

## OPPORTUNITY FOR LOAN INVESTMENT IN

## SOLAR PV PROJECT AT TEIGN SCHOOL

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## Section 1. Directors' Foreword

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Teign Energy Communities Ltd. (TECs) and its stakeholder Templer Academy Schools Trust (TAST) are planning a solar PV installation at one of the Trust's schools in Kingsteington.

TECs, a Community Benefit Society, is registered with the Financial Conduct Authority (FCA). We are offering an early opportunity to a limited number of investors to provide short-term loans for our Teignbridge-wide initiative and to become Members of the Society.

A community share offer, which requires several months to prepare, is planned for the first half of 2016 to cover capital for this project and potentially other renewable installations. You will be given the opportunity to convert some/all of your loan to these shares.

These are uncertain times for the renewable industry in the UK following recent government policy announcements. However, the Board is confident that our Financial Model is based on sound figures and assumptions. The FiT rate for this installation has been set by Ofgem (11.71p/kWh) and is guaranteed by the government for the duration of the scheme. We are also hopeful that, but not reliant on, the government continuing to support Community Energy initiatives like ours.

The PV system is a 50kWp solar PV mounted on the roof of a sports hall, the latter being owned and operated by TAST. The installation is planned for the February 2016 mid school term holiday. An initial inspection has been carried out, grid connection confirmed with Western Power Distribution and the planning authority informed. Invitations to tender were sent to eight local installers. The Board has considered the responses and, based on our evaluation criteria, have identified two preferred installers. The capital costs for the project are based on their quotation.

The total cost of the project is £60k, we have already received pledges for well over £30k of this. We intend to raise the total as loans in order to underwrite the share offer, should this not be completed before the installation date. We also want to take full advantage of the momentum already built up within the school's management to engage students, parents and teachers with their energy use.

Further details of the loan conditions, TECs and the project are detailed below. By investing in this initiative, you would be able to benefit from:

- Becoming a member of a new community energy enterprise for Teignbridge, Teign Energy Communities Ltd.
- Ensuring that Teign School and its students benefit from the renewable installation, both financially and educationally.
- Being eligible for interest on your loan and later from any share offer conversion option.
- Participating in the ownership of a local renewable energy resource and reducing the impact of climate change, strengthening local energy supplies and improving energy security.
- Supporting the re-investment of surplus profits back into the local community as well as ensuring more of our utility payments remain within the local economy.

I hope you will seriously consider this offer to become a member and provide a short-term loan to our initiative. Our team and supporters very much depend on your support to make Community Energy a reality for Teignbridge.

Tony Sharland  
Director, Teign Energy Communities

## Section 2. The Loan Investment

TECs was registered with the Financial Conduct Authority on the 22nd September 2015. We are in the process of setting up a bank account, but may not be able to handle the funds until Jan 2016. Transition Newton Abbot Community Interest Company (TNA) has offered its bank account to be used on a temporary basis for receiving the loan investments and transferring the monies as soon as TECs' bank account is set up. TNA, a founder members of TECs, is a registered Community Interest Company with its own regulated Asset-Lock rules.

TNA CIC is registered as a Community Interest Company at: Great Western House, 9 Devon Square, Newton Abbot, Devon. TQ12 2HN; Registered in England Company No. 06951265; [www.transitionnewtonabbot.org.uk](http://www.transitionnewtonabbot.org.uk)

Bank name: Triodos Bank

Bank sort code: 16-58-10

TNA CIC account no.: 20 14 96 62

The total loan we are seeking is for £60,000. This will need to be secured (i.e. cheques or bank transfers cleared) by no later than end of January 2016.

We are asking investors able to commit about £5,000 each, but welcome any amount between £1,000 - £10,000. In the event of oversubscription, individual loans may be reduced to achieve a wider spread. Investors are being approached on an individual basis as this is a private loan arrangement between TECs and the investor.

The loan will initially be for a maximum of 12 months, with the option to renew or convert to shares before the end February 2016 (one year from the date of commissioning). All decisions related to these loans, including interest, repayment and conversion to shares will lie exclusively with the Directors of TECs.

Our expectation is to pay an annual interest of 4% on this loan and return the capital at the end of the period of the loan, unless this is extended or converted to shares. This rate is based on our 'cautious' profit sharing model which is summarised below. Earlier return of loans not converted into shares will receive pro-rata interest return as a proportion of the annual headline rate (based on months invested/12).

**All investment carries risk!** The TECs Board have analysed the risks and are confident that we have considered these sufficiently to provide our own personal loans. Specifically we have considered the worst case scenario of government policy changes which may result in undermining the longer term prospects of Community Energy. The TECs/TAST Licence Agreement provides for the option to transfer all assets and liabilities associated with this project to TAST or a community organisation with similar Asset Lock conditions as those of TECs.

The investor should only consider the terms set out in this Opportunity for Loan Investment. Any verbal information or other information, whatever its source, does not represent the terms of this loan agreement.

Any tax liability related to these loans will be the responsibility of the investor as are all financial and material risks and consequences associated with the loan.

|                                     | Year 2016 | 2017   | 2018   | 2019   | 2020-27 | 2028-35 | 20 Year Total |
|-------------------------------------|-----------|--------|--------|--------|---------|---------|---------------|
| <b>RECEIPTS</b>                     |           |        |        |        |         |         |               |
| Electricity Generated (kWh)         | 45,000    | 44,550 | 44,105 | 43,663 | 333,950 | 308,151 | 819,419       |
| Income from FiT (£)                 | 5,270     | 5,232  | 5,196  | 5,175  | 41,625  | 42,255  | 104,752       |
| Income from Sale of Electricity (£) | 2,848     | 2,858  | 2,830  | 2,802  | 21,696  | 20,055  | 53,089        |
| Loan/Share/Misc income (£)          | 60,000    | 16     | 40     | 56     | 3,843   | 8,104   | 72,059        |

|                                |        |       |       |       |        |        |        |
|--------------------------------|--------|-------|-------|-------|--------|--------|--------|
| <b>EXPENDITURE</b>             |        |       |       |       |        |        |        |
| PV System Capital Cost (£)     | 58,177 | 0     | 0     | 0     | 0      | 5,826  | 64,003 |
| Operation & Maintenance (£)    | 1,600  | 603   | 606   | 609   | 5,257  | 6,156  | 14,831 |
| Insurance & Taxes (£)          | 642    | 645   | 648   | 653   | 6,667  | 10,491 | 19,747 |
| TECs operating Costs (£)       | 873    | 873   | 873   | 873   | 6,981  | 6,981  | 17,453 |
| Loan/Share repayment (£)       | 0      | 0     | 0     | 0     | 0      | 60,000 | 60,000 |
| Shareholder Interest Repayment | 0      | 2,400 | 2,400 | 2,400 | 19,200 | 19,200 | 45,600 |
| Community Fund                 | 300    | 464   | 455   | 448   | 3,410  | 3,036  | 8,113  |

## Section 3. Key Assumptions and Risks

The financial summary above is based on a number of cautious assumptions to minimise risk. These include:

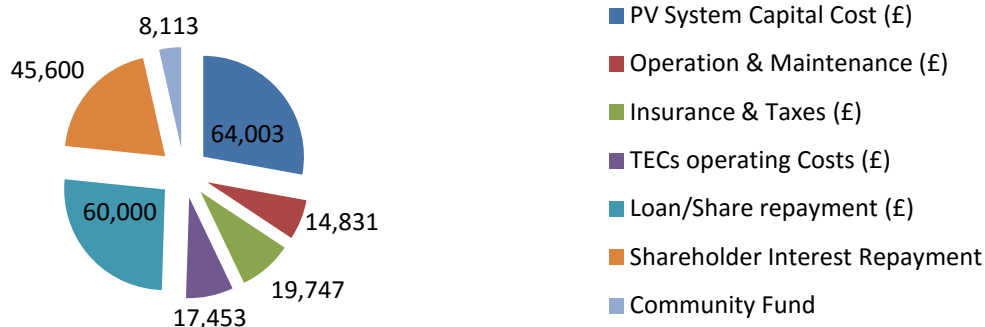
- The PV System is expected to generate 45,000 kWh p.a. ~10% lower than predictions from industry standard estimates. Although weather dependant, experience from existing systems has delivered a consistent performance over many years.
- The performance of the system has been assumed to degrade to the lowest level guaranteed by the panel manufacturer. Experience of solar PV systems has consistently shown that panels of equivalent quality tend to over perform and maintain that performance longer.
- We have included the cost of replacing PV system inverters under an extended manufacturer's warranty for the life of the system (20 years).
- All major components of the PV system are insured and/or under insurance backed warranty for 20 years as is TECs itself. This covers both the replacement of components as well as public liability. System installation and minor system components are also covered by manufacturer's or insurance backed warranties for at least 10 years.
- A relatively low inflation rate has been assumed, starting with 0.5% in the first few years, rising to a maximum of 2% from 2021. This provides greater confidence, that converting the loan to shares could provide a similar rate of return. However a lower inflation rate may also be possible resulting in a possible reduction on the annual rate of return for shares.
- We have included full costs for annual maintenance and the cost of removing the system at the end of the period should this option be exercised under the terms of the Licence Agreement.
- TECs' approach, reflected in the Agreement signed with TAST for this project, is to share profits equitably between investors, owners and the community. The TECs Board of Directors, who are responsible for these decisions, are elected by the Society's Members.

Below is a more 'optimistic' financial summary. This has been included as a comparison and does not represent the basis for TECs' current assumptions.

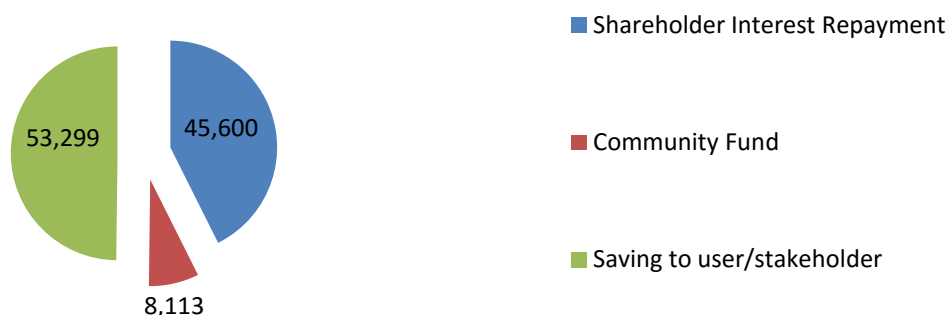
|                                     | Year 2016 | 2017   | 2018   | 2019   | 2020-27 | 2028-35 | 20 Year Total |
|-------------------------------------|-----------|--------|--------|--------|---------|---------|---------------|
| <b>RECEIPTS</b>                     |           |        |        |        |         |         |               |
| Electricity Generated (kWh)         | 47,500    | 47,025 | 46,555 | 46,089 | 352,503 | 325,270 | 864,942       |
| Income from FiT (£)                 | 5,562     | 5,529  | 5,495  | 5,484  | 44,862  | 47,001  | 113,933       |
| Income from Sale of Electricity (£) | 3,006     | 3,031  | 3,001  | 2,972  | 23,011  | 21,271  | 56,291        |
| Loan/Share/Misc income (£)          | 60,000    | 20     | 48     | 61     | 3,270   | 5,844   | 69,243        |

|                                | Year 2016 | 2017  | 2018  | 2019  | 2020-27 | 2028-35 | 20 Year Total |
|--------------------------------|-----------|-------|-------|-------|---------|---------|---------------|
| <b>EXPENDITURE</b>             |           |       |       |       |         |         |               |
| PV System Capital Cost (£)     | 58,177    | 0     | 0     | 0     | 0       | 5,826   | 64,003        |
| Operation & Maintenance (£)    | 300       | 302   | 303   | 305   | 2,628   | 3,078   | 6,915         |
| Insurance & Taxes (£)          | 457       | 459   | 462   | 465   | 4,935   | 8,596   | 15,374        |
| TECs operating Costs (£)       | 1,164     | 1,164 | 1,164 | 1,164 | 9,308   | 9,308   | 23,271        |
| Loan/Share repayment (£)       | 0         | 0     | 0     | 0     | 15,000  | 45,000  | 60,000        |
| Shareholder Interest Repayment | 0         | 3,000 | 3,000 | 3,000 | 22,500  | 18,000  | 49,500        |
| Community Fund                 | 300       | 909   | 892   | 881   | 7,352   | 8,292   | 18,626        |

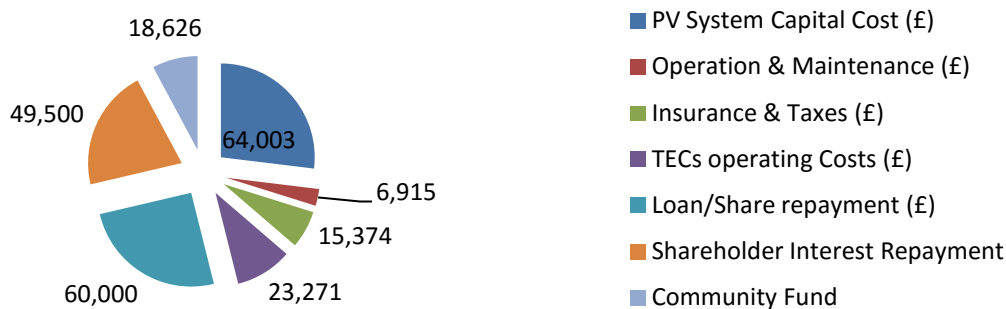
## Costs & Profit Breakdown (cautious)



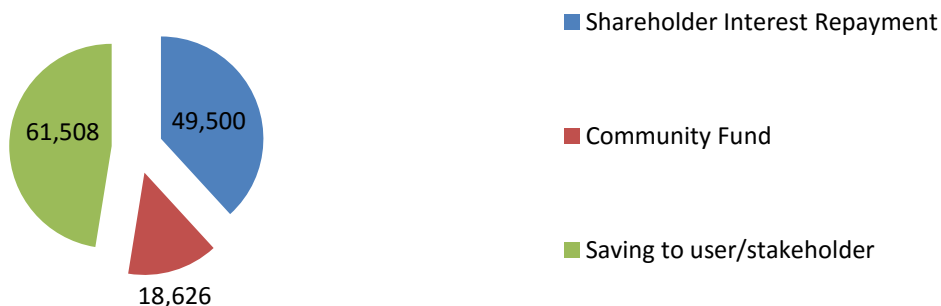
## Profit Sharing £ (cautious)



## Costs & Profit Breakdown (optimistic)



## Profit Sharing £ (optimistic)



## Section 4. About Teign Energy Communities

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Our initiative was launched by members of TNA CIC at a public meeting in November 2014. We received £4,050 funding through Devon's Accelerator scheme and engaged two consultants to help us establish legal entity and understand the community/commercial options for this. Following intensive training, provided by RegenSW, and contacts with other successful Community Energy initiatives, we have established TECs as an umbrella organisation supporting stakeholders Teignbridge wide.

We have received support from several organisations and individuals, including Teignbridge District Council, who are providing their expertise, resources and time to help us achieve a sound footing to launch our Community Energy initiative. Other organisation who have been instrumental in setting up the TECs initiatives are:

Transition Newton Abbot CIC; Teign Housing; Templer Academy Schools Trust; The Avenue Church in Newton Abbot; Two Valleys Community Energy; RegenSW and Devon County Council.

Our vision is

**To achieve the widest possible community engagement with energy use and energy generation. We want people in the local area to become more aware of, and engaged with their use of energy , so that energy becomes as familiar as money.**

**We will do this by setting up a Community Benefit Society (CBS). This will identify , deliver, own and run Renewable Energy installations. The Society will also generate an income for projects to benefit the whole community.**

Our operating strategy is

- To provide the financial and legal framework for organisations within Teignbridge to deliver their local Renewable Energy and Energy Saving projects. These local organisations may be community groups, social enterprises, health/education trusts, councils, businesses and any group that signs up to the vision, aims and objectives of the CBS.
- TECs will raise funds through public/private share offers to cover costs of Renewable Energy projects proposed by local organisations. Such projects will be assessed by the TECs to ensure they meet the vision, aims and objectives as well as being financially and ecologically viable. Appropriate commercial agreements with these organisations for Renewable technologies will be negotiated to achieve an equitable profit sharing arrangement.
- After costs, payments of social dividends and repayment of capital, all profits (i.e. the community fund) will be used to deliver the long term vision of the CBS. This delivery will primarily be undertaken by the local organisations participating in this initiative, paid for in whole or part, by the community fund.

Please refer to our website for further details or contact members of the Board.

<http://teignenergycommunities.co.uk/>

## Section 5. About the Project

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This 50kWp solar PV system at Teign school will not only help with energy bills , it also provides a fantastic opportunity for students to find out first-hand about the benefits of renewables and energy saving. Geography and Science have syllabus units on these topics, so the school will have a live example on its doorstep. Tony Dolan, Head of Sixth Form, also plans for his sixth-formers to get involved with the TECs organisation for work experience. Teign School has indentified one of their new science teachers as the TECs Energy Champion.

With this project, TECs is supporting the Templer Academy Schools Trust to furnish the last of its schools with solar PV system. TECs will also work with Teign School Senior Management Team and the Energy Champion to deliver their educational plans providing financial support and and know-how.

If you are interested in further information, viewing the Licence Agreement or technical details of the PV installation associated with this loan investment, please contact TECs by e-mail or via our website.

### 5.1 PV System Technical Details

Roof orientation is SW with a shallow pitch of approximately 6° from the horizontal. There is no shading. Bing maps will generate an image showing the sports hall below.

Roof dimensions are approximately 39m x 21m. Roof lights sit approx 5m in from both of the long edges of the roof leaving an area available for panels of approximately 35m by 10m.

An initial layout has been drawn up to check potential capacity. Allowing for a 1.5m gap from the edge of the panels to the end of the roof and a 0.8m gap from the roof lights to the panels we believe it is possible to fit 175 No. PV panels of dimension 1,650mm x 991mm allowing for a 20mm gap between each panel.

In order to achieve 50kWp installed capacity we need to have a minimum of 175No. 285W panels.

Mono Crystalline panels are preferable but Polycrystalline panels will be considered if the system can be shown to be better value both in terms of installation cost but also in terms of energy generation and return from the FIT.

Inverters will be Solar Edge with Power Optimisers. These are G59/3 type tested and certified for connection to the UK grid. Any specified system will include detailed monitoring on an individual panel level.

System design will adhere to MCS guidance docs MIS 3002, Scaffolding is to be included in the price. A minimum of one loading platform for safe delivery of panels and full edge protection is included where required.



The school will provide suitable storage for panels to be delivered to site during the installation period however any damage or theft will be the responsibility of the installer and will be covered by the insurance of the installer.

Some welfare facilities and access to electrical power will be available on site.

TECs have raised a WPD application for connection at the school which has been accepted with no upgrades required. It will be the responsibility of the installer to provide finalised specification, schematics, type test certification documents to WPD to finalise agreement details before the installation is carried out.

The installer is responsible for confirming whether or not a G59 Relay is required and for including within the price where required.

A 1/2 hourly export meter is specified to monitor both the school's consumption of generated PV electricity as well as any export energy. This is included within the scope of work, different options and whether smart meters could be used may be considered.