Enabling Technologies for Environmental Sustainability

A toolkit for businesses, policy-makers and academics

Project Objectives

Case studies to support business cases, policy decisions and lobbying.

A Low Carbon Coalition

The Academy of Business in Society

Imperial College London

SAP

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WWF®

TechAmerica

Microsoft
Two fundamentally different categories of enabling ICT
... but in driving transformation technology is not always the problem

- ‘supply-side’ uncertainties – will enabling technologies be developed enough?
- ‘demand-side’ uncertainties – will the products/services/infrastructures be adopted widely enough?
- policy/business practice uncertainties – are business leaders employing the best strategies in conducive public policy environments?
Driving transformation: what can we learn from disruptive innovation?

Disruptive innovations transform industries by introducing technological and business model innovation to low-end or new, emerging ‘niche’ markets.

Disruptive innovations...

- usually technologically straightforward – recombining existing technology in new platforms;
- do not initially offer what established core markets currently demand;
- do offer attributes valued by ‘niche markets’ considered unimportant to mainstream incumbents, whether low-end or emerging;
- consolidate ‘foothold’ markets, then drive transformation through ‘niche marketing’ (crossing the chasm);
- key: patient for growth but impatience for profit/benefits.
Towards a Standardised Toolkit

We have developed a 5-step process to systematically analyse specific products, services or infrastructures applied in specific countries:

1. **Define Scope**
   - Describe product, service or infrastructure
     - boundaries of - performance/ function
     - the ‘in scope’ applications
     - scope of the downstream impacts

2. **Scenario Analysis: “Best Case”**
   - Build and apply model to assess carbon abatement impact
     - Assess potential impact assuming ‘full adoption’

3. **Understand Barriers**
   - Assess feasibility of enabling technologies
     - Gaps
     - Weaknesses
   - Assess barriers to market adoption
     - Social
     - Economic, and
     - Political

4. **Scenario Analysis: “BaU”**
   - Adapt the best case scenario to factor in barriers
     - Technological gaps
     - Adoption issues

5. **Recommend Actions**
   - Actions to overcome technological barriers
     - Policy
     - Industry
   - Actions to overcome barriers to adoption
     - Policy
     - Industry

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An iterative feedback process with members of the project coalition

• This will produce:
  • a series of independent case studies
  • validated business tool

  e.g.:

  - Research 1 x technology in four EU countries
  - Present initial findings (inc. gaps in data and assumptions)
  - Assimilate feedback / conduct further research
  - Refine & Disseminate

Use finding to sharpen strategy and shape policy to enable carbon abatement

• There are three coalition membership levels:
  • Bronze – reviewers
  • Silver – commissioners
  • Gold – commissioners and directors