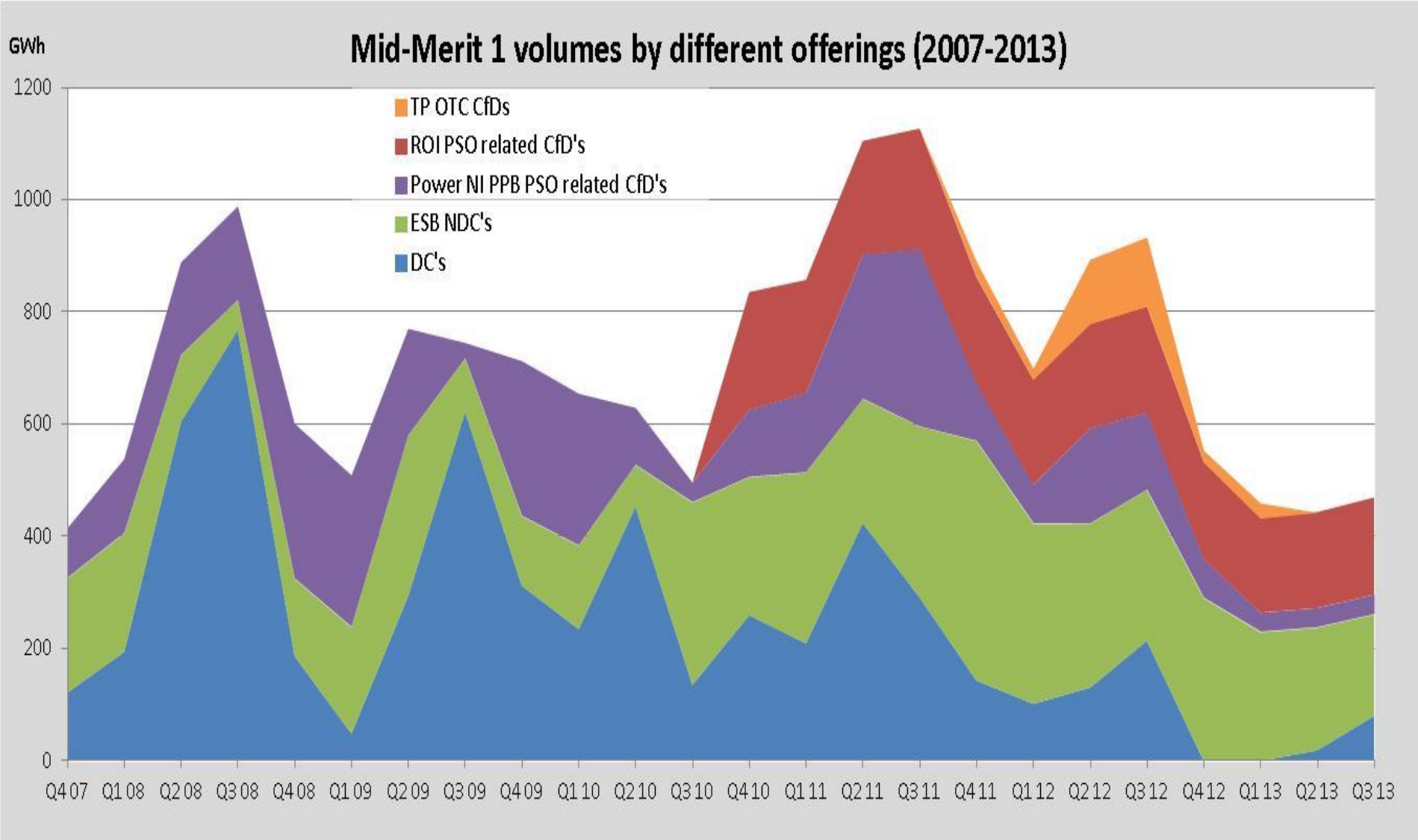

Figure 29: Mid-Merit 1 volumes by different offerings, 2007-2013

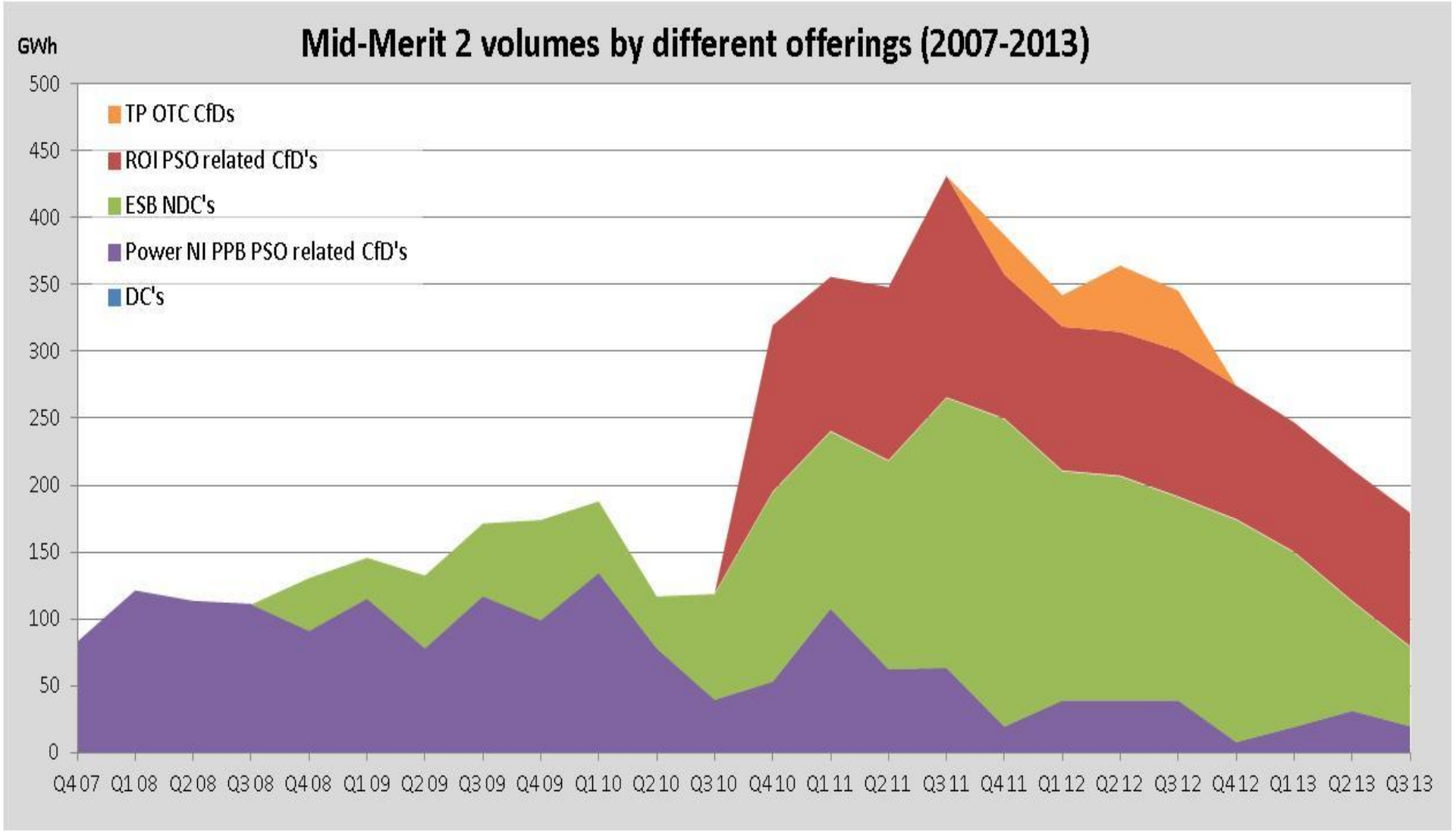

Figure 30: Mid-Merit 2 volumes by different offerings, 2007-2013

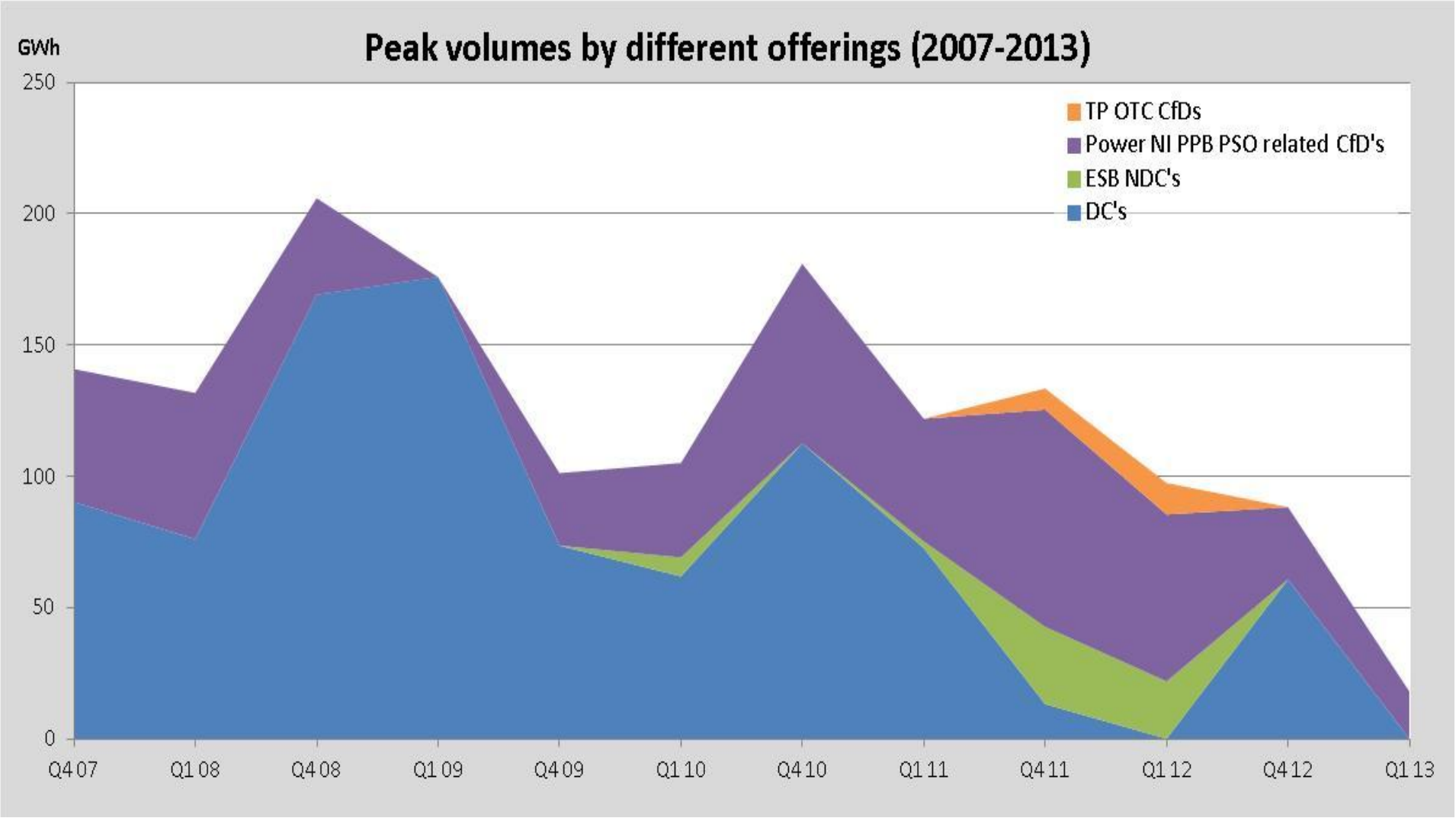

Figure 31: Peak volumes by different offerings, 2007-2013