

# Briefing

## How Local Authorities can help Schools Run on Sun

### Report of London and South East England Roundtable, September 2014

Friends of the Earth's [Schools Run on Sun](#) campaign was launched in the summer of 2014. The campaign aims to make it easy for schools to run on solar power.

Local Authorities have a key role to play in realising this ambition:

- top tier authorities are Local Education Authorities (LEA's) who maintain over 17,000 schools across England;
- many authorities at all levels are working on programmes to save energy, support community-owned renewable power and tackle climate change.

The picture remains patchy however and good practice in one area is not necessarily being adopted by neighbouring authorities who could benefit.

A recent sample of 49 LEAs revealed that they are spending £76 million a year on electricity for their schools. Kent alone spends £8.4 million and the London Borough of Barnet £2.4 million. Much of this cost could be eliminated; a school can save up to [£8000 a year](#) by installing solar pv - money that could be spent on books, kit or activities. Yet our best estimate is that to date only 1500 schools across the UK have solar power installed on their premises.

We want to see current Local Authority best practice more widely adopted and get more schools to Run on Sun. To this end we are organising a series of conferences and roundtables around England. The first of these was held in London on 19th September 2014.

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For more than 40 years we've seen that the wellbeing of people and planet go hand in hand – and it's been the inspiration for our campaigns. Together with thousands of people like you we've secured safer food and water, defended wildlife and natural habitats, championed the move to clean energy and acted to keep our climate stable. Be a Friend of the Earth – see things differently.

The aims of the roundtable were to:

showcase good practice;

look at problems and solutions;

consider how to promote more widely.

Participants came from a diverse range of Local Authorities including the London Borough of Merton, East Sussex County Council and Southampton City Council. Also in attendance were representatives from community energy organisations from London, Oxford and Surrey and funders of solar installations. There is a full list of participants at Appendix 1.

Our thanks are due to all participants for their valuable contributions, whether as presenters or enthusiastic partakers of the conversation. This report is our distillation of what was said rather than a verbatim account; a fuller version is available on request. We have checked back with participants to ensure accuracy but any errors of interpretation are ours. Further feedback from reader is very welcome; we don't pretend even to have asked all the questions let alone found all the answers.

### **Summary of Key Findings from the Roundtable**

#### **SOLAR PROJECTS MAKE GOOD ECONOMIC SENSE**

\* Changes to the Feed-in Tariff (FiT) have had some impact but the cost of pv technology has come down so rapidly that well planned projects still pay for themselves and generate financial and other benefits

#### **THERE ARE MULTIPLE POTENTIAL BENEFITS**

\* Local authorities can get income from FiT or electricity export

\* Schools can save with cheaper electricity or reduced consumption

\* Shareholders can get competitive returns on their investment

\* Wider benefits can include education, local employment and skills, building capacity and confidence in the community

\* However it is unlikely that any one body will be able to deliver all of these so suitable partners are needed to make the most of the opportunities

#### **BUILDING RELATIONSHIPS IS KEY**

\* Whether you are a Local Authority or a Community Energy Provider, you have to invest time in building your case and persuading the right people to work with you on projects

\* Governors hold the power to make decisions on installations on school premises. It is unwise to make significant investment in a school project until the governors have signed an agreement

- \* Schools get bombarded with offers from people they do not necessarily trust and some even have "solar fatigue" so trusted advocates and personal approaches are needed
- \* For projects that need planning permission you need to work on getting political support

#### IT PAYS TO DEVELOP A STRATEGIC APPROACH TO YOUR ASSETS

- \* Piecemeal installations on smaller sites are less rewarding
- \* Better to have a portfolio of potential sites so you can manage your timetable of installations for the best returns and always have projects waiting their turn if needed
- \* Don't just go for the quickest returns. You can bundle solar and other energy projects into an affordable package such that the easier and more profitable projects enable some more difficult ones. This is one way that Local Authority and community energy schemes score; commercial installers would not usually do this
- \* There are economies of scale from being able to spread legal, financial and procurement costs across a larger range of sites. But at any scale the actual installation is by far the biggest proportion of the cost
- \* Income from solar schemes can be re-invested in more projects or energy-saving work more generally

#### LOCAL AUTHORITY AND COMMUNITY ENERGY PARTNERSHIPS CAN BE WINNERS

- \* Neither partner on their own can realise the full range of benefits from pv on schools
- \* Working in partnership can give you more flexibility but it is important that schools and others are getting a clear and consistent message

#### BUILDING CAPACITY AND EXPERTISE IN LOCAL AUTHORITIES IS WORTHWHILE

- \* Installing solar across a portfolio of buildings requires a complex mix of skills: legal, financial, procurement, project management, relationship management. Once this knowledge and experience has been gained it is an asset that enables the authority to manage projects across their own estate and a range of public and private bodies as well.
- \* Schools that have moved or might move to being academies need different treatment and watertight legal agreements to ensure the Local Authority's investment is protected.

But the main barrier to installing on Academies may be political

#### GRID CONNECTION IS AN ISSUE AND NOT LIKELY TO GO AWAY

- \* There is a clear mis-match between the amount of community-owned solar power envisaged by the Department of Energy and Climate Change and that actually being planned for by local grid operators

#### THE RULES AROUND PROCUREMENT ARE UNCLEAR

- \* Local Authorities have different experiences and approaches

## Funding and Finance

The key point to come out of the conversation was that investment in solar pv makes good economic sense for councils, schools and communities. Although FiT rates have come down so has the cost of solar installation so well-designed schemes pay for themselves and generate a surplus. We heard from more than one council that “We have capital to invest – it's the revenue budget that's the issue for councils, not capital”.

FiT income is guaranteed for 20 years so it underwrites loans: described by one of our contributors as a “no brainer”.

Both Southampton and Merton told us that energy costs from their schools are rising (while coming down for other council and public buildings) because of rising pupil numbers and more intensive use of IT.

***"The pv installations we carried out in 2011-12 are now yielding 12% return and funding three jobs"***

Southampton City Council

In Southampton pv installations carried out in 2011-12 are now yielding 12% return, and funding three jobs. The City Council are now looking to install on as many as possible of the city's 15,000 social housing units, from which they project a total of £3.5m surplus by 2025.

Waltham Forest were one of the LA's setting up revolving funds to invest surpluses in energy efficiency and solar on more corporate buildings. For this programme they can borrow from the Public Works Loan Board at 4%, with a 12-13 year payback.

A question was raised as to whether anyone is looking into investing **LA pension funds**? Lancashire made a small pioneer investment of £9-£10m in Westmill community solar and wind farm. As far as we knew no-one else has yet done anything like this; decisions on pension fund investment rest with Chief Executives or Heads of Finance. Southampton and Merton had looked into it; investment would have to be at scale, the best return would be from solar farms [NB this discussion took place before the coalition government effectively froze large scale solar developments]. Wey Valley solar considered that smaller projects could be aggregated to make them attractive to pension fund managers.

Oxford City Council have now committed to direct divestment from fossil fuels so a possible space has opened up, but they are not ready to take that step yet.

Pure Leapfrog are talking to pension funds – they want to invest in local pv but are looking for £30m minimum to enable divestment from fossil fuels. Could local authorities combine to offer this?

Pure Leapfrog and CSE will be running the **Urban Communities Renewable Fund**. This will offer some cash for local authorities to partner community groups in getting new schemes underway. It is due to launch in November.

## Investment Models

There were several variants around the table of ways to finance and fund solar installations on schools. Some councils expressed a strong preference for maintaining as much control as possible by owning and installing pv themselves where they could. This was seen as a route that maximized returns and lowered risk. Others were using “Rent a Roof” models where the benefits are shared between the LA and/or an installer (who may be a third party) who get the FiT while the school benefits from reduced electricity use or a contract at lower price.

In Oxford the council wants to see solar installed on schools in the city but does not have sufficient funds to do this itself, so it sees community investment as the best route. Both

***" We are trying to create a new culture of investment. Our solar school schemes are small but the social benefits are big"***

10:10

County and City councils are supporting Oxford Low Carbon Hub as the body to manage installations and secure funding through community share offers. Shareholders get interest at 5% from FiTs and export tariff, which with EIS is worth 8%. Schools can buy the electricity generated at 7.5p/kWh – the usual rate being 10p - and one third goes to the organisation to invest in further community energy schemes, particularly focusing on fuel poverty.

Wey Valley Solar's share offer raised £750k from the public in 40 days. They project that their projects will deliver £1m of income to the schools over the lifetime of the arrays from an initial £600k investment by the public. They pay 5% to investors, most of whom are local.

A question that provoked lively discussion was whether to go for **small crowd-funded or big direct investment?** Could 10:10's crowd-funded donations approach be supplemented by councils being able to invest in schemes to get better returns? This way you could get engagement but also the biggest installation. Energy 4 All reported having worked with 10:10 on a school that raised £16k, they invested in E4All who expanded to a 50kWp scheme through a share offer, so considered they got the best of engagement and maximising the array.

10:10's view was that crowd funding for a school can build social capital; it gives communities confidence. The schemes are small but the social benefits big. They told us they are trying through their projects to cultivate a new culture of investment.

Camden said their priority is to use their own solar assets (maintained schools) for carbon reduction and council investment. They felt that local community investment schemes, while a laudable model amongst the roof-rental

***"Inner-city communities are willing to invest, and community-owned models are good for work experience and green skills"***

Repowering London

sector, would only appeal to an LA or school without the intention or ability to invest themselves, and opens up risks to assets.

Many local authorities have a policy against borrowing; this varies depending on their financial position and political decisions. The costs of finance are not that different for LA and community groups: the view around the table was to "go for whatever works".

Repowering London thought that we should look for the opportunity to engage young people around schools on energy efficiency. Even inner-city communities are willing to invest, and community-owned models can be good for work experience and green skills. People invest for many reasons. **Community groups** can be more flexible in procurement, and Repowering London's experience had been that going back to bidders has led to both a lower bid and a better social benefit. The bidders had to specify, for example, how local people would gain skills.

Merton said they were looking into crowd funding and believe they have quite a few suitable buildings they could do this for.

East Sussex reported that they were working with 5 or 6 community energy groups to strengthen them.

When working with **community partners** it's important that schools get clear and consistent message. There is a risk of confusion if the LA and the community partner give different messages. There are also potential conflicts of interest, around who gets the FiT for example.

Does a **community share-offer** only work in more affluent areas? In reality most school catchment areas are mixed. 10:10 saw no clear correlation between affluence of an area and its fundraising ability. You can cultivate a new audience for investment, or look at mixed models.

Wey Valley Solar found the investors were the grandparent generation and is not inherently local. But even in a deprived area there is local investment. All schools but one have fundraised and become shareholders themselves.

## Scale

Oxford LCH and Wey Valley Solar both recommend installing at the largest scale they can; this means arrays of 100 – 150 kWp capacity. Oxford LCH considered that for their purposes schemes below 15kWp don't add up; in these cases they refer on to 10:10 Solar Schools, they view crowd-funding as a good alternative to investor funding at this level. They have 18 school installations underway or completed this year funded by a share offer of £1.5m, and hope to complete another 25 next year. There are probably about 200 schools of suitable size in Oxfordshire, but not all will prove suitable for pv installation owing to structural or grid connection issues

In East Sussex most installations have been small scale but they are now looking for bigger scale, and trying to do an assessment of all schools' capacity; they believe there is big potential.



Waltham Forest advocated getting clusters of schools to bid together. Of 50 schools surveyed in the Borough however they had found only 11 to be suitable for pv installation.

### **Packaging and Cross-subsidy**

Southampton pointed out that Salix funds can't be invested in solar panels by themselves. But Salix can be used for packages of measures that includes pv. A Salix loan is at 0% so should definitely be used where it can!

Salix will only support energy measures up to a certain payback time. This was cited as another reason to develop packages. For example LED lighting pays back very quickly so could be one element in a schools or public building package to enable the longer term paybacks such as pv. Finance managers need to be won over by showing the whole package with early wins.

Oxford Low Carbon Hub reported that of their 18 schools two-thirds are loss-making but the bigger six are profitable, so they are cross-financing to an extent. Of Wey Valley Solar's seven schools' pv projects, one was loss-making but the others made up for it. We wouldn't expect to see a commercial company doing this, and nor can anyone if big companies grab the best schools.

***"We take an overview of the whole estate, trying to optimise at the point of installation, rather than have a piecemeal approach"***

London Borough of Merton

Merton told us they have surveyed more school buildings than can be delivered in any one phase, so if some turn out to be unsuitable (due to asbestos for example) they can go ahead with other buildings. They take an overview of the whole estate, trying to optimise at the point of installation, rather than take piecemeal approach only to have to revisit the same site later.

### **Building Local Authority capacity and expertise**

East Sussex provide an energy management service to schools covering procurement of electricity and gas, energy efficiency, and renewables. This service includes provision of pv so schools can get a good deal.

Merton also provide a service. If a school wants to buy pv themselves the LA manages procurement and delivery so they get assurance and good value contract. Their experience is that schools tend to only want to pay for small schemes, so are often happy to let the council take over a project so they get a bigger array.

***" We are now on 4th round of solar installations and have procurement and project management experience"***

London Borough of Merton

Merton, like many local authorities, no longer has council-controlled housing, it has all been transferred to **housing associations**. The associations have money to invest but not the expertise so the LA could offer a scheme where the housing association pays and the LA delivers. They told us that they are now on the fourth round of solar installations and have procurement and

project management experience. They are looking for economies of scale. Merton also offers the chance to offset carbon emissions through “**allowable solutions**” (if developers can't easily meet the required CO<sub>2</sub> reductions through renewables installations on site) by investing in schemes on the public estate. This means they need to have schemes on the shelf and ready to go when opportunities arise.

### Relationships with Schools

East Sussex County Council told us that “Getting buy-in from schools is often the most time-consuming part – finding the right person. Building relationships is key” and Oxford Low

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East Sussex County  
Council

Carbon Hub felt that “Building a good relationship with the school is critical. Sometimes we have persuaded head teachers but then been turned down by chair of governors. Our advice is not to spend money before the governors have signed up”.

They advise that “Cold calling is a waste of time, schools get lots of spam emails, don't have much money or time, and are relatively risk averse”.

A common concern of LA participants around the table was the risk of schools' leaving LEA control and becoming **academies**. Watertight legal agreements are

needed to cover this risk. Merton told us that their legal document has to be signed by heads and governors. The agreement covers:

- Site access, maintenance and monitoring,
- The right for the council to enter into a Power Purchase Agreement with the school
- Three routes out of the current arrangement: becoming a legally binding roof lease, purchasing the system off the council, or relocating the system

Southampton City Council told us that they have installed on 2 academies as well as their own schools. They get the FiT from these, the schools get free electricity. As with Merton, they have developed a legal framework for schools that leave the LEA to become academies.

Most secondary schools are now academies. Merton has installed pv on a school that then transferred to academy status. They thought it was good to go for secondaries because they have bigger roofs, but if they go into a PFI contract it becomes very complex to negotiate.

Councils would be expected to favour LEA schools over academies politically; “why not do your own first?” A Labour council might be reluctant to spend on an academy, but this has also been seen in a Conservative Authority in the recent past.

***“Our solar projects all engage the schools who become investors themselves”***

Wey Valley Solar

Many schools have outsourced maintenance to Carillion or Capita. This can create complex barriers. Some



schools have existing metering contracts so it can be hard or expensive to install proper export meters.

Oxford LCH stressed that they didn't want to be about "just installing pv and leaving it at that", but they also recognise that their expertise lies in funding and installation. They are working with partners to realise the educational and other benefits.

Wey Valley Solar's projects all engage the schools who become investors themselves. They work in partnership, whenever possible involving the local community and children. One school had a Run for the Sun with 1500 schoolchildren doing a sponsored run (the alternative was an extra homework session!) It raised £10k for the energy co-op - one generation of pupils raising money to benefit the next.

### **DNO / grid access problems,**

Many participants had experienced problems with grid access and negotiations with DNOs. Oxford LCH for example were quoted £.5 m to connect a £.25m system. They are looking to develop smart grid solutions.

Aylesbury Vale were aware that solar farms are "mopping up" all the spare grid capacity so it will be harder for schools in future.

Hampshire design arrays to match best FiT rate and baseload of building to minimise actual export to grid, while still being paid for 50% deemed export.

Energy for London told us that there is a Mayoral **decentralised energy target** of 25% by 2025; so far they have got only 5% and the grid is at breakpoint from lack of power rather than too much. They consider they will need more CHP and District Heating to reach the 25% target, but will need solar too. Potential shortfall is a big issue; there are £millions at risk in London from even a short power outage. This gives London a big incentive to develop low carbon and decentralised energy.

Although the mayor does not see pv as a game-changer, Energy for London believe the Mayor, boroughs and community groups all have a big role to play.

***"We believe the Mayor,  
boroughs and  
community groups all  
have a big role to play"***

Energy for London

Energy for London raised an alert that DNOs are now negotiating RIIO-ED1, the charging framework for the next 7 years. They include an estimate of distributed solar energy but it is much less than the 20GW envisaged in the DECC strategy. In other words, unless this is changed there won't be grid capacity for the expansion of solar we want to see. The National Grid held a scenario workshop on this a couple of months ago and projections for solar were very low.

### **Procurement rules**

It was clear that there was a divergence in opinions around the table as to what procurement rules did and did not allow. Camden understood that even if pv installations are not purchased or owned by the school they are still an economic opportunity so public sector EU procurement rules will apply.

Oxford LCH says that smaller school arrays fall below the procurement threshold for OJEU.

Hampshire's approach is that if they were tendering for rent-a-roof schemes across a portfolio of buildings, they'd need to go through procurement rules. They couldn't just go with one installer without a competitive tender process.

Friends of the Earth have asked DfE to clarify the rules. DfE needs to look at it in more detail, to be clear which models might be problematic.

## APPENDIX - LIST OF PARTICIPANTS

<b>London boroughs</b>	
Chloe McLaren Webb	London Borough of Greenwich
Damian Hemmings	London Borough of Merton
Gabriel Berry-Khan	London Borough of Camden
John Buick	London Borough of Merton
Juliet Nicholas	London Borough of Islington
Louise McNamara	London Borough of Hammersmith & Fulham
Nimish Shah	London Borough of Waltham Forest
Oliver Walton	London Borough of Kingston
<b>South East authorities</b>	
Andy Arnold	East Sussex County Council
Edward Barlow	Buckinghamshire County council
Ian Davies	Southampton City Council
Luciana Almeida	Essex County Council
Paul Roebuck	Hampshire County Council
Ruth O'Brien	West Sussex County Council
Steve Hall	Hampshire County Council
Toby Donhou	East Sussex County Council
<b>Other practitioners</b>	
Adam Marvel	Pure Leapfrog

Afsheen Rashid	Repowering London
Amy Cameron	10:10
Anthony Simpson	Oxford Low Carbon Hub
George Raszka	London Assembly Green Party group
Mike Smyth	Wey Valley Solar/Schools Energy Co-op
Syed Ahmed	Energy for London
<b>Friends of the Earth</b>	
Alasdair Cameron (by Lync)	Renewables campaigner
Andrew Pendleton	Head of campaigns
Anna Watson (by Lync)	Senior campaigner
Brenda Pollack	Regional Campaigner, SE England
Jenny Bates	Regional Campaigner, London
Mike Birkin	Regional campaigner, South West
Quentin Given	Campaign coordinator
Ted Burke	Campaign Assistant

## GLOSSARY

**Allowable Solutions:** zero carbon standards will be mandatory on new homes from 2016`. Where carbon emissions cannot be cost-effectively mitigated on-site developers will be allowed to adopt other measures – “allowable solutions” - on other nearby or remote sites

**Crowd Funding:** sourcing capital or equity from a large number of individual investors, usually through an internet-based crowdfunding platform. We distinguish in this report between **community share offers**, which offer an annual rate of return to investors in a solar or other energy project, and other forms of crowdfunding where an investor does not necessarily expect such returns

**DNO - Distribution Network Operator:** a company licenced by the Electricity Market Regulator, OFGEM, to distribute energy from the high voltage grid to local homes and businesses

**EIS - Enterprise Investment Scheme:** a Government scheme where investors are entitled to claim back tax on part of their investment. Community energy schemes presently qualify for EIS relief but this is under review by the Treasury

**FiT - Feed-in Tariff:** additional payment, above the sale value of the electricity itself, for electricity generated from small scale renewable installations. Payments are guaranteed but the actual value of the FiT depends on the technology used, the size of the installation and the FiT rate that was in place at the date of installation.

**kWp – Kilowatt peak:** the peak generation of a solar array, used as a measure of its size. The actual annual output from an array will depend on its situation and the amount of sunshine over the course of a year.

**LED - Light Emitting Diode:** an increasingly versatile lighting technology that allows significant savings in maintenance and electricity consumption costs across a wide range of applications, in comparison with incandescent or fluorescent lighting.

**OJEU - Official Journal of the European Union:** under EU procurement rules contracts let by public bodies over a certain value must be open to tender by any business in the EU that meets the selection criteria, and advertised in the Official Journal

**Power Purchase Agreement (PPA):** an agreement between two parties one of whom is generating and selling electricity and the other purchasing.

**pv – photovoltaic (cells):** the technology for converting sunlight into electricity, the basis of solar panels or arrays

**RIIO-ED1:** a price control framework under which the Electricity Market Regulator, OFGEM, sets the outputs that the 14 electricity Distribution Network Operators (DNOs) need to deliver for their consumers and the associated revenues they are allowed to collect for the eight-year period from 1 April 2015 to 31 March 2023.

**Salix:** Salix finance is a not for profit company funded by the Department of Energy and Climate Change. Interest free loans are offered to public sector bodies aiming to improve energy efficiency in public sector buildings.