



**ACEON & REBEL ENERGY WORKING TOGETHER TO DELIVER
OUR SOLAR & STORAGE 'RENEWERGY TARIFF' INCOME
GENERATION MODEL FOR SOCIAL HOUSING PROVIDERS**



**Richard Partington
Managing Director, AceOn Energy Ltd**



AceOn Energy & Rebel Energy have teamed up to deliver a ground-breaking model that is a win-win-win-win for social housing providers. Solar Energy Generation plus Battery Storage plus ‘Renewergy Tariff’:

- ✓ **Reduces a Tenant’s Bill now and into the future** – helping to tackle fuel poverty, helping to protect and insulate from the full extent of future rises in energy prices and enabling a household to more easily pay their rent and other essential living costs.
- ✓ **Provides a revenue income stream for Social Housing Providers** – assisting the investment in renewable energy and other housing measures and turning Capital into Revenue to fund other services.
- ✓ **Helps to tackle Climate Change** – helping to decarbonise a Social Housing Provider’s housing stock and reduce the carbon footprint of each home.
- ✓ **Better Supports the local community** – retaining more of the local £ within the local economy.

WIN-WIN-WIN-WIN: ENVIRONMENTAL – SOCIAL – ECONOMIC - COMMUNITY

INTRODUCING ACEON

AceOn are UK Renewable Energy and Battery Specialists and have a unique combination of a wealth of experience across the public and private sectors and draw on an in-depth knowledge of the battery storage and renewable energy sectors. AceOn has been chosen as the national Approved Partner/Supplier of both the Association of Public Service Excellence and the National Housing Federation for energy storage. AceOn also have strong relationships with the lead organisations in the Renewable Energy sector.



National Housing Federation -
Exclusive Energy Storage Sector Supplier to **800 member Housing Associations**



Association for Public Service Excellence -
Exclusive Approved Energy Storage Partner to **131 member councils**



UK Microgeneration Certification Scheme (MCS) -
AceOn helped **develop** the new MCS Battery Installation Standard. **Alex Thompson led on this for AceOn**. We have been selected by MCS to be their Battery Storage Partners at many exhibitions and events.



Solar Energy UK (formerly Solar Trade Association) -
AceOn is one of the sponsors and contributors to their November 2021 'Solar Guide for Local Authorities' publication. **Richard Partington is Vice-Chair of their Local Authorities Working Group**.



Mark Thompson has been appointed as a Member of the UK Government's **Faraday Battery Challenge Advisory Group**



Alex & Mark Thompson, Richard Partington

INTRODUCING REBEL ENERGY

AceOn Energy works in an exclusive national partnership with Rebel Energy, an OFGEM Regulated Energy Supply Company.

Rebel Energy is the **ONLY** clean energy company with a social mission, as well as an environmental one, looking to tackle fuel poverty as a societal injustice.

Rebel Energy ensure that all billing of the solar energy (the 'RENEWERGY TARIFF') is completely within a legal, OFGEM-regulated framework for piece of mind.

We don't ask tenants to sign up on a long-term basis to any energy supplier – they retain their consumer rights to choose their external energy supplier.

But if a Tenant choose Rebel Energy as their external supplier, they offer:

- 100% Green Electricity (dual fuel if required)
- Fair Pricing
- Customer care
- 'Rebel Restoration' supports projects that remove carbon from the atmosphere, restore natural ecosystems and empower local communities.



Dan Bates
Rebel Energy CEO



Rebel Energy is the next generation energy retailer supplying 100% clean, affordable energy to domestic households in the UK.

There's no good reason why fuel poverty should exist. And energy suppliers have a big role to play in ending this injustice.

HERE'S WHAT WE'RE DOING ABOUT IT

- ✓ Pricing strategies that don't target the poor
- ✓ Identifying benefits and grants for customers
- ✓ Helping customers improve their credit scores

THE TIME FOR SOLAR ENERGY GENERATION AND STORAGE IS NOW!



We face a **Climate Emergency** – the need to decarbonise our homes, businesses, offices and transport is understood.

UK Government's Statutory **Net Zero Carbon Target by 2050.**

New Legislation and regulation for new-builds and Social Housing to improve their energy efficiency and increase Renewables – 'Part L'

Reducing and **eradicating Gas** as a way to heat homes. Heat pumps work but they increase electricity usage.

Fuel poverty has been a national concern for many years and...

This is now exacerbated by a **COST OF LIVING CRISIS** with **SOARING ENERGY BILLS FOR HOMES & BUSINESSES...**



CARBON AAA THE BIG ZERO SHOW NEWS NET ZERO 101 PARTNERS BROAD

Energy & Heat, Infrastructure

Social housing: time to declare a climate emergency?

Jade Lewis, Chief Executive of the Sustainable Energy Association, examines the key role social housing providers must play in tackling carbon emissions and calls for the sector to declare a climate emergency and lead the way

Climate change

Around 300 councils have declared a climate emergency. Councils are taking action to reduce their own carbon emissions and working with partners and local communities to tackle the impact of climate change on their local area.

UK households in fuel poverty

October 2021	4.5 million
April 2022	6.5 million
October 2022	8.9 million



Action for Warm Homes

ENERGY PRICE CAP TIMELINE

AVERAGE ANNUAL PRICE OF STANDARD VARIABLE TARIFF



EXPRESS

Source: Energy Helpline. Data correct 4 February, 2022

ANOTHER INCREASE IN ELECTRICITY COSTS FROM OCTOBER 2022...

- April 2022 Electricity Tariff Cap – 28.3p/kWh, Standing Charge 45.3p/day for direct debit payment (2% higher for Pre-Payment)

- **1 October 2022 – OFGEM set new with an increase overall of up to 80%. From October 2022 the Electricity Price Cap will be:**

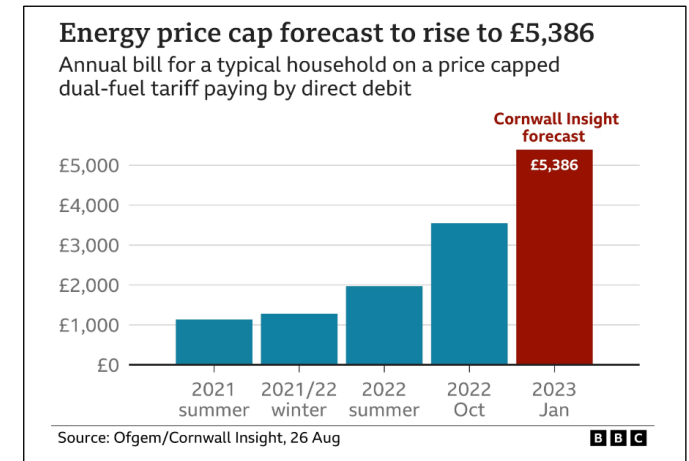
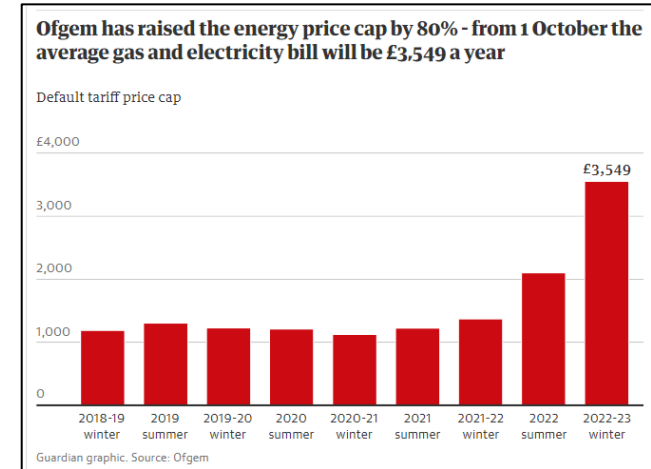
- 51.8p/kWh
- 46.3p/day

- **OFGEM to review its Energy Price cap 4 times per year from 2023 – January, April, July, October = likely more volatility/uncertainty in the medium-term.**

- ****STOP PRESS** - Government announce their 2-year Energy 'Price Guarantee Rate' to reduce the extent of OFGEM's proposed increases. From October 2022, average rates will be:**

- 34.0p/kWh (Northern Scotland: 35.78p/kWh; Southern Scotland: 36.51p/kWh)
- 46.4p/day (Northern Scotland: 50.35p/day; Southern Scotland: 56.94p/day)

- Plus one-off £400 payment from Government to reduce every household's energy bill this Winter.



OUR SOLAR GENERATION AND STORAGE OFFERING TICKS SO MANY BOXES

- ✓ With solar PV alone, on average 28- 30% of solar energy can be consumed within a home directly; adding energy storage enables far more solar energy to be retained and used in the home, on average 60-70% + - significantly reducing the amount of electricity that needs to be purchased from the Grid.
- ✓ Increase the amount of Renewable Green Energy that the UK produces, reducing the need for carbon-based electricity in the National Grid Network.
- ✓ Reduces the Carbon footprint of a home, office or business.
- ✓ For Councils and Social Housing Providers it helps to achieve their Climate Change and Carbon Reduction Ambitions and Targets and demonstrably shows that they are leading from the front.
- ✓ It can help to TACKLE FUEL POVERTY and EASE THE COST OF LIVING PRESSURES by:
 - ❖ Reducing the cost of a household's electricity bill on an on-going basis;
 - ❖ Insulates the household to a large extent from future energy price increases;
 - ❖ Means a social housing tenant can find it more affordable to pay the rent and a household has more money in their pocket to potentially spend in the local economy.
- ✓ And AceOn and Rebel Energy have an optional ground-breaking and attractive 'wrap-around' Energy package offering that can help to maximise cost savings and income for a home and deliver income for a Social Housing Provider...

ACEON'S BATTERY ENERGY STORAGE 'RENEWERGY' OFFERING

We have a strong supply chain of battery storage systems. We work in partnership with Goodwe and currently offer the GoodWe Lynx Home U Series Battery:

The GoodWe Lynx Home U Series is a low voltage lithium battery especially designed for residential applications with superior performance, safe battery technology (LFP) and optimized user experience. The in-built auto recognition function and the plug & play design allow for easy installation.

GOODWE



Model	LX U5.4-L
Usable Energy (kWh)	4.8
Nominal Voltage (V)	51.2
Nominal Charging / Discharging Current (A)	50
Installation Location	Wall-Mounted / Ground-Mounted
Enclosure Type	IP65

Up to 6 x 5.4kWh Batteries can be put in parallel to create a 32.4kWh Battery System



2019

World's No.1 Hybrid Storage Inverter Supplier

BloombergNEF

2021

The most financially stable inverter company



2017-2021

EuPD Top Brand for 5 Consecutive Years

ACEON'S OTHER HIGH QUALITY RENEWABLES PRODUCTS



AceOn are UK **Renewable Energy** & Battery Specialists. Batteries are the beating heart of AceOn but we also supply other renewables products, including our own Smart EV Charger:

SOLAR PV PANELS

- AceOn work in direct partnership with a Tier One Supplier
- High efficiency
- Enduring high performance
- Innovative all-weather technology
- 'The most thorough testing programme in the industry'
- 12 year product warranty, 25 year performance warranty

'ACEON REVITALISE' – SMART EV CHARGER (Coming soon)

- 'The Smart EV Battery Charger from the UK Battery specialists'
- Available in Socketed and Tethered Versions
- 32A (7.4kW) single phase Mode 3 Smart EV Charger
- Easy-fit, Wi-Fi-enabled
- Built-in PEN Fault, surge and leakage protection
- Supplied with RFID fob to control and authorise charging
- Available in a range of colours



AceOn
Revitalise

*'The Smart EV battery Charger
from the UK Battery Specialists'*

ACEON WORKING IN PARTNERSHIP WITH REBEL ENERGY – OUR INCOME-GENERATING RENEWERGY® MODEL FOR SOCIAL HOUSING PROVIDERS

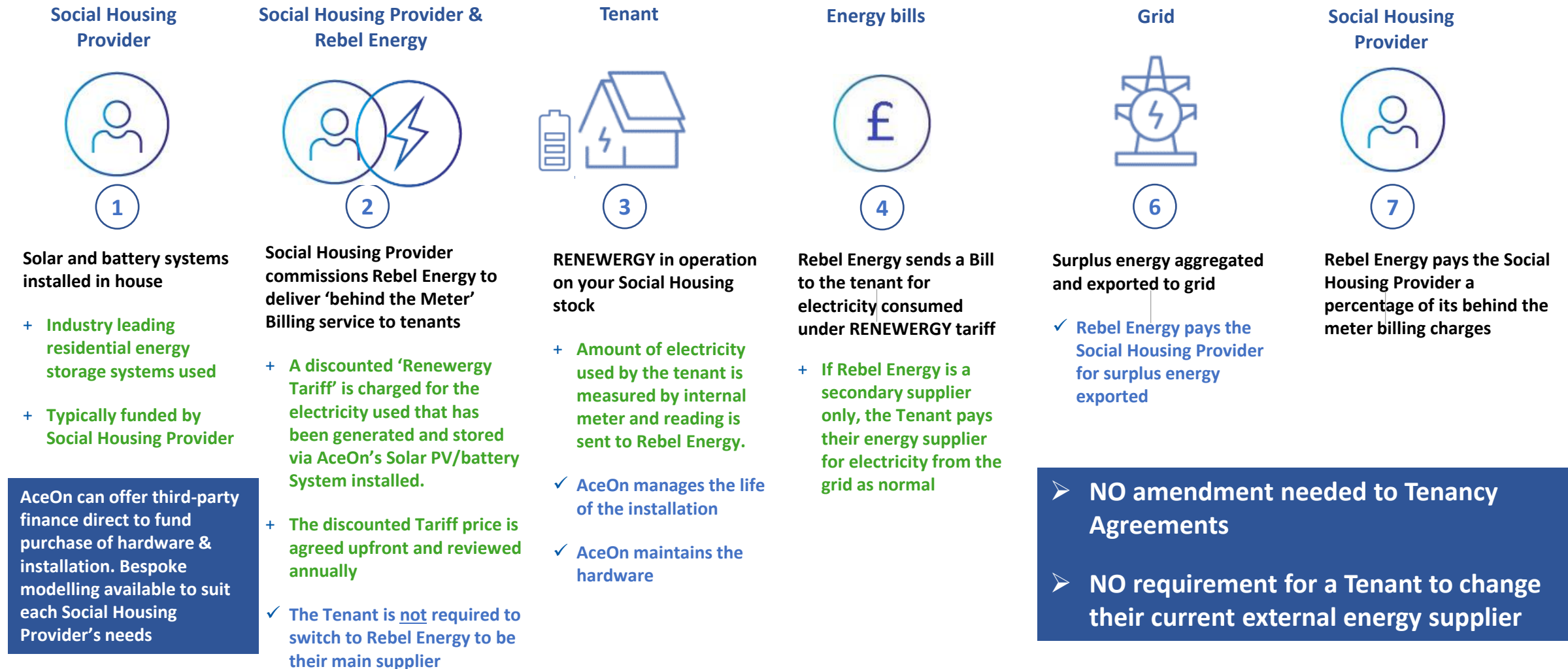


- ❖ As an option, we have developed a model to generate a significant revenue stream for a Social Housing provider, AceOn can supply battery storage to supplement and enhance Solar PV installations. Rebel Energy **can then bill tenants (we call it the RENEWERGY® Tariff) for the solar energy that they use within the home** – battery storage helps to maximise the amount of energy that is used – and can therefore be billed for.
- ❖ The Social Housing Provider can set the level of the **discounted RENEWERGY® Tariff that the tenant would be charged**. This discounted Tariff is reviewed annually. The Tenant is guaranteed an **electricity bill that is and will continue to be less** than what they would have paid without solar PV and the battery.
- ❖ Any **surplus solar energy** that the home is unable to use/store, would be exported to the Grid. Rebel Energy would virtually aggregate all of this from each home **and pay the Social Housing Provider for each kWh of solar energy that is exported**. The level of fee would be dependent on factors such as volume of homes, energy market prices, amount of energy exported.
- ❖ The **Social Housing Provider would receive a £15 payment (dual fuel) by the energy company for any tenant that switches to Rebel Energy for their external energy supply**. This payment would be repeated on an annual basis if the tenant does not switch to another company for their external supply. **Our model does not require the tenant to switch and the tenant retains their consumer right to select their external supplier at all times**.
- ❖ In order to meet administration/billing/customer service costs, the Energy Supply company would retain a fee of £0.053p/kWh from the RENEWERGY Tariff and pay the remainder to the Social Housing Provider on a frequency determined by them as the client.
- ❖ **And the tenant retains all of their current rights** – no changes needed to Tenancy Agreement; Tenant is not required to change their current supplier of energy from the Grid.

OUR OPTIONAL 'WRAP-AROUND' SOLAR & STORAGE 'RENEWERGY TARIFF' SOLUTION



OVERVIEW OF OUR SOLAR & STORAGE INCOME GENERATING MODEL FOR SOCIAL HOUSING PROVIDERS :



ACEON DELIVERING ENERGY STORAGE IN SOCIAL HOUSING – ‘HEADLINES’

- ✓ AceOn has so far delivered over 1MWh of residential battery storage for local councils and housing associations across England and Wales.
- ✓ AceOn been a supplier of high quality batteries for homes funded or part-funded by national Governments:
 - Welsh Government ‘Housing and Regeneration Optimised Retrofit Programme’ 2020-21;
 - UK Government's 'Getting Building Fund’.
- ✓ AceOn were a partner in a project that has been nominated for a National Award – ‘Climate change retrofit project of the year’ at the Inside Housing Development Awards.
- ✓ AceOn’s work has been featured on BBC Midlands.



THE FUTURE OF ELECTRICITY COSTS...TIME TO TAKE GREATER CONTROL!

- Government OCTOBER 2022 Energy 'Price Guarantee Rate' – **STILL AN INCREASE IN ENERGY PRICES OF c.27% FROM SUMMER 2022 ENERGY PRICE CAP AND 96% HIGHER THAN WINTER 21/22 CAP**
- Government's £400 Bill reduction payment to every household in Winter 2022 – **A ONE-OFF PAYMENT WITH NO CONFIRMATION THAT THIS WILL BE REPEATED**
- Government OCTOBER 2022 Energy 'Price Guarantee Rate' – **A TWO-YEAR RESPITE (September announcement...Now (October announcement) ONLY 6 MONTHS!**



Energy prices to remain significantly above average up to 2030 and beyond

Research from Cornwall Insight looking at Great Britain's (GB) Power Market out to 2030 has shown energy prices will remain in excess of £100/MWh annually. This is significantly above the five year pre-2021 historic average of £50/MWh in Winter and the even lower prices in pre-2021 Summer.

Cornwall Insight's Benchmark Power Curve (BPC) for the British Electricity Market which covers England, Scotland, and Wales, shows that while prices will drop from the current levels, they will remain high. Prices are expected to rise to £150/MWh in Winter 2025 due to closures of nuclear power stations, delays to Hinkley C, and increasing high-cost peaking capacity.



Energy Price Guarantee cut from two years to six months

The Energy Price Guarantee, [announced by the Prime Minister on 8 September 2022](#), was initially due to last for two years from October 2022 to September 2024. However, [the Chancellor announced on 17 October 2022 that it would now only last sixth months](#) ending at the end of March 2023. The Chancellor's statement said:

“...the Prime Minister and the Chancellor have agreed that it would be irresponsible for the government to continue exposing the public finances to unlimited volatility in international gas prices.”

There will be a Treasury-led review of how to support households and businesses after April 2023. The objective of the review will be to “..design a new approach that will cost the taxpayer significantly less than planned whilst ensuring enough support for those in need.” Any support for business will be targeted to those most affected and the new approach will “better incentivise energy efficiency”.

Energy bills could be hiked from April 2023 when the guarantee ends

analysts Cornwall Insight are currently predicting April 2023's price cap to be £4,347 a year for a typical household (under Ofgem's existing cap methodology), a massive 74% more than the energy price guarantee.

UNDERSTANDING ELECTRICITY COSTS FOR A HOUSEHOLD



- OFGEM Typical Domestic Consumption Values 2021 defined as for modelling:
 - 'MEDIUM' Household - 2,900kWh
 - -'HIGH' Household - 4,300kWh
- Tariff Options:
 - For those not on a Fixed Tariff, 'default' will be Energy company's Standard Variable Rate – OFGEM 'Price Cap'.
 - Any Fixed tariff will be higher than the level of the current OFGEM Price Cap.

Illustrative Electricity Bill – without Solar PV and Energy storage:

Assuming, say, **3,500 kWh (mid-point) electric consumed**, for the Standard Variable Rate (OFGEM Price Cap) using 3,500kWh electricity:

- 34.0p/kWh unit tariff price - £1,190
- 46.4p/day Standing Charge - £169.36

Estimated Total Annual Bill in Year 1 (3,500kWh)

= £1,359.36 (inc. VAT)

Less Government one-off payment this Winter of £400

= £959.36 (inc. VAT)

ACEON'S 'RENEWERGY' SOLAR ENERGY GENERATION & STORAGE SYSTEM



For modelling and illustrative purposes, we use a standard energy storage configuration as follows:

- **3.2kWp solar PV panels (c. 8 panels)**
- **3.68kW Hybrid Inverter**
- **5.4kWh AceOn battery Storage**



Our modelling shows that on average, for a house that consumes 3,500kWh of electricity in a year on average each year, there will be:

- **c.2,147kWh self-consumption of the solar energy generated/stored**
- **c.816kWh pa would be exported to the Grid.**
- **c.1353kWh of electricity needing to be imported from the Grid**



ACEON & REBEL ENERGY'S 'RENEWERGY' BILL



For modelling and illustrative purposes, we have set the 'Renewergy' Tariff that a Tenant would have paid at 50% of OFGEM's proposed October 2022 Energy Price Cap rate (before Government intervention):

➤ 25.8p per kWh

NB. Social Housing Provider chooses the level of discount for the Renewergy® Tariff. This tariff is reviewed on an annual basis.

For a household that uses 3,500kWh of electricity pa that has had AceOn's Solar Energy generation and Storage system installed, their total electricity costs from the 'RENEWERGY' bill and their external supplier's bill would be:

2,147kWh of Solar energy generated/stored/used – <u>discounted* RENEWERGY® TARIFF (@25.8p/kWh)</u>	= £553.93
1353kWh of electricity imported from the Grid (@34.0p/kWh)	= £460.02
Standing Charge @46.4p/day	= £169.36
TOTAL BILL (inc. VAT) IN YEAR 1 USING ACEON'S SOLAR ENERGY GENERATION & STORAGE SYSTEM	= £1,183.31
Less Government one-off payment this Winter of £400	= <u>£783.31</u>
TOTAL ESTIMATED <u>SAVING ON TOTAL ELECTRICITY COSTS FOR TENANT IN YEAR 1</u>	= <u>£176.05 SAVING</u>

PROJECTED INCOME & BENEFITS FOR SOCIAL HOUSING PROVIDER

For the Social Housing Provider, this system delivers projected net income in Year 1 as follows:

Net* income from Renewergy tariff (2147kWh @20.6p/kWh)	£407.28
Net income from sale of Exported Solar Energy (816kWh @7.5p/kWh)	£61.20
TOTAL NET INCOME – YEAR 1 (less £35pa for Mobile data)	£433.48

Estimated Cumulative ~ Income to Social Housing Provider:

By Year 5	- £2,619
By Year 10	- £5,513
By Year 15	- £8,708
By Year 20	- £12,233
By Year 25	- £16,126

AND CUTTING CO2 EMISSIONS ALSO:

For each house installed with a 3kWp Solar energy storage and generation system, a **reduction of c.629.1kgCO2e of emissions would be achieved per year. Over 30 years, based on current figures, that would equate to 18.873 Tonnes (equivalent to 139 barrels of oil!)**

(Based on Government figures of 0.233kkCO2e per kWh of electricity. As the electricity network decarbonises further in the future, this figure will reduce.)

...And also delivers a saving for each Tenant!

(* Net income takes account of the deduction of 5.3p/kWh for billing and administration services and £35pa SIM cost for data transfer.

~ Figures show Gross Renewergy Tariff and export income increasing by 2% pa over 25 years as an illustration. Rates are reviewed and agreed on an annual basis.)

ESTIMATING FUTURE REVENUE INCOME & COSTS FOR THE SOCIAL HOUSING PROVIDER OVER 25 YEARS



Estimated Life-time costs for the supply of Solar PV, Smart Metering, Inverter and battery system are:

	Year 1 Solar PV, Hybrid Inverter, Meter, 5.2kWh battery storage	Year 10 Replacement Inverter	Year 15 Replacement Battery	Year 20 Replacement Inverter	Est. Total (over 25 years)
AceOn Solar PV & Storage Per Home	£4,900	£1,000	£2,000	£1,000	£8,900

(NB. Excludes installation costs which are subject to survey etc)

ASSESSMENT OF ESTIMATED BENEFITS ACHIEVED BY SOCIAL HOUSING PROVIDER PER HOME:

Timeframe	Indicative Estimated (Cumulative) Income for Housing Provider*	Indicative Estimated (Cumulative) Saving for Tenant	Indicative Estimated <u>TOTAL</u> (Cumulative) Financial Benefit Achieved by Investment	Estimated (Cumulative) Investment made by Housing provider (excludes installation costs)
Year 10	£5513	£1,923	£7,436	£5,900
Year 15	£8708	£3,040	£11,748	£7,900
Year 20	£12,233	£4,272	£16,505	£8,900
Year 25	£16,126	£5,634	£21,760	£8,900

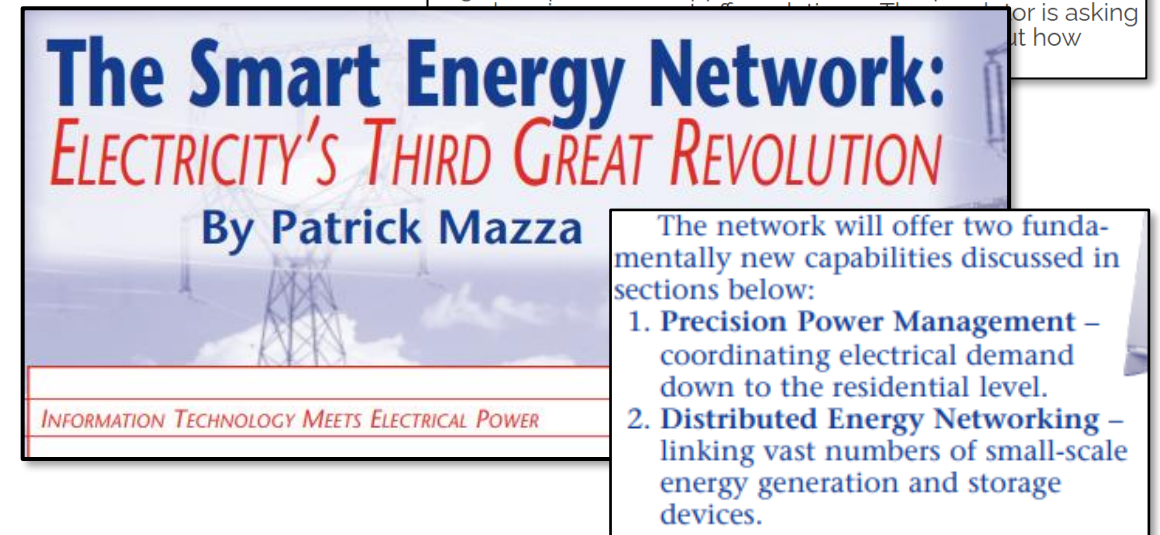
NB *It is extremely difficult to predict what the unit Tariff rate will be after the Government's temporary two-year Rate 'freeze' comes to an end. Our assumption is that this will be a base for future increases. Figures above therefore include a 2% inflation increase pa. (Also Dependent on the rate of the RENEWERGY® Tariff set by the SHP & finalised costings).

THE WIDER POTENTIAL BENEFITS OF BATTERIES – NOW & IN THE FUTURE

“Electrical power is entering its greatest revolution in a century, bringing profound changes in its production, delivery and use”.

Battery storage is key to unlocking so many additional benefits and opportunities:

- ✓ Back up source of power in a Grid outage
- ✓ Customers to be rewarded for reducing energy consumption/ changing patterns of usage
- ✓ Ability to benefit from cheaper off-peak, flexible Tariffs (Time of Use Tariffs)
- ✓ Opportunities for Grid Services/Trading to support Grid balancing and Frequency (Half-hourly billing as part of Virtual asset networks) – Virtual Power Plant (VPP) models
- ✓ Changes to OFGEM Balancing & Settlement to enable Renewable Energy sharing and potential for Peer-to-Peer support so that those households without Solar PV can still benefit (VPP models).



TRAINING

In collaboration with National Renewable Energy Training Specialists, we offer a programme of tailored installation training opportunities to upskill your workforce or we can facilitate local training opportunities for young people working with local Colleges, working in partnership with MCS, to help create the future 'green workforce':

- Energy Storage system
- Solar PV
- In-Roof Solar PV
- Electric Vehicle Charging Equipment
- Wiring Regulations
- Air Source Heat Pumps



SOLAR ENERGY GENERATION + BATTERY STORAGE + 'RENEWERGY TARIFF' DELIVERS



- ✓ **Reducing a Tenant's Bill now and into the future** – helping to tackle fuel poverty, helping to protect and insulate from the full extent of future rises in energy prices and enabling a household to more easily pay their rent and other essential living costs.
- ✓ **Providing a revenue income stream for Social Housing Providers** – assisting the investment in renewable energy and other housing measures and turning Capital into Revenue to fund other services.
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“Offering solutions today for tomorrow’s world”

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