

April 28<sup>th</sup>, 2011



Erhvervs- & Byggestyrelsens  
enhed for erhvervsøkonomisk  
forskning & analyse

The Danish Enterprise and  
Construction Authority's Division  
for Research and Analysis

## Project proposal Green Business Model Innovation

### Background

Critical natural resources such as fossil fuels, minerals, fresh water etc. will stay constant or decline over the next 20 years. At the same time the economy is set to double. This means that the 'productivity' of these essential resources needs to increase by at least a factor two in only 20 years. This global 'green transition' presents an enormous economic opportunity as new product markets and new ways of doing business emerge.

Green Business Model Innovation (GBMI) is a new way of doing business and refers to non-technological 'green' innovation in and between companies which change the core businesses from selling a product to selling a (full) service and at the same time retaining ownership of the product and responsibility for its functionality. This gives the supplier incentives to take the total life-cycle-costs into account and thereby lowering energy, resource and waste. GBMI is a new way of approaching product- and service-oriented R&D, the value chain, new organization models and incentive contracts, marketing etc. GBMI occurs across all industries, cf. annex 5 and 6.

In the green paper "*Green Business Models in the Nordic Region*" by the Nordic Council of Ministers (FORA 2010) it is concluded that the Nordic region has a great and untapped potential for GBMI. The green paper points to the demands for more in-depth knowledge and awareness regarding the benefits and effects of GBMI and for supporting policies and regulation to promote GBMI. Moreover, companies call for practical tools which can help them implement GBMI.

This Nordic project will address the above fundamental challenges and strengthen international network relations with organizations such as the OECD, Nordic and international frontrunner companies, industry organizations and experts. The Nordic dimension and participation of the Nordic countries (working group: Vinnova, Tekes, NMI and FORA/DECA) will create a critical mass and ensure solid impact of the project in the Nordic companies. It has not yet been possible to find the right person at Innovation Norway (IN), but FORA will strongly prioritize to involve IN in the project. GBMI is in line with the Nordic Council of Ministers' strategy of developing the Nordic region into 'The Green Valley of Europe' and GBMI is a focus area in the Nordic Cooperation Program 2011-2013.

FORA  
Langelinie Allé 17  
DK- 2100 Copenhagen Ø

+45 35466320  
fora@ebst.dk  
www.foranet.dk

CVR-nr. 48464114  
EAN nr. 5798000024007

## **Objectives**

The overall objective of the project is to support green growth and minimizing environmental impact through the dissemination of GBMI in the Nordic region, cf annex 4. This overall objective is obtained by three sub-objectives. The project will:

- 1) establish a solid fact based foundation of knowledge on GBMI to support the development of both policy recommendations for Nordic policy makers and practical tools for Nordic companies, cf. 2) respectively 3) below.
- 2) develop policy recommendations and create awareness among Nordic policy makers as well as anchor the GBMI policy with the relevant Nordic authorities.
- 3) develop and promote practical tools to implement GBMI in Nordic companies.

### **Ad 1) Fact based foundation**

The project will increase knowledge as well as reveal the potential of GBMI compared to traditional business models. This will be achieved by a definition report, an effect report and a case study report, cf. the deliverables I) to III) in the *methodology and deliverables* part.

### **Ad 2) Develop and anchor Nordic policy**

The project will support the framework conditions of GBMI for the Nordic companies by developing and anchoring both demand- and supply side policies in this area. This will spur Nordic companies to make use of GBMI and thus disseminate these to a larger extent. Best practice on policy will be prepared in a policy and synthesis report, cf. the deliverables IV) and V) in the *methodology and deliverables* part.

### **Ad 3) Develop practical tools for Nordic companies**

The project will make it easier for Nordic companies to implement GBMI in their organizations by developing and making practical tools available. These available tools for implementing GBMI will boost the dissemination of GBMI. This part of the project will also create awareness and emphasize getting companies to understand the benefits of GBMI. Both the first and the second part of the project will feed in to this part of the project, cf. the deliverables VI) in the *methodology and deliverables* part.

## **Methodology and deliverables:**

The project has six main *deliverables*:

- I) a definition report
- II) an effect report
- III) a case study report
- IV) a policy report
- V) a synthesis report
- VI) practical tools for companies

### **I) Clear definition**

The project will establish a clearer definition of GBMI which will work as a solid foundation for the project. The definition report will be written in co-operation with the Nordic partners, OECD and experts. This will ensure a common Nordic and international understanding of GBMI and make the results and the focus areas of the project agreed upon. The definition report will mainly be used internally in the project.

The establishment of general principles for GBMI will be build on Nordic and international case studies, literature, a small workshop. A 'long list' of different green business models will be prepared and 'screening criteria' on economic and environmental impact, feasibility, ease of capture and riskiness will be applied to evaluate the overall attractiveness and hereafter prioritize the models taking into consideration the feasibility of policy recommendations.

### **II) Effect report**

To establish more fact-based information about economical, environmental and innovation benefits as well as societal effects of GBMI, the project will prepare an effect report analyzing the benefits/effects from applying green business models. The report will be based on in-depth company interviews and (if possible) on analysis of the companies economic performance from applying GBMI.

The report will include economic measures such as company turnover, earnings, employment, 'return on investment' etc. from working with green business models compared with regular business models. The analysis will serve as a baseline, which can be updated after 5 years. The questionnaire for the interviews will be developed in close co-operation with the Nordic working group and a subcontractor with highly specialized knowledge in this field. The international relevance of the findings will be ensured by key persons from OECD as well as other leading experts.

### **III) Case studies**

On the basis of the definition report 20 case studies, which illustrates best international and Nordic practice, will be conducted. The cases will be identified in co-operation with the Nordic working group and the case interviews will partly be performed by a subcontractor. The cases will uncover drivers, barriers, economical, environmental and innovation benefits, policy recommendations etc. The cases will also serve as '*the good examples*', so that other companies may take interest in the new business models.

The collected findings of the cases will be analyzed and discussed at a workshop or roundtable meeting involving the Nordic working group, relevant companies, experts and authorities. Preferably, a number of cases should be based on SMEs, since there has been a request from Nordic companies for fitting GBMI to the business structure of many Nordic companies. Together with II), this will also serve as convincing arguments for companies who want to begin working with GBMI as well as new policy.

#### **IV) Policy report**

A policy report will be prepared by the Nordic working group, and a workshop will be held with participation from companies, industry organizations, experts and authorities. At the workshop the policy recommendations found will be qualified by the participants. The policy report will draw on best practice experiences from around the world and from experiences in the Nordic countries. The policy recommendations will focus on feasibility and implementation. The policy report will come up with concrete recommendations and support for new feasible policies for Nordic policy makers. The policy report will mainly be an instrument for Nordic policy makers to implement new or strengthen existing GBMI initiatives/framework conditions. The policy report will also make up the basis for the recommendations (for decision) at a NCM meeting in 2012.

The *Nordic working group* will have representatives of the Nordic authorities (and experts) working with framework conditions/performance, funding green growth etc. This will ensure ownership and feasibility of the policy recommendations. Furthermore, a *Nordic high level policy group (HLPG)* will be established to develop support for the policy recommendations at the top level of the involved organizations (e.g. national innovation agencies). The HLPG will include experts and representatives of public authorities. It is suggested that NICE hosts the meetings and take active part in the HLPG.

#### **V) Synthesis report**

The synthesis report will gather all of the deliverables from I) to IV). Moreover, the synthesis report will illustrate and make reference to the practical tools which will be provided for the companies, cf. VI) below. The synthesis report will be a strong medium for communicating the findings of the project and it will be a collected reference for future research and policy implementation. The synthesis report will be prepared by the project lead in close co-operation with the Nordic working group.

#### **VI) Practical tools**

Besides the policy approach (with a focus on feasibility and implementation) there is a strong need for concrete practical support to companies for GBMI to be more widely disseminated. Therefore, the project will also have a focus on the development awareness of practical tools which can help Nordic companies getting started and/or work more focused with GBMI. Dialogue with and close involvement of companies and organizations (advisory and hearing board) will pinpoint what companies need – *a bottom-up approach*. A special attention will be given to tailoring the tools to the Nordic companies' special needs. The concrete practical tools will be made by a subcontractor with specialized skills in this particular field. Box 1 illustrates some examples of possible practical tools.

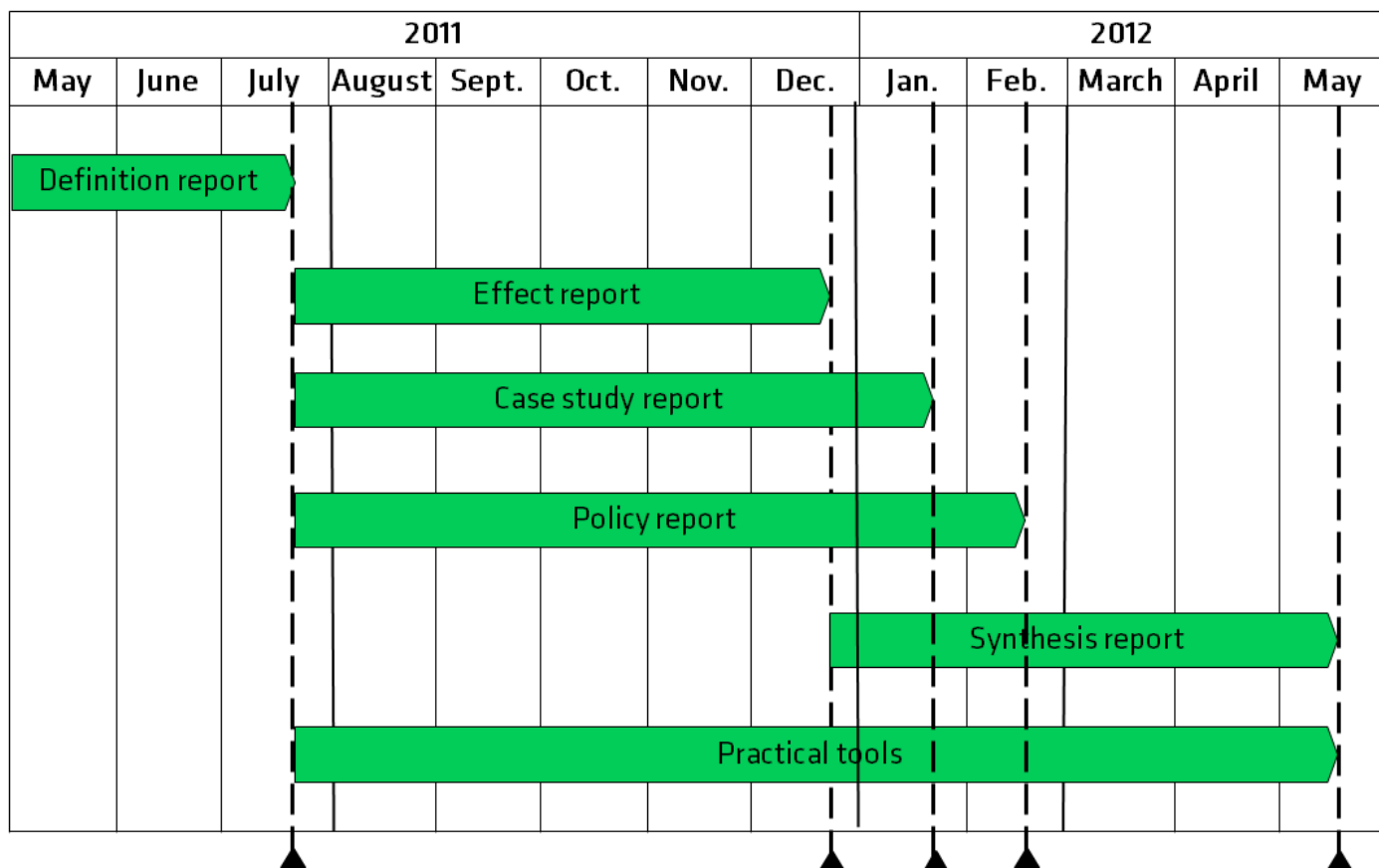
The practical tools will be tested on a group of relevant companies and organizations (e.g. workshop, survey etc.). This part of the project will also emphasize on dialogues with relevant potential users (e.g. companies), so that the benefits are understood and the available tools will be used. Industry organizations and others close to the companies (e.g. Væksthusene in Denmark) will play a central role with regard to the dissemination and communication of the tools, cf. annex 3 on communication and dissemination.

#### **Box 1: Examples of possible tools**

- **Website** gathering relevant information for companies including a list of companies which have already successfully implemented GBMI in their organization.
- **Nordic standard contracts/paradigms** which will make it easier for companies to make use of GBMI.
- An **Idea catalogue** will help the companies to improve and intensify their work with GBMI. The catalogue will make it easier for companies to develop, enhance and apply new strategies for GBMI as well as making it easier to persuade customers to choose this form of doing business.
- A **capability screening tool** will make it possible to monitor the companies' capabilities and thereby helping companies to target and increase their capabilities with respect to GBMI.
- The above tools should have a focus on the possibility for **SME-tailoring**, i.e. how can GBMI also be used in SMEs.

Illustration 1 outlines the project's main deliverables in time. A more detailed overview of deliverables, milestones and activities 'and who does what?' is found in annex 1. The project organization is depicted in illustration 2.

**Illustration 1: Main deliverables and deadlines**

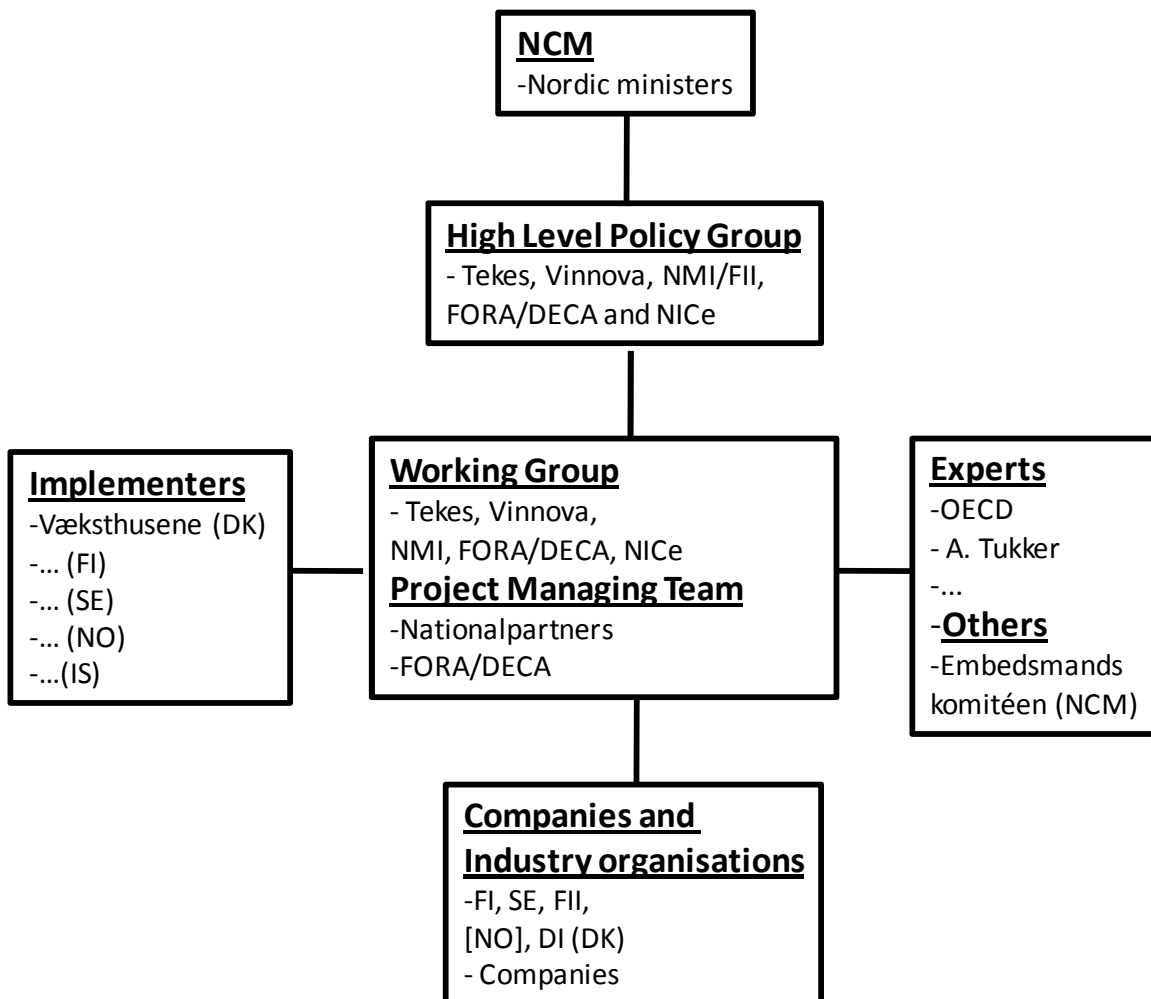


See annex 1, for a more detailed plan.

## Organization

Below the organization of the project:

**Illustration 2: Project organization**



For a more detailed description of project partners and participants, preliminary assigned tasks (and who does what?) etc., see annex 2.

**Budget in NOK**

<b>Deliverables</b>	<b>Total (NOK)</b>
I) Definition report	350.000
II) Effect report	350.000
III) Case studies and best practice report	350.000
IV) Policy report and Nordic anchoring - working group and HLPG	400.000
V) Synthesis report	150.000
VI) Practical tools etc.	600.000
- Communication and dissemination	150.000
- Printing reports, layout, travelling expenses, meetings	150.000
<b>Total</b>	<b>2.500.000</b>

FORA co-finances the project with 500.000 NOK, Tekes 105.000 NOK, Vinnova 100.000 NOK and NMI 50.000 NOK.

## Annex 1: Methodology and deliverables (overview)

Deliverables	Milestones	Activities	Who?
<b>I) Definition report</b>	A definition report completed July 2011.	Desk research	Project lead
		Interviews	Project lead and experts
		Questionnaire	Project lead and experts
		Small workshop and meetings	Nordic working group, project lead and experts
		Report writing	Project lead with feedback from Nordic working group
<b>II) Effect report</b>	An effect report completed December 2011.	Tender and contracting	Project lead and subcontractor.
		Questionnaire and methodology	Project lead and subcontractor.
		Gathering data and Interviews	Subcontractor
		Data analysis	Project lead and subcontractor
		Report writing	Project lead and subcontractor
<b>III) Case study report</b>	Cases completed November 2011. Case workshop completed January 2012. Case report completed February 2012.	Identifying Nordic and international cases	Nordic working group (each by country), industry organizations and project lead
		Further screening / small snowball	Project lead, subcontractor, experts, industry organizations and companies
		Tender and contracting	Project lead and subcontractor.
		Questionnaire	Nordic working group (each partner), project lead, subcontractor and companies
		(Data) analysis	Project lead and subcontractor
		Small case study workshop	Nordic working group, project lead, experts authorities, companies, industry organizations
		Company, authority and expert interviews	Project lead and subcontractor(s).
		Report writing	Project lead and subcontractor with feedback from Nordic working group
<b>IV) Policy report</b>	A policy workshop completed October 2011 and a policy report completed December 2011.	Identifying Nordic national policies	Nordic working group (each partner), project lead and experts and other countries policy (best practice)
		Desk research	Project lead
		Policy workshop.	Nordic working group, project lead, experts authorities, companies, industry organizations
		Two HLPG meetings	HLPG members
		Report writing	Project lead and feedback from Nordic working group
<b>V) Synthesis report</b>	Synthesis report completed May 2012	Report writing, hearing, proofing, layout etc.	Project lead with feedback from Nordic working group and hearing in Nordic countries
<b>VI) Practical tools</b>	The practical tools finished May 2012.	Desk research	Project lead
		Tender and contracting	Project lead and subcontractor.
		Interviews	Subcontractor, experts and companies
		Workshop	Nordic working group, companies, experts, authorities and project lead
		Concept development	Subcontractor, advisory board and project lead with feedback from Nordic Working Group
		Developing tools	Subcontractor, advisory board and project lead

## Annex 2: Project partners and participants

Group	Name	Organization	Task
<b>Nordic High Level Policy Group</b>	Director, Ivar Kristensen	NICe	Ensuring common Nordic priorities and facilitating
	[Name]	Tekes	Ensuring ownership and political feasibility in Nordic countries. Endorsing and anchoring findings from project in Nordic Countries => input to NCM-meeting at ministerial level.
	[Name]	Vinnova	
	[Name]	NMI	
	Vice Deputy, Anders Hoffmann	FORA/DECA	
	Professor Arnold Tukker, program manager sustainable innovation and professor of sustainable innovation, and project manager of SCORE!	TNO, Delft, Netherlands and NTNU, Norway	Ensuring decisions are based on the right fact based foundation of knowledge.
<b>Nordic Working Group</b>	Innovation advisor, Eili Vigestad Berge, Senior innovation advisor, Jørn B. Andersen and Communication manager, Melita R. Hasle	NICe	Facilitating meetings etc., communication and writing.
	[Name]	Tekes	Identifying national cases, national policy, national company needs and providing knowledge about (and ensuring right) implementation in Nordic countries. Feedback regarding definition-, case-, effect-, and final reports.
	[Name]	Vinnova	
	[Name]	NMI/FII	
	Head of unit Morten Hvidberg, project manager Kristian Henriksen, analyst Markus Bjerre	FORA/DECA	
<b>Project lead</b>	Project manager, Kristian Henriksen, analyst Markus Bjerre	FORA/DECA	Project management, writing, case studies, communication, facilitating/hosting, ...
	[Name]	[Nordic consortium partners]	
<b>Experts and others</b>	Project manager of green growth and eco-innovation strategy, Tomoo Machiba	OECD	Clearer definition and sparring partner and comments on final reports.
	Professor Arnold Tukker, program manager sustainable innovation and professor of sustainable innovation, and project manager of SCORE!	TNO, Delft, Netherlands and NTNU, Norway	
	Other international experts	...	Feedback on reports
	[Name]	Embedsmandskomiteén (NCM)	Sparring regarding Nordic anchoring and dissemination
	[Name]	Companies	Feedback on findings, providing cases and material for effect report
	[Name]	Subcontractors	Cases, effect report and tools

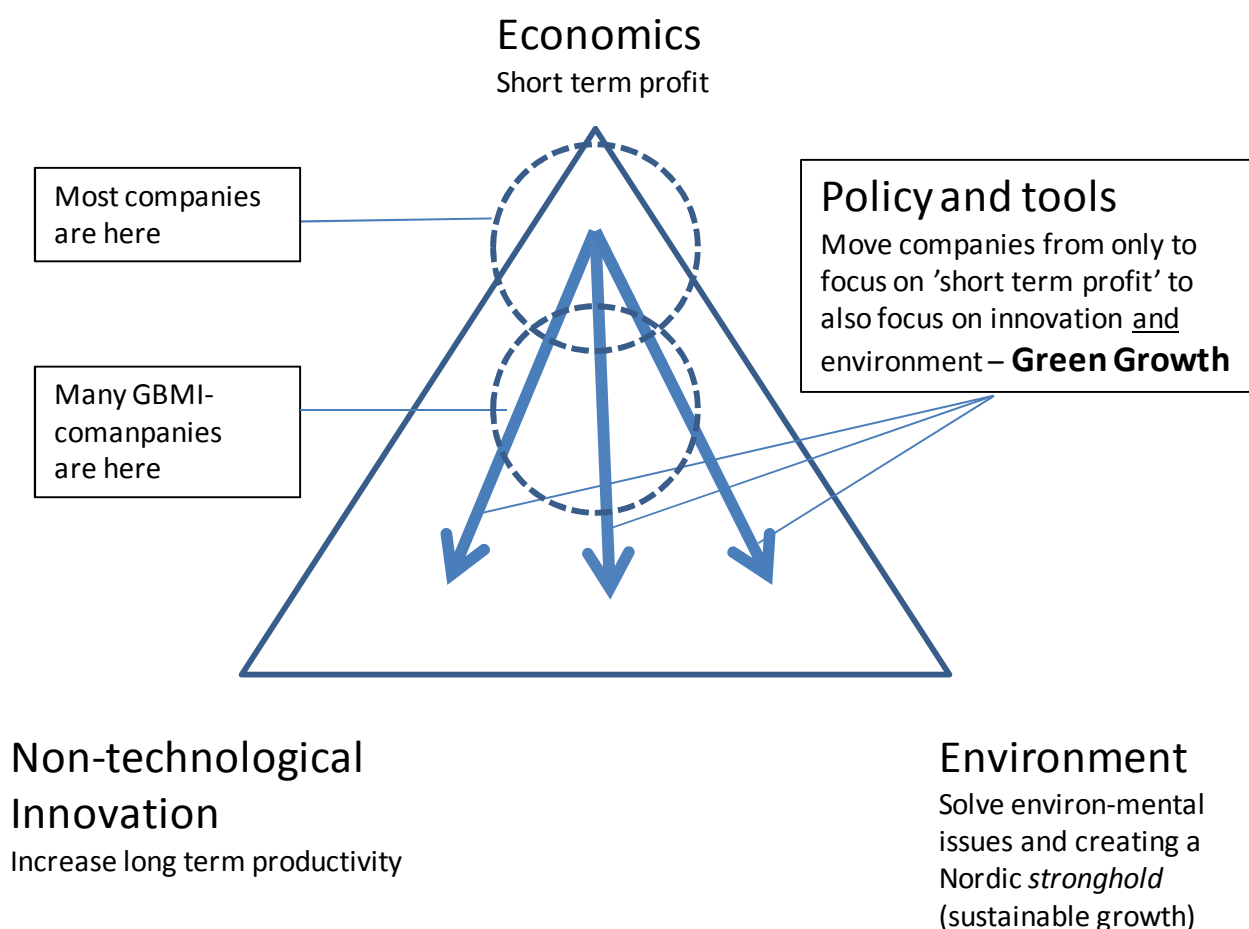
### Annex 3: Communication and dissemination

Target group	Effects	Key messages	Activities
General business community and stakeholders.	<ul style="list-style-type: none"> <li>- Increase general knowledge about potential.</li> <li>- Getting companies interested in green business model innovation.</li> <li>- Branding of project and involved organizations.</li> </ul>	<ul style="list-style-type: none"> <li>- Burning platform, action points (policy and tools), problems which project solve.</li> </ul>	<ul style="list-style-type: none"> <li>- Publishing booklet and press releases in Nordic countries (together with NICE)</li> <li>- FORA's newsletter.</li> <li>- Articles in all of the Nordic business media (f. e. Børsen in Denmark) (together with NICE).</li> <li>- FORA's website.</li> <li>- NICE's website and newsletter.</li> <li>- NCM's website and newsletter.</li> <li>- Nordic partners websites (and newsletters).</li> <li>- Social networks (f. e. FORA's Facebook, ...).</li> <li>- FORA's Faglige Forum (Danish), see <a href="http://www.foranet.dk">www.foranet.dk</a></li> </ul>
Relevant companies and organizations.	<ul style="list-style-type: none"> <li>- Getting potential companies to work more and more structurally with GBMI.</li> </ul>	<ul style="list-style-type: none"> <li>- Economically, environmentally and innovation wise an advantage for companies to work with GBMI.</li> <li>- Brands company.</li> <li>- Advantages.</li> <li>- Easy to getting started with ready to use tools.</li> </ul>	<ul style="list-style-type: none"> <li>- Nordic workshop – presenting tools and website (together with NICE).</li> <li>- Bi- and multilateral meetings with stakeholders.</li> <li>- Spreading info through industry organizations (e-mails, website, tools ...).</li> <li>- Introducing website and other relevant material for <i>Væksthusene</i> in Denmark, similar bodies/entities in other Nordic countries ...</li> <li>- GBMI website.</li> </ul>
Nordic policy makers (operational and decision level) – relevant departments.	<ul style="list-style-type: none"> <li>- Implementing and anchoring demand and supply-side policy initiatives which incentivizes companies to use GBMI</li> </ul>	<ul style="list-style-type: none"> <li>- Economically, environmentally and innovation wise advantage for society as a whole to create good framework conditions which support GBMI.</li> </ul>	<ul style="list-style-type: none"> <li>- Working group – participants close to relevant (implementing) instruments and to policy process in country.</li> <li>- High Level Policy Group – highly knowledgeable about policy and governance and are able to help enforcing policy in Nordic countries.</li> <li>- Presentations for Nordic policy makers (authorities).</li> </ul>
OECD, EU Commission and other int. bodies.	<ul style="list-style-type: none"> <li>- Disperse front runner knowledge.</li> <li>- Create a closer relationship and future co-operation.</li> </ul>	<ul style="list-style-type: none"> <li>- Key findings of project (awaits project).</li> </ul>	<ul style="list-style-type: none"> <li>- Presentation at relevant workshop/meeting (f. e. CII meeting).</li> </ul>
NCM – Ministerial meeting.	<ul style="list-style-type: none"> <li>- Creating a base for anchoring policy in Nordic countries</li> </ul>	<ul style="list-style-type: none"> <li>- Background, burning platform and policy recommendations (awaits project).</li> </ul>	<ul style="list-style-type: none"> <li>- Policy on agenda (for decision) – press release after meeting.</li> </ul>

#### Annex 4: Purpose of the project and means to reach the objectives

Most companies naturally focus on short term profit, since this is a strategy which is well known, well defined and usually the most important for shareholders. Many GBMI companies, however, also focus on non-technological (as well as technological innovation) innovation which over time leads higher productivity through new and differentiated products. This is good for society as a whole this innovation is a main driver for productivity. Moreover, GBMI also contributes to solve environmental issues, since environmental benefits more or less lies in the nature of GBMI. This project focus on moving companies downwards in the triangle below by coming up with policy recommendations and providing practical tools which may facilitate companies to get a good start working with GBMI, cf. illustration 3.

Illustration 3: Depiction of companies focus areas and GBMI



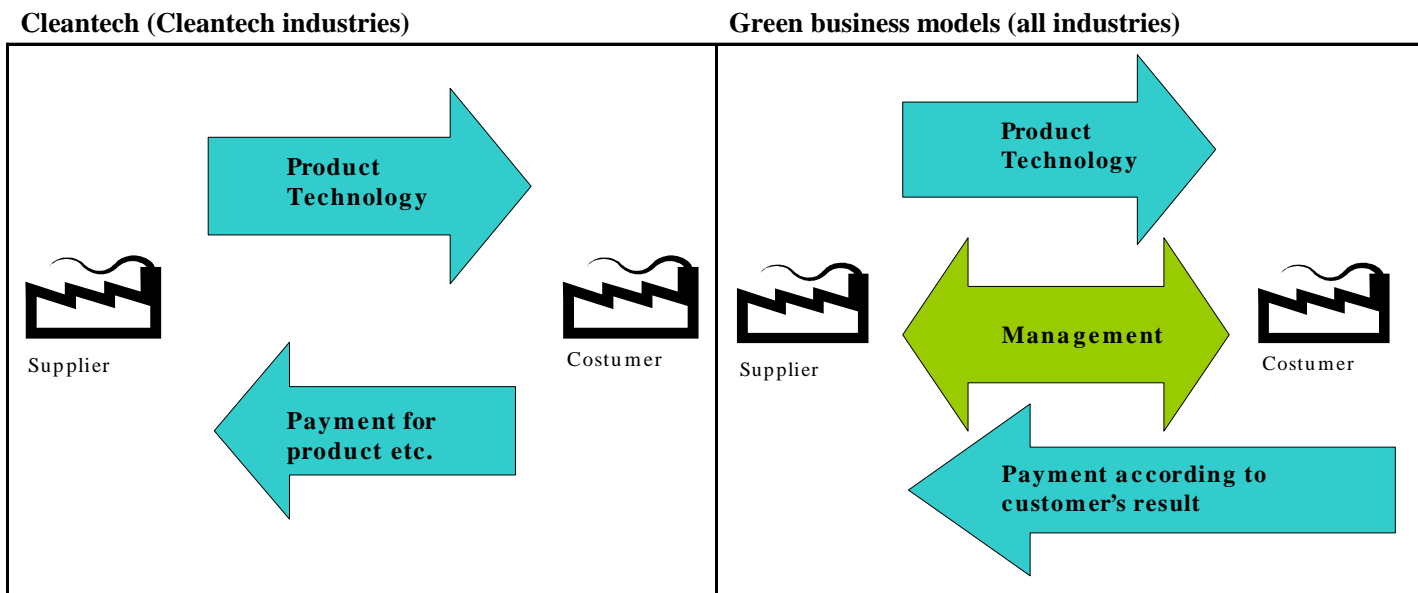
## Annex 5: Difference between traditional cleantech and ‘green business models’

The biggest difference between ‘traditional’ cleantech business models and new ‘green business models’ is that cleantech companies is paid for a green product. A company which make use of ‘green business models’, generally, focus on the management of (some of the) the customer’s production and is paid according to the result in the customer’s production (e.g. a refrigerator producer is paid for 3 degrees Celsius and XX cubic meters space). This gives the producer, who also owns the product, incentives to produce products which consider total life cycle-costs (energy, maintenance, waste disposal etc.).

The green element in cleantech industries lies primarily in the nature of the product or technology, f.e. a more energy efficient motor. The green element in ‘green business models’ stems from the supplier’s ‘better’ management of the costumer’s production where he uses his knowhow to optimize the production. The green element also stems from nature of the setup where the supplier’s payment depends on the outcome of the customer production which alters the incentives for both producer and customer, cf. the paragraph above.

Moreover, it should be noted that cleantech companies, naturally operates in cleantech industries/sectors, but green business models may apply to most industries/sectors. This is shown in illustration 4.

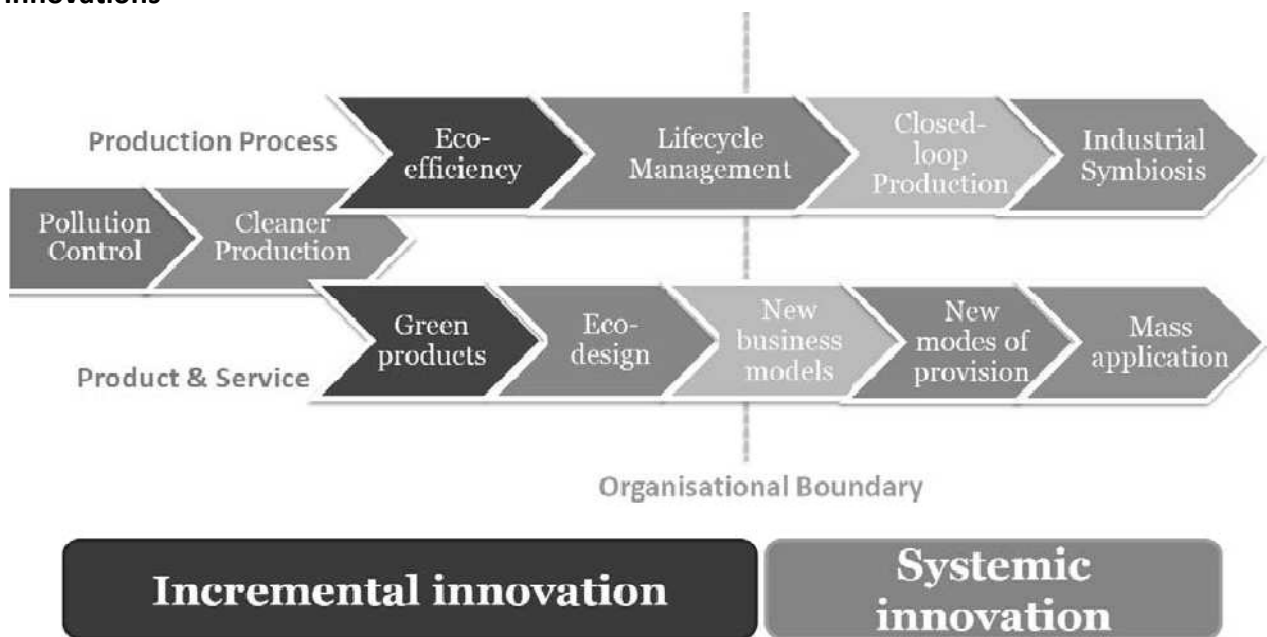
### Illustration 4: Difference between traditional cleantech and ‘green business models’



## Annex 6: Conceptual distinction between incremental and systemic eco-innovations

Green business model Innovation is often characterized by radical and systemic eco-innovations and may be highly complex as they often involve many actors and a range of technological and non-technological changes in organizational and institutional arrangements. Below in illustration 5 the conceptual distinction between incremental and systemic innovation is depicted. It can generally be considered that radical and systemic eco-innovations include those on the right-hand side of Illustration 5 where GBMI is found.

**Illustration 5: Conceptual distinction between incremental and systemic eco-innovations**



Source: Eco-innovation in industry: enabling green growth 2010 (OECD).