

# Kingston Community Energy Business Plan – DRAFT

## 1.0 Vision, aims and values

Our vision is for community owned decentralised renewable energy across the borough of Kingston. In the face of climate change and peak oil, we believe that now is the time for the local community to come together and make a social investment into our local area and that those local investors should be able to receive a moderate financial reward for that investment.

Our aim is to install solar PV panels on the roofs of community buildings in the borough of Kingston, providing the building owners with low cost electricity<sup>1</sup> enabling them to safeguard themselves against fluctuating energy costs and predicted price hikes over the coming years.

We are a member owned organisation and we believe in our members collectively making the decisions about how the organisation should work.

"I'm very pleased to see Kingston Community Energy's effort to install more solar PV to help cut emissions and energy bills for a local community school, and I wish it the very best of luck." Zac Goldsmith, MP Jan 2013

## 2.0 Background

Our model is based on one that has been tested widely across the country. For the first phase we intend to raise finance through a community share offer. We will use the feed-in-tariff to repay the money that the local community loans to us. Community shares are primarily a social investment with a small financial return to those who contribute to the scheme.

In our first phase we have decided to work with schools for the following reasons:

- Suitable roofs – large flat or gently sloping and unobstructed.
- Education opportunity for students, staff and parents about renewable energy.
- Potential network of funders for the scheme through parents, grandparents and staff.
- Schools are facing budget cuts KCE will provide a cost saving to the schools for the electricity produced by the panels.

## 3.0 Key objectives for 2013

1. Set up Kingston Community Energy as an IPS BenCom
2. Community engagement and awareness raising – events, flyers, workshops
3. Raise funds and install solar PV panels
4. Aim to employ apprentices from local college/university during panel installation
5. Evaluate the first phase and design future phases

## 4.0 Financial outline

The size of the PV system that KCE install will depend on the amount of money raised. Table 1 below summarises two of the modeled scenarios.

	<b>Scenario 1</b>	<b>Scenario 2</b>
System size:	50kW	65kW
Funds required:	£71,000	£90,800
Max annual interest payment:	2.8%	3.4%
Potential money for community energy efficiency fund	£2,700	£2,391

Table 1: Summary of two scenarios from financial model

<sup>1</sup> Low cost electricity will be sold at a rate below market value ensuring that buildings owners receive a cost saving from the electricity generated by the PV panels on their roofs, currently modeled at 50% of market rate

## 4.2 Ongoing financial burden

Once the solar panels are installed, they are a relatively low maintenance technology. They will require occasional cleaning and the inverters require replacement approximately every 10 years. There will be annual costs to run the IPS BenCom; AGM, progress updates to investors, financial management and annual accounts. We aim to direct any surplus generated into a community energy efficiency fund.

## 4.3 Returns for investors

This investment is a social investment. KCE will aim to repay investors over the course of the 20 year life of the project with a small annual interest payment as outlined in table 1. Higher rate tax payers will receive SEIS tax relief on their investment, therefore doubling their returns.

## 5.0 Measures of success

- Year 1: successful installation of solar panels.
- Ongoing: panel performance, shareholder interest repayments, income generation for the community energy efficiency fund.

## 6.0 Benefits of the scheme

The project will help to meet a number of Kingston's Local Plan objectives.

### Objective 1: Tackle climate change, reduce our ecological footprint

- **10% renewable energy on new buildings.** Our aim is to provide over 10% of the school's electricity from renewable sources on an existing building<sup>2</sup>.
- **Zone of low carbon activities.** We will work with Fern Hill Primary School, who are already engaged with the Smarter Communities team at Kingston University.
- **Influence behaviour to reduce ecological footprint.** Through visual displays and workshops we will influence pupils, staff, parents and our members about energy.
- **Support third sector organisations tackling green issues.** KCE is a local third sector organisation; any surplus generated from the scheme will be invested into a community energy efficiency fund.
- **Reduce CO<sub>2</sub> emissions.** Savings of 20 - 40tCO<sub>2</sub>/annum, depending on the size of installation.

### Objective 4: Sustain and share economic prosperity

- **Grow SME base.** KCE is a small social enterprise in the renewable energy sector.
- **Local investment.** KCE will provide an opportunity for local people to invest in their local community. KCE will bring the benefits of the national feed in tariff to local people. Through this project local people will be investing locally, keeping more money in the local community rather than investing nationally or internationally.

### Objective 10: Encourage people to take an active part in the life of the community

- **Cohesion.** Our project is about cohesion and the community working together to achieve a common goal. We know from other successful schemes across the country that those people who come together to own decentralised renewable energy take real pride in being a part of such a local project.

## 7.0 Risks

KCE has developed a risk register for the project which will be kept updated. The key risks of the scheme from an RBK perspective are listed below:

1. *Unforeseen roof issue such as a leak.* Should the repair require removal of the panels KCE will remove and reinstate the panels at our own cost within timeframes agreed between both parties.

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<sup>2</sup> We will verify these numbers once we have accurate data on the schools electricity and when we know the size of PV installation

2. *Damage to the building during installation of the panels.* KCE will work with only competent contractors, the method of installation will be agreed with RBK prior to installation. The installer will be contractually obliged to make good any damage, KCE will ensure that the installer maintains professional indemnity insurance.
3. *Installation risks; working at a school, working at height, HS&E construction risks.* KCE will only employ competent installers with an impeccable health and safety record. The installer will be contractually required to follow RBK H&S policies for working at school sites including generation of risk assessments and method statements as appropriate. KCE will supervise the installation works. Where possible the installation will be programmed to be carried out during the school holidays.

KCE have access to agreements made between local authority, school and community energy company from other schemes across the country. We will be able to make use of these agreements to draw up a robust agreement regarding the roof, the panels and ownership.

## 8.0 Finance

**Capital for the solar panels:** KCE will finance the panel installation through our community share offer. We anticipate that there will be zero cost to the school or RBK for installation and maintenance of the solar panels.

**Insurance:** KCE will have insurance to cover all of our works; panel installation, panel maintenance etc. RBK will add the solar panels into the school's building insurance. Any additional premium that arises as a result of this will be borne by KCE as rent.

**Feed in tariff:** KCE will claim the feed in tariff, we will arrange this with a FIT provider, we will require access to the school on a quarterly basis to read the meters.

**Ongoing maintenance:** KCE will finance the ongoing maintenance of the panels which includes occasional cleaning (once every 2 – 4 years), inverter replacement once every 10 years and quarterly bill reading. KCE will ensure that the solar system is maintained in good, safe working order and will keep a service log.

**Cost of electricity:** KCE will charge the school for the electricity produced by the panels. We will have a robust agreement in place and negotiate an appropriate rate with the school. It is our intention that the charge would be 50% below current market rates for the 20 year life of the project.

## 9.0 Project programme

The project programme has been designed to install solar PV at Fern Hill school before the feed in tariff rates drop<sup>3</sup> on 1<sup>st</sup> May 2013.

	Jan				Feb				Mar				Apr				May	
	07/01/2013	14/01/2013	21/01/2013	28/01/2013	04/02/2013	11/02/2013	18/02/2013	25/02/2013	04/03/2013	11/03/2013	18/03/2013	25/03/2013	01/04/2013	08/04/2013	15/04/2013	22/04/2013	29/04/2013	06/05/2013
Project set up (company, bank account)	■	■																
Approval and agreement: RBK and school				■														
Marketing: develop materials		■	■	■														
Marketing: promotion					■	■	■	■	■	■	■	■						
Fundraising open													■					
PV specification	■	■	■	■	■	■	■	■	■	■	■	■						
PV installation													■	■				
FiT deadline																	■	

<sup>3</sup> Degression of 3.5%

## Annex – Track record and experience

### Kingston Community Energy project team

#### **Liz Darley, MA (Cantab) MEng (hons), CEng, CEnv**

Liz Darley is a chartered civil engineer, sustainability professional and eco-retrofit project manager. She is currently undertaking her own eco-retrofit of a 1940s house bringing it up to high levels of energy performance. Liz used to run a sustainability consultancy, she has a long track record in delivering cost effective strategies in renewable energy, low carbon housing and low carbon business.

#### **Damon Hart-Davis**

Damon Hart-Davis is a strong advocate of solar PV on all scales as part of a low-carbon energy mix, and has put up several systems including at his own house. Damon works in IT and is also a school governor and spends a lot of his time working on energy issues with a view to tackling climate change.

#### **Peter Mason**

Details to be added

### Transition Town Kingston

Transition Town Kingston (TTK) is a voluntary local initiative. We work with a diverse network of local groups and individuals to help make Kingston an even better place to be. Part of a growing global Transition movement, we raise awareness of climate change, peak oil and related issues and run practical projects to help address them. We are politically neutral and non-religious and anyone in the community is welcome to join us.

A selection of our successful local projects include:

From the Ground Up Kingston's not-for-profit community veg box scheme selling fresh, seasonal, organic fruit and veg and other local products at affordable prices.

Green open homes is one of the many projects TTKs energy group has run to promote energy efficiency and plans for a low carbon Kingston.

Stitch in Time is TTK's monthly sociable sewing session offering help and advice on repairing, re-using and upcycling clothes and fabrics of all kinds to keep them out of landfill.

Simplified model in 2013 - Scenario 1: 50kW		DON'T CHANGE RED CELLS		KEY VARIABLES	
All financial figures in 2013 GDP					
<b>Investors</b>			<b>Outputs</b>		
Per annum capital repayment	0		Cash in hand at 20 years	£ 2,669	
Deposit account return above RPI	0		Amount due to investors at 20 years	£ 71,000	TRUE
Investor interest rate	2.80%		Min bank balance	£ 720	
			Max bank balance	£ 18,000	
<b>Sale of electricity</b>			<b>Summary of revenues</b>		
PPA unit rate 2013 money	0.08	£/kWh	FIT revenue over 20 years	£ 87,079	
PPA energy inflation over RPI	5%		Export tariff revenue over 20 years	£ 11,245	
Assumed % of electricity used in school	67%		Sale of electricity over 20 years	£ 67,507	
			Total revenues	£ 165,831	
<b>PV costs</b>			<b>Summary of expenditure</b>		
Cost/Wp	£1.20	£/Wp	20 years maintenance costs	£ 38,480	
PV cost	£60,000		20 years operational costs	£ 21,874	
Contingency	10%		Investor interest payments	£ 31,808	
Set up costs	£5,000				
Funds raised - total capital required	£71,000				
Minimum capital contingency in reserves over expected expenditure	1%	% of capital value			
Maintenance costs	£32	£/kW/yr			
Total maintenance costs	£1,600	per annum			
<b>IPS</b>			<b>PV System</b>		
Company maintenance	£1,000	per annum	Sloping roof	35	kWp
			PVGIS for sloping roof	850	kWh/kWp/yr
			Flat roof	15	kWp
			PVGIS for flat roof	950	kWh/kWp/yr
			<b>Total installed capacity</b>	<b>50</b>	<b>kWp</b>
			<b>Finance</b>		
			RPI	3%	
			Corporation tax	20%	
			VAT recovery rate	5	
			FIT rate	£0.12	
			Export tariff	£0.05	
			<b>FIT rates</b>		
			Up to 1/5/13	3.5% degression	
			10 - 50kW	13.03	12.57
			50 - 150	11.5	11.10

Source: <http://www.ofgem.gov.uk/Sustainability/Environment/fits/Pages/fits.as>

## Annex: Summary of financial modelling

Simplified model in 2013 - Scenario 2: 65kW		DON'T CHANGE RED CELLS		KEY VARIABLES	
All financial figures in 2013 GDP					
<b>Investors</b>			<b>Outputs</b>		
Per annum capital repayment	0		Cash in hand at 20 years	£ 2,391	TRUE
Deposit account return above RPI	0		Amount due to investors at 20 years	£ 90,800	
Investor interest rate	3.40%		Min bank balance	£ 936	
			Max bank balance	£ 23,400	
<b>Sale of electricity</b>			<b>Summary of revenues</b>		
PPA unit rate 2013 money	0.08	£/kWh	FiT revenue over 20 years	£ 112,312	
PPA energy inflation over RPI	5%		Export tariff revenue over 20 years	£ 14,503	
Assumed % of electricity used in school	67%		Sale of electricity over 20 years	£ 87,069	
<b>PV costs</b>			<b>Summary of expenditure</b>		
Cost/Wp	£1.20	£/Wp	20 years maintenance costs	£ 49,424	
PV cost	£78,000		20 years operational costs	£ 21,874	
Contingency	10%		Investor interest payments	£ 49,395	
Set up costs	£5,000				
Funds raised - total capital required	£90,800		<b>PV System</b>		
Minimum capital contingency in reserves over expected expenditure	1%	% of capital value	Sloping roof	50	kWp
Maintenance costs	£32	£/kW/yr	PVGIS for sloping roof	850	kWh/kWp/yr
Total maintenance costs	£2,080	per annum	Flat roof	15	kWp
<b>IPS</b>			PVGIS for flat roof	950	kWh/kWp/yr
Company maintenance	£1,000	per annum	<b>Total installed capacity</b>	<b>65</b>	<b>kWp</b>
			<b>Finance</b>		
			RPI	3%	
			Corporation tax	20%	
			VAT recovery rate	5	
			FiT rate	£0.12	
			Export tariff	£0.05	
			<b>FiT rates</b>		
				Up to 1/5/13	3.5% depression
			10 - 50kW	13.03	12.57
			50 - 150	11.5	11.10

Source: <http://www.ofgem.gov.uk/Sustainability/Environment/fits/Pages/fits.as>