



# Energy Efficiency Finance with



SOLVING ENERGY EFFICIENCY FINANCE IN THE PUBLIC SECTOR

(Money for nothing...)



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Salix Finance Ltd. provides interest-free Government funding to the public sector to improve their energy efficiency, reduce carbon emissions and lower energy bills. Salix is funded by the Department for Business, Energy and Industrial Strategy, the Department for Education, the Welsh Government and the Scottish Government and was established in 2004 as an independent, publicly funded company, dedicated to providing the public sector with loans for energy efficiency projects. We currently have funding available for England, Scotland and Wales and more information can be accessed [here](#).

Delivery

Number of projects committed	15,564
Value of projects committed	£ 563.5 million
Value of annual financial savings	£ 136.7 million
Value of annual carbon savings	694,414 tonnes of CO <sub>2e</sub>

### 3. Project Criteria

Projects must comply with the following criteria:

- The project must pay for itself from energy savings within a maximum 5 year period
- The cost of CO2 must be less than £120 per tonne over the lifetime of the project

Projects are required to meet the criteria of “additional”. There are a number of criteria that are used to assess whether a project is “additional”, including:

- Has it already started or has the full funding already been agreed from a different source? If so, it is “not additional”
- Is it required by Building Regulations or planning officers (e.g. requirement for a percentage of electricity demand in new buildings to be met by onsite renewables)? If so, it is “not additional”
- Is the project being implemented for commercial gain (other than the reduction of costs through increased energy efficiency)? If so, it is “not additional”

If the answer to all of the above questions is NO then the project can be funded under the Scheme. Salix looks to self-certification for additionality, although it will be confirmed if an audit is undertaken of the project.

### 4. Eligibility

Any Public Sector Body who receive the majority of their income directly from the public sector can apply. Only those projects where the resultant energy savings, over the lifetime of the project, go directly back to the public sector and the public sector gains a direct financial benefit are eligible.

An example of an ineligible project would be an outsourced estate management contract in which the outsource supplier paid the energy bills and benefitted from any savings achieved from the project. However, if the energy bill was a pass through under the contract and the public sector benefitted from the energy savings, then the project would be eligible.

### 5. Responsibilities and competence

Salix assumes that the applicant and/or the partner(s) they are working with are competent and fully responsible for the projects to be funded. This may include but is by no means limited to:



# *ARCHIE-WeSt mark II*

## *Funding for ARCHIE-WeSt II:*

- Funding:
  - £150K Engineering Faculty
  - £150K Science Faculty
  - £100K ARCHIE-WeSt operational budget
  - £400K SALIX energy efficiency loan
  - £145K Estates SALIX rolling fund (datacentre optimisation)
- Increased energy efficiency is key for financing:
  - **Old ARCHIE:** 100 kW (~£100K per year)
  - **New ARCHIE:** 35 kW (~£35K per year)

# High Performance Computing and Data Centre Cooling Upgrades at the University of Strathclyde



## BEFORE

- 105 kW High Performance Computing (HPC) cluster with rear door water cooling.
- 25kW decentralised departmental HPC
- 150kW non ICT load (cooling, lighting, UPS)
- PUE 1.95
- Operating cost of £300,000 p.a.

## PROJECT:

- 40kW HPC replacement; decommission existing.
- Decommission 25kW of departmental HPC.
- Increase chilled water temp from 8°C to 16°C.
- Install EC fans on CRAC units + void  $\Delta P$  control.
- Rebalance of primary / secondary flow rates.
- Reconciliation of air distribution.
- Capital cost £886,700

## OUTCOME:

- Electrical savings of 1,000,000 kWh p.a. (48%)
- Operating cost saving of £159,000 p.a.
- Payback of 5.55 years; £185/TCO<sub>2</sub>
- 448 tCO<sub>2</sub> saved per year
- Funded 50% from Science & Engineering faculty.

[Project completion date – March 2018](#)



# *ARCHIE-WeSt mark II*

## *Funding for ARCHIE-WeSt II:*

- New servers are much more energy efficient than old
  - Higher core density
- SALIX is there to be taken advantage of
  - Need the buy-in of your Estates & Finance Directorates
  - May already be SALIX projects on-campus
- Old kit has to be moved on or decommissioned
- Monitoring appears to be very light-touch