EMISSION Statement

ISSUE 01

An 'Emission Statement' sets out to provide a view of the application and potential for carbon mitigating technologies as they strive to find commercial value propositions that are considered supportable by policy makers, treasuries and tax-payers. The aspiration from publishing such a document is not to provide an oracle or prescriptive roadmap for clean technology development. Instead it is offered as a simple pragmatic framework for all stakeholders to be able to consider such developments. Far too frequently the complexity of situations is over analysed to the extent it creates barriers to progress. As with the 'Engineering of Things' ("EoT") though, simplification and the pursuit of solutions can be much more productive and is the foundation with which the 'Emission Statement' is presented.

The Emissions Model

The pathway to project and technology execution – the Emissions Model - is simple and if utilised correctly can lead to the establishment of two metrics that facilitate direct comparison and decision making across emissions reduction pathways. To achieve this, the Emissions Model assumes that retention of national domestic energy and industrial/manufacturing sectors are at the heart of any appropriate plan – energy independence, security of supply, jobs and infrastructure being the foundation stones for any independent nation to underpin sustainable economic growth. Specifically, the elimination and replacement by imports (energy or product) is discounted as not being in the long-term national interest. As such, it is an indigenous development model.

The Emission Model breaks carbon mitigation opportunities down into five key interlinked enabling criteria – Markets, Integration, Technology Design, Operational Optimisation and Application. These are the primary project defining elements, which together capture the Value proposition. It is the authors position in considering this Value that a level of philanthropy should be applied, embracing better the life cycle impact of the project on emissions reduction and the wider economy. Then encapsulating the project is Risk Management. The view taken here is that Risk Management is like a container that surrounds the project. A low risk project, for instance one with low legacy time-based risks or liabilities, where the value and risk are addressed in unison at point of creation, will have a container that is appropriately specified with a traditional engineering safety margin. However, as the contingent and/or severity of risks increase, we propose that the container wall thickness reduces, increasing the potential for failure. Any subsequent breach of the container causing an imbalance to the enabling criteria and allowing a seeping out of value.

Catalysis Consulting Ltd
Contact Details: Grant Budge Mobile: +44 (0) 7780 920504 Email: gbudge@our-future.co.uk

So how are the criteria defined? For now, the definitions are basic in nature, but they will be explored and expanded further in future publications.

Application – is the direct customer or client market the technology seeks to be installed in. The Application sector may not necessarily be the sector from which it will secure all its income, but it is the basis for the initial commercial and environmental value proposition.

Technology Design – will influence the extent to which direct application integration is achievable and affordable. Ramp up, shut down, switch-over, supply and demand volatility will all be influenced by the core technology.

Markets – is the consideration of all routes from which the project could generate an income based on its Application and Technology Design.

Integration – covers the extent to which the technology is coupled directly with its application sector (industry of installation) and indirectly with its market sector/s (primary industry/ies for revenue generation). Extent of Integration with Application and Markets will directly influence system efficiency and Operational Optimisation.

Operational Optimisation – starts with Technology Design and evolves through experience. It is the 'feedback criteria' for future development and is the control criteria of a project. In existing licensable technologies, Operational Optimisation would form part of a support services agreement. However in new environmental technologies, such support is in its infancy and the initial projects will be the pioneers for determination.

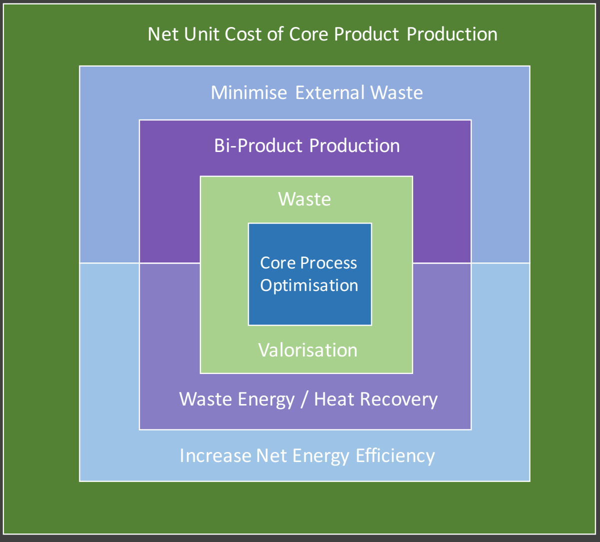
The above five criteria define the project and capture its **Value** proposition at the centre. This value will have an economic and environmental benefit, which should be considered over a facility's life; and will be the culmination of all interactions between the enabling criteria.

Outside the project, enveloping it, is **Risk Management**. This is the external and unforeseen conditions that can tangibly and directly affect the project and its Value proposition. They are manageable, but the point of risk exists after the point of hazard creation (i.e. waste management).

In future Emission Statement issues, we will further explore each criterion, the Emissions Model and how it can be used as a simple tool for strategy, project and technology development, and the communication thereof.

The Engineering of Things ("EoT") - Definition

Within our approach, the Engineering of Things is offered as a term assigned to engineering driven technology and project development (embracing all the elements illustrated to the right), in the same way the Internet of things (IoT) is ascribed to purvey the use and value driven by connectivity of the ever increasing number of systems and devices through the internet. This catchall branding though is where the comparison should end.



At the heart of the IoT are a seemingly infinite number of potential opportunities that lead to an almost endemic creative complexity. The opposite is true of the EoT, where delivery of a solution is pursued through simplification and optimisation. It helps that the laws of Newton and thermodynamics, to name a couple, provide constraining boundaries of reference. But even with this, the EoT strives for delivery of the lowest cost optimised solution to a problem; whilst the IoT has an almost ethereal trajectory.

The Emissions Model is routed firmly in the Engineering of Things, seeking to illustrate a simple and pragmatic pathway to emission reductions.

EMISSION Statement

Contact Details: Grant Budge Mobile: +44 (0) 7780 920504 Email: gbudge@our-future.co.uk