

# CLA ENERGY SERVICES



## AGENDA

- Introduction to CLA Energy Services
- Procurement and Purchasing Strategies
- Q & A
- CLA Energy – Onsite Generation & Renewables
- Multi Source Power – Battery Storage
- Break
- CLA Energy – Energy Monitoring, Energy Management & LED Lighting
- Q & A
- CLA Rural Advisor - Planning Considerations
- Energy Bill Health Clinic, one2one questions, networking
- Buffet Lunch

## CLA ENERGY SERVICES

- A New Breed of Partnership. CLA Energy Services, in conjunction with Troo, offers expert energy advice, free energy health checks, invoice validation and management of siteworks.
- We're here to shake up the business energy market with a fresh approach to energy services.
- We are experts in finding CLA members the best deal on gas, electricity and water services at procurement stage, but we go beyond that and make sure we're there for you for the duration of their energy contract.
- We provide bill checking and analysis, cost recovery help (including VAT and CCL overpayments), new meter and supplier liaison, energy efficiency advice, KVA analysis and compliance advice, all as standard.

## OUR VALUES

### FAIR

We work with multiple suppliers to present the most suitable options for you at exactly the right time, for the right price

### TRANSPARENT

We're clear about our business model, with absolutely no hidden fees and we talk to you in plain English, never hiding behind industry jargon.

### HELPFUL

We take the confusion out of dealing with Energy, providing practical advice and dealing with energy suppliers on your behalf so you don't have to.



## YOUR TEAM



**Rachel Richardson**  
Head of CLA Energy Services



**Adam Holt**  
CLA Account Director



**Kevin Atchison**  
CLA Energy Solutions Manager



**Scott Cameron**  
CLA National Client Relationship Manager



**Gavin Galloway**  
CLA Account Manager



**Craig Wright**  
CLA Customer Experience Executive

## HOW WE PROCESS YOUR ENQUIRY



1

INCOMING CLA MEMBER ENQUIRY



2

CLA MEMBER SUPPLIES COPIES OF BILLS FOR METERS THAT REQUIRE PRICING



3

WE WILL SUPPLY LETTER OF AUTHORITY FOR CLA MEMBER TO SIGN VIA DOCUSIGN



4

WE WILL VALIDATE INFO WITH CLA MEMBERS INCUMBENT SUPPLIER. (BETWEEN 2 - 10 DAYS)



5

WE WILL TENDER FOR PRICES TO SUPPLIER PANEL. 2-5 DAYS TURNAROUND ON PRICES, DEPENDANT ON ANY CREDIT OR BUSINESS QUERIES THAT MAY ARISE

## SERVICES PROVIDED

- Procurement
- Energy Management
- Site works & Metering
- Invoice Validation
- Water Bill Analysis
- Compliance & Legislation
- Renewables

## NEXT SPEAKER

Adam Holt - CLA Account Director

Procurement and Purchasing Strategies



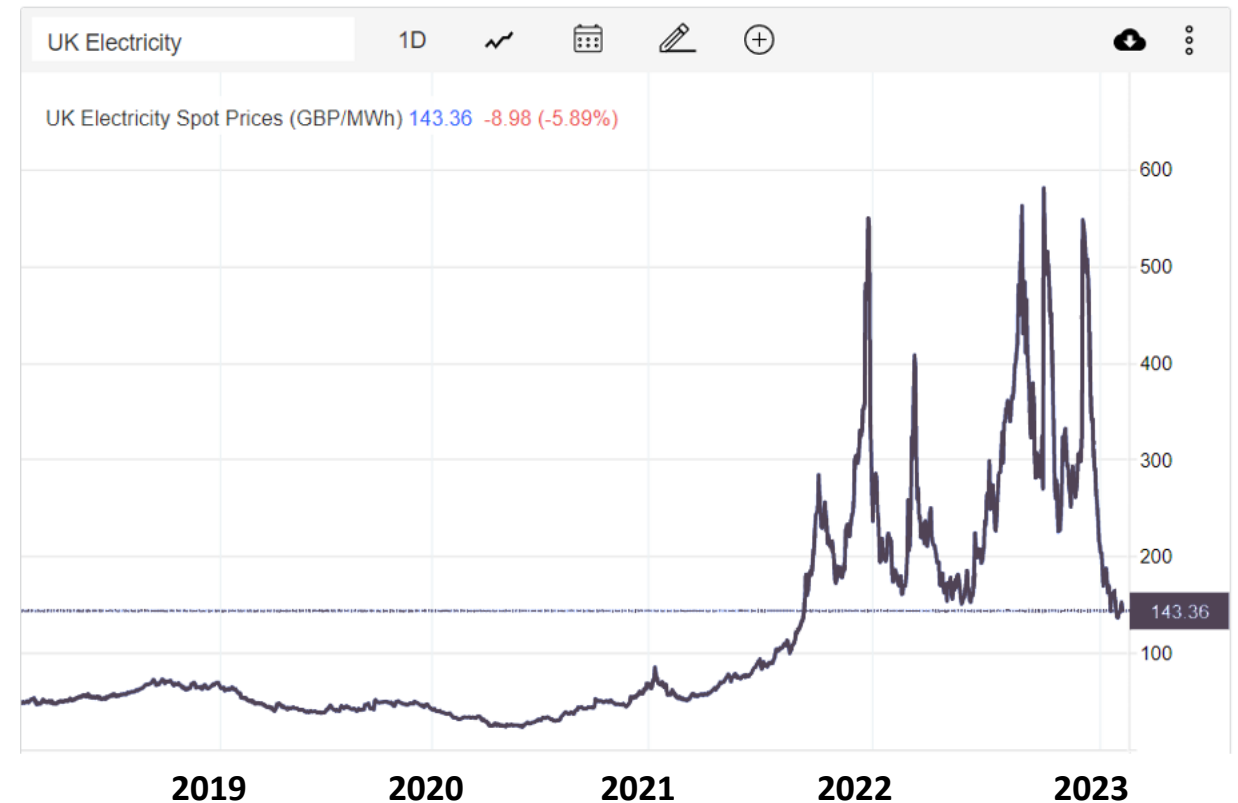
## WHAT ARE WE GOING TO SPEAK ABOUT?

- Market conditions – What has happened? how did we get to this point?
- How is energy purchased and how does this impact you?
- What types of contract are available to the typical customer?
- Our suggestions



## MARKET CONDITIONS – PREVIOUS 5 YEAR

- 16 months of extreme volatility
- Perfect storm of supply and demand events to drive the market into its current state
- General improvement in the market rate in recent months
- General market volatility since February 2020 which was the beginning of the cycle we are currently in



## MARKET CONDITIONS – PRE/POST COVID

- Supply and demand challenges
- This caused suppliers to pull back due to the risk involved with trading in a market where consumption is uncertain and future prices are not forecastable
- This caused the largest drop in wholesale energy costs since 2007
- Countries all around Europe exiting lock down measures around the same time caused a huge spike in demand that came in waves and pushed the price up to a point not seen since 2008
- Following the pandemic, we experienced a sustained increase of wholesale prices as the market recovered from the un-forecasted drop and demand increased



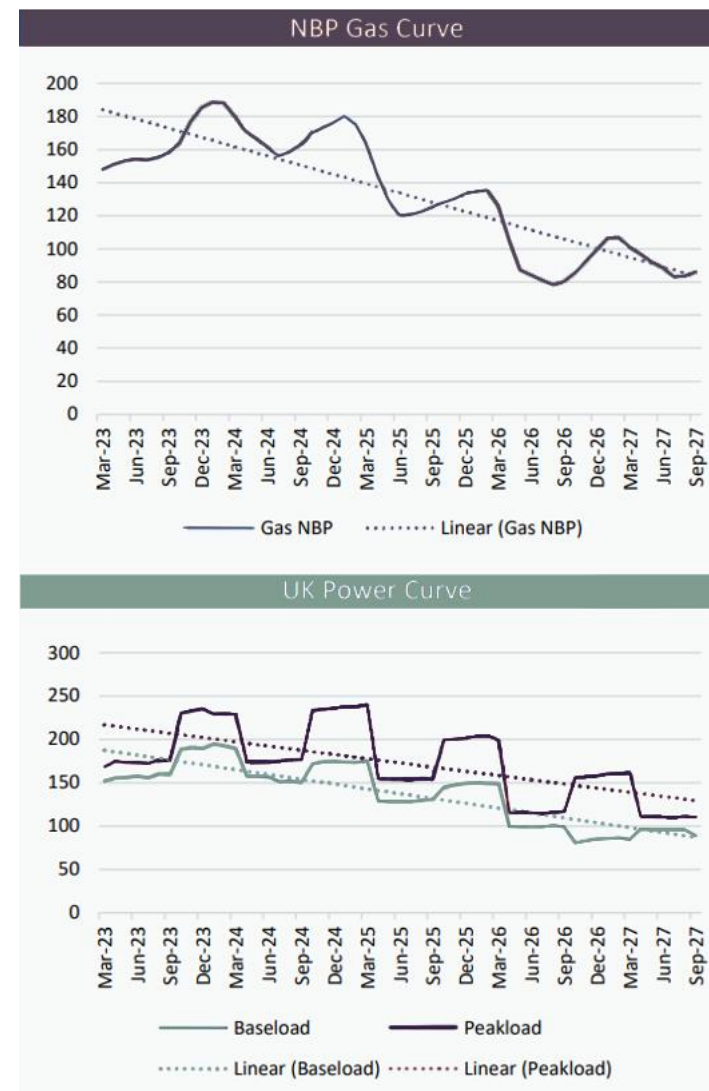
## MARKET CONDITIONS – KEY EVENTS

- October 2021 – Interconnector fire and loss of major supply line
- December 2021 – Reduced imports from Russia to Europe created a battle with all European countries and Asia in order to secure LNG cargoes
- March 2022 – Invasion of Ukraine, sanctions against Russia, request to pay for gas in Rubles
- August 2022 – The Nord Stream 1 pipeline is confirmed as closed and not reopening following ‘maintenance’; a huge hit for volume of supply to Europe.
- October 2022 – Sabotage / Damage to the pipeline confirming that supply will not resume in the near future
- December 2022 – Non-forecasted, country wide cold snap on top of other restrictions to supply
- Huge risk to future market prices due to lack of supply of gas, low storage capacity, and large demand in the world LNG markets – Further spikes expected this winter



## HOW IS ENERGY PURCHASED?

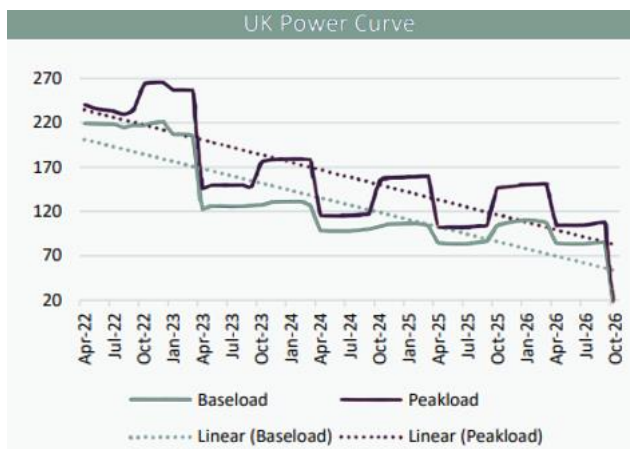
- Only a very small fraction of businesses purchase in the day ahead market, so the market position has very little relevance
- When referring to the open market anything purchased must be used the following day or it is to be sold back into the market at the going market rate
- Most businesses, even those on a flexible product, purchase on something called the forward purchasing curve which varies from supplier to supplier
- When purchasing on the curve you are essentially making an agreement to purchase a certain volume of energy at a certain time for a certain price
- You receive an average of all these costs across the contractual term plus the non-commodity costs



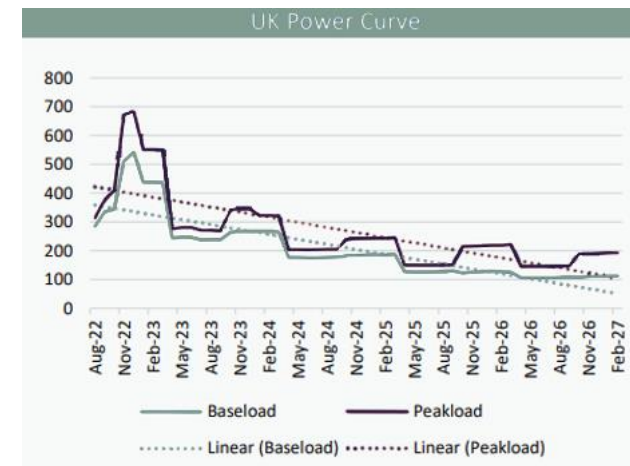
## THE CURVE

- The purchasing curve is constantly evolving and changes day on day
- The immediate portion is heavily impacted by the position of the day ahead market
- The back end of the curve is impacted mostly by what people say, planned energy strategies, and forecasted import prices
- The outlook is often very positive for the future even though it often doesn't come to fruition
- Generally speaking, it is better to look in advance, cut out the high part of the front end of the curve and take advantage of the lower averages in the back end of the curve
- When in backwardation, longer term contracts present better prices - this is not loyalty discount

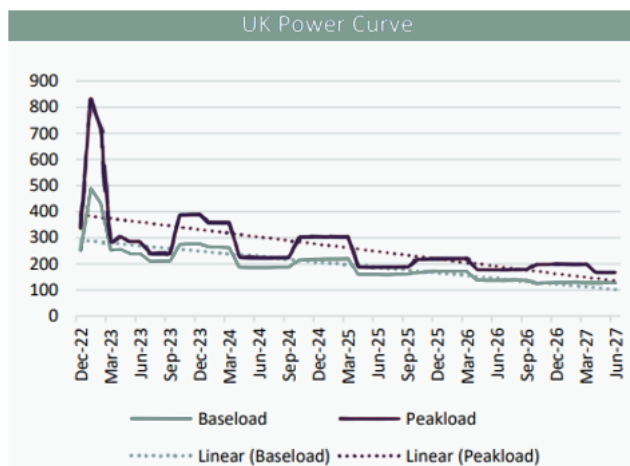
March 2022



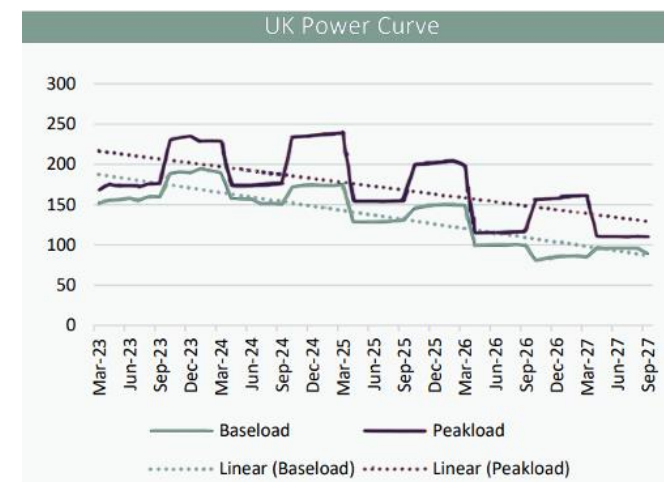
July 2022



November 2022



January 2023



## WHAT CONTRACT TYPES ARE AVAILABLE?

### WHAT IS INCLUDED?

CONTRACT TYPES	ENERGY	NETWORK	ENVIRONMENTAL
FIXED	✓	✓	✓
PARTIAL PASS THROUGH	✓	✓	✗
FULL PASS THROUGH	✓	✗	✗
FLEXIBLE PURCHASING	✗	✗	✗

## OUR SUCCESS STORIES

### Residential Holiday Park

- Initial bill check carried out at member enquiry stage
- Spotted member paying multiple charges that they are exempt from ie: CCL & full rate VAT
- Rectified charges meaning member now pays accurately going forward & secured rebate of almost £7,000

### Arable Farm

- Beat member's current supplier offer for upcoming renewal by 3p/kWh
- Presented a saving of almost £2.5k per year or £4800 across the contract term

### Mixed Farming and Diversification (Farm shop, restaurant, Zoo)

- Member used a buying group to procure their energy
- Member in a flexible procurement contract & had been hit with unexpected & unforecastable bills due to market volatility & wholesale costs.
- Guided member through buying group's termination process, alongside conducting a bespoke tendering exercise to our supplier panel.
- Provided a fully fixed 24-month contract, giving budget certainty going forward, and beat the member's closest fixed offer by over £46,000 over the course of the contract

## OUR SUCCESS STORIES

### Livestock Farm

- Member had metering issues that had not been worked on by the previous CLA Energy Services broker, so we took action
- Craig from our customer services team, identified & resolved meter issues which produced correct bills going forward.
- Member received rebate of £11,600

### Large Fruit Farm With Cold Storage

- Member used a buying group to procure their energy
- Similar issue to other client
- Member ended up scaling back their operation to 60% capacity due to being unable to forecast costs & afford bills
- Following a full tendering exercise to our supplier panel, we beat the buying group's fixed contract offer by circa 11p/kWh with annual savings of just under £227,000 per year
- Member secured prices for 4.5 years, meaning they have full budget certainty at a price they can afford. Also, able to ramp operation back up to 100% capacity
- Saving of over £1,000,000 over the contractual term



# OUR SUGGESTION

**THANKYOU FOR LISTENING**

**ANY QUESTIONS?**

Next Speaker:

Kevin Atchison  
Energy Solutions Manager  
CLA Energy Solutions

I will be your key point of contact for anything renewables, sustainability or onsite generation.

I will manage the project from end to end and utilise partner relationships to ensure that everything is in the right place, at the right time, for the right cost.

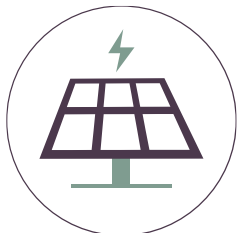


## Products and Services

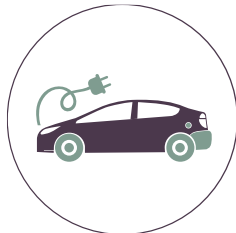
Once we understand your needs, we will bring our expert partners



Feasibility study



Solar



EVs



Battery Storage



Lighting



Carbon Reduction



## PROBLEM: DE-CARBONISATION

### CLIMATE CHANGE

NASA Global Climate Change – Universe has been gradually getting warmer and warmer over the years

### COSTS

Solar PV has come down in cost significantly over the last 5 years.

### FINANCIALS

Solar PV offers clients fantastic returns on their capital. 2-5 years typically for a commercial installation.

### CUSTOMERS

Will see immediate savings, but business are coming under increasing pressure to reduce their CO2 emissions driven by (SECR: Scope 3 emissions)

### PPA'S

We can provide a PPA, or you can have the options to buy. Making it super easy to install.

## WHAT TO CONSIDER

### SIZE OF THE PROJECT

It's not necessarily about maximising your roof space or your land.  
Keep the energy on site.

### INITIAL SOLAR DESIGN

We start with your consumption data, we then 'grab' an image of your property and size accordingly providing a budget quote

### NEXT STEPS

Site visit, to understand the known unknowns. Amend design, if necessary, apply for G99/Planning

### PROJECT PLAN

G99 received, project installed small systems 4kW can take one day, systems up to 200 kW 2-3 weeks, commissioned, witness tested and certified



## SOLAR POWER EXPLAINED



### SOLAR PV

Produces a direct current, using photovoltaic cells. It is not 'heat' energy but 'light' energy



### AC

Your building has an AC supply, your solar panels produce a DC current, thus we install an inverter



### CONNECTION

We connect the system to your main distribution board (in the vast majority of cases).



### CERTIFIED

Your system has to be certified NIC/EIC and/or MCS. Without this you cannot claim your export payments. G99 witness test.

## TYPES OF PANELS

### TWO TYPES

Mono and polycrystalline. Mono has better performance up to 22%, very rare to see poly today

### BRANDS

Eurener – 21.5% made in Europe

Canadian Solar – 20.7% China

Trina – 20.3% China

Longi – 20.5% China

### DESIGN

We normally specify Eurener, Trina, Longi unless asked otherwise.



## COST OF INSTALL – RULE OF THUMB

4KW

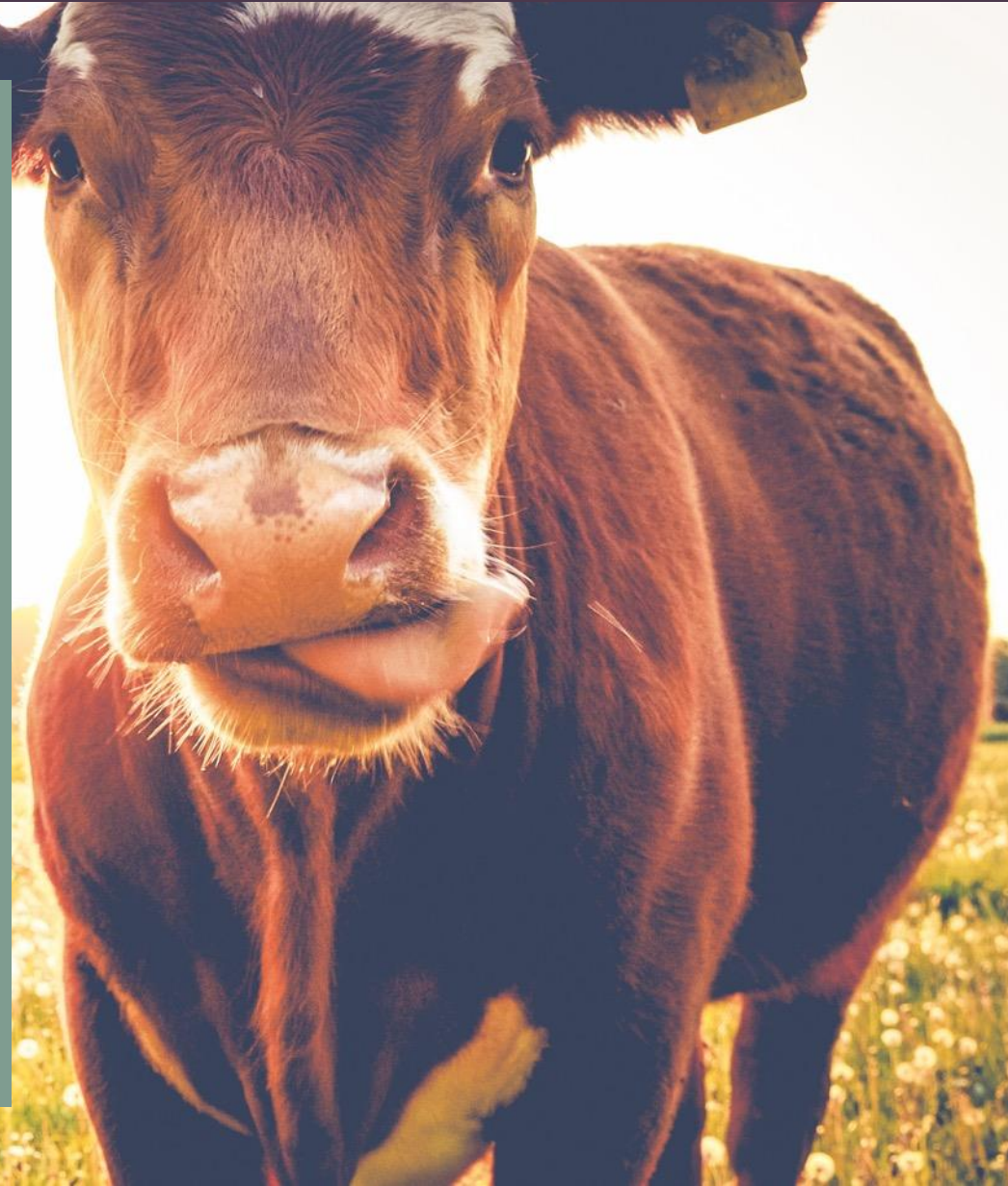
Circa £6000 - £7000, cost per KW £1500 - £1750. Payback 8 years.

50KW

£50,000, cost per KW £1000. Payback 5 years.

200KW

£170,000, cost per KW £850 payback 2-3 years.



## CONTRACTOR

### ARE THEY MCS?

Systems < 50 kW's require installers to be MCS accredited.



### DO THEY THERE DO OWN DESIGN WORK?

A few solar companies subcontract this as they do not have the expertise, risking the quality of designs and appropriate sizing.

### DO THEY HAVE THEIR OWN INSTALL TEAM?

Or Do they subcontract this work also.

### HOW IS THE PROJECT MANAGED?

Our large projects have a dedicated project manager, along with a qualified site project manager.

## NEXT SPEAKER:

Tom Smith – Project Development Manager

MSP Technologies Ltd (Multi Source Power)

**Energy Storage Solutions**



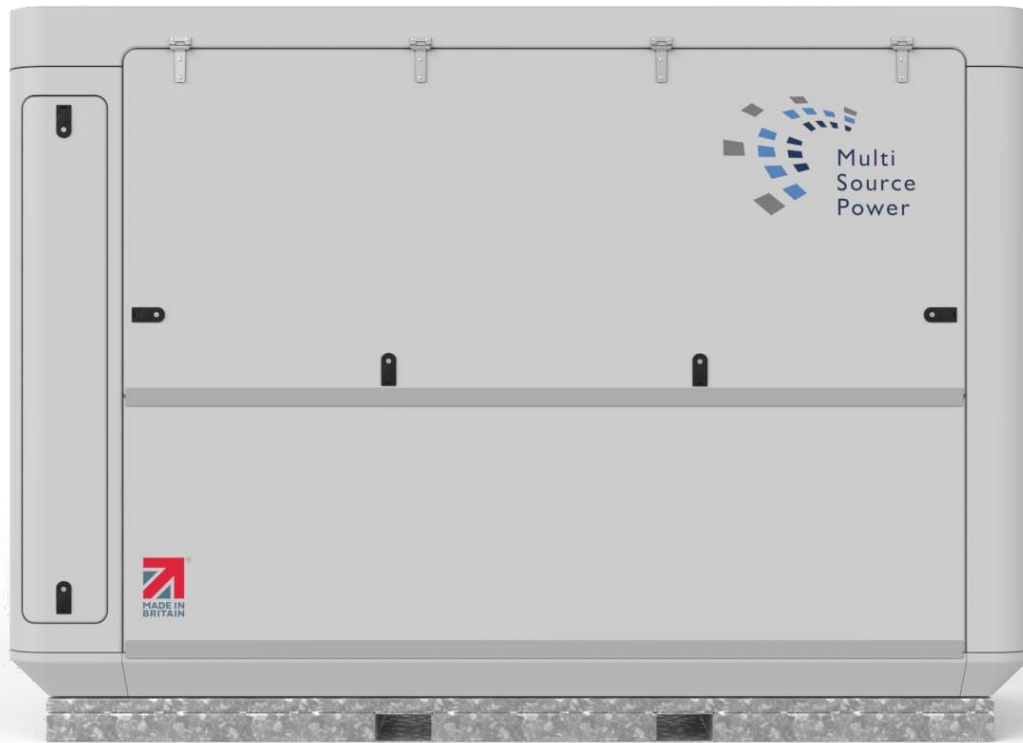


Multi  
Source  
Power



Proud  
members the  
Made in Britain  
Organisation

# Flex-ESS1000



- Utility Scale Modular Storage System
- 1Hr to 4Hrs +
- Ultra-Low Lifetime Op-Ex
- Ultra-Low Installation Cost/Time

# Flex-ESS1000



The perfect solution  
for commercial and  
grid utility projects

# Flex-ESS1000 is the most flexible large scale energy storage solution on the market today



Designed for C & I, and grid utility projects



Energy trading & grid services



Minimal Op-Ex for long term cost savings



Quick and easy installation when time is a premium



Compact for small footprint installations



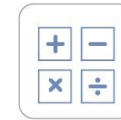
Manufactured in Great Britain



Modular & flexible solution



Low EPC costs



1MW inverter scalable module: 1 to 4 hours+ storage



# Flex-ESS1000



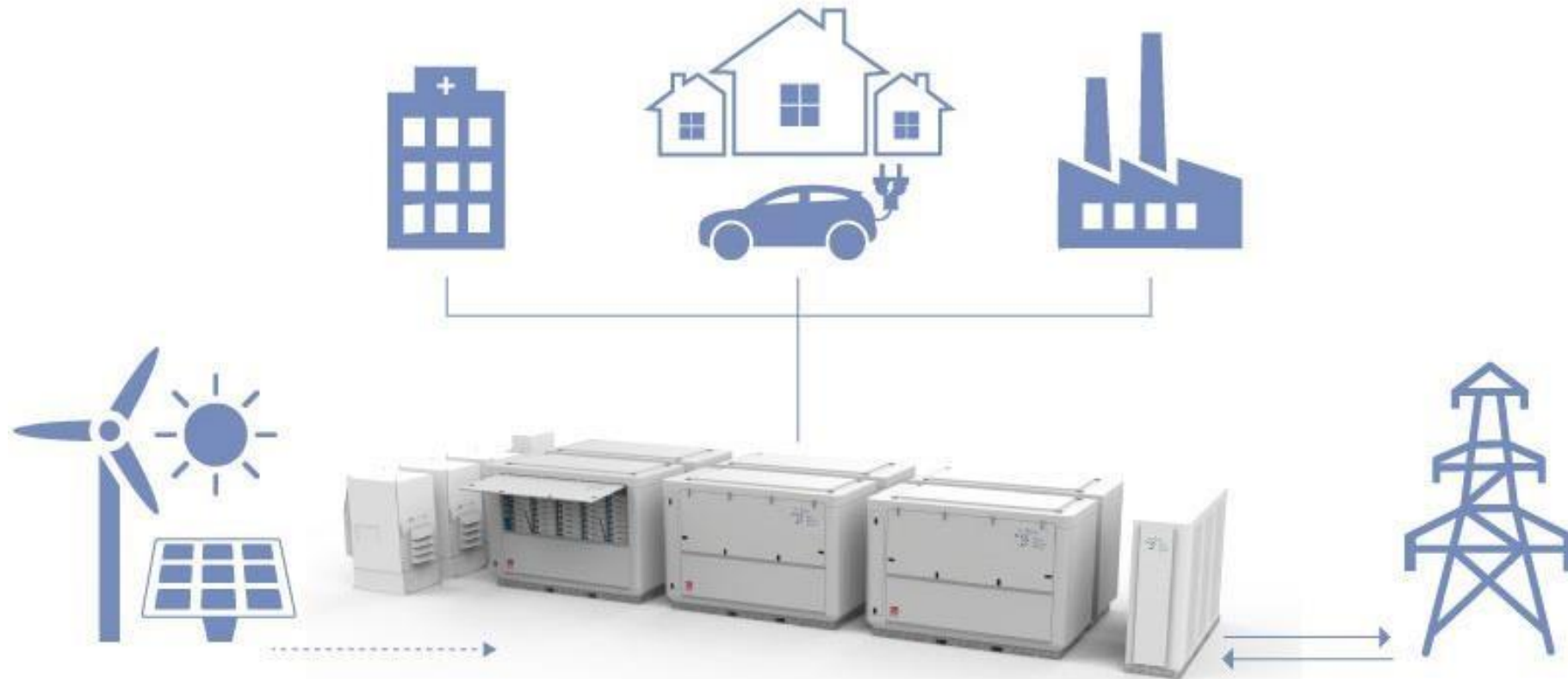
Mark1 NMC Battery Modules,  
total 11045kWh in each housing



CAB100 liquid cooled  
inverter



# Flex-ESS1000



Grid Services Combined with Renewable Generation and PPA

# Flex-ESS500



- Modular for a flexible approach to energy storage
- Market leading power density and efficiency
- Ultra-Low Installation Cost/Time
- DC Coupled Solar

# Flex-ESS500



Mark1 Battery Modules, total  
832 kWh in each housing



# Flex-ESS250

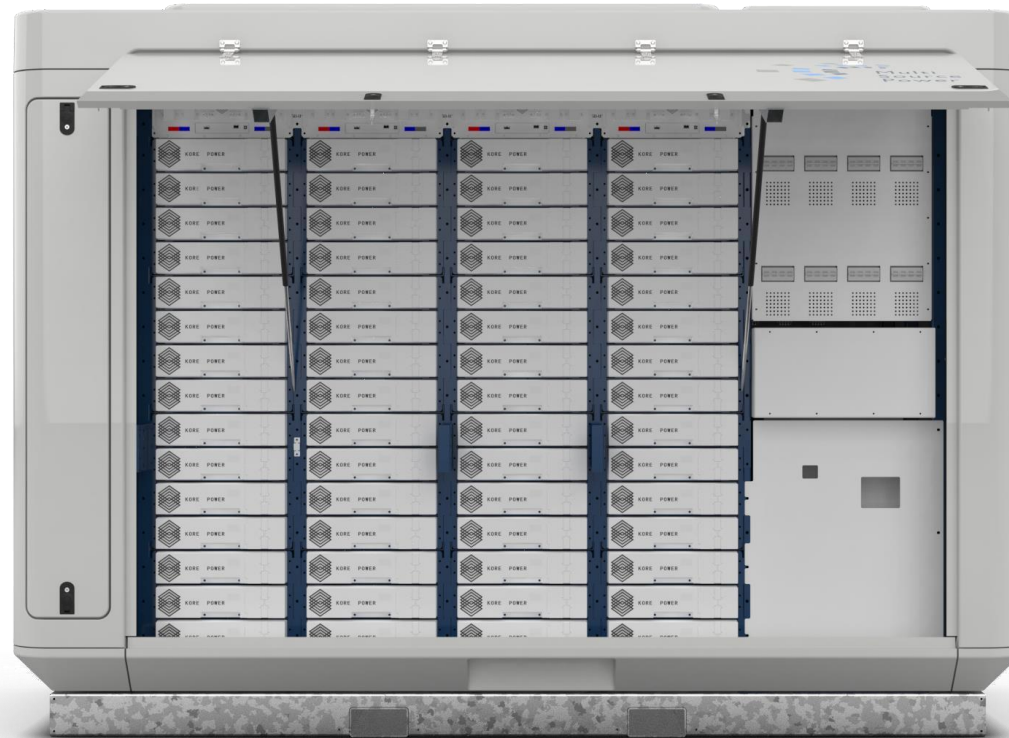


footprint, multi box configurations can be arranged to preserve space in limited areas.

# Flex-ESS250



Mark1 Battery Modules, total  
832 kWh in each housing

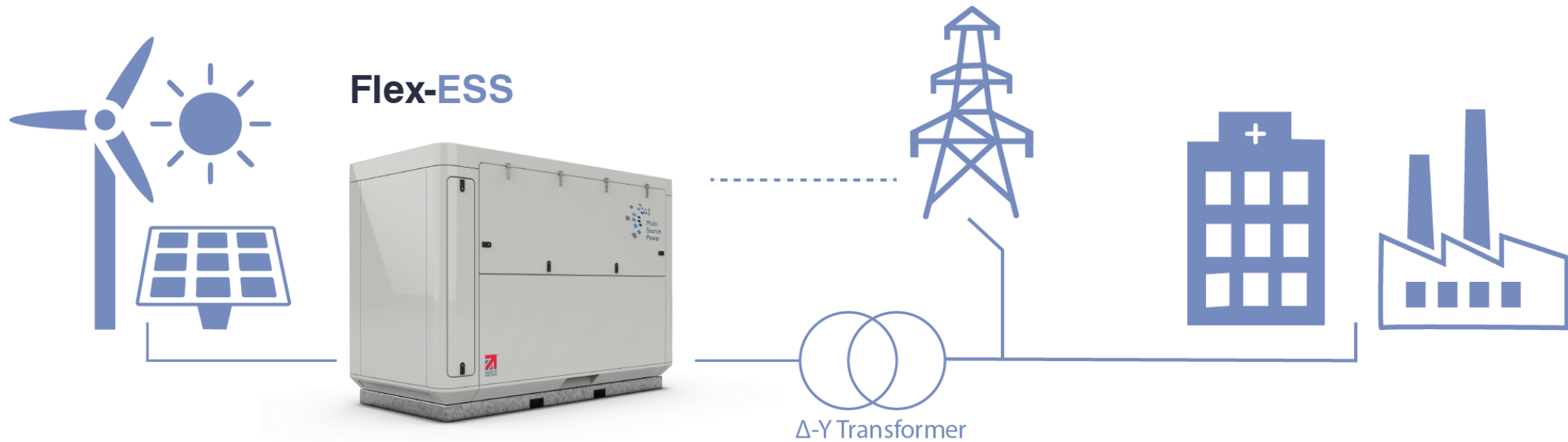


# Flex-ESS250



- Modular for a flexible approach to energy storage
- Market leading power density and efficiency
- Ultra-Low Installation Cost/Time
- DC Coupled Solar

# Flex-ESS250 for a full spectrum of energy demands



On Grid/Grid Services



# Flex-ESS250 for a full spectrum of energy demands



Off Grid Services

# Flex-ESS micro-series



- Modular for a flexible approach to energy storage
- Market leading power density and efficiency
- Ultra-Low installation cost/time
- Solar ready - DC coupled optional
- Designed for small to medium industrial and commercial
- Microgrid/on-grid/grid forming

# Flex-ESS250 is the most flexible all in one energy storage solution on the market today



DC Capabilities



Energy trading & grid services



Minimal Op-Ex for long term cost savings



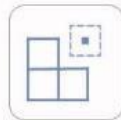
Quick and easy installation when time is a premium



Compact for for small footprint installations



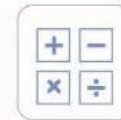
Manufactured in Great Britain



Modular & flexible solution



Low EPC costs



1MW inverter scalable module: 1 to 4 hours+ storage

# Flex-ESS micro-series



Mark1 Battery Modules, total  
338 kWh in each housing



LI-ION TAMER®

Protection

**REFU**

REFUstore 50K

REFUstore 88K

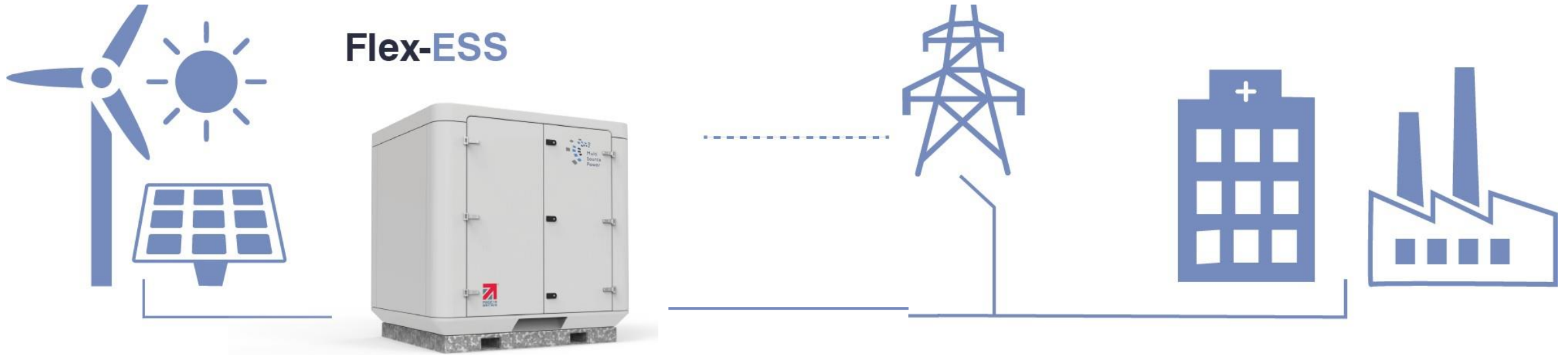
REFUstore 100K

# Flex-ESS micro-series



With its small footprint, multi box configurations can be arranged to preserve space in limited areas.

**Flex-ESS<sup>micro</sup>** transformerless system with a full spectrum of energy demands



On Grid/Grid Services

# Flex-ESS500 for a full spectrum of energy demands



Off Grid Services

# Flex-ESS500





Can BESS (**Battery Energy Storage Systems**) be utilised?

BESS – By installing battery energy storage technologies, we can capture wind and solar energy to utilise in real time, and store excess power to use during peak demand times on site, furthermore the BESS can export excess energy back to the grid, generating a revenue.

We also have the capability to charge the BESS direct from the grid, using the margin between the Night & Day rates to your advantage. We do this by charging your BESS from the grid at night when you will pay the lowest rate per kWh, and letting it discharge on-site at peak demand when the highest electricity rates apply during the day, thus saving you on energy costs.

The most effective way to manage utility costs for customers with demand charges is a practice called peak shaving. Peak shaving involves proactively managing overall demand to eliminate short-term demand spikes, which set a higher peak. This process lowers and smooths out peak loads, which reduces the overall cost of demand charges.

Our research and experience lead us to believe that a solar + BESS combination is the best way to peak shave. Other methods – e.g. diesel generators, manually turning off equipment, etc. – all present significant downsides. BESS do not generate pollution or noise, require no employee time to operate, and do not impact business operations. They make solar viable for more customers, which in turn generates additional savings.

Another advantage of installing BESS on site, in line with renewable power generators, is overcoming grid restraints. By this, we mean the limitation of having a smaller grid connection than the capacity of the renewable generators on site.

Example Case: A property or land owner is looking to install a 500kWh renewable generator (Wind/Solar) on site but only has a 250KVA grid connection. The DNO (Distribution Network Operator) will see that you have a larger generator than your grid connection and is very likely to say no.

To solve this, we can use MSP BESS alongside DC coupled solar, or another generator, to create an on-site micro grid. This micro-grid allows for an on-site generator that is larger than your grid connection.

# Further Benefits

Our Flex-ESS integrated energy storage systems:

- Fully factory-built and tested, high-density, modular energy solution.
- They reduce project risk and cost.
- Simple installation, small footprint, and lightweight construction.
  
- Offer ultra low operating costs due to enclosed cooling and IP64 housing.
  
- UPS function offering protection to your facility
  
- Ultra low footprint - 2.7m x 3.4m x 1.6m (HxWxD)
  
- Plug-and-play, delivery to commissioning hours, not days
  
- Variety of warranty types: 10/15/25 years

# Future of BESS in the UK

UK needs at least 50GW of energy storage for net zero by 2050, National Grid ESO says.

Kent-based Cleve Hill Solar Park is claimed to be the largest solar and energy storage project in the UK. It consists of 373MW of solar and “more than” 150MW of battery energy storage, and is expected to be fully completed by the end of 2024.

# Flex-ESS1000



# Flex-ESS1000



# Flex-ESS1000



# Flex-ESS1000



# Flex-ESS250





# Flex-ESS250



# Flex-ESS500



# Redefining Energy Storage



## NEXT SPEAKER

Scott Cameron – National Client Relationship Manager

Energy Monitoring, Energy Management & Lighting





**SylSmart Energy**

***DRIVING EFFICIENT AND  
CARBON-FREE BUSINESS***

**SYLVANIA**

# Benefits of Energy Monitoring



*Identify Waste – Easy energy wins of 12%*



*See the savings being put in place*



*Measure Results – manage baseloads and identify spikes*



*Improve employee awareness*



*Improve Facility Performance-  
reduce maintenance requirements*

# HOW DOES SYLSMART ENERGY HELP YOUR BUSINESS?



## CENTRALISED ENERGY INSIGHTS

All energy sources on one platform

## USER FRIENDLY DATA VISUALISATION

Make sense of the data and quickly gain insights



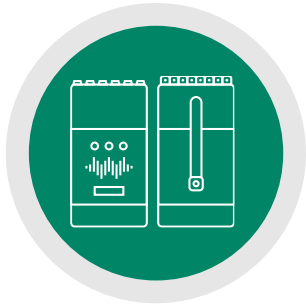
## EASY MONITORING & IN-DEPTH ANALYTICS

Monitor your progress and ensure the strategies you employ are effective

## COMPREHENSIVE CONNECTIVITY

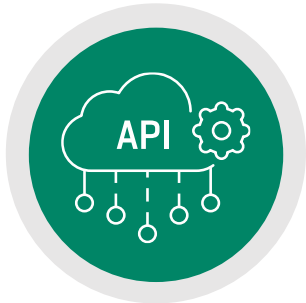
Multiple methods of sourcing and sharing data

# COLLECT ENERGY DATA IN ONE SINGLE PLACE



## CONNECTED AUDITORS

High granularity of data gained from monitoring individual circuits.



## AUTOMATED DATA COLLECTION

Gather data from your energy service providers (3rd party).



## MANUAL INPUT

Upload your historic energy consumption.

## ANY ENERGY SOURCE

(Electricity, gas, water)



## WEB PLATFORM



# VISUALISATION FOR EVERY NEED



**ANY ENERGY SOURCE**  
(Electricity, gas, water)



**WEB PLATFORM**

**ACCESSIBLE FROM ANYWHERE**



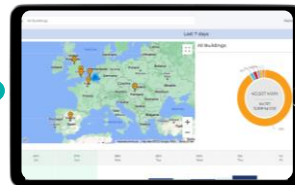
## **DASHBOARD & KPI**

Easily view your sites' energy and carbon consumption over an adjustable time period



## **REAL TIME VIEW**

Gain real time insights into the energy signature of your circuits, including KVa, KW and power factor



## **MULTISITES**

Visualise the consumption of all your sites from the convenience of one dashboard



## **FOYER DISPLAY**

Raise awareness and influence behavioural change



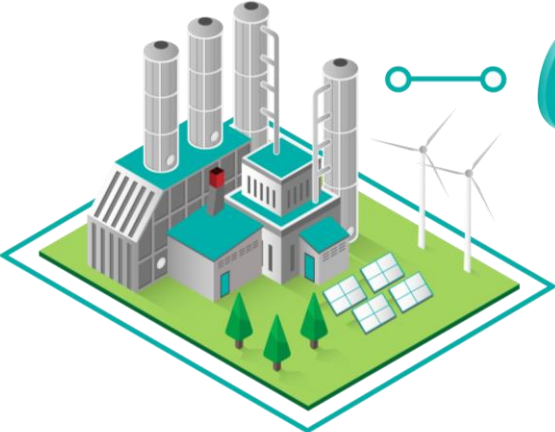
## **FLOORPLAN**

Visualise the location of your circuits on each floor plan

# COMPREHENSIVE CONNECTIVITY WITH OTHER SYSTEMS



**UTILITY**  
Gas, Electricity



**SYLVANIA  
CLOUD SERVICES**



**CIRCUIT AND METER  
MONITORING**

Monitor all energy usage on your site and connect to a variety of systems to gain true insight into how you utilise energy.

# SYLSMART ENERGY ARCHITECTURE



2 Connection options



6M



6W

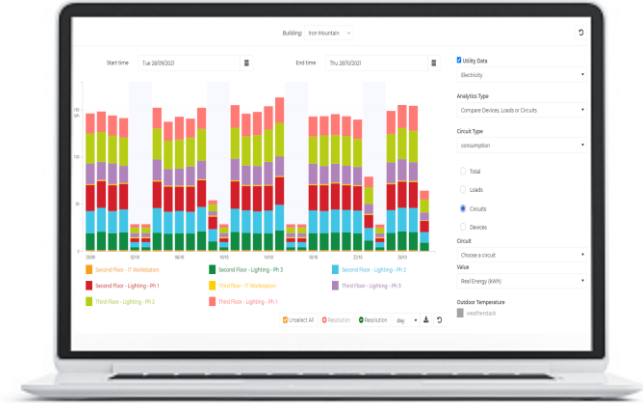
Stable cellular  
Connection (4G)



Wifi Router



Cloud



<https://energy.sylvania-lighting.com/>

On site hardware captures energy consumption in fine granularity

Data is transmitted to the cloud

Web platform displays data in easy to navigate dashboard

Turn data into insights

# SYLSMART ENERGY ARCHITECTURE



- ✓ 6 monitoring channels can be used for single, two and three-phase (600A max)
- ✓ 4G comms is built in meaning no comms cabling or integration to customer networks
- ✓ Compact form factor( 2 DIN slots 35mm)
- ✓ 1% accuracy
- ✓ OTA management including FW updates and remote correction of common installation errors.



In order to monitor the energy consumption from the customers system, two types of hardware are required.

## 6M Auditor

The 6M auditor is installed on the customers circuit board and collects data read from the CT clamps. The module then relays this data to the cloud via 4G meaning integration into the customers network is not essential although a wifi version is also available for installations with poor signal.

## 6W Auditor

A 6W auditor has the same capabilities as the 6M auditor the only difference being it's method of communication opposed to mobile data it connects via Wifi.

## CT Clamps

These devices are attached to cables carrying loads that the customer wishes to measure for example the lighting circuit. These clamps measure current and relay the reading to the 6M Auditor.

## 3000A Rogowski Coil

This device is to be used as a kit with it's own specific auditor and 3 coils. It is to be used on installations with a current higher than 600A





Aud. for 24

AUDITOR 12

AUDITOR 13

AUDITOR 14

Schneider  
STI 0L3x38  
N  
N  
N

# Fluorescent Lighting Ban

Older Lighting technologies are being superseded and most will be phased out by **August 2023**

1. Single Lighting Regulations (EU) 2019/2020 & Energy Label Regulations
2. RoHS Directive (2011/65/EU)



# PERMITTED DEVELOPMENT FOR RENEWABLES: GREEN MEANS GO?

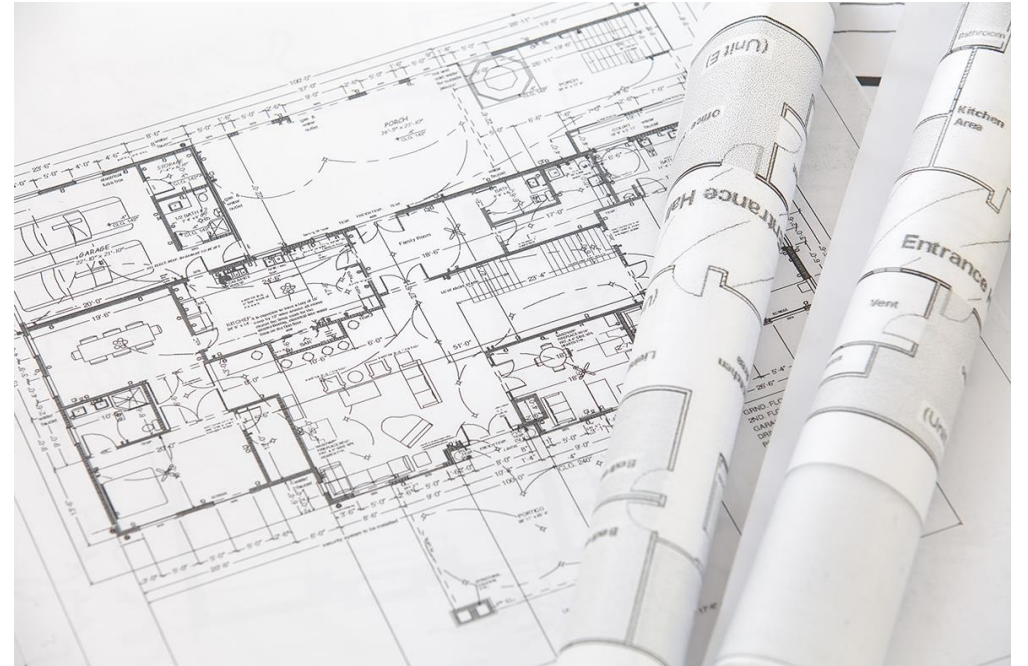




# WHAT IS PERMITTED DEVELOPMENT?

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- “You can perform certain types of work without needing to apply for planning permission. These are called "permitted development rights". – Planning Portal
- General Permitted Development Order (2015) defines these rights
- Where none apply, development needs full planning permission



# LEGISLATION

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- 15 different Permitted Development rights for renewable energy generation
- Usually specifically “microgeneration” – see next slide
- Defined according to type of generation (e.g. wind, solar, etc) and proposed location of installation (domestic or non-domestic)

## GPDO Part 14 - Renewable Energy

Class A - installation or alteration etc of solar equipment on domestic premises

Class B - installation or alteration etc of stand-alone solar equipment on domestic premises

Class C – installation or alteration etc of ground source heat pumps on domestic premises

Class D – installation or alteration etc of water source heat pumps on domestic premises

Class E – installation or alteration etc of flue for biomass heating system on domestic premises

Class F – installation or alteration etc of flue for combined heat and power on domestic premises

Class G – installation or alteration etc of air source heat pumps on domestic premises

Class H – installation or alteration etc of wind turbine on domestic premises

Class I – installation or alteration etc of stand-alone wind turbine on domestic premises

**Class J – installation or alteration etc of solar equipment on non-domestic premises**

**Class K – installation or alteration etc of stand-alone solar equipment on non-domestic premises**

Class L – installation or alteration etc of ground source heat pump on non-domestic premises

Class M – installation or alteration etc of water source heat pump on non-domestic premises

Class N – installation etc of flue for biomass heating system on non-domestic premises

Class O – installation etc of flue for combined heat and power on non-domestic premises



# WHAT IS “MICROGENERATION”

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- Biomass;
- Biofuels;
- Fuel cells;
- Photovoltaics;
- Water (including waves and tides);
- Wind;
- Solar power;
- Geothermal sources;
- Combined heat and power systems;
- Other sources of energy and technologies for the generation of electricity or the production of heat, which would, in the opinion of the secretary of state, cut emissions of greenhouse gases in Great Britain.

Capacity is in relation to the generation of electricity, **50 kilowatts;**

Capacity in relation to the production of heat, **45 kilowatts thermal.**



# SOLAR – DOMESTIC - 1

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- “Class A”: solar panels can be installed on houses and bungalows, blocks of flats, or buildings in their curtilage such as garages, provided that:
  - The panels do not face towards a highway in a conservation area or world heritage site
  - The building in question is not listed
  - The panels do not extend higher than the top of the roof, or protrude by more than 20cm



# WHAT DO PLANNERS MEAN BY “CURTILAGE”

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- Area adjacent to and belonging to a building, but vaguely defined.
- Usually enclosed garden or courtyard around a given building, whose use is incidental to that of the building.
- Can be a small domestic garden, or fairly large – 12 acres in *McAlpine v Secretary of State* (1995).
- Ultimately decided by planner case-by-case, and can only be challenged where no reasonable person would agree.
- If in doubt, contact your planning authority.



# SOLAR – DOMESTIC – 2

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- “Class B”: stand-alone solar generation equipment can be put up in the curtilage of domestic dwellings, provided that:
  - This would be the only external installation
  - The installation is less than 4m high, the panels have less than 9sqm area and no part of the array including housing is more than 3m long
  - It more than 5m from the edge of the curtilage
  - It is not on a scheduled monument or the curtilage of a listed building
  - If in a conservation area or world heritage site, it is no closer to a highway than the building in whose curtilage it sits
  - Panels are removed when no longer needed and the installation is sited “to minimise its effect on the amenity of the area”



# SOLAR – NON-DOMESTIC

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- Class J is for installation on non-domestic buildings; class K is for installation in their curtilage
- Similar to domestic installation, but differences include:
  - Where PV mounted on roof, can be up to 1MW capacity (approx. 5000 panels or 2-3 Ha).
  - Still microgeneration for solar thermal
  - Class J has a prior approval process. A form must be submitted for this. When deciding on approval, LPA must consider “as if the application were a planning application”. Works can only begin once the LPA either approves, says their approval is not needed or does not respond for more than 56 days.
  - Rule on external installations not being closer to highways than relevant buildings now extends to other types of protected land, such as National Parks and AONBs



# WIND – DOMESTIC ONLY

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- Class H allows a single wind turbine to be put up on a house or domestic building. Class I allows a free-standing wind turbine to be put up in the curtilage of a house or domestic building.
- Cannot use class H and I for the same building.
- Cannot be used on or in curtilage of listed buildings.
- Restrictions on height and dimensions and cannot be made of reflective materials.





# WATER AND GROUND SOURCE HEAT PUMPS

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- “Microgeneration” ground (Class C) and water source (Class D) permitted within curtilage of dwelling or block of flats without restriction, except under article 4 direction.
- Water (class M) and ground (class L) source also permitted in commercial settings, but:
  - Can only have one ground source pump per curtilage and this must not result in more than 0.5ha excavation.
  - Water source pumps must not cover more than 0.5ha area each, including pipes.



# AIR SOURCE HEAT PUMPS – DOMESTIC ONLY

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- Class G permits one air source heat pump only on or within the curtilage of a block of flats, provided that:
  - A wind turbine is not also on the same building or in its curtilage
  - The site is not a listed building or its curtilage, or a scheduled monument.
  - The pump complies with MCS standards and its compressor unit does not exceed 0.6 m<sup>3</sup> in volume.
  - The pump is not installed on a pitched roof or within 1m of the edge of a flat roof, or on a highway-facing wall above ground level.
  - If it is in conservation area or world heritage site, the pump is not installed on a roof or a highway-facing wall and it does not extend closer to a highway than any part of the building.

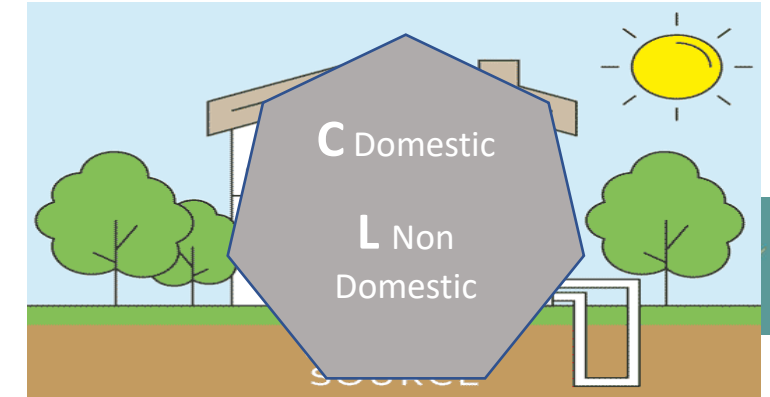
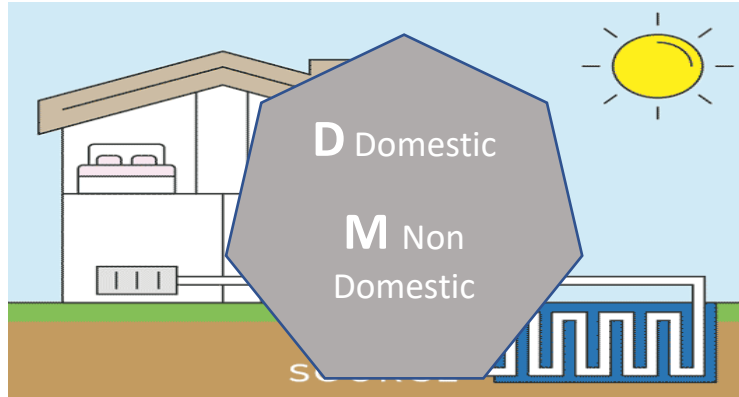
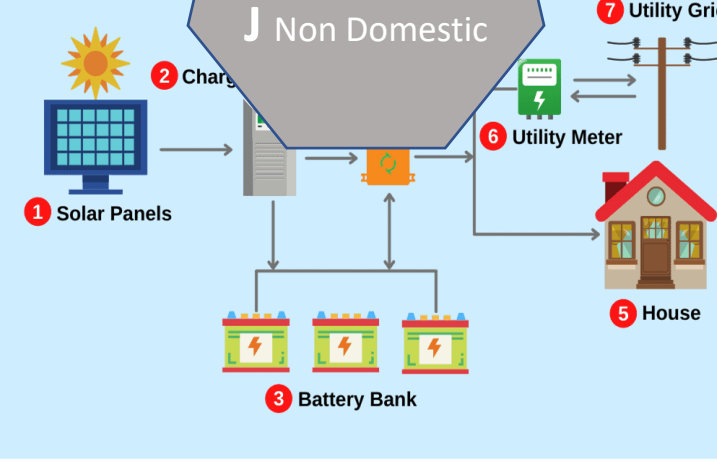
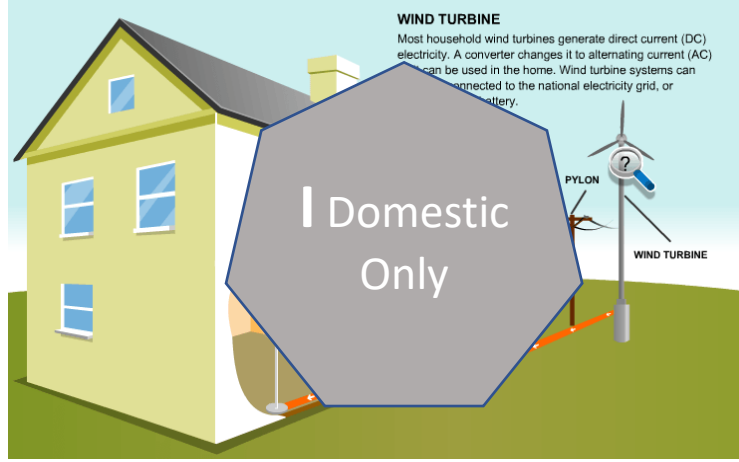
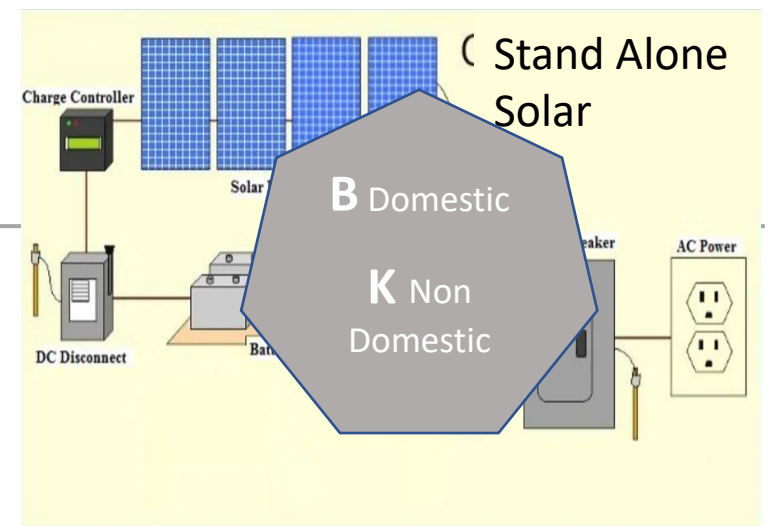
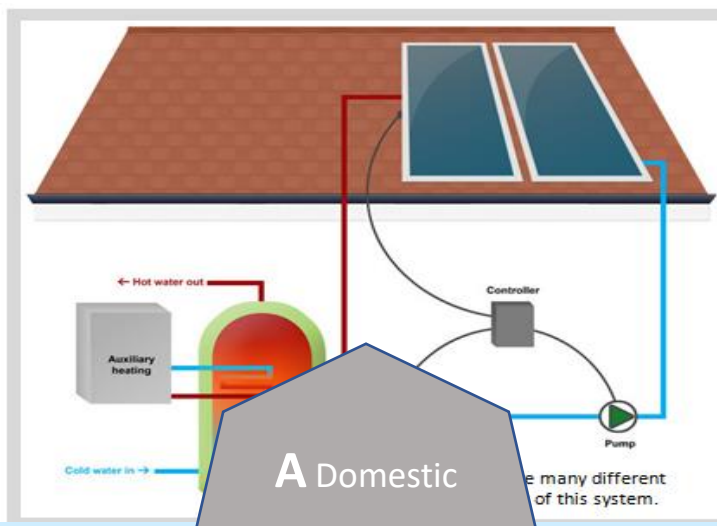
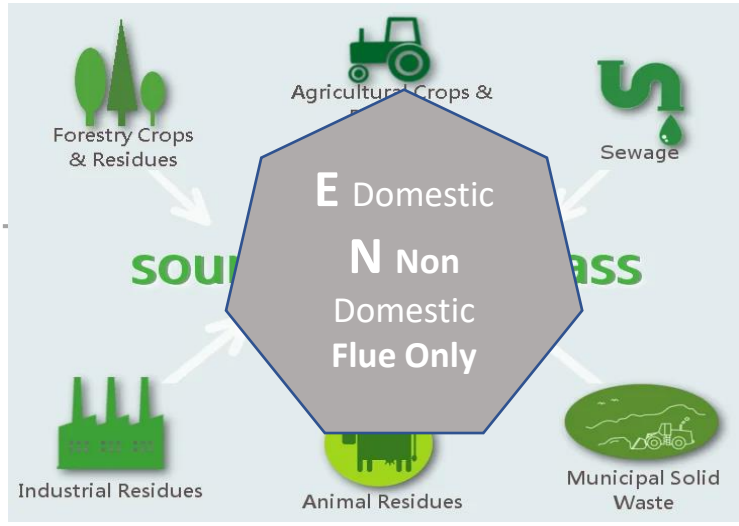


# BIOMASS

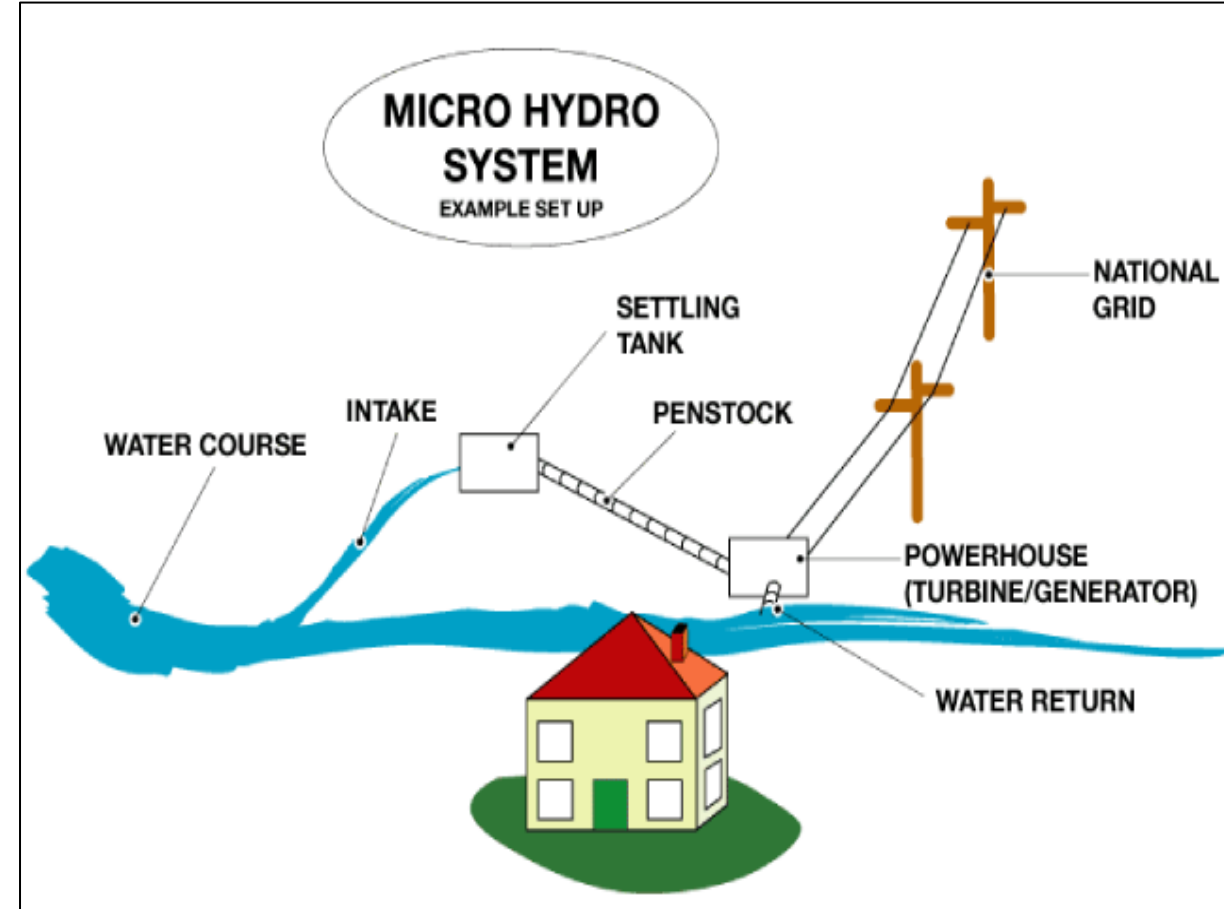
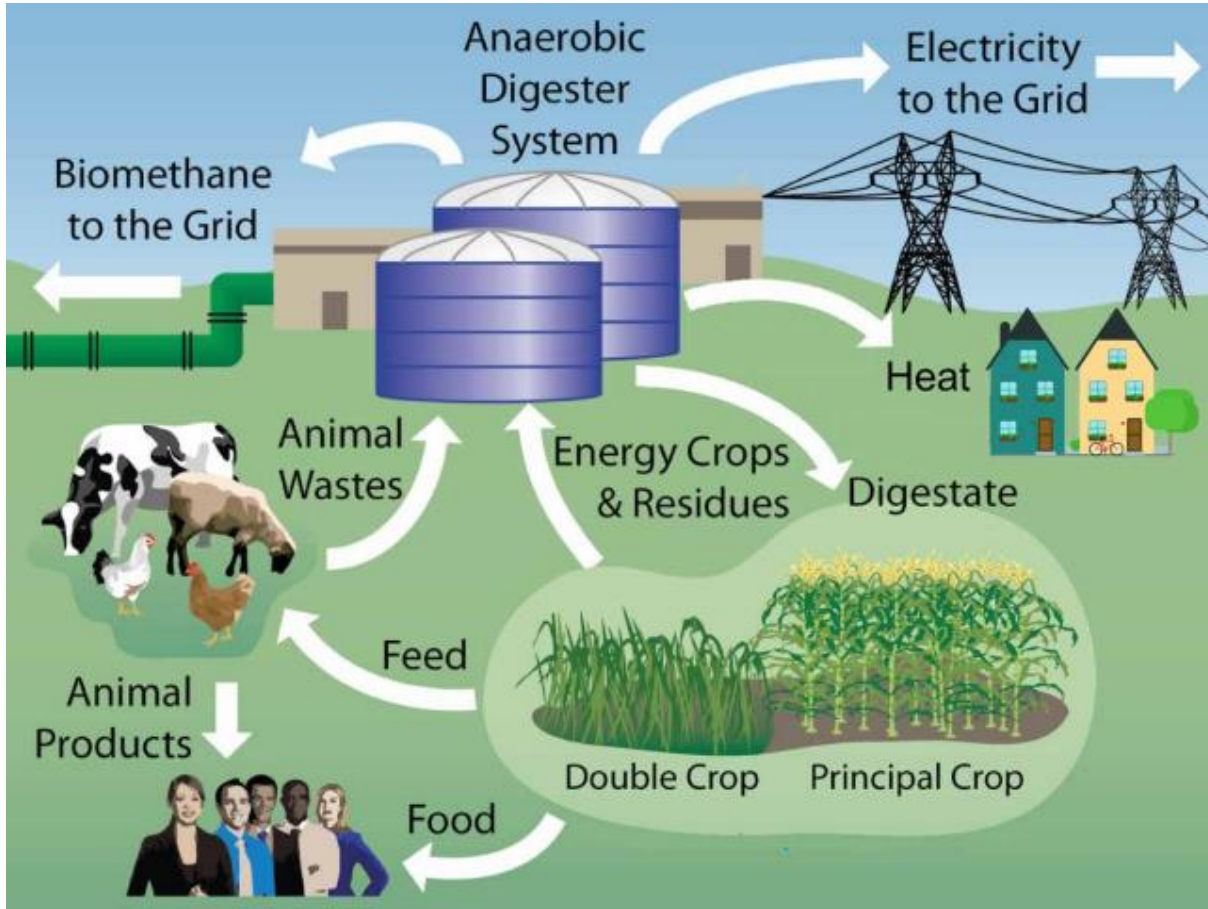
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- Class E permits microgeneration biomass on a house or block of flats provided that
  - The flue does not extend more than 1m higher than the roof.
  - If in a conservation area or world heritage site, the flue is not on a wall or roof slope facing a highway
- Class N permits microgeneration biomass on commercial buildings subject to the same restrictions and also:
  - The building must not be listed or within the curtilage of a listed building or schedules monument designation
  - The system would not generate more than 45 KW thermal
  - The system is also not on a highway-facing wall or roof slope in an AONB, National park, the Norfolk Broads or land designated under the Wildlife and Countryside Act 1981.





# FULL PLANNING IS REQUIRED



# LOCAL AUTHORITIES - SUB 50 MEGAWATTS

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There are some key considerations for LPAs that relate to each renewable source

- Biomass – transport links
- Hydro – water source, head height & flood risk
- Wind turbine – Wind predications, air safeguarding, electromagnetic interference, large vehicle access, noise, building fall distance/shadowing, ecology
- Photovoltaic Solar & Water Heating – panel orientation to maximise sunlight, sufficient scale to produce required energy, effect on protected landscapes, colour and appearance glint / glare, land classification – ideally Grade 3b and above, grid connection



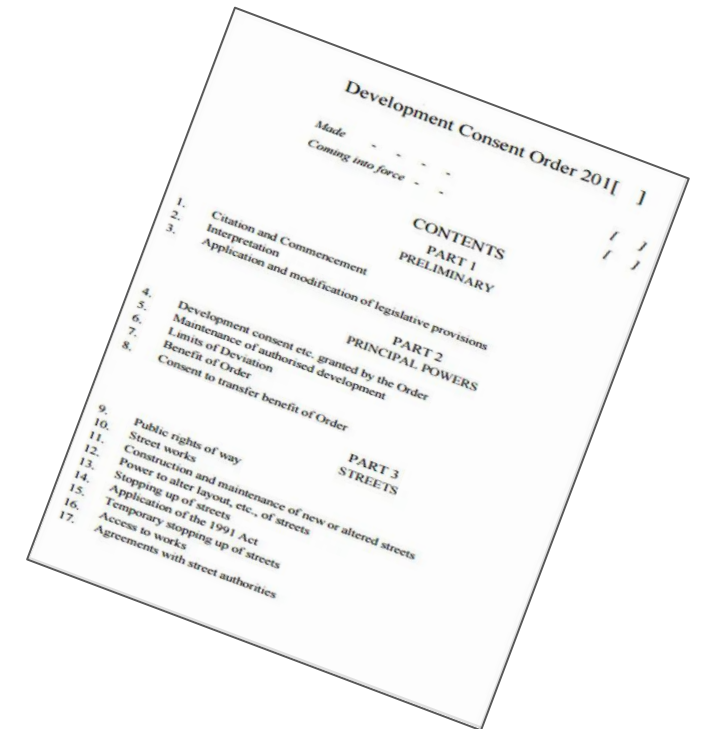
# FULL PLANNING

National, Local and Neighborhood plans all include policy that supports development relating to renewable energy

Local Planning Authorities (LPA) are responsible for decisions on development of up to 50MW.

Larger schemes are considered by the Secretary of State with the LPA a statutory consultee.

A Development Consent order is needed for anything over 50MW (Circa 200 acres) which is defined as a **Nationally Significant Infrastructure Project**



# GOOD PRACTICE FOR LARGER SCHEMES

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Initial consultations with neighboring landowners and communities as a whole

Early meetings with local planners, and finally 'go public' through village meetings and exhibitions.

For potentially controversial wind farm developments, it may be helpful to set up a community development fund using a small portion of the project income. This can be linked to opportunities for neighboring householders, farmers or community buildings.

Solar farms should avoid the Best and Most Versatile land, selecting instead sites on lower grade fields





# ADVICE & INFORMATION

- Expert Team of Advisers
- CLA Guidance Notes
- CLA Advisory Handbooks
- CLA Energy Services
- Directory of industry professionals
- CLA Insurance



# ANY QUESTIONS?

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The logo for CLA, featuring the letters 'CLA' in white on a teal background. A yellow swoosh underline is positioned beneath the letters.