

Short Term Operating Reserve

Fuel Type Analysis – Season 8.5 (27/10/14 – 02/02/15)

National Grid is often asked by interested parties what kinds of plant provide the Short Term Operating Reserve Service (STOR). This publication, aimed as a complementary publication to the STOR Market Reports intends to give further information on the current composition of National Grid's STOR contracts and is based upon data held for accepted STOR tenders for Season 8.5.¹ The presented data is based upon the information provided by STOR market participants.

What is Short Term Operating Reserve?

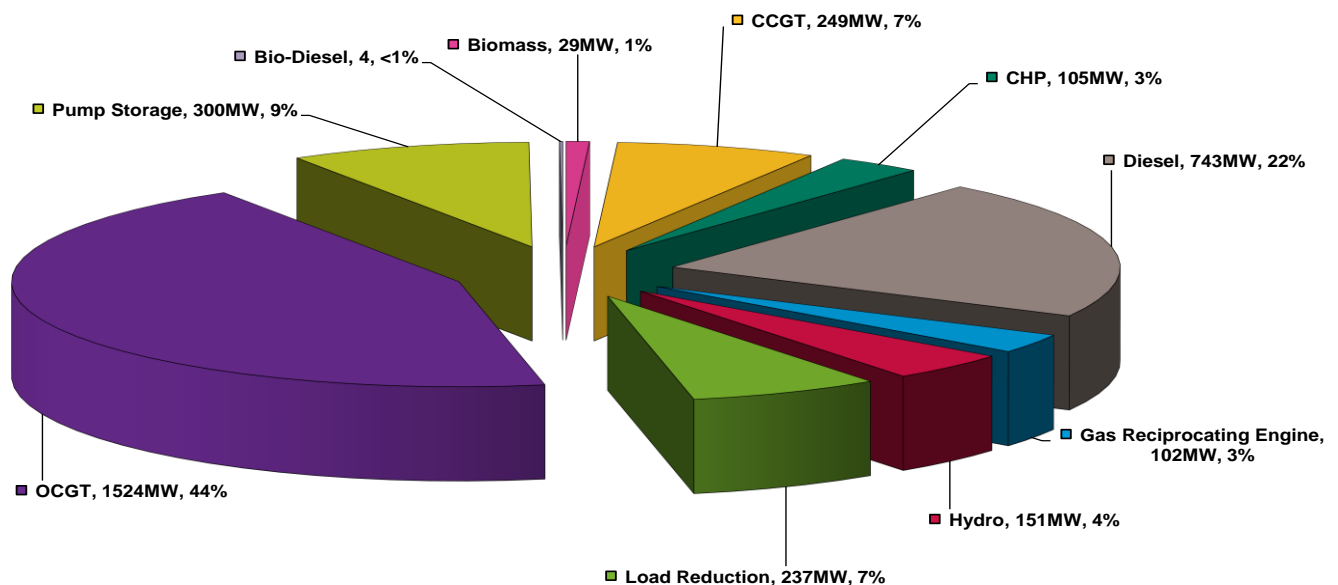
As part of its key role of matching generation to demand on a second by second basis, National Grid holds a "Reserve" of electrical energy at all times to act as an insurance against sudden losses in generation or unforeseen increases in demand. This reserve is made up from a number of different sources of generation or load reduction services. These are most commonly procured through a seasonal product called Short Term Operating Reserve where providers can – if they are sufficiently economic when compared with other sources of reserve in competitive tender rounds – win a fixed price contract for up to two years.

Within the STOR service there are broadly two categories of providers. There are those that are connected directly to the GB Transmission System or are large enough to have to register in the Balancing Mechanism (BM). The second category is for Non-Balancing Mechanism (Non-BM) participants that are typically represented by smaller providers connected to the lower voltage distribution networks. When these operate, National Grid sees their impact on the transmission system as a reduction in demand and for this reason these providers – whether generation or load reduction services – can be referred to as "demand side" providers.

Fuel Types of the entire STOR market

Figure 1 below shows what fuel types provide STOR across the entire STOR market, both BM providers and Non-BM providers for Season 8.5.

Figure 1: All STOR Providers – Split between Different Fuel Types – Season 8.5



¹ Assumptions have been made on plants/sites made up of multiple fuel types with an equal split approach employed for this analysis. National Grid is working with providers of such sites to further refine this analysis in the future.

Fuel Type Analysis split by BM and Non-BM Providers

Figures 2 and 3 below detail the fuel type split between all BM and Non-BM providers of STOR.

Figure 2: All STOR Providers – Fuel Type Composition of BM STOR Providers – Season 8.5

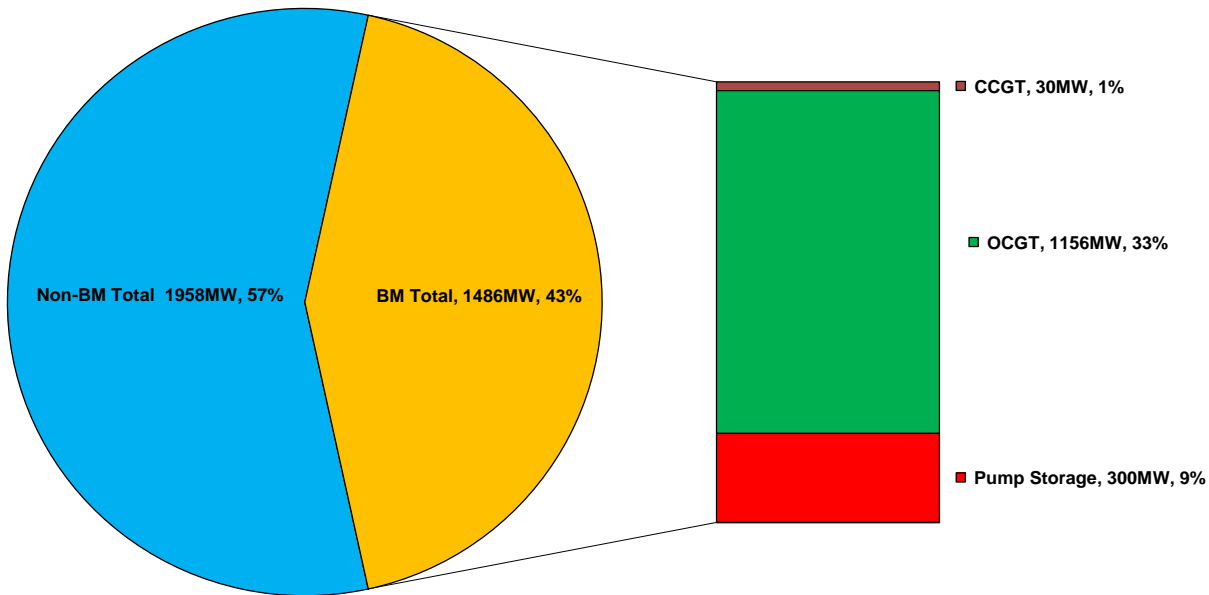
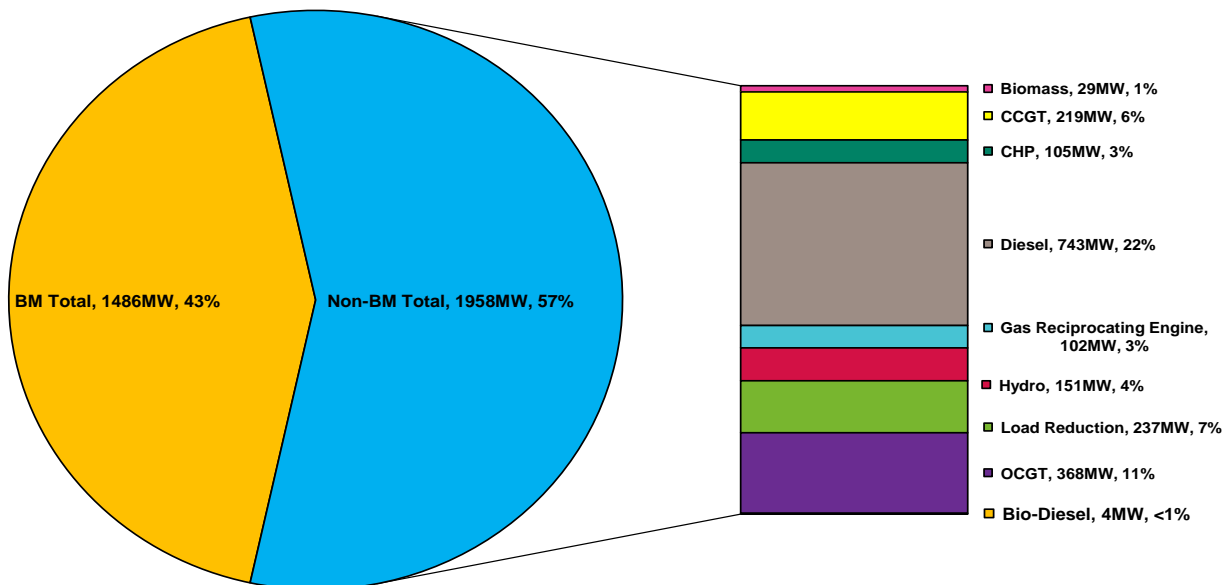


Figure 3: All STOR Providers – Fuel Type Composition of Non-BM STOR Providers – Season 8.5



Further segmentation of Non-BM participants is shown in Figures 4, 5 and 6 below and is based on the options of tendering on a “Committed”, “Premium Flexible” or “Flexible” basis. Committed STOR providers are required to make the contracted STOR service available for not less than 85% of all periods in the STOR seasons in which they have a contract, with service unavailability only being allowed for technical reasons. Premium Flexible and Flexible STOR providers may exercise discretion at the week-ahead stage to choose which periods to declare a service available. For example it could withdraw the STOR service and instead pursue another, more profitable service (e.g. TRIAD avoidance). Alternatively if a provider could be offering a load reduction service and the load is not present in a

particular week, then the flexible contracts offer a means to manage this. National Grid reserves the right to accept or reject any Flexible availability at the week-ahead stage based on STOR requirements. Acceptances of Premium Flexible offers at the week-ahead stage are dependent on whether the “premium” window is made available. Figure 4 below shows the fuel type composition of all Committed Non-BM STOR providers. Figure 5 and 6 shows the fuel type composition of all Flexible and Premium Flexible Non-BM STOR providers respectively.

Figure 4: All STOR Providers – Fuel Type Composition of Non-BM Providers under Committed STOR Contracts – Season 8.5

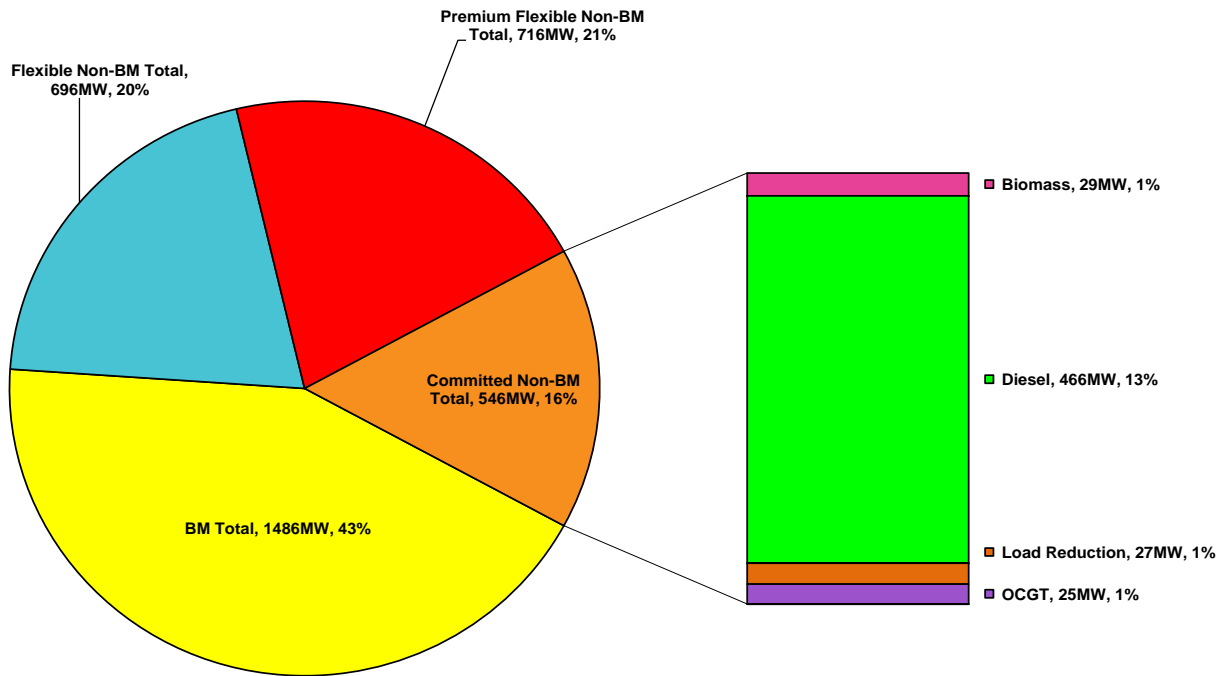


Figure 5: All STOR Providers – Fuel Type Composition of Non-BM Providers under Flexible STOR Contracts – Season 8.5

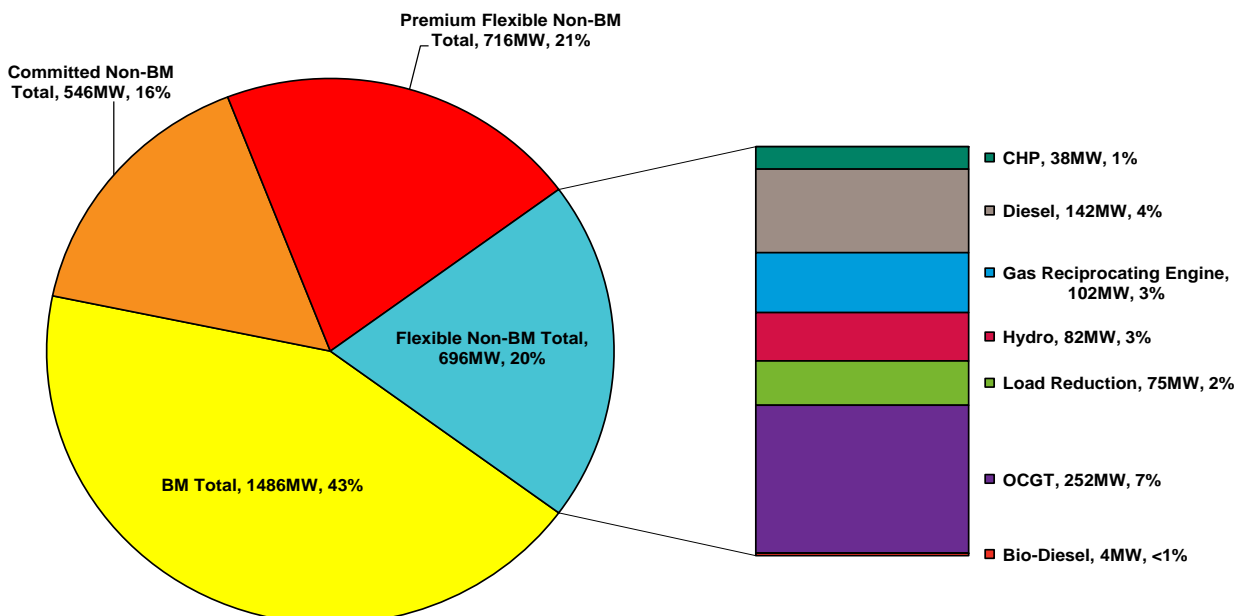
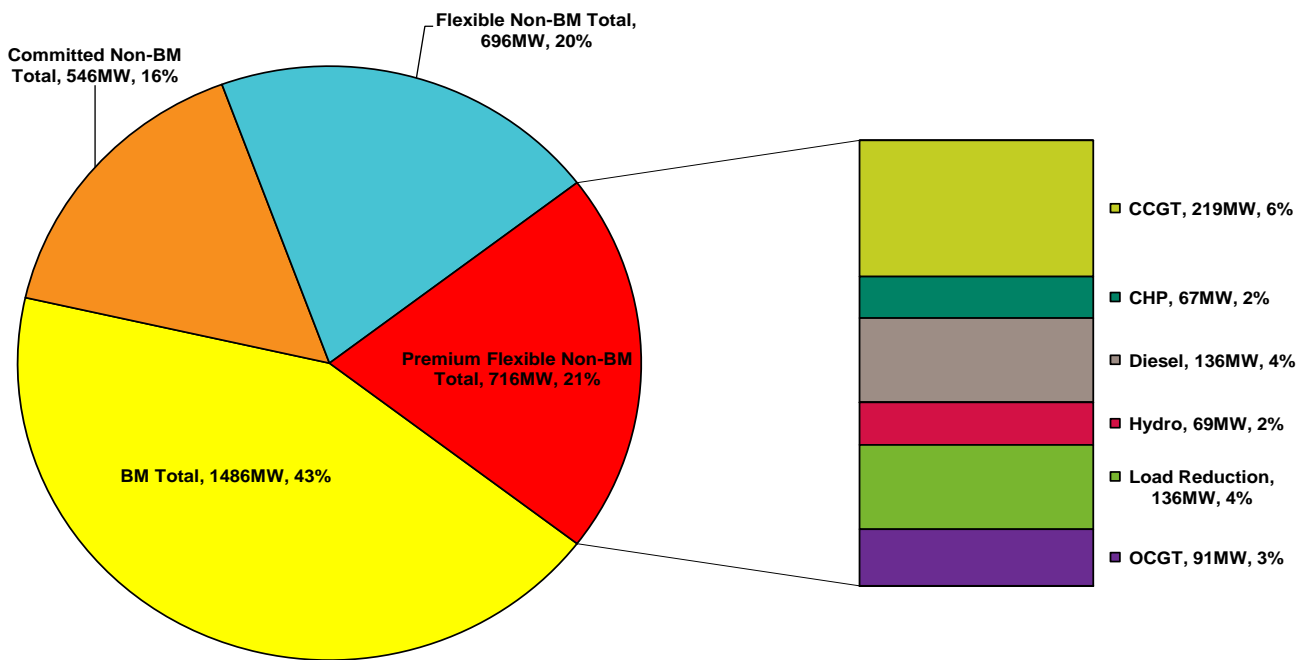


Figure 6: All STOR Providers – Fuel Type Composition of Non-BM Providers under Premium Flexible STOR Contracts – Season 8.5



Aggregated Services

As well as the split between BM and Non-BM providers of STOR, there are also a number of companies known as Aggregators that combine smaller loads in to STOR units of ≥ 3 MW and present them to National Grid. The Aggregators currently listed on National Grid’s website are:

Cynergin Projects Ltd	EDF Energy	Endeco Technologies
Energy Pool	EnerNOC UK Ltd	ESP Response Ltd
Flexitricity Ltd	GDF SUEZ Energy Ltd	KiWi Power Ltd
Limejump Ltd	Matrix – Sustainable	Npower Ltd
Open Energi	REstore	Stor Generation Ltd
Tezla Energy Ltd	UK Power Reserve Ltd	

Of the Aggregators currently contracted Figure 7 shows how aggregated volumes contribute to the overall proportion of STOR contracted and also how such fuel types are composed.

Figure 7: Fuel Type Composition of all STOR Contracted through Aggregators – Season 8.5

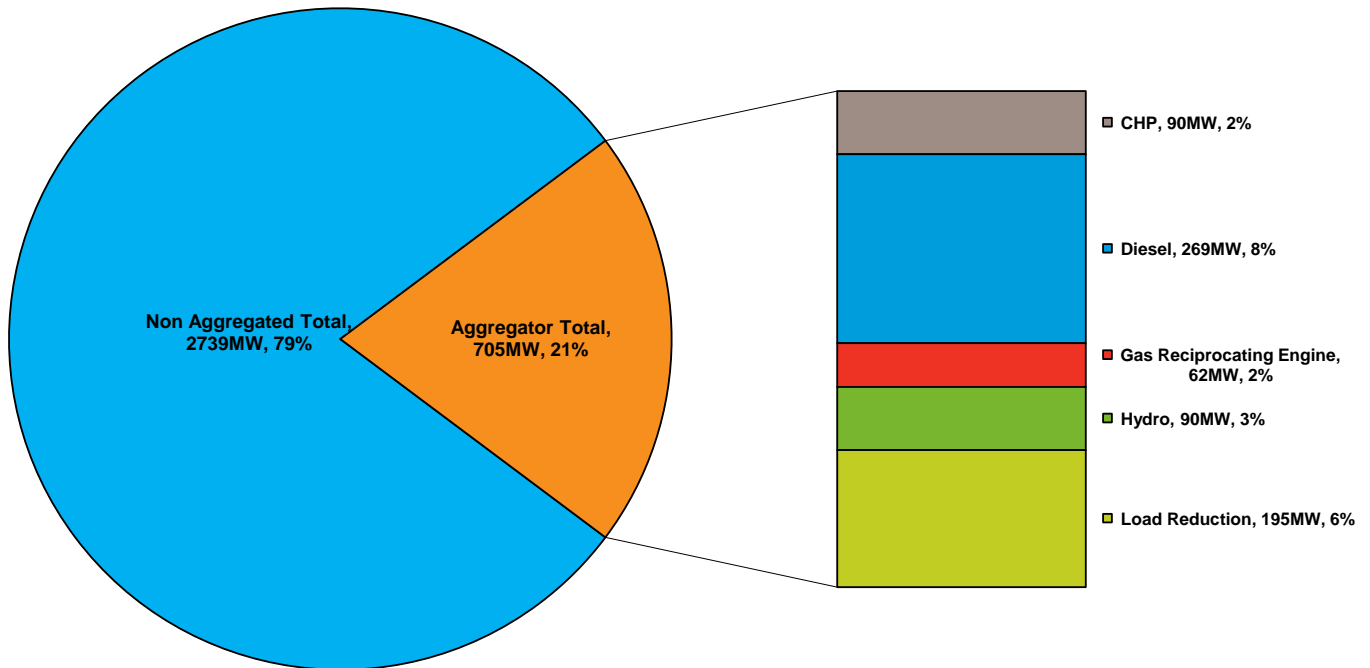


Figure 8 below analyses the STOR market in a similar manner to that shown in Figure 7 but focuses on the Non Aggregated STOR providers in isolation.

Figure 8: Fuel Type Composition of all STOR (non-aggregated) – Season 8.5

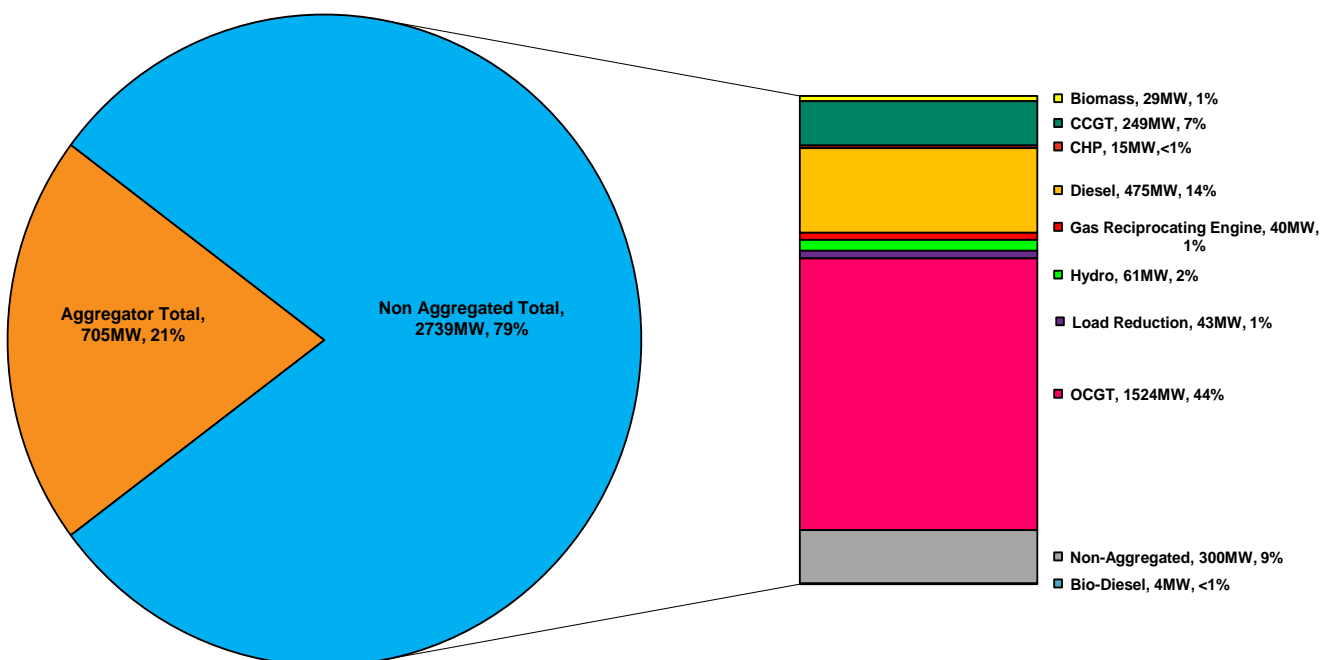
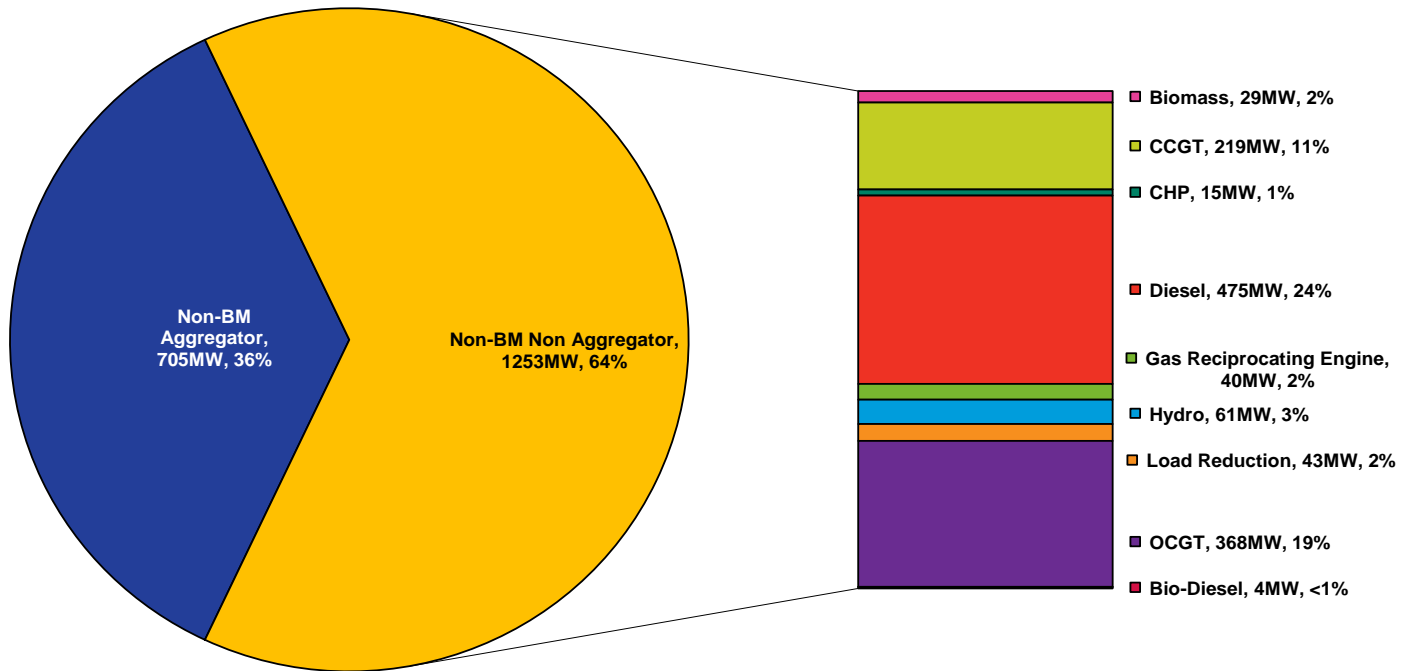


Figure 9 below focuses on the Non-BM sector of the STOR market that is not aggregated, showing the Fuel Type composition of such providers for season 8.5.

Figure 9: Fuel Type Composition Non-BM STOR (non-aggregated) – Season 8.5



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