

# Demand Turn Up (DTU)

Interactive Guidance document and invitation to tender



V1.0 February 2018

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## Version control

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Version	Date published	Page No.	Comments
1.0	20/02/2018		

# How to use this guide

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- This document provides current and potential Demand Turn Up (DTU) providers with clear, simple and transparent guidance on the service.
- A menu button on each page allows access back to the main menu, or section menu where required:



**Return to main menu**

- A toolbar runs along the bottom of every page, allowing for quick navigation to section menus. Coloured icons allow navigation to relevant sections of the document.

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- Sections of the guidance are colour coded, for ease of use.
- Please contact [commercial.operation@nationalgrid.com](mailto:commercial.operation@nationalgrid.com) if you have any questions or feedback.

**Note:** icons on this page are for illustration only - links do not work.

# Main menu

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Select icons to navigate to relevant sections of this document:

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# 1. DTU service 2018 overview

## Demand Turn Up (DTU)

- The DTU service encourages energy users and generators to increase demand or reduce generation at times of high renewable output and low national demand. This typically occurs overnight and during weekend afternoons in the summer. Demand Turn Up is open to any assets that do not participate in the Balancing Mechanism (BM). **In 2018, the DTU service will run from 1st May to 28th October.**

## Fixed DTU service 2018

- **A Fixed DTU tender will take place in February / March 2018 for service delivery from the 1st May.**
- Interested parties will submit their availability and utilisation prices, which are fixed for the duration of the 2018 service. The advantage of the fixed service route is guaranteed availability payments during the windows that providers declare themselves as available.

## Optional DTU service 2018

- **An Optional DTU service replaces the Flexible DTU service in 2018.**
- Parties who are unsuccessful during the Fixed tender, or unable to make the tender deadline can provide the Optional DTU service and receive a utilisation payment only. The advantage of the optional route is that it offers the ability to change the price frequently to reflect weather and market conditions.

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## 2. Technical requirements (1/2)

<b>Minimum MW size</b>	<ul style="list-style-type: none"><li>The entry threshold for participation is 1 MW. This can be aggregated from sites at least 0.1MW. Fractions of megawatts are acceptable, providing that they meet the entry threshold.</li></ul>				
<b>Average response time and duration</b>	<ul style="list-style-type: none"><li>The average notice period for an instruction in 2017 was <b>6 hours 40 minutes</b>.</li><li>In 2017, the average length of delivery was <b>3 hours 34 minutes</b>.</li><li>We will ask how long you are capable of providing DTU for in a single instruction and we won't exceed this when issuing instructions.</li></ul>				
<b>Equipment</b>	<ul style="list-style-type: none"><li>Providing you have minute by minute or half hourly metering on your site(s), a mobile phone / landline and access to Microsoft Outlook, there is no additional equipment that needs to be installed.</li></ul>				
<b>Service dispatch</b>	<ul style="list-style-type: none"><li>Instructions will be issued via email with a supporting SMS. We will send an email containing the details of the MW response and the timeframes during which it is required. Providers will need to confirm receipt of an email instruction within 30 minutes of it being issued. The Platform for Ancillary Services (PAS) system is not available for DTU in 2018.</li></ul>				
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## 2. Technical requirements (2/2)

Demand Turn Up is open to any technology that has the flexibility to:

- **increase demand (through shifting, not wasting unnecessarily) or**
- **reduce generation during times of high renewable output and low demand.**

The service is open to:

- **true demand turn up,**
- **CHP or other type of generation,**
- **energy storage (such as batteries),**
- **other technologies, providing they can offer the flexibility required.**

National Grid does not differentiate between technology types for the purposes of assessing tenders.

It is not possible for a provider to declare availability for Demand Turn Up at the same time as declaring availability for another Balancing Service. For example, to participate in Short Term Operating Reserve (STOR), it would be necessary for a provider to declare 0MW availability for DTU during the periods they wished to be available for STOR.

Demand Turn Up is not a Relevant Balancing Service for the Capacity Market.

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# 3. How to participate

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## 3.1. Fixed DTU service

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### Fixed DTU service

- Tender opens on the **21st February 2018** and closes on **16th March 2018**, for service start date of **1st May 2018**.
- Details of all successful and unsuccessful tenders will be published by no later than **13th April 2018**.
- Successful parties will be required to sign the Demand Turn Up Framework Agreement 2018 (fixed service) prior to the service start date.
- The Fixed DTU tender submission template must be completed and returned to [commercial.operation@nationalgrid.com](mailto:commercial.operation@nationalgrid.com) (cc: [emily.hirst@nationalgrid.com](mailto:emily.hirst@nationalgrid.com)) by 5pm on 16th March 2018.
- Availability prices are fixed for the duration of the service. Utilisation prices are also submitted at tender and will be capped for the duration of the service (can reduce tendered price when declaring availability if desired).
- Declarations of availability are submitted for the coming week or, if availability over a longer period is known, it can be submitted between a range of dates or 'until further notice'. Declarations of availability will be made via the Fixed DTU tool, which will be sent to providers prior to service start. Microsoft outlook is required for this process.

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## 3.2. Optional DTU service

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### Optional DTU service

- The Optional service start date is **1st May 2018**, but providers can join the service at any time before **28th October 2018** by signing onto the Demand Turn Up Framework Agreement 2018 (Optional service).
- Parties that were unsuccessful during the Fixed tender or were not able to meet the tender deadline, or parties that want the flexibility to change availability and utilisation prices frequently may choose this route.
- There will be no assessment of the Optional DTU service. Only one bid per unit can be made for each Availability Window, but every bid will be visible to the control room. Bids will be utilised if they are considered economical when compared to other footroom services.
- **No Availability prices can be submitted for the Optional DTU service.**
- Utilisation prices and declarations of availability are submitted for the coming week or, if availability over a longer period is known, it can be submitted between a range of dates or 'until further notice'. Prices and declarations of availability will be made via the Optional DTU tool, which will be sent to providers prior to service start. Microsoft outlook is required for this process.

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## 3.3. Availability Windows

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- The Availability Windows for the Fixed and Optional DTU services are:

### Base Months

May, September, October:

Daily: 23:30 – 08:30

Weekends and English Bank Holidays: 13:00 – 16:00

### Peak Months

June, July, August:

Daily: 23:30 – 09:00

Weekends and English Bank Holidays: 13:00 – 16:00

- Fixed and Optional DTU providers can also declare availability in Optional Windows, which are all time periods in between Availability Windows, during which there is likely to be a lower requirement for DTU.
- No Availability fee is paid in Optional Windows. Both Fixed and Optional DTU providers can submit bids for Optional Windows, but all providers will receive Utilisation payments only within these periods.

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## 4. Assessment Principles (1/2)

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### Determining the requirement for DTU:

The wholesale energy market delivers sufficient footroom most of the time. When demand on the system is very low, however, it is more likely that conventional power stations will be running close to their lower output limit. At these times, we need ancillary services like DTU, to ensure that sufficient footroom is available.

The total requirement met by DTU will depend on the cost of alternative actions and how those actions interact in order to help National Grid operate the system securely. Alternative actions for creating footroom include:

- Repositioning BM Units
- Contracting with inflexible generators
- Super SEL
- Managing hydro overnight demand
- Bids on wind generation
- Repositioning interconnector flows

When assessing the Fixed DTU tenders received, considerations include: availability payment, utilisation payment, other parameters such as volume (MW), response time, recovery time and duration of response.

The accepted tenders will be selected such that the total costs of securing footroom and operating the system are lower than without the selection of those tenders.

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## 4. Assessment Principles (2/2)

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- The volumes of DTU procured will depend on the benefit of each Fixed tender and / or Optional bid against the cost of alternative actions.
- We will assess the benefit of DTU tenders against the cost of energy actions in the BM, for example the acceptance of Bids (through BOAs) on wind generation.
- Factors considered in the economic assessment of tenders include:
  - Price tendered – both availability payment and utilisation payment.
  - Notification period – less than 4 hours notice period between utilisation instruction and delivery of DTU is operationally beneficial.
  - Duration of response – delivery of DTU for 4 hours or longer is operationally beneficial but flexibility is also valued.
  - Geographic location of the DTU unit – DTU can be useful in locations where there are thermal export constraints when used for constraint management.

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## 5. DTU service 2017 review (1/4)

**The Fixed DTU tender round** closed on 17 February 2017.

- Tenders were received from nine companies, totaling 262.2 MW.
- 138.6 MW of fixed volume was accepted from six parties, based on prices submitted, speed of response, duration of response, and location.

**The DTU Flexible service** started in 2017.

- Through the bi-weekly Flexible DTU assessment, Flexible DTU was accepted to be available for Window 1 on 9th May 2017 but it was not utilised.
- The Control room nominated and instructed Optional DTU four times.

- **Overall availability:** Average availability was 82 MW.
- **Overall utilisation of DTU service:** 4% Utilisation rate. This was driven by lower priced alternative services.
- **Other comments:** DTU was used less than anticipated in Summer 2017, as a consequence of generation and demand profiles varying from what was expected.

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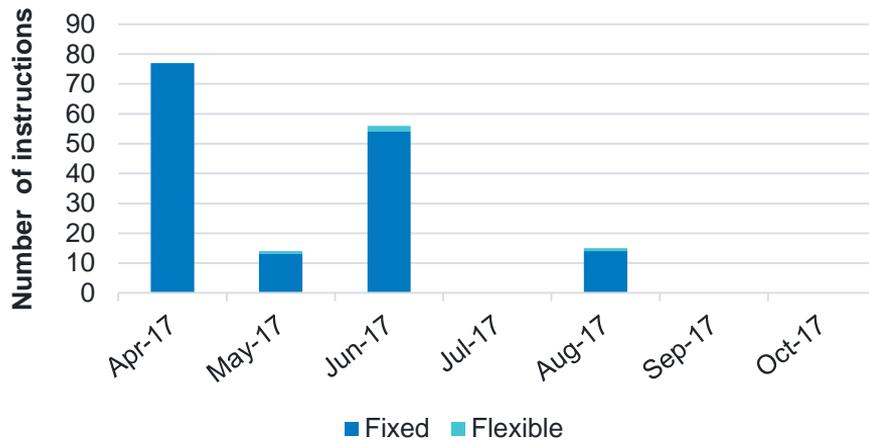
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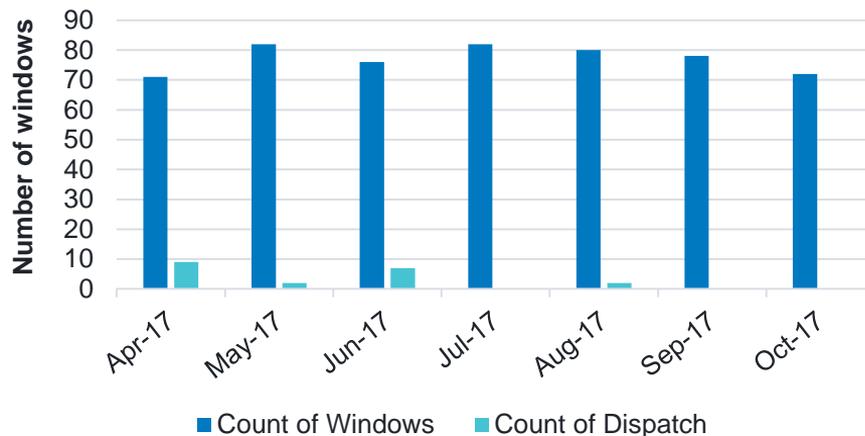
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# 5. DTU service 2017 review (2/4)

### DTU Instructions



### Frequency of Utilisation



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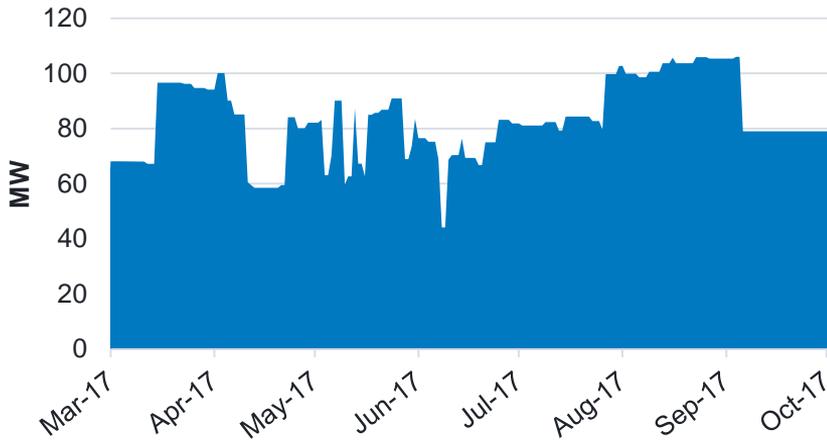
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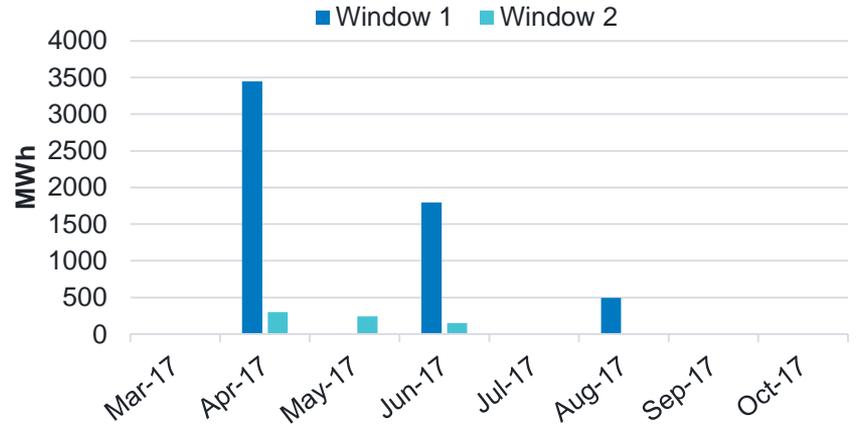
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# 5. DTU service 2017 review (3/4)

### DTU Availability



### DTU Instruction volume



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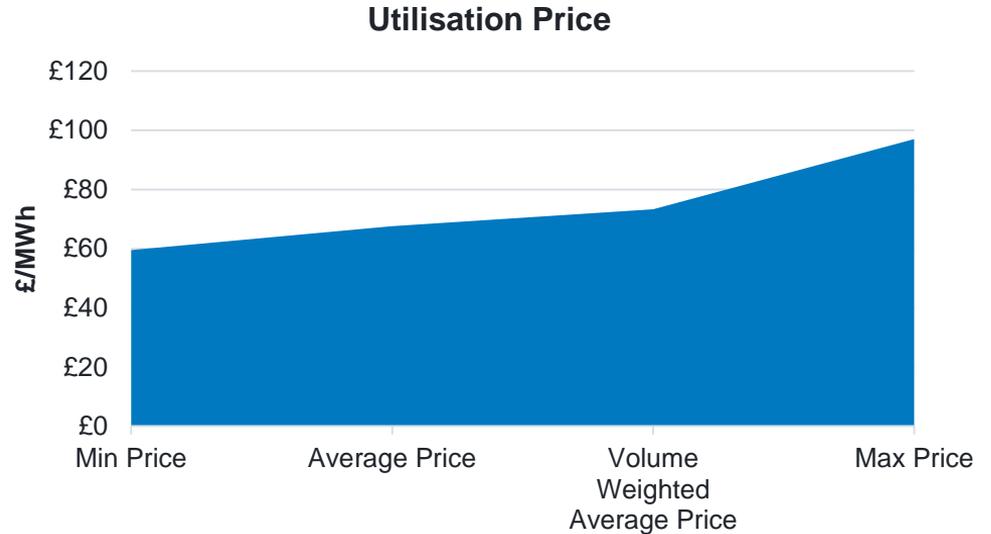
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# 5. DTU service 2017 review (4/4)

Event	Timeframe
Average Utilisation Time*	3 hours 34 mins
Average notice to instruction Start	6 hours 40 mins
Average time for provider response	19 mins



- This is dependent on the max run time from the provider (parties will never be sent an instruction that endures longer than their maximum capability)

## 6. Market information

- In 2018, the footroom requirement across all potential solutions is expected to range from 0 GW to 4.5 GW. Further details of the anticipated duration for the footroom range is given in the table below:

Requirement / GW	Percentage of Summer 2018
≥0	60%
≥0.5	50%
≥1.5	30%
≥3	10%
≥4.5	2%

We will determine how much of DTU is procured by stacking beneficial tenders in merit order with other alternative services to meet the footroom requirement.\* Alternative services will include:

- Interconnector actions
- Super SEL contracts
- Repositioning BM Units
- Hydro overnight demand

**\* We reserve the right to not procure any DTU volume if it is deemed uneconomical in comparison to alternative services.**

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