Lincolnshire COUNTY COUNCIL
Working for a better future

Regulatory and Other Committee

Open Report on behalf of Debbie Barnes, Director of Children's Services

Report to:	**Lincolnshire Schools Forum**
Date:	**27 April 2016**
Subject:	**SCoRE - Programme Update**

Summary:

An update for Schools Forum members on the SCoRE programme as it comes to a close. Specifically the successes of the investment in improving school boiler rooms and behaviour change programmes.

Recommendation(s):

Schools Forum are asked to note the significant benefits and savings achieved by the SCoRE programme.

Background

1.1. The SCoRE programme (Schools Collaboration on Resource Efficiency) provides support for Lincolnshire's schools and academies to reduce energy consumption and bills. In addition to the financial and carbon dioxide savings it provides significant educational benefits.

1.2. The programme is funded from an allocation of DSG underspend. Participation has evolved in that schools can access the programme individually now, rather than having to form part of a geographic cluster. Clusters are still the preferred delivery model, but due to recruitment and spatial challenges the final year is more flexible in order to reach as many schools and academies as possible.

1.3. There are three strands to the programme:
- Behavioural and low cost savings
- Strategic investment in boiler room improvements
- Supporting additional investment in proven technologies identified in action plans

1.4. In addition to reducing energy consumption and empowering children to make positive changes in their schools, SCoRE supports high level county council commitments and is the largest project in the carbon management plan. The

overall carbon emissions reduction target is 22%, SCoRE activity contributes approximately 65% of this target.

2. High-Level Achievements

2.1. 230 schools have taken part fully and 763 children have been trained as Lincolnshire Carbon Ambassadors. Additional investment triggered by SCoRE is valued at £2.2m, which is almost a 7:1 multiplier on the initial investment in project officers.

2.2. Headline figures of the financial savings generated by SCoRE are;

TABLE 1 – SCORE INVESTMENT AND SAVINGS

Project	Investment (£)[a]	Annual savings (£)
Behavioural (200 schools; savings assumed at 2% based on data from programme)	325,000	68,000[b]
Boiler Room optimisation and insulation	2,245,000	600,000
M1G and Radiant Panels[c]	332,000	32,000
Energy Efficiency investment triggered by SCoRE (Salix; own funds etc.)	1,079,000	222,000
Solar PV (own funds; Capital loans)	1,094,000	53,000[d]
Totals	**5,075,000**	**907,000**

[a] figures are estimated spend by programme end;
[b] not included in Total Savings to avoid double counting from energy efficiency investment;
[c] not yet implemented, business case figures;
[d] energy bill savings only, Feed in Tariff income not included

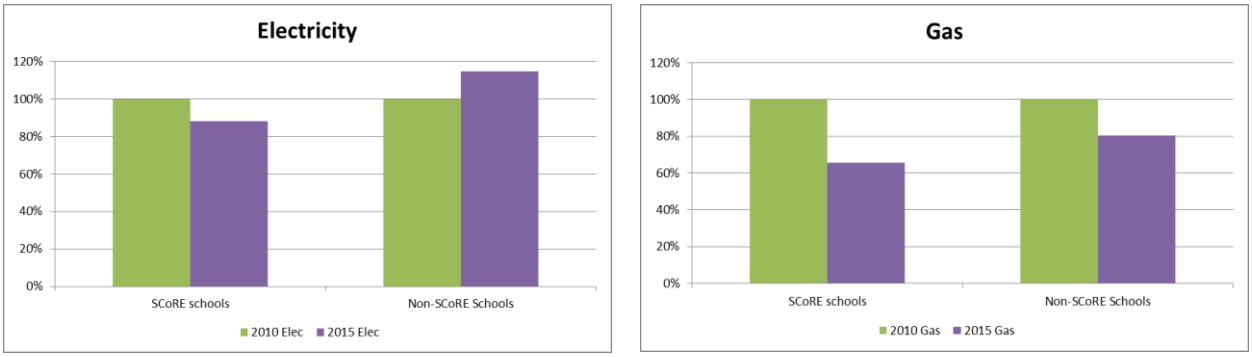
The £2.9m investment from the DSG underspend will have a return on investment of 3.2 years based on the annual savings figures in Table 1.

2.3. There has been an overall reduction in energy consumption from the whole school portfolio during the lifetime of SCoRE. Electricity use has seen a slight increase of 2% and gas consumption has gone down by 23% overall.

TABLE 2 – ENERGY CONSUMPTION DATA

	Elec consumption 10/11 (kWh)	Elec consumption 15/16 (kWh)	Gas consumption 10/11 (kWh)	Gas consumption 15/16 (kWh)
Whole school portfolio	42,457,602	39,698,211	89,104,897	60,129,136
All schools with comparable data	37,798,766	38,725,746	76,242,543	58,863,231
Savings 10/11 – 15/16		-2% (-£92,698)		23% (£434,483)
SCoRE Schools	28,358,759	24,939,606	56,834,088	37,237,388
Savings 10/11 – 15/16		12% (£341,915)		34% (£489,918)
Non- SCoRE Schools	12,742,266	14,599,290	28,087,259	22,552,666
Savings 10/11 – 15/16		-15% (£185,702)		20% (£138,365)

FIGURE 1 – COMPARING SCORE & NON-SCORE SCHOOLS ENERGY USE



When SCoRE schools and non-SCoRE schools are compared the results in Figure 1 are striking; SCoRE schools have reduced electricity and gas consumption by 12% and 34% respectively. Non-SCoRE schools, however, have seen electricity consumption increase by 15% and gas consumption decrease by 20%. This indicates that schools that have completed the behaviour change element of SCoRE are making more significant reductions in their energy consumption that can be delivered through technology investment alone. Any long term reductions are dependent on the school being able to maintain the momentum and positive behaviour changes in school. This is an area of risk.

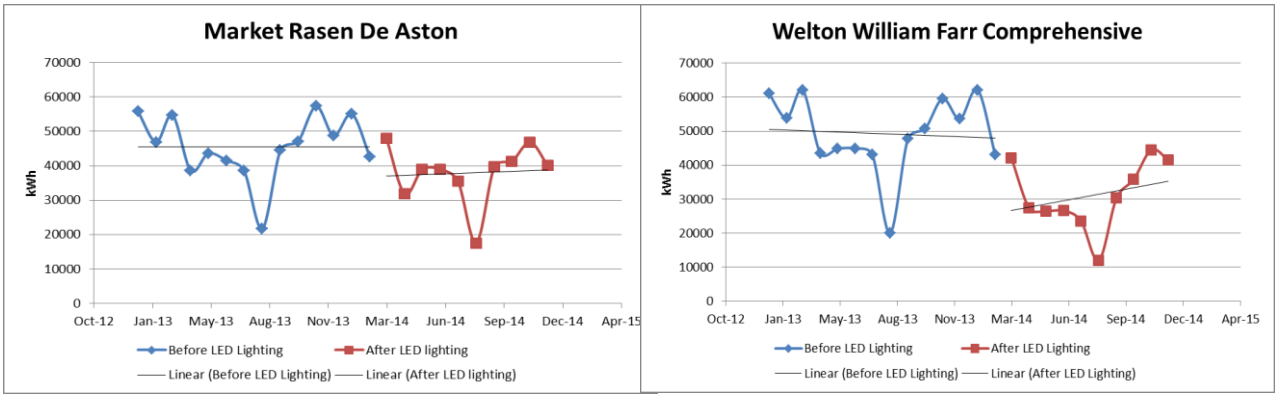
2.4. The vast majority of gas savings have been achieved through the boiler improvement programme, which comprised boiler load optimisation and insulation jackets on exposed joints and valves in boiler rooms. The savings that have been seen in non-SCoRE schools gas consumption can be confidently attributed to the installation of these measures to all schools, which Schools Forum recommended was completed ahead of the behaviour change element.

It is important to note that the data presented here are actual consumption figures that have not been adjusted to reflect differences in the winter temperatures in the two years. The financial savings are actual savings, although the comparative energy savings might be slightly different when the data is weather corrected.

2.5. One area of concern is that although benchmark fossil fuel use (kWh/m2) has fallen by 29% from 1997 to 2012 electricity (kWh/m2) has been rising annually at 3.8% for primaries and 4.7% for secondaries. This data was collected from thousands of schools nationally and has identified a trend within schools that more and more electricity is being consumed through the use of computers, interactive whiteboards, projectors, tablet computers etc. The SCoRE programme looks to have limited the increased electricity consumption across the whole portfolio, so although we haven't seen an absolute reduction we have avoided a circa 20% increase.

2.6. LED lighting upgrades have been installed in 34 schools. These are compliant Salix projects and LEA maintained schools have made use of the funds available. We have had successful applications to the national Salix fund to install upgrades in academies.

FIGURE 2 – ELECTRICITY CONSUMPTION BEFORE AND AFTER LED LIGHTING INSTALLATIONS



LED lighting reduces the baseload consumption of lighting demand, but as can be seen from both the examples in Figure 2 it does not protect the school from consumption creep, which happens over time.

2.7. Two remaining investment programmes are due to complete during the 2016/17 financial year. An efficiency unit for point-of-use water heaters, similar to that installed in boiler rooms, and far-infrared radiant heater panels for electrically heated schools. The aim is to have both fully installed before the start of the next heating season. It is projected that the investment allocation will be underspent by £355,000 and the allocation for delivering the behaviour change element of SCoRE will underspend by £75,000.

2.8. Analysis of SCoRE performance would not have been possible without the prior investment in AMR meters and data provision. This continues to be an

important asset that schools are learning to make use of and is a crucial tool in troubleshooting consumption queries with schools and energy providers.

3. Future support

3.1. The programme will end on 31 August 2016. Those schools currently participating will be the final cohort. The end of the programme will mean that there will be no active support for schools in understanding their energy consumption and taking action to reduce bills.

3.2. The technologies implemented as part of the programme will continue to make savings. For those schools where it exists half-hourly data from automatic meters on gas and electricity consumption will be available until the end of the financial year. Maintained schools will still be able to make use of the Council's Salix revolving fund and capital loans for eligible energy efficiency and renewable schemes.

3.3. Notwithstanding the above it is proposed that an offering for DECs for academies and energy advice and support for all schools would be developed within the "commercial offer for schools" proposals.

Conclusion

As can be seen from the figures above the programme has achieved significant investment in energy efficiency and renewables, thereby reducing energy consumption and bills. Those taking part have reporting learning and values based knowledge benefits for pupils. It has also been recognised in several award schemes (Green Apple, November 2014; Ashden Award for Marton Primary School, October 2015; Finalist in Local Government Chronicle Awards, March 2016; Runner up in Public Sector Sustainability Awards – Energy Management Category, November 2015; Highly commended Lincolnshire Environment Awards, July 2014).

Consultation

a) Policy Proofing Actions Required

n/a

Appendices

These are listed below and attached at the back of the report	
Appendix A	All SCoRE schools and programme details

Background Papers

No background papers within Section 100D of the Local Government Act 1972 were used in the preparation of this report.

This report was written by Vanessa O'Brien, who can be contacted on 01522 554582 or vanessa.o'brien@lincolnshire.gov.uk.