



Demand Diversification Services

**Allocated Capacity
Detailed Design**



Contents

CONTENTS	1
1. BACKGROUND AND ALLOCATED CAPACITY	2
1.1. DOCUMENT PURPOSE	2
1.2. TABLE OF DEFINED TERMS	2
1.3. AC SERVICE.....	6
2. PROCESS STEPS FOR COMMERCIAL TRIALS	12
2.1. SUMMARY OF AC PROCESS STEPS FOR COMMERCIAL TRIALS	13
2.2. SUMMARY OF DATA FLOWS	14

1. Background and Allocated Capacity

Load Managed Areas (LMAs) were introduced under the Distribution Connection and Use of System Agreement regulations to provide Distribution Network Operators (DNOs) with a means to diversify demand to avoid, reduce or defer the need for network reinforcement as electric storage heating demand increased significantly during the 1980s. Every postcode in the Scottish Hydro-Electric Power Distribution (SHEPD) area in the north of Scotland is categorised as an LMA.

The use of storage heating has reduced substantially but the significant increase in the number of domestic Low Carbon Technology (LCT) loads (primarily heat pumps, electric vehicle chargers and domestic batteries) as GB decarbonises domestic heat and transport, creates the same demand diversification issue. If unmanaged, LCTs could be switched on at the same time and, if that occurred at peak times, it could affect the level of demand diversification on DNO assets (Assets) and risk overloading them. The innovative aspect of this project is to consider new services that will deliver enduring and reliable demand diversification on the distribution network.

SSEN, in consultation with stakeholders, identified two potential services that incentivise flexible loads to be scheduled to reduce peak demand on the network. These are referred to as Demand Diversification Services, or DDS for short. This paper defines one DDS, Allocated Capacity (AC) which incentivises a Flexibility Services Provider (FSP) to maintain the peak demand of a portfolio of their customers within a pre-agreed allocation of an Asset's capacity. It is expected they will do this by scheduling consumer's flexible loads (Schedulable Demand). However, this may not be the only solution. Others, such as Vehicle to Grid, could also be used to keep a portfolio within the allocated capacity. AC should, with the correct incentives, provide a level of demand diversification that reduces the risk to Assets by keeping aggregate demand within network capacity.

1.1. Document purpose

The purpose of this document is to:

- Define AC for the Commercial Trials.
- Provide guidance on potential changes to the SSEN Service Terms aligned to Flexibility Services Agreement (FSA) to create a bespoke Trial FSA for the Commercial Trials and guidance for a Business as Usual (BaU) service. *[Internal version only]*
- Define AC for BaU and potential iterations to existing Flexibility Procurement and Dispatch processes. *[Internal version only]*

1.2. Table of defined DDS terms

Term	Definition
AC	Allocated Capacity, one of two enduring DDS'.
AC Price	The price paid in each SP for the Outturn FSP Demand using the AC Price Table.
Advanced AC	The advanced version of the AC service, where there is an incentive for an FSP to improve the Initial Diversification Factor towards the Maximum Diversification Factor.
Advanced AC Price Table	A table detailing the AC Price for the Advanced AC service, comprising a variable payment for improving the Diversification Factor.

Term	Definition
Asset Capacity	The nameplate rating of an Asset, expressed in kW and assuming unity power factor.
Asset Demand Forecast	The sum of all FSP Demand Forecasts and other demand for an Asset.
Asset Maximum Demand	The maximum SP demand on an Asset in the Historic Asset Demand or during a trial period.
Assets	Primary substations (33kV / 11kV) and secondary substations (11kV / 400V) including associated feeders (overhead lines or underground cables). For the purposes of the Commercial Trials, this could be a physical asset, a Synthetic Asset, or a Virtual Asset.
Base Demand	Consumer demand that is non-schedulable, i.e. loads that cannot be controlled and exist in every home, such as electric ovens, kettles, and other domestic devices. All homes have one or more of these loads.
Basic AC	The basic version of the AC service where each FSP is allocated an FSP AC based on the maximum demand in the Historic FSP Demand.
Basic AC Price Table	<p>A table detailing the AC Price under two circumstances:</p> <ul style="list-style-type: none"> • a flat payment for each SP when demand is at or below AC. • a reduction of a proportion of the payment for each SP when demand exceeds the AC.
BaU	Business as Usual.
Call Off	A subcontracted Call Off from the contract awarded under the Trial FSA with specific terms for the delivery of the AC or DCR service that includes details of the (non-geographic) location, duration, and Asset Capacity. The Call Off process includes a Call Off bid issued by SSEN and a signed Call Off.
Charge Statement	<p>An FSP-specific summary covering each SP in the previous trial period (as defined in the Trial Design document).</p> <p>For Allocated Capacity, the Charge Statement details the Outturn FSP Demand, relevant price for the Basic AC service and (if applicable) the Advanced AC service, and the calculated sum payable to the FSP.</p> <p>For Dynamic Congestion Response the Charge Statement details the Outturn FSP Demand, SP Capacity Factor (or, if applicable, the FSP-Specific SP Capacity Factor), relevant DCR Price, and the calculated sum payable to the FSP.</p>
Commercial Trials	A series of tests undertaken during Field Trials or Virtual Networks Trials over several trial periods to achieve the Project Objectives.
Consumer	A domestic or small to medium business user of electricity.
Customer	A Consumer that receives a contracted service from an FSP.
DCR	Dynamic Congestion Response, one of two enduring DDS'.
DCR Price	Price payable per kWh using the DCR Price Table and based on the SP Capacity Factor.
DCR Price Table	A table detailing the DCR Price that applies to each SP based on the SP Capacity Factor calculated using the Outturn Asset Demand (or, if applicable, the FSP Specific SP Capacity Factor).

Term	Definition
DDS	Demand Diversification Service, a new category of enduring flexibility services.
Demand Forecast	A forecast of the FSP demand at an Asset for a defined Period.
Diversification Factor	<p>A measure of the diversity of the demand supplied by an FSP over a given Period. It is calculated as</p> $\frac{\text{total FSP demand on an Asset in Period}}{\text{maximum demand in any SP in Period} \times \text{number of SPs in Period}} \times 100\%$ <p>There are three Diversification Factors used in the Advanced AC service:</p> <ul style="list-style-type: none"> • Maximum Diversification Factor, 80%, the maximum useful diversity for an Asset. • Initial Diversification Factor where the FSP portfolio demand is determined using Historic FSP Demand. This provides a benchmark for Diversification Factor improvement. • Period Diversification Factor where the FSP portfolio demand is determined using Outturn FSP Demand. This is used to determine any Diversification Factor improvement.
DNO	Distribution Network Operator, responsible for delivering electricity to Consumers and businesses.
ENA	Energy Networks Association.
ESCLL	Energy System Catapult Living Lab, a partner in the project with volunteers who have a combination of one or more of Schedulable Demand, flexible demand, and Base Demand that may participate in the Commercial Trials or act as reference demand.
Field Trials	A series of tests that utilise FSP Customer Schedulable Demand to address the Project Objectives over several trial periods to determine the viability of the DDS'.
Flexibility Markets Team	An internal SSEN team, responsible for the procurement of flexibility services on the distribution network.
Flexibility Solutions Team	An internal SSEN team, responsible for the operation of procured flexibility services to meet the needs of the network.
FSA	Flexibility Services Agreement, an ENA developed contract for the provision of flexibility services.
FSP	Flexibility Services Provider, an aggregator, supplier, or other organisation that controls Schedulable Demand for a portfolio of Customers comprising Schedulable Demand and potentially non-schedulable Base Demand.
FSP AC	The level of AC allocated to an FSP.
FSP Maximum Demand	The FSP portfolio demand for the same SP when the Asset Maximum Demand occurs.
Historic Asset Demand	Historic demand for an Asset that includes Schedulable Demand and Base Demand (if the FSP is a supplier) and enables FSPs to maximise the use of Schedulable Demand.
Historic FSP Demand	Historic data provided by the FSP for all Customers for the same period as the Commercial Trials for the previous year or other period, as agreed.

Term	Definition
LCT	Low Carbon Technology devices or loads, primarily heat pumps, electric vehicle chargers and domestic batteries.
Live Asset Demand	A real-time data feed of the demand on an Asset. For the purposes of the Commercial trials, this is a demand profile that represents the live demand profile for, or a revision to, that profile for an Asset over a Period.
LMA	Load Managed Area, an area established under the Distribution Connection and Use of System Agreement regulations to provide DNOs with a means to diversify demand in a network area.
LMA Team	The SSEN project team (including Baringa partners) responsible for the future of LMAs, including Asset analysis, and the trialling of innovative solutions to resolve constrained Assets.
Outturn Asset Demand	The aggregate of all Outturn FSP Demand and other demand at an Asset for each SP in the previous Period.
Outturn FSP Demand	The aggregate FSP demand of the participating Customers at an Asset for each SP in the previous Period (as defined in the Trial Design document). The project assumption is that Consumer meter will measure the net demand which, if there is one or more generating source at the premises, e.g. battery, EV, or rooftop solar, the meter will measure negative demand.
Period	The duration of the delivery of the DDS service.
PNDC	Power Network Development Centre, a project partner who will create rural, semi-rural and urban network configurations, conduct power system analysis for Commercial Trials, and support project reporting.
Project Objectives	The project objectives to be considered during Trial Design and project delivery.
Project Team	The Project Team comprises staff from the LMA Team, Flexibility Markets Team, Flexibility Solutions Team, ESCLL and PNDC.
Reserve Asset Capacity	The portion of Asset Capacity that provides for growth during SP demand peaks.
Schedulable Demand	LCTs, storage heating or other electrical devices that are controlled directly or indirectly by an FSP (in the case of the Field Trials) or by the Project Team (in the case of the Virtual Networks Trials).
SHEPD	Scottish Hydro-Electric Power Distribution, SSEN's northern licence area and the distribution area in which all LMAs are located.
SP	Settlement Period, the thirty minutes that starts at the spot time occurring at the beginning of the half hour and ends at the spot time occurring exactly thirty minutes later. The first Settlement Period of a day begins at the spot time 00:00 of the day and ends at the spot time of 00:30 of the same day.
SP Capacity Factor	<p>The SP Capacity Factor is a measure of the mean utilisation of an Asset over a single SP. It is calculated using the following formula with the result expressed as a percentage:</p> $\frac{\text{Net measured demand on an Asset in a SP} \times 2}{\text{Asset Capacity}} \times 100\%$

Term	Definition
	<p>The SP Capacity Factor can also be calculated as an average for the year, for the peak SP demand in the year, and for FSPs. These are calculated as follows:</p> <p>Average SP Capacity Factor</p> $\frac{\text{Net measured annual demand on an Asset SP}}{\text{Asset Capacity} \times 8760 \text{ hours}} \times 100\%$ <p>Maximum SP Capacity Factor</p> $\frac{\text{Maximum net measured demand on an Asset in an SP} \times 2}{\text{Asset Capacity}} \times 100\%$ <p>FSP-Specific SP Capacity Factor</p> <p>Calculated using the process outlined in section Error! Reference source not found., in the sub-section entitled “Individual FSP Risk”.</p>
SSEN	Scottish and Southern Electricity Networks, the trading name of SHEPD and other organisations.
SSEN Active Power Services	Flexibility services procured by SSEN using a call off agreement that provide the ability to manage the load of an Asset at certain times.
Synthetic Asset	An Asset created for modelling Outturn FSP Demand collected during the Field Trials to understand how the delivery of AC affected the Asset.
Trial Design	The design of the Commercial Trials to ensure it delivers the Project Objectives and is consistent with this document.
Trial FSA	The overarching Flexibility Services Agreement that governs the contractual terms for the delivery of DDS and used for the Commercial Trials. It is based on the Standard Agreement for Flexibility Service v3 and SSEN Service Terms aligned to FSA (Flexible Power) v4 (dated July 2024), with the liabilities set to zero for the Commercial Trials
Virtual Asset	An Asset created for modelling Outturn FSP Demand data collected from ESCLL volunteers during the Virtual Networks Trials to understand how the delivery of the AC service could affect a simulated electricity network under a variety of conditions.
Virtual Networks Trials	A series of tests that aggregates data from ESCLL volunteers on virtual networks designed by PNDC to address the Project Objectives over several trial periods to determine the viability of the AC service.

1.3. AC Service

SSEN has Assets where the peak demand is reaching a level of concern and, if demand increases further, they may have to reinforce or replace the Asset. Under the Allocated Capacity (AC) Demand Diversification Service, there are two incentives SSEN can implement to address this situation :

- a **Basic AC service** to incentivise FSPs to reduce their peak demand by moving demand to other times.
- and an option to add an additional **Advanced AC service** to incentivise FSPs to reduce their peak demand and to improve the Diversification Factor of the Asset.

All prices in this section are indicative. Actual prices will be established as part of the trials.

1.3.1. Asset Capacity and AC allocation to FSPs

Asset Capacity determines the maximum energy that can be imported or exported through an Asset at any time. This capacity is used by multiple FSPs and consumer types, as outlined in Table 1, where ‘non-FSP demand’ refers to demand on the Asset that is not participating in the AC Service.

Table 1: Relationship between Asset Capacity and FSP AC

Asset Capacity	Reserve Asset Capacity	
	FSP3 Schedulable Demand	FSP3 AC
	FSP3 non-Schedulable Demand	
	FSP2 Schedulable Demand	FSP2 AC
	FSP2 non-Schedulable Demand	
	FSP1 Schedulable Demand	FSP1 AC
	FSP1 non-Schedulable Demand	
	Non-FSP demand	

How will Allocated Capacity be calculated?

SSEN will review Historic FSP Demand (includes Schedulable Demand and Base Demand (if the FSP is a supplier)) to determine the Settlement Period (SP) of maximum demand. For suppliers this will be smart meter data. For aggregators this will be some other form of agreed verifiable demand data. This will be used to determine the FSP AC. This is illustrated in Figure 1:

- Peak demand in an SP is identified from the Historic FSP Demand. This is 71 kWh in SP 36 (1730 to 1800) on 24 January 2024 in Figure 1
- The initial FSP AC is calculated as 142 kW (equivalent to 71 kWh in a SP). Note: the absolute peak demand in an SP is likely to exceed this value but smart meters, which are required for the supplier AC service, only provide a kWh value in an SP.
- SSEN will check that the aggregate of all FSP ACs does not exceed the Asset Capacity or reduce the Reserve Asset Capacity to an unacceptable level.
 - If there is no issue with Asset Capacity or Reserve Asset Capacity, the FSP AC is set at 142 kW.

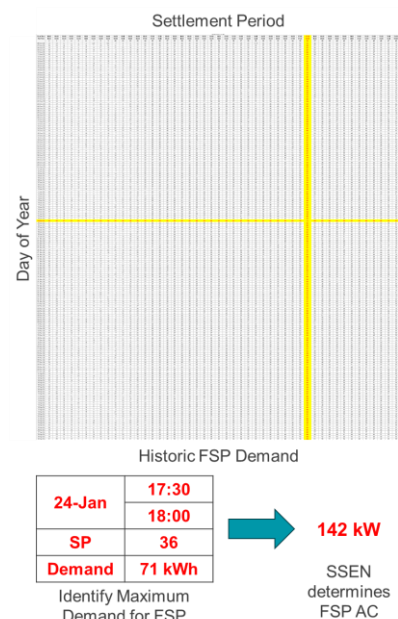


Figure 1: Illustration of how FSP AC is determined

- If there is an issue with Asset Capacity or Reserve Asset Capacity, SSEN will conduct a more detailed examination of the ACs for each FSP and adjust all FSP ACs to resolve the issue.

1.3.2. Basic AC service

How does the Basic AC service work?

In the Basic AC service, each FSP has its own FSP AC as discussed in section 1.3.1. This allows the FSP to calculate the maximum energy their portfolio of Customers can use in any SP to comply with the Basic AC service. Figure 2 illustrates the Basic AC service where the dark blue line represents the FSP AC based on the peak Historic FSP Demand, and the mustard line represents the profile for the day of maximum demand.

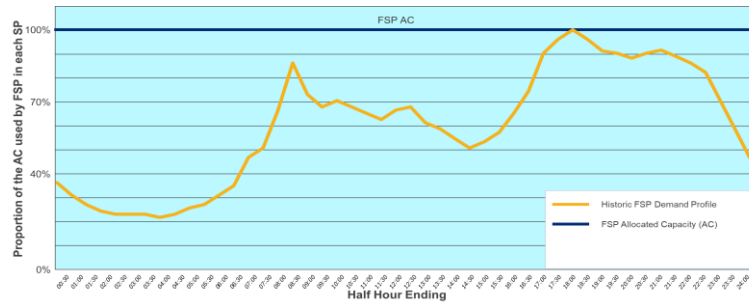


Figure 2: The Basic AC service requires an FSP to avoid exceeding its FSP AC

An FSP is expected to use its available Schedulable Demand to reduce demand in peak SPs, by moving it to other times without creating a new peak elsewhere. The aim is to avoid exceeding the FSP AC in all half hour periods.

How will the Basic AC service performance be monitored?

At the end of each [month], the FSP provides aggregate demand data for each SP of the delivery period. For suppliers this will be smart meter data. For aggregators this will be some other form of agreed verifiable demand data. SSEN will compare the energy used in each SP to the FSP AC equivalent energy (71kWh in the example in section 1.3.1) to determine if they have breached their FSP AC during the delivery period. This is illustrated in Figure 3, which has a demand curve that breaches the FSP AC (red) and one that does not (light blue); the curves are almost identical 00:00-16:30 and 18:00-24:00.

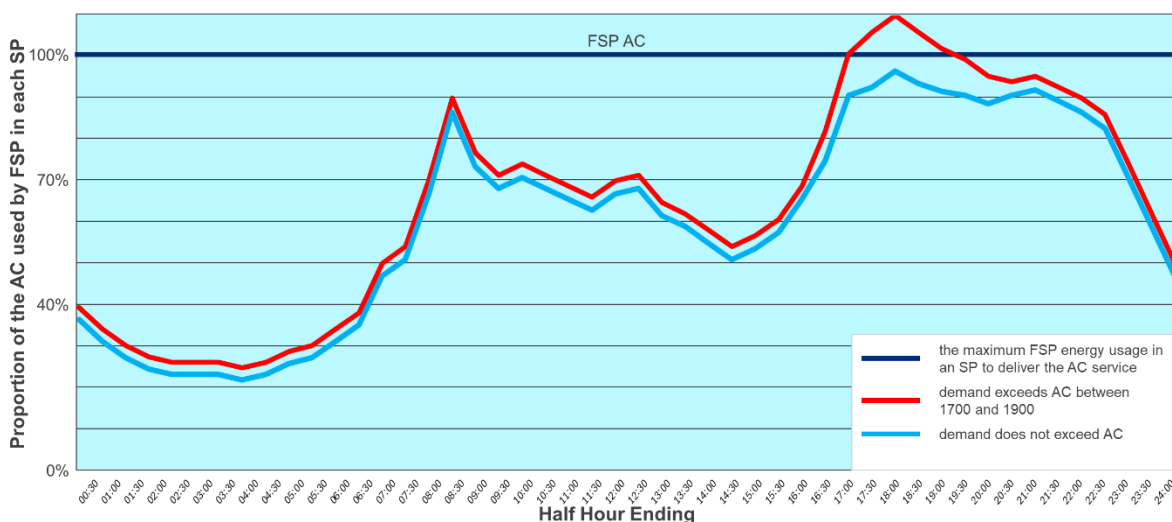


Figure 3: Monitoring usage against FSP AC for the Basic AC service for one day

How will FSPs be rewarded for providing the Basic AC service?

There are two payment components for the Basic AC service:

- a flat fee for every kWh of demand that is less than FSP AC.
- a reduction of a proportion of the payment if they exceed their FSP AC for an SP but this may be waived if there is a network demand or connection issue.

An illustrative Basic AC Price Table is provided in Table 2. The payment calculation and final payment for each demand curve in Figure 3 is provided in Table 3.

Table 2: Illustration of Basic AC Price Table for one day

Price Element	Price Paid
Payment for not exceeding FSP AC in an SP	£0.01 / kWh / SP
Reduction in payment if you exceed FSP AC in an SP	-£0.40 / kWh / SP

Table 3: Payment calculation for Basic AC service for each demand curve in Figure 3

Criteria	kWh	Price Paid	Sub-Total
Calculation for blue demand curve (total demand for day = 1,855 kWh)			
Payment for not exceeding FSP AC in an SP	1,855	£0.01 / kWh / SP	+£18.55
Reduction in payment if you exceed FSP AC in an SP	0	-£0.40 / kWh / SP	-£0.00
Net payment for blue demand curve			+£18.55
Calculation for red demand curve (total demand for day = 1,894 kWh)			
Payment for not exceeding FSP AC in an SP	1,855	£0.01 / kWh / SP	+£18.55
Reduction in payment if you exceed FSP AC in an SP	39	-£0.40 / kWh / SP	-£15.60
Net payment for blue demand curve			+£2.95

Will the AC ever change for the Basic AC service?

SSEN will review the FSP AC with the FSP every [3] months, or if there is a material change in the FSP's portfolio, and it could increase or decrease based on proven portfolio changes (number of consumers or change in Schedulable Demand or demand profile).

1.3.3. Advanced AC service

How does the Advanced AC service work?

The Advanced AC service is an optional add-on to the Basic AC Service. The objective of the Advanced service is to improve the level of Asset diversity (particularly for transformers) to maximise lifespan, improve operational efficiency, and free up capacity for new connections. The Diversification Factor for an Asset is illustrated in Figure 4 where a poorly diversified Asset has a large difference between demand peaks and troughs and a well-diversified Asset has a more stable demand over time.

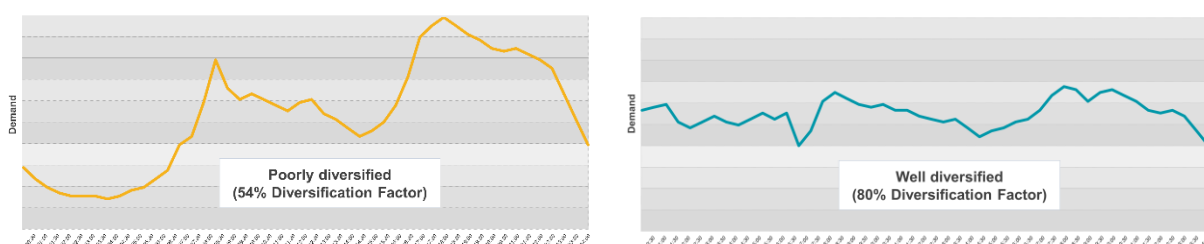


Figure 4: Comparison of poorly and well diversified asset demand

The Diversification Factor of an FSP portfolio is calculated as follows:
LAST REVISED 15-NOV-24

$$= \frac{\text{total FSP portfolio demand supplied by an Asset in a Period}}{\text{maximum SP demand in the Period} \times \text{number of SPs in the Period}} \times 100\%$$

There are three Diversification Factor calculations of note:

- **Maximum Diversification Factor**, 80%, the maximum useful diversity for an Asset to provide the optimum level of demand to maintain design lifespan.
- **Initial Diversification Factor** where the FSP portfolio demand in the above formula is determined using Historic FSP Demand. This provides a benchmark for Diversification Factor improvement.
- **Period Diversification Factor** where the FSP portfolio demand in the above formula is determined using Outturn FSP Demand. This is used to determine Diversification Factor improvements.

How will Advanced AC service performance be monitored?

At the end of each [month], the FSP provides their Outturn FSP Demand; for suppliers this will be smart meter data and for aggregators this will be some other form of agreed verifiable demand data. The data will be analysed and SSEN will compare the Period Diversification Factor with the Initial Diversification Factor to determine the improvement (if any). This is illustrated in Figure 5.

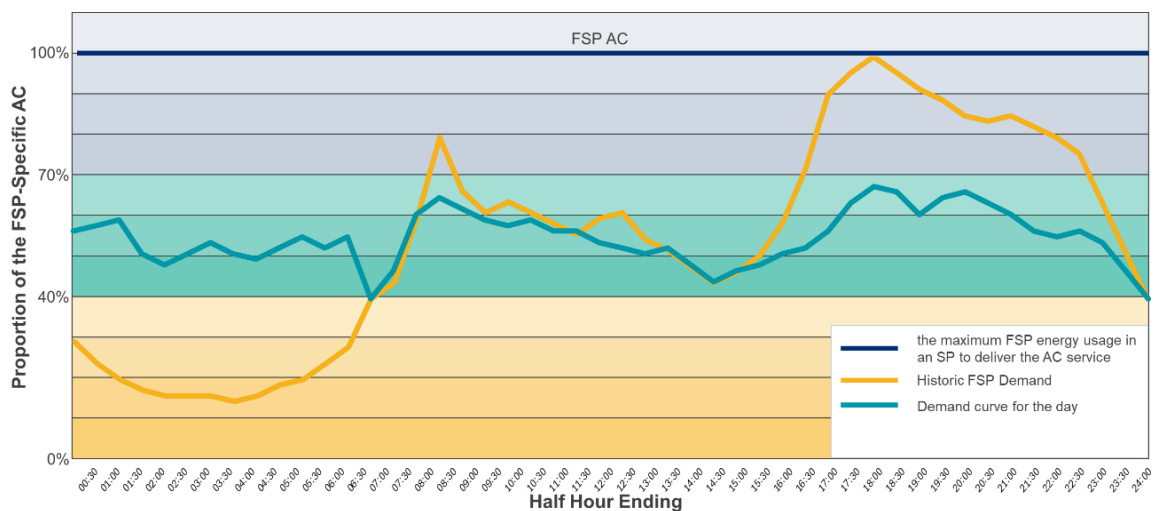


Figure 5: Comparison between two different demand days

How will FSPs be rewarded for providing the Advanced AC service?

The Advanced AC service has one payment component: a variable payment directly proportional to the improvement of the Initial Diversification Factor using the following logic:

- calculate the Initial Diversification Factor from the Historic FSP Demand.
- calculate the Period Diversification Factor from the Outturn FSP Demand.
- calculate (Period Diversification Factor - Initial Diversification Factor):
 - if negative, there is no payment for improving the Diversification Factor.
 - if positive, the payment is equal to {minimum (Maximum Diversification Factor, Period Diversification Factor) - Initial Diversification Factor} * payment rate for Diversification Factor.

An illustrative Advanced AC Price Table is provided in Table 4. The payment calculation and final payment for each demand curve in Figure 5 is provided in Table 5.

Table 4: Illustrative Advanced AC Price Table for the Advanced AC service only

Price Element	Price Paid
For each [1]% improvement in Initial Diversification Factor over a Period	+£0.40 / [1]%

Table 5: Payment calculation for Advanced AC service for the demand curves in Figure 5

Criteria	kWh	Price Paid	Sub-Total
Calculation for the Historic Demand Curve (mustard demand curve)			
<ul style="list-style-type: none"> Maximum Diversification Factor = 80% Initial Diversification Factor (1,855 kWh / (71 kWh *48)) = 54% 	N / A	N / A	N / A
Calculation Demand curve for the day (teal demand curve)			
For each [1]% improvement in Initial Diversification Factor over a Period: <ul style="list-style-type: none"> Maximum Diversification Factor = 80% Period Diversification Factor (1,855 kWh / (47 kWh *48)) = 82% Initial Diversification Factor (above) = 54% improvement of Diversification Factor {minimum (82%, 80%) – 54%} = 26% 	26%	+£0.40 / [1] % / Period	+£10.40

Will the FSP AC ever change and how is this accounted for in payments?

There are two issues to consider:

- **Level of AC** - SSEN will review the FSP’s AC every [3] months or if there is a material change in the FSP portfolio, and it could increase or decrease based on proven portfolio changes (number of consumers or change in Schedulable Demand or demand profile).
- **Unused FSP AC** – successfully, and consistently, reducing the peak demand will result in unused capacity. It is also important that FSPs continue to be rewarded for long-term reductions in peak demand against the Historic FSP Demand as this is crucial to maintaining Asset diversification.

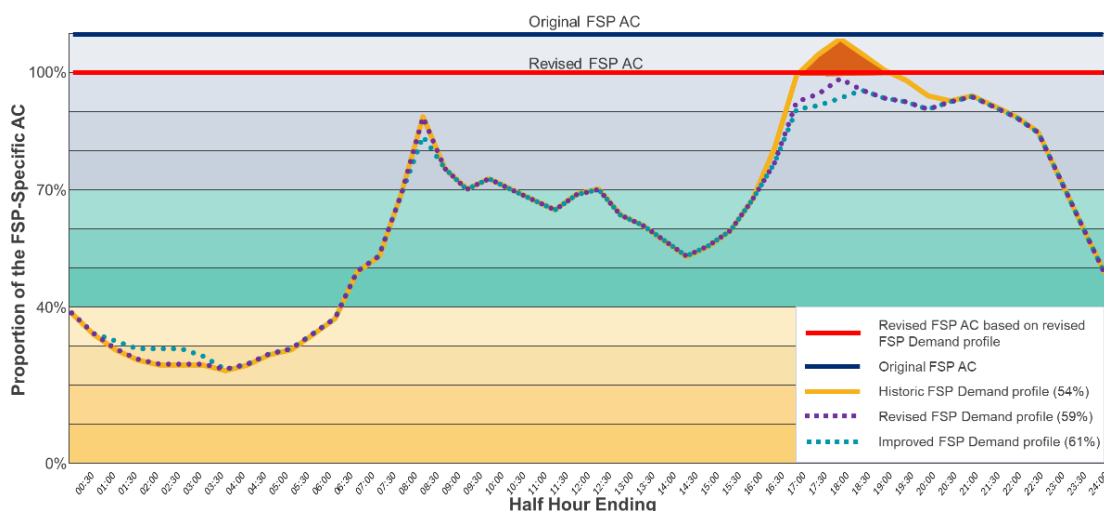


Figure 6: Changes to FSP AC due to changes in peak demand day

An illustration of how this might work is provided in Figure 6 where:

- the Historic FSP Demand profile (mustard) resulted in an original FSP AC (dark blue line).
- the revised FSP demand profile which has existed for some time (purple dotted line) and has the same demand as the Historic FSP Demand except 16:30 to 20:00 when it is lower. At the next review the FSP AC is reduced (red line) to reflect the new peak demand.
- the outcome for the **Basic AC service** is:
 - the FSP re-optimises and delivers an improved demand profile (teal dotted line).
 - the FSP will continue to be paid for any demand at or below the revised FSP AC.
 - if demand exceeds the revised FSP AC the FSP will be subject to the usual payment reduction rules.
- the outcome for the **Advanced AC service** is:
 - all Diversification Factor improvement are measured against the Initial Diversification Factor derived from the Historic FSP Demand which was used to determine the FSP AC.
 - the improvement in the Diversification Factor will be calculated using (Period Diversification Factor - Initial Diversification Factor).

The payment calculations for Figure 6 are provided in Table 6 and Table 7. The payment for the Basic AC Service is calculated in Table 6. The total payment for the Advanced service is the sum of the payments in Table 6 and Table 7.

Table 6: Payment calculation for Basic AC service for the demand curves in Figure 5

Criteria	kWh	Price Paid	Sub-Total
Calculation for the improved FSP demand profile (teal demand curve; 1,894 kWh)			
Payment for change from original FSP AC (1,894kWh) to revised FSP AC (1,855kWh)	39	+£0.01 / kWh	£0.39
Payment for not exceeding revised FSP AC in an SP	1,855	+£0.01 / kWh	£18.55
Total payment for managing demand within the revised FSP AC			£18.94

Table 7: Payment calculation for Advanced AC service for the demand curves in Figure 5

Criteria	Change	Price Paid	Sub-Total
Calculation for the improved FSP demand profile (teal demand curve; 1,894 kWh)			
For each [1] % improvement in Initial Diversification Factor over a Period: <ul style="list-style-type: none"> • Maximum Diversification Factor = 80% • Period Diversification Factor = 61% • Initial Diversification Factor = 54% • improvement of Diversification Factor (minimum (80%, 61%) – 54%) = 7% 	7%	+£0.40 / [1] % / Period	£2.80
Total payment for improving diversification factor			£2.80

2. Process steps for Commercial Trials

A mapping of the BaU process to the DDS AC process is summarised in section 2.1 with a summary of the data flows in section 2.2.

2.1. Summary of AC process steps for Commercial Trials

Process step	Activities undertaken
Requirements Identification	The Project Team will determine the size and configuration of Synthetic and Virtual Networks required for the trials, as well as the number of Consumers that will be required to populate these networks to analyse the effect of AC on Asset Capacity.
Pre-Qualification	The Flexibility Markets Team will follow the BaU process of assessing potential DDS providers.
Mini-Competition	<p>The Flexibility Markets Team and LMA Team will be jointly responsible to:</p> <ul style="list-style-type: none"> • Define the AC service terms. • Determine the Maximum Diversification Factor and the AC Price Table. • Advertise the mini competition to all FSPs and finalise negotiations. • Engage with FSPs who do not accept the Trial FSA to understand why. • Refine AC service terms (if required). • Refine the indicative AC Price Table (if required). <p>Only the commercial terms require to be accepted for FSPs to pass this stage.</p>
Service Definition	<p>The Flexibility Markets Team and LMA Team are jointly responsible to:</p> <ul style="list-style-type: none"> • Finalise the AC Price Table for the Call Off (if required). • Refine the Call Off (if required). • Define the Call Off. • Advertise the Call Off, finalise negotiations and sign the Call Off.
FSP Setup	<p>The Flexibility Markets Team and LMA Team are jointly responsible to:</p> <ul style="list-style-type: none"> • Register each FSP on the relevant SSEN systems. • Make provisions to obtain, verify, and aggregate data. • Create Historic Asset Demand and Asset Maximum Demand. • Determine the FSP AC for each FSP based on their Historic FSP Demand and agree with FSP. • Make provisions for settlement and paying FSPs. <p>The FSPs involved in the Field Trials are responsible to:</p> <ul style="list-style-type: none"> • Recruit Customers to take part in the Field Trials. • Provide Historic FSP Demand. • Agree FSP AC with the LMA Team. <p>The FSPs involved in the Virtual network Trials are responsible to:</p> <ul style="list-style-type: none"> • Support ESCLL to recruit volunteers to take part in the Virtual Networks Trials. • Interact with relevant volunteers with Schedulable Demand. • Provide Historic FSP Demand. • Agree FSP AC with the LMA Team.
Service Coordination	The Flexibility Solutions Team is responsible for considering how the use of DDS during the Commercial Trials could impact other internal teams, conflict management and Asset demand.

Process step	Activities undertaken
Monitoring and Management	<p>The LMA Team is responsible to monitor and manage the level of Asset Maximum Demand during trial periods:</p> <ul style="list-style-type: none"> • Determine Outturn Asset Demand for use during Commercial Trials. • Analyse the level of AC delivery against forecasts. • Determine the effect of AC on Asset Maximum Demand and the improvement of the Initial Diversification Factor.
Settlement	<p>The LMA Team is responsible to:</p> <ul style="list-style-type: none"> • Receive data on trial delivery and determine the effect on the Asset. • Conduct settlement validation. • Determine and approve FSP service payment. • Determine FSP performance against Commercial Trial objectives and forecasts.
Adjustments during the Commercial Trial	<p>The Flexibility Markets Team and LMA Team are jointly responsible for:</p> <ul style="list-style-type: none"> • Operate the Commercial Trial in accordance with the Trial Design and iterate to deliver the objectives • Iterate the service design to reduce the burden on stakeholders.

2.2. Summary of Data Flows

Data flows are summarised in Figure 7.

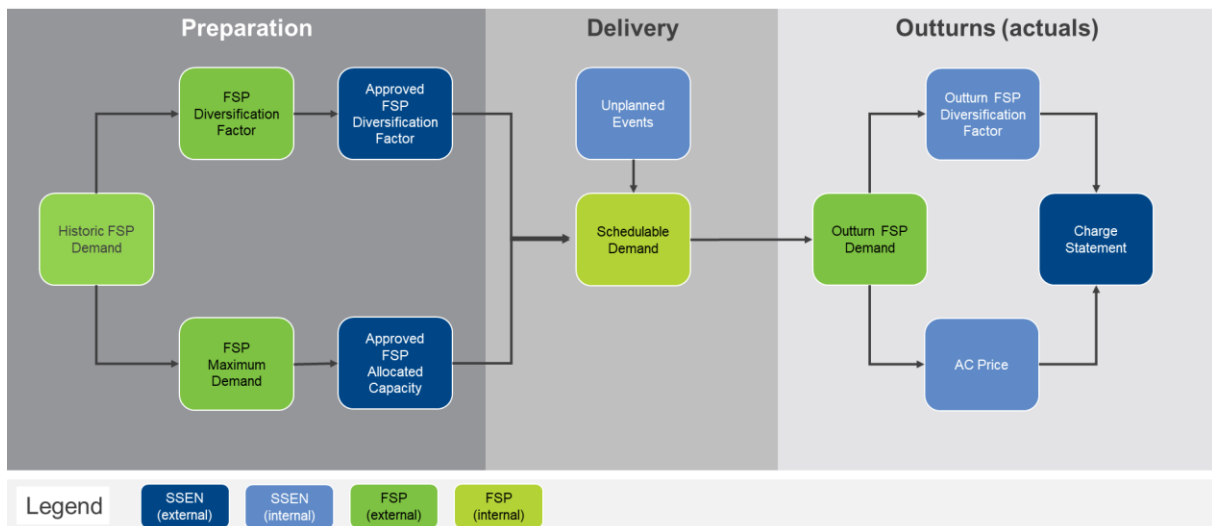


Figure 7 - Summary of AC Data Flows