



# *amber energy*

*Your smarter energy manager*

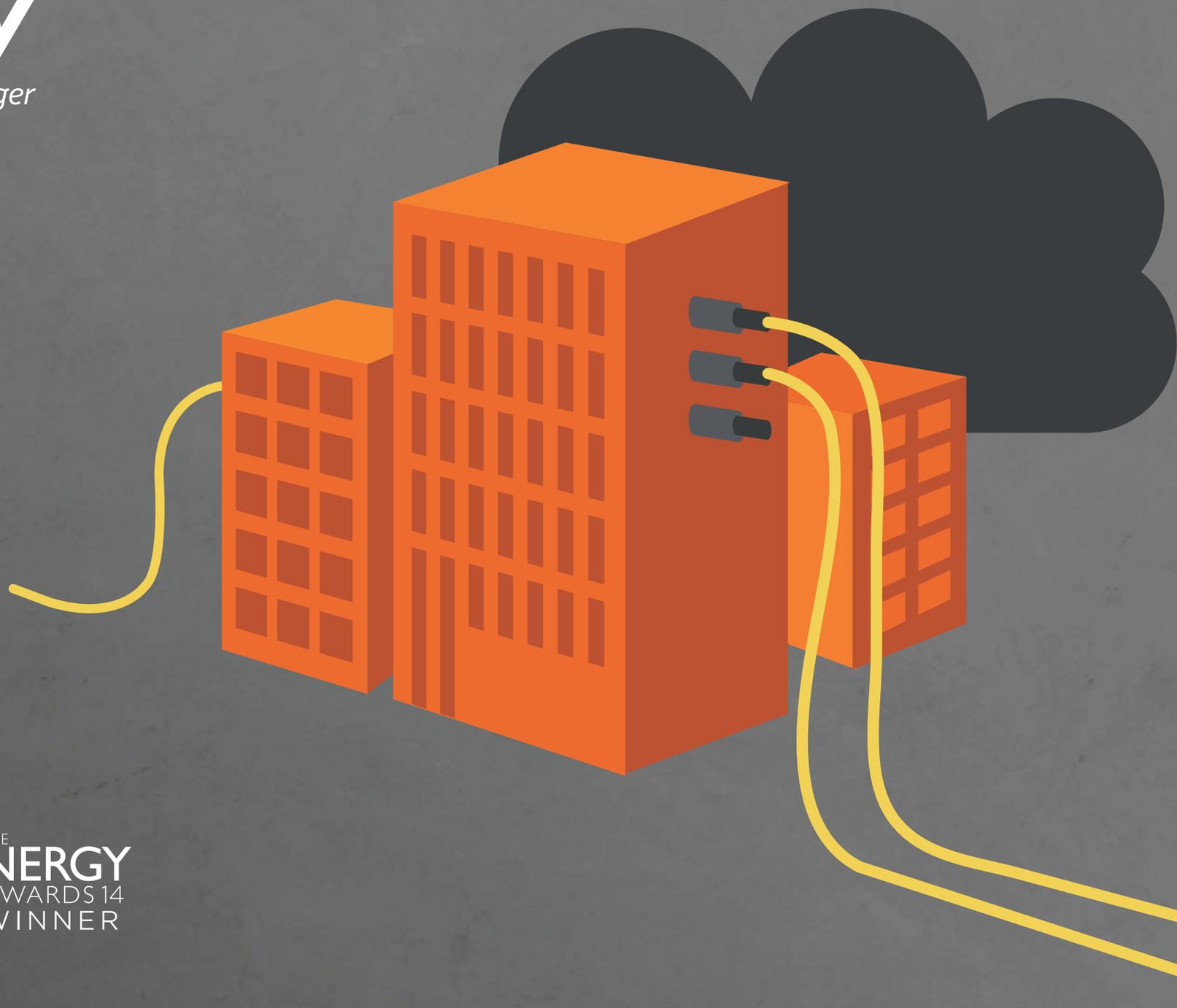
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INVESTORS  
IN PEOPLE



# *What are 'pass-through' costs?*

*{DUoS, RO, TNUoS, Elexon, Hydro}*

- How much impact do they have?*
- What are they?*
- How much do they cost?*

## *Guide On 'Pass-through' Costs*

# *Welcome*

*to your Complimentary Guide from Amber Energy.*

At Amber Energy we understand the difficulty of trying to understand energy whilst going about normal day-to-day business activities.

At Amber Energy our goal is to become your trusted business partner. We are impartial in our approach to suppliers and energy management, and experts in energy. We have put together this guide to help your business understand 'what it all means' and to assist you in developing the smartest energy management solution.

If you have any queries contact us to arrange a meeting to discuss your specific business needs.

***The Amber Energy Team***  
***Telephone: 0844 357 2859***

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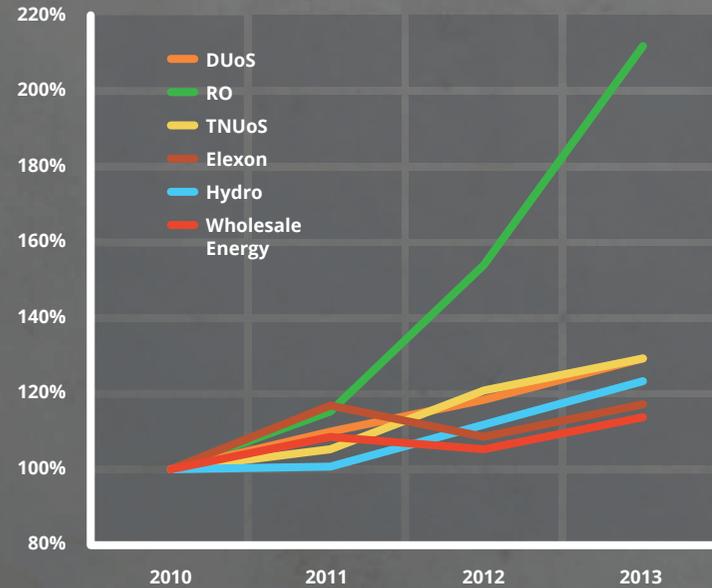
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# **1** *Relative Increases in Costs*

# 1 Relative Increases in Costs

## Introduction

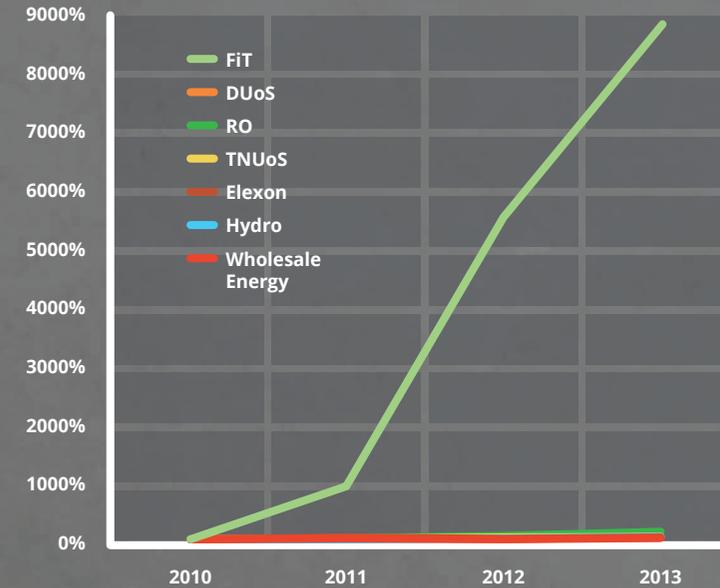


Non-energy costs are the costs added to the wholesale price of energy to make up the energy price on your bill.

Where you elect a fully pass-through contract you will see each of these costs broken down on your bill.

Where you elect a fully inclusive contract you only see the blended price of all elements.

The graph above illustrates that the non-energy elements have increased by a higher % than the wholesale energy markets.



When you include new charges, such as the Feed-in-Tariff (FiT) you can see the relative increases are of no comparison.

As the electricity market reform develops the increase in the non-energy elements are expected to increase.

This reduces the % element of the wholesale energy price.

Wholesale energy prices are still the largest element of the total price but this is reducing. **Reducing 7% in the last 3 years alone! See the next page.**

## What are the pass-through costs?

The pass-through costs are the costs associated with the generation, and delivery of your energy. The **wholesale price is the price of the traded energy only**; it's not a physical trade as you don't store your energy but it is an agreement that you will be supplied energy at a given-agreed price. Once you've agreed on the wholesale price the supplier then has to get the energy to you.

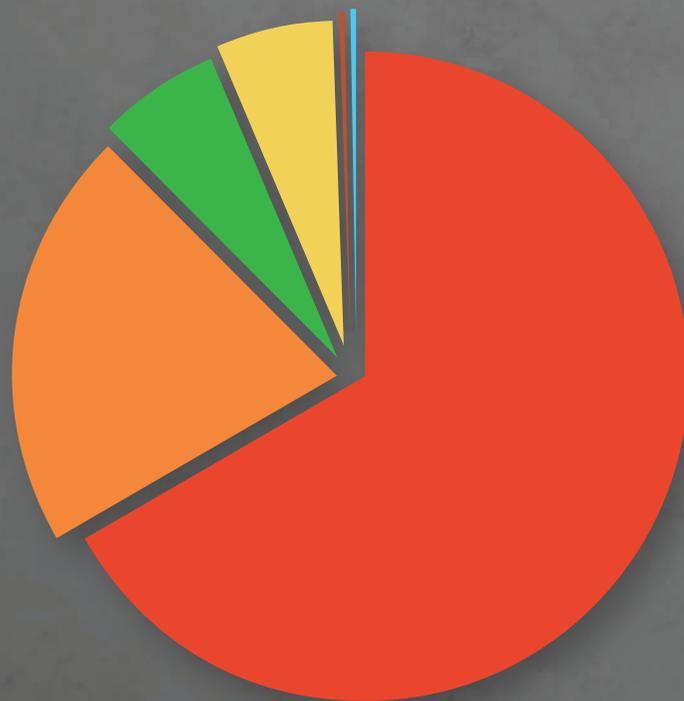
**The national grid is the mechanism by which energy is transported and distributed to your business.**

Depending on how far the energy has to travel and at which point in the national grid system you receive it (at high or low voltage for instance) you are charged a set amount - differs from one business to another.

**MPAN (Meter point administration number) is unique to exactly where you are on the grid.**

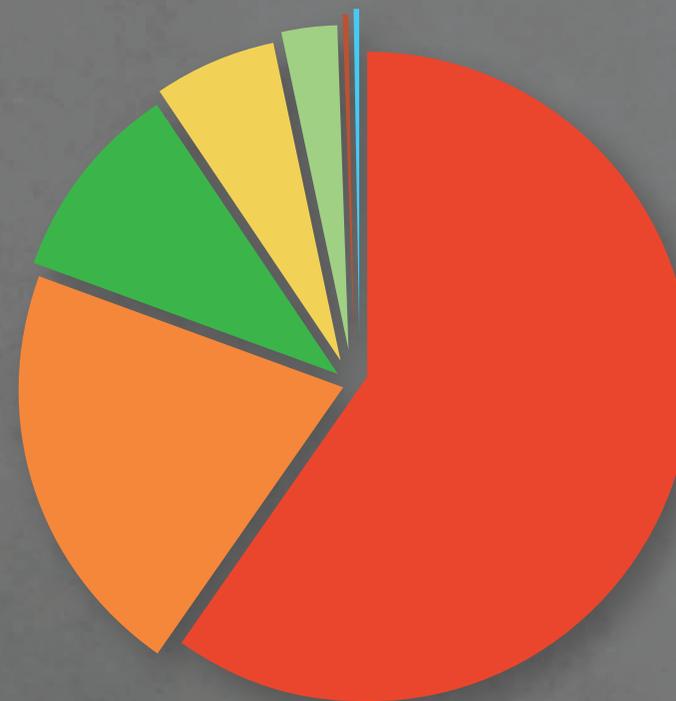
## 1.1 % of Total Energy Bill

2010



- Energy 67%
- DUoS 21%
- RO 6%
- TNUoS 6%
- Elexon 0.06%
- Hydro 0.23%

2013



- Energy 60%
- DUoS 21%
- RO 10%
- TNUoS 6%
- FiT 3%
- Elexon 0.06%
- Hydro 0.22%

### What is this new FiT tariff?

The government launched the Feed-in-Tariff to encourage the installation of renewable energy technologies (in order to continue its journey and to hit its legally binding commitment to become a low-carbon economy).

The initial uptake of the feed-in-tariff was exponential and solar PV was a particularly attractive technology installation.

The FiT levy is the taxation on energy suppliers to recoup the subsidy paid on installations in technology that qualified for the scheme.

The FiT levy has increased as the number of installations and thus the total subsidy paid out by the government has increased (the taxation to businesses on the energy bill is the pass-through charge from the energy supplier).

## 1.2 Definitions of Main Costs

### 1. FiT (Feed-in-Tariff Levy)

The **FiT (Feed-in-Tariff)** is actually paid by the energy suppliers even though the government agrees by law a payment to the company/person who installs it. When you register a system for the FiTs you nominate which energy supplier you want to use. Under the legislation, this supplier is called the 'FiTs Licensee'. The suppliers pass on the cost of the Feed-in-Tariffs scheme to all their electricity customers... so the bottom line is that people who don't install renewable energy systems pay for those who do! More information can be found here:

<http://www.eonenergy.com/~media/PDFs/For-your-business/Large-Energy-Users/ro%20charges/FiT%20FAQs-FINAL.pdf>

### 2. RO (Renewable Obligation)

The Renewables Obligation (RO) is a mechanism designed to support large-scale renewable electricity generation. Through the RO, the government places an obligation on all licenced electricity suppliers to source a proportion of the electricity they supply from renewable energy sources. As the UK is generating much more renewable energy than ever before, the level of supplier obligation and consequently the cost to supplied businesses has also increased. More information can be found here:

<https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro>

### 3. TNUoS (Transmission Network Use of System Charges)

Every electricity customer's bill includes a Use of System charge. This is broken down into two elements. The first of these is the Transmission Network Use of System Charge (TNUoS). This covers the cost of using the National Transmission System, owned and operated by National Grid, to deliver electricity from power stations into and across the transmission network. Your electricity supplier will repay this charge to National Grid on your behalf.

### 4. DUoS (Distribution Use of System Charges)

The DUoS charge covers the cost of receiving electricity from the national transmission system and feeding it directly into homes and businesses through the regional distribution networks. These networks are operated by Distribution Network Operators (DNOs) such as Central Networks. The distribution networks include overhead lines and underground cables, as well as substations and transformers, which reduce the electricity's voltage to safe levels for use. More information can be found here:

[http://www.eon-uk.com/downloads/DUoS\\_leaflet\\_final.pdf](http://www.eon-uk.com/downloads/DUoS_leaflet_final.pdf)

# **2** *Tactical Considerations*

## 2 Tactical Considerations

When considering your energy contract you need to consider how many elements of your energy bill you are going to fix. In any case, when you fix an element, because there is a risk involved in the price of that element going up during the course of the contract you accept a risk premium.

The question is whether you believe the risk premium makes the total cost of that element above and beyond where you believe it will go during the contract period.

If you believe that the total price is too high then you can elect to have that element of your contract passed through at cost (i.e. it becomes a 'pass-through' cost in your contract).

This makes the comparison of different contract offers quite difficult. You need to determine your preference of supplier based on contract offer, price, value added, and the risk premiums alongside terms and conditions. This point is particularly important since some of the suppliers terms and conditions offer a fixed contract subject to the pass-through elements not increasing 'significantly'. This means that actually they can change the price on your contract when the pass-through costs increase... it's not a fixed contract really!

Fully fixed contracts need to be confirmed as such - you should be looking for a fully fixed fully inclusive contract and coming to agreement in writing from the supplier that this is the case (if you want budget certainty).

This is why determining your driving factors and the outcome you require is particularly important during the tender process and/or when electing a supplier having completed the initial consideration.

One of the tactics that can be taken advantage of is running alternate contracts between fully fixed fully delivered and pass-through and 'performing' well during the pass-through periods \*contact us for more information and whether this applies to you.

Another tactic is to accept long term contracts that are fully fixed and inclusive of some of the pass-through elements that have seen large increases. This works where the longer term contract is being offered in such a way that year on year increases in the pass-through elements out strip the increase in the contracted rates.

You may also prefer the longer term contract where you require budget certainty and/or you prefer an even cash-flow (since otherwise you may see the energy cost line jumping up each year).

# **3** *Know Your Profile*

### 3 Know Your Profile

Your energy profile isn't just the area of the country you are in or the supplier that you are with but the composition of your energy use through to the exact times of the day you use energy, and also how this varies over the course of the year.

If you have a 'half hourly energy supply' you be familiar with the idea of your supplier asking you for your 'half hourly data' to provide a price for your energy contract.

Now this isn't the supplier prying into your business; it's actually them working out how much it's going to cost them to supply your business. This is because they are first charged by the local network and the national grid before they pass on these costs to you. This means they need the data on how you use energy to accurately offer a price that is reflective of your profile.

You may have seen in some of the terms and conditions that if your half hourly data or your profile varies from what was provided the energy supplier would be able to re-charge you; however, this is quite difficult for the supplier to administer.

The important thing is to know your profile. Understanding how this profile impacts the end price for your energy gives you the information you need to build a strong energy policy for your business.

You can increase ROI on projects and elect the right ones or the right means by knowing how your profile impacts the end price you pay.

Fully pass-through contracts normally bring to life the different costs and how they are charged. It's normally the first time business clients have heard of the different charging zones and in particular the TRIAD charges - and normally businesses are surprised over how much these elements can cost when their demand shifts.

Understand your profile and unlock the information you need to purchase energy effectively and what tactics to deploy.

This should form part of your tender analysis/ process anyway as it ensures you are considering all of the options and making an informed decision.

You should also consider any changes to your profile (positive and negative) and how this might change throughout the year (are there seasonal variations?).

# **4** *Minimise TNUsoS*

## 4 Minimise TNUoS

TNUoS Charges are re-charged based on your performance during the TRIAD recording period.

This opens up on the 1st November and ends on the last day of February the following year.

The periods are selected based on the National Grid trying to record demand when it's at it's peak. This is the reason for choosing the winter, and only consider periods between 4 and 7pm Monday to Friday. Statistically most TRIAD recording periods have been between 17.00 and 17.30.

There are 3 recordings and the average demand is taken by the following sum:

$(\text{Recording 1} + \text{2} + \text{3})/2$ . Providing a kWh total for the TRIAD period.

This total is then multiplied by the £/kWh amount for that area of the country. In 2013 this was around £30 per kWh. So minimising usage during TRIAD periods is a very effective way to reduce your energy bill.

### TRIAD Dates for 1990 to 2013

Financial Year	TRIAD Leg 1			TRIAD Leg 2			TRIAD Leg 3		
	Date	Time (HH Ending)	Demand (GW)	Date	Time (HH Ending)	Demand (GW)	Date	Time (HH Ending)	Demand (GW)
2012/13	12-Dec-12	17:30	55.3	16-Jan-13	17:30	54.8	29-Nov-12	17:30	52.4
2011/12	02-Feb-12	18:00	54.5	16-Jan-12	17:30	53.8	05-Dec-11	17:30	52.4
2010/11	07-Dec-10	17:30	58.9	20-Dec-10	17:30	58.8	06-Jan-11	17:30	54.7
2011/10	07-Jan-10	17:30	58.1	25-Jan-10	17:30	55.4	15-Dec-09	17:30	55.2
2008/09	06-Jan-09	17:30	58.0	01-Dec-08	17:30	56.4	15-Dec-08	17:30	55.8
2007/08	17-Dec-07	17:30	59.5	03-Jan-08	17:30	57.0	26-Nov-07	17:30	56.4
2006/07	23-Jan-07	17:30	57.4	20-Dec-06	17:30	57.0	08-Feb-07	18:00	56.7
2005/06	28-Nov-05	17:30	59.4	05-Jan-06	17:30	58.5	02-Feb-06	18:00	58.7
2004/05	13-Dec-04	17:30	53.3	24-Jan-05	17:30	52.6	01-Dec-04	17:30	51.7
2003/04	08-Dec-03	17:30	53.1	28-Jan-04	17:30	52.4	14-Jan-04	17:30	51.6
2002/03	10-Dec-02	17:30	53.8	08-Jan-03	17:30	53.8	30-Jan-03	18:00	51.6
2001/02	17-Dec-01	17:30	52.3	03-Jan-02	17:30	51.5	16-Jan-02	17:30	50.0
2000/01	16-Jan-01	17:30	51.1	01-Feb-01	17:30	49.9	18-Dec-00	17:30	49.5
1999/00	20-Dec-99	17:30	50.6	20-Jan-00	17:30	48.8	08-Dec-99	17:30	48.2
1998/99	07-Dec-98	17:30	49.0	11-Jan-99	17:30	48.5	17-Nov-98	17:30	48.1
1997/98	17-Dec-97	17:00	49.3	02-Dec-97	17:30	48.1	20-Jan-98	17:30	47.5
1996/97	07-Jan-97	17:00	49.5	27-Nov-96	17:30	47.8	10-Dec-96	17:00	47.7
1995/06	25-Jan-96	17:30	48.4	05-Feb-96	17:30	47.7	11-Dec-95	17:30	47.3
1994/95	04-Jan-95	17:30	45.6	14-Dec-94	17:30	45.1	19-Jan-95	17:30	45.0
1993/94	29-Nov-93	17:00	47.3	14-Dec-93	17:00	46.2	18-Jan-94	17:30	45.1
1992/93	17-Nov-92	17:30	44.6	09-Dec-92	17:00	44.3	04-Jan-93	17:30	44.3
1991/92	11-Dec-91	17:30	47.3	23-Jan-92	17:30	45.8	21-Nov-91	17:30	45.2
1990/91	07-Feb-91	17:30	47.0	18-Dec-90	17:00	46.6	15-Jan-91	17:30	46.6

Amber Energy send alerts to businesses so that they can deploy policies that reduce their usage during the likely TRIAD recording periods.

By having a policy to do something or not to use something when a TRIAD alert is issued businesses can successfully reduce their energy costs.

For example running the generator for an hour when a TRIAD alert is received is an effective strategy for minimising TRIAD charges.

For more information on TRIAD alerts email: [info@amberenergy.net](mailto:info@amberenergy.net)



# **5** *Minimise DUoS*

## 5 Minimise DUoS

DUoS charges are charged on top of each and every unit you use based on the time of day you use energy.

A traffic light system of RED-AMBER-GREEN was formulated and re-charged on the basis that RED was during times of high-demand, and GREEN of low-demand, with AMBER covering the bits in between.

This does mean that on pass-through contracts you are charged different amounts at different times of the day. Not just in the 'economy 7 way' where the 7 night hours are of lower cost but in a more comprehensive manner.

The area of the country you are in will have a distribution network operator (DNO) who will have agreed a charging statement and the times of each charge (RED-AMBER-GREEN).

Your half hourly data will be used again when determining how much your total unit rate should be. If you request that the supplier provides you with a fully inclusive fully fixed price they will want to equate the likely RED-AMBER-GREEN charges they are likely to incur as a result of your profile.

Your unit charge will be determined by taking an average from something like \*representative example only:

ENERGY COST + 8-20p (RED CHARGE)  
ENERGY COST + 1-3p (AMBER CHARGE)  
ENERGY COST + 0.01-0.1p (GREEN CHARGE)

**You can minimise DUoS by running your production during the green charging periods and shedding load during red charging periods.**

**This is particularly effective during the winter (November to February) period as you can achieve a double dividend; since you are reducing energy consumption in the most expensive charging period which also coincides with the TRIAD charging period.**

**Where you are unable to successfully influence demand and your profile was better than average on your half hourly data (for the previous year) a fully fixed contract may work in your advantage and vice versa.**

**This is due to the nature of pricing a contract as a supplier and utilising the half hourly data in offering a contract at tender.**

**In any case you will need to consider:**

Your preference of supplier based on contract offer, price, value added, and the risk premiums alongside terms and conditions. This point is particularly important since some of the suppliers terms and conditions offer a fixed contract subject to the pass-through elements not increasing 'significantly'. This means that actually they can change the price on your contract when the pass-through costs increase... it's not a fixed contract really!

If you need any assistance contact [info@amberenergy.net](mailto:info@amberenergy.net)

## *For more information*

### *Did you find what you were looking for?*

If this guide didn't answer your question you can consider one of the following resources that can help you further, one of our other guides, or give us a call on **0844 357 2859**.

### *Want to meet us?*

We would be more than happy to come to your business. If you would prefer to come and see us you can arrange an appointment to visit our offices located at:

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