



Introduction to the CRC

The Five Year Plan-Integrating Carbon Reducing Measures

By Stephen Cirell and Peter Walker

In the last two articles on the Carbon Reduction Commitment, it has been stressed that as a legal compliance regime, it is imperative local authorities start working on it in order to avoid financial and other penalties; but it is more than that, in presenting opportunities to get “ahead of the game” in relation to environmental projects that are likely to have widespread support.

Once the process of benchmarking CO2 footprint has been undertaken and total energy spend understood, it is essential that a five year rolling plan is put in place. The “low hanging fruit” of measures are easily incorporated into the plan showing, for example, cavity wall insulation programmes running over time and their cost/benefit under the allowances and returns system of the CRC.

What also needs to be integrated

though are the tougher, longer term measures which need to be planned for and put into the process early enough to meet the increasingly arduous targets. It is therefore helpful to understand what measures this could include. What renewable energy technologies could an authority incorporate into its estate? What low carbon infrastructure would return a benefit against the CRC reduction targets? Importantly also, which stakeholders need to be engaged to allow complex, cross community projects to be designed, funded and implemented?

Larger, more ambitious CO2 reducing projects take time to plan and implement. If that process is not started early enough then targets will be missed and financial penalties will ensue. It is essential then that a resource map is created for the community under review. This will

highlight options for renewable energy generation – does the area have a hydro resource? Can we capture waste wood for biomass or is there an opportunity to promote energy crops to produce biomass locally? Do we have a good wind profile that may support a wind turbine? Are there private companies in the area that already want to produce bio fuels and could we get involved?

By mapping any resources we may have, we allow project based measures to be identified, designed, planned over time and their carbon reduction benefit included in the five year plan. Key elements will need to be included, for example how long will a biomass boiler plant take to get through planning, who is capable of designing and project managing its implementation, where are the heat loads it could satisfy?

A significant win under a five year plan would be the installation of low carbon and renewable energy infra structure. This could include a generating asset and the distribution of heat over a district heating network. Further benefit could be gained by the Local Authority creating an Energy Services Company to manage that network and ensure it captures the carbon reduction it creates while also getting a financial return over time. The local authority is of course ideally placed to promote such a scheme lending credibility, land, heat loads and planning assistance to a project as well as potentially providing waste streams for projects as the case study below demonstrates.

Integrating such projects into the five year plan is critical but equally important is financial modelling. A complex model will allow sensitivities to be incorporated into the plan, including the commensurate impact on CRC allowances and payments and so on. The model must be able to include the easy options (bulbs and meters) but also report the ongoing benefit and consequences of major project investments. A holistic model will allow energy master planning, will help justify funding to support big impact measures, including renewable power generation, and will therefore be an essential tool in reporting to members and officers over time.

By way of example the case study below shows how a project can grow from resource assessment, project identification, design, funding and implementation.

Case Study

The local authority at North Somewhere has put together a brief plan for CO₂ reduction but is struggling to meet the future targets it predicts the CRC will impose. It commissions a consultant to carry out a thorough resource study of its area to find options for an energy infrastructure project or projects.

The consultant identifies a number of skip and construction waste handling firms in the area who historically have land filled their waste streams after only rudimentary recycling of valuable elements. Also identified is a plot owned by the authority on the edge of the employment zone or industrial estate which has a good connection to the power grid and to some local development plots etc. The site is local enough to reach one or two heat consuming buildings owned by the local authority (civic centre, leisure centre and some affordable housing stock).

A plan is drawn up to design and build a new waste handling and recycling plant which produces a waste wood feedstock stream. This in turn is burnt in a waste wood plant, steam is raised and power and heat produced. A financial model shows this generating asset to be self funding through engagement with the right parties (waste aggregator, funder and plant operator).

Under an ESCo model the distribution of heat away from the generating asset can be designed and installed, reaching the council's own load centres as well as connecting local private development (under planning conditions). The financial model for distribution shows that funding can be raised here too as a contribution to costs of infra structure.

Local construction and engineering firms are invited to tender for the project works. The publicity of the project and the promise of low cost heat energy attracts new companies to the employment zone (particularly those who are heavy energy users), stimulating job creation.

The combination asset of power and heat producer and distribution network has a four year timeline. Planning application, design, fund raising and construction is programmed and then included in the five year plan with the carbon benefit factored in for year four.

The identification of this project which can reduce CO₂ emissions dramatically, reduce volume to landfill, reduce energy costs, generate revenue for the council and create jobs has to be started in year 1.

Authorities are beginning to see the light here. As a result, there has been a flurry of activity towards achieving the Carbon Trust Standard and procuring AMR (both requirements of the early action metric and determinants of where an authority will be in the first league table on CRC). The next stage is to bring this work into a wider and holistic plan which will map out the next five years. Only authorities doing this will reap the full benefits of the CRC. Others might find early gains quickly slope off and are hard to replace as the regime's ever tougher targets begin to bite.

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