Short Term Operating Reserve (STOR)

Earn additional income for your business through load management
If your business has the ability to shut down certain processes at short notice, or start-up standby generation, you can earn an additional income by helping the National Grid to balance supply and demand on the electricity network.

**Benefits to your business**

**Earn Significant income**

The principal benefit of STOR participation is the additional income you can earn for your business. You will be paid a £/MWh fee every time you make your load available, as well as an extra utilisation fee (£/MWh) if you are called on to load manage. The potential earnings are significant, and could be up to £20,000 per MW per year.

In 2013/14, ENGIE customers collectively earned more than £8m from their participation in STOR. Participants have the potential to earn around £20,000 per MW per year.

We have a successful track record of tendering for National Grid STOR contracts on behalf of our customers. We currently have around 400MW under management, which represents around 15% of the market.

We have been working with National Grid for more than ten years, and we have a strong relationship with the system operator. We are well placed to liaise with them on your behalf, and to manage the end-to-end process from tender submission and technical requirements training, through to payment validation and query resolution. We don’t even need to be your electricity supplier to manage this service on your behalf.

Every business is unique, so we tailor our services to meet your individual requirements. We work closely with you to develop a strategy that optimises your earning potential from demand-side services, while minimising disruption to your business.

**Support renewable energy generation and reduce UK carbon emissions**

By taking part in STOR you will be helping National Grid to keep supply and demand in balance. More than 10% of UK electricity generation is currently provided by carbon-intensive peaking plants, which help to match supply with demand when required. STOR load management effectively reduces the need for these peaking plants. It helps to support the growth of renewable energy generation, such as wind power, by offering essential balancing at times when weather conditions cause output to drop. The overall carbon emissions of the National Grid system will reduce as more renewable generation and balancing services are connected to it. This will benefit all companies that report their carbon emissions, since Defra’s (Department for Environment, Food & Rural Affairs) grid-supplied electricity conversion factor takes this into account.

**Maintain your assets at optimum efficiency**

Generators providing back-up load to the STOR scheme need to be run regularly to ensure they are available for immediate start up when required. Generators that are not tested frequently are likely to fail in an emergency situation. Running your generators at regular intervals will improve their efficiency and reliability, helping to maintain your assets in prime condition and ensuring their long-term efficiency.
And now for the detail...

What is STOR?

STOR is a demand-side service used by National Grid to help keep supply and demand on the electricity network in balance at all times. If there is a sudden surge in demand, or a fall in generation output, National Grid needs to call on businesses (demand-side participants) to either start generating or to shutdown parts of their plant to bring network supply and demand back into balance.

Similarly, if you operate a process that can withstand a sudden power reduction without detriment to your products or processes, you can also benefit from STOR. The standby electricity generation facilities on your site could therefore be an untapped source of income. Whether you have a combined heat and power plant (CHP), a diesel generator or an open-cycle gas plant (OCGT), we can help you to earn money from your on-site generation capacity by participating in STOR.

ENGIE will manage the end-to-end process for you, dealing with the complex tendering and contract management with National Grid on your behalf.

How does STOR work?

As a STOR participant, you will offer your load as reserve to National Grid during predetermined windows. At these times, you must be available to either start-up your generators or reduce your load by the agreed amount, if called upon to do so by National Grid. You are paid an availability fee (£/MWh) for all of these periods. If your plant is called on to load manage you will be paid an additional ‘utilisation fee’ (£/MWh) to cover the times when your processes are shut down or your generators are running.

There are up to three STOR ‘windows’ every working day, excluding Sundays and bank holidays. At the tendering stage, you can decide whether to make your load available for every STOR window (‘committed’ provider) or only a proportion of them (‘flexible’ provider). You must then submit your availability for STOR on a weekly basis. National Grid offers contracts for STOR in three tender rounds each year.

Can you participate?

Your business needs to be able to offer a minimum of 3MW of either generation or load reduction capacity to participate in the scheme. You must be able to shutdown processes or start up standby generation within 20 minutes of a request from National Grid, and you must be able to maintain that load reduction or generation output for a minimum of two hours.
Triad avoidance - cut your transmission costs through load management

Businesses that are able to manage their loads for STOR participation are also ideally suited for Triad avoidance.

Triads are the three half-hour periods in each winter season (November to February) that have the highest demand peaks on the electricity network. The peaks are almost always around lighting up time, in the half hour between 5-5.30pm. Your energy consumption during these three periods determines the transmission costs you pay. Reducing your energy consumption during the Triads will directly reduce your transmission charges.

ENGIE offers a Triad warning service to help you prepare for these peak periods. We try to predict the periods of highest demand on the network, giving you advance warning so you can reduce your consumption at those times.

Our specialists have a very high success rate at predicting the Triads each year and through the 2013/2014 period accurately forecast each triad occurrence for our customers.
Processes suitable for STOR participation include:

**DIESEL GENERATORS**
Permanently installed back-up diesel generators can respond to calls from National Grid for additional reserve, when not being used by your site.

**COMBINED HEAT AND POWER (CHP)**
If you generate electricity and capture heat on site using natural gas/biogas, you may be able to offer back-up capacity to National Grid.

**REFRIGERATION UNITS**
May be suitable for load management, since short interruptions to supply will not disrupt normal operation.

**PUMPED STORAGE**
Can achieve full load within 75 seconds, and is therefore ideally suited to respond quickly to short-term changes in power demand or the sudden loss of other plant.

**Businesses in the following sectors may be particularly suited to STOR:**

- **PRODUCT MANUFACTURING**
- **PUMPS**
- **INDUSTRIAL GAS MANUFACTURING**
- **WATER**
- **HOSPITALS**
- **RETAIL**
- **HORTICULTURE**
- **FOOD & DRINK**
- **DATA CENTRES**
- **WASTE PROCESSING**
- **UNIVERSITIES**
Eight simple steps to STOR participation

01 INITIAL CONVERSATION
To discuss suitability and product options - get in touch with us on 0113 306 2144 or by emailing energyservices.team@engie.com

02 SITE VISIT
To determine technical requirements, installation and implementation strategy, and assess your site for viability.

03 ARRANGE FRAMEWORK AGREEMENT
Discuss terms and obligations.

04 EQUIPMENT INSTALLATION AND TESTING
Specialist engineers install all necessary equipment, provide training and thoroughly test equipment to confirm metering and communications are in place.

05 TENDER ROUNDS
ENGIE will provide market analysis, price recommendations and advice, as well as managing the entire tender process.

06 SERVICE DELIVERY
Availability declarations submitted as necessary. ENGIE will monitor performance and liaise with you to ensure you maximise the benefits of STOR.

07 INVOICING AND SETTLEMENT
ENGIE acts as intermediary between you and National Grid, ensuring all payments are in line with performance and delivery.

08 QUERY RESOLUTION
Any queries or disputes will be fully managed on your behalf by ENGIE.