



Action plan for Swedish bio energy companies - UK -

Version 1.0

Swedish Trade Council (STC)
2007-10-29



This report was made by the Swedish Trade Council

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October 2007

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Summary market prioritization bio energy

- There is a growing global demand for renewable energies
- There are many opportunities and in order to succeed the bio energy companies have to focus and have a long term commitment on the most promising markets
- In order to shorten lead times to business for Swedish bio energy companies the Swedish Trade Council analyzed 25 selected markets
- Nine markets were identified as the most promising; Austria, Canada, Czech Republic, Ireland, Poland, Romania, Spain, United Kingdom and USA
- In the next step a deeper market analysis and an action plan for each prioritized market was conducted
- This is the action plan for the UK market



Why prioritize?

- focus and long term commitment are essential to success

Entering a new market requires a substantial commitment in terms of time and money especially in relation to a small company's resources

Before entering a new market the following factors need to be evaluated:

- Customer demand and buying criteria
- Laws & regulations
- Business climate & culture
- Local and international competition
- Access to financing

When entering a new market the following need to be created:

- Sales & distribution network
- Local references
- Customer contacts
- Brand recognition
- Local networks (Swedish companies, sub-suppliers, consultants, politicians, etc)

Substantial scale and learning curve effects exist per country



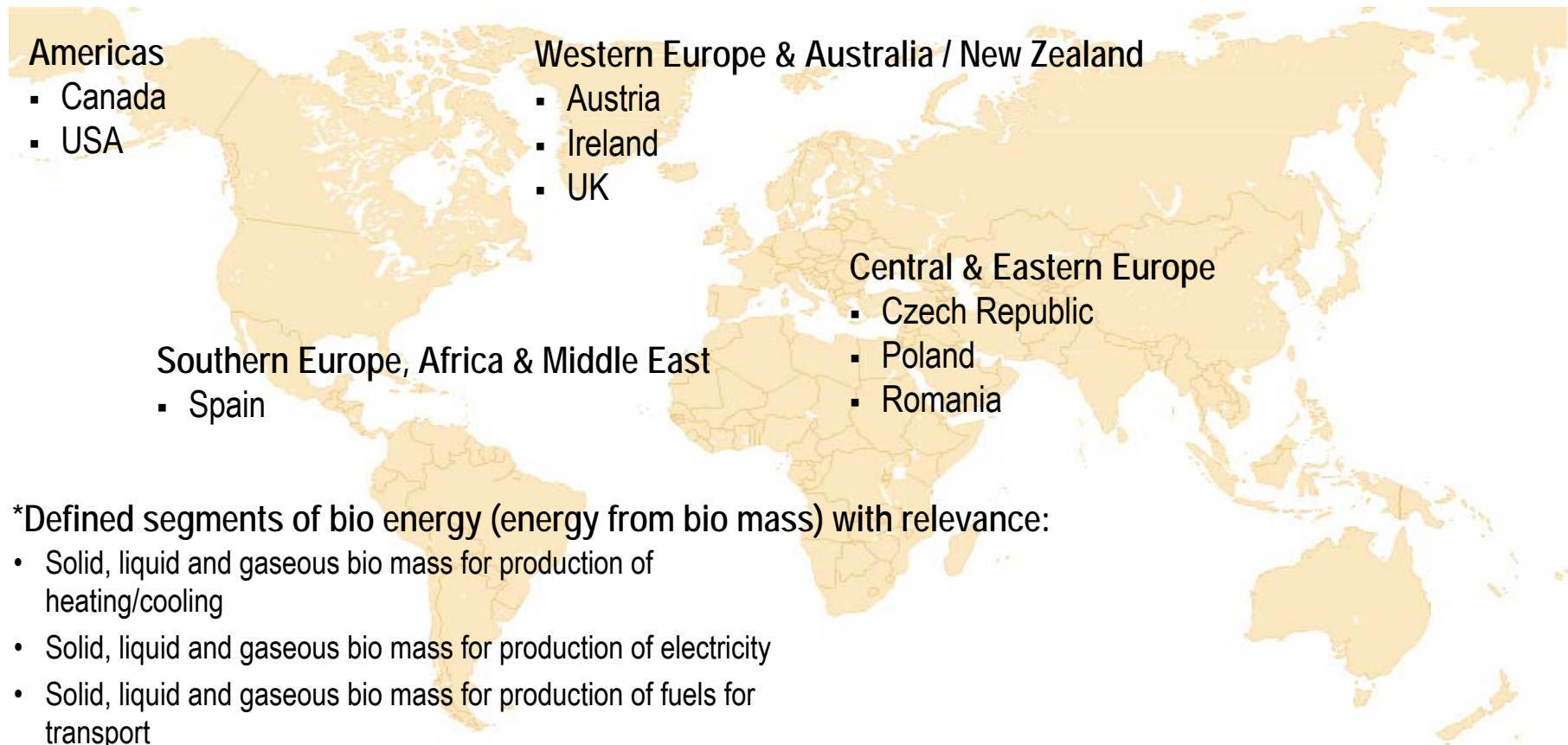
The 25 countries are found in five regions*

- identified through company preferences, industry experts, Svebio





9 geographical markets were identified for further analysis and development of an action plan in the field of bio energy*



*Defined segments of bio energy (energy from bio mass) with relevance:

- Solid, liquid and gaseous bio mass for production of heating/cooling
- Solid, liquid and gaseous bio mass for production of electricity
- Solid, liquid and gaseous bio mass for production of fuels for transport



Three tracks identified

- different characteristics for each track

"EAST TRACK"

- Czech Republic
- Poland
- Romania

Characteristics:

- New EU-member
- District heating
- Mainly public financing
- Based on opportunities waiting to be explored

"WEST TRACK"

- Canada
- Ireland
- Spain
- UK

Characteristics:

- Bio energy for transport + electricity production
- Domestic heating/cooling
- Public and private financing
- Based on demand from markets

"SPECIAL TRACK"

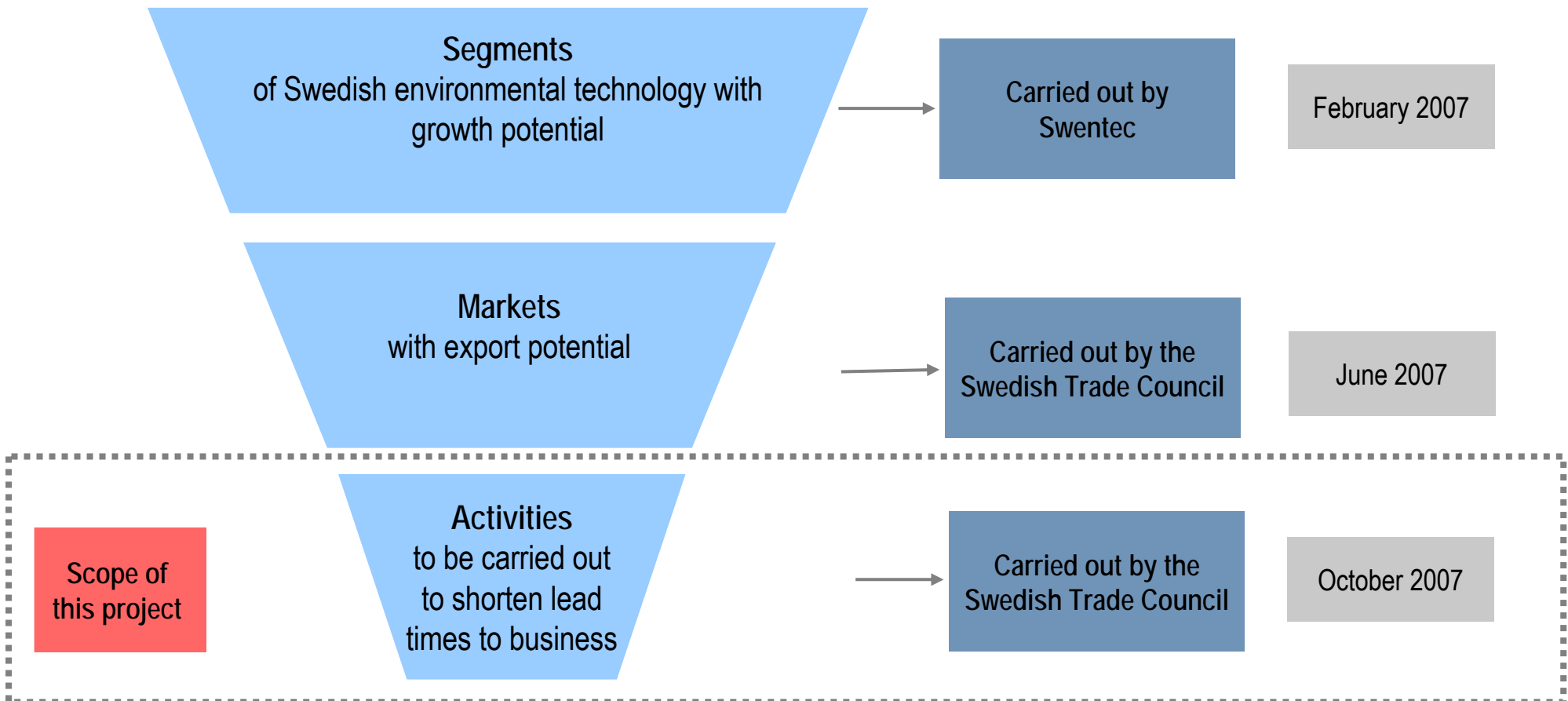
- Austria
- USA

Characteristics:

- Window of opportunity open now
- Very advanced in certain segments, i.e. bio fuels for transport
- Public and private financing
- Based on bench marking opportunities

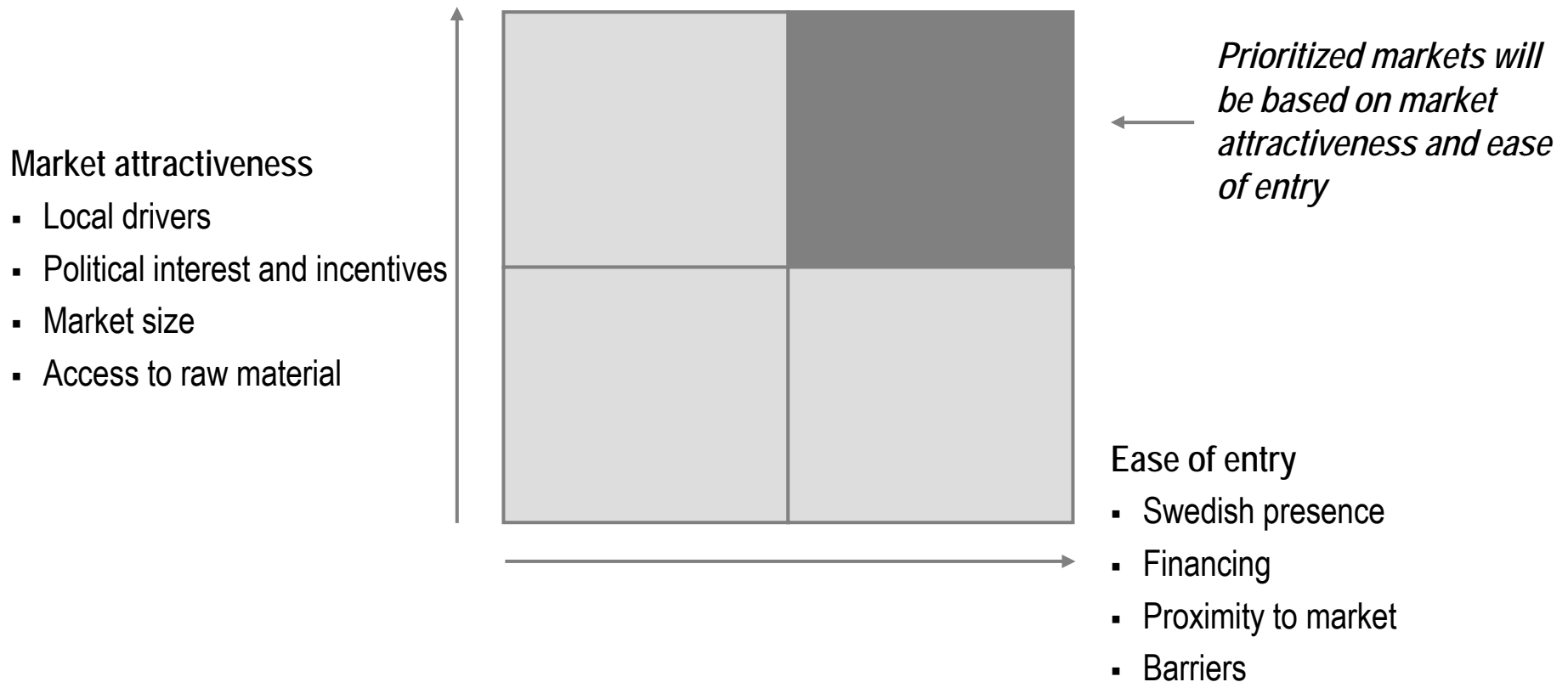


Funnel approach to zoom in on segments, markets and activities with largest potential for export



In the last report markets with most potential (market attractiveness vs. ease of entry) were identified with Svebio

- this project focuses on WHEN and HOW to enter the market



This project entails 3 segments - The company strategy needs to be adapted accordingly



Project plan: Activities

Market analysis

Activities

- Local interviews with bio energy companies, experts and organizations

Deliverables

- Answered key questions
- Local action plans for the 3 sub segments

Aggregated analysis

Activities

- Analysis of local reports and action plans
- Development of action plans for regions and or types of companies

Deliverables

- Action plans for regions and or types of companies
- Action plan for a central Swedish initiative

Seminars

Activities

- Seminars in Stockholm and Gothenburg

Deliverables

- Conducted seminars

This process will assure well founded strategies / action plans

Definitions and abbreviations

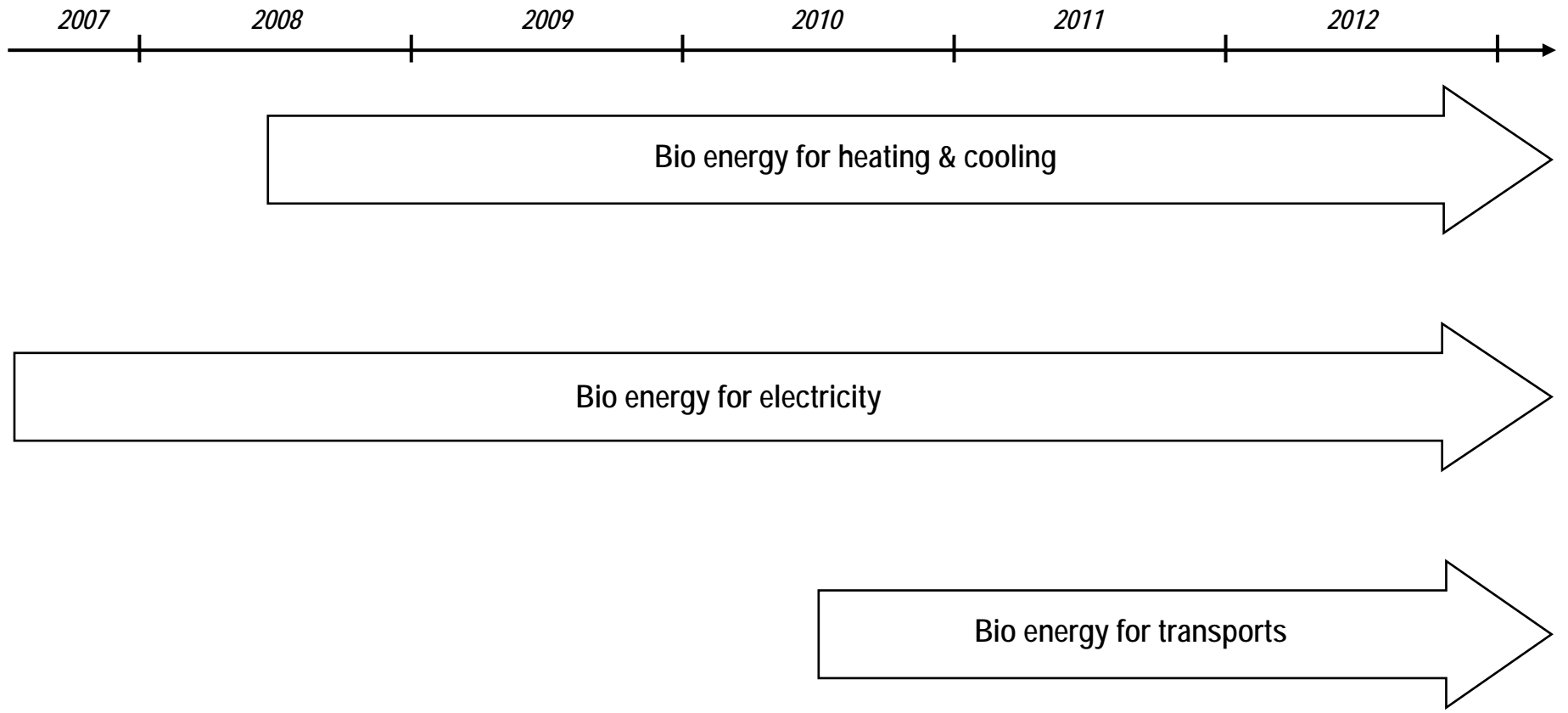
Term / abbreviation	Definition
Environmental technology	All technologies whose use is less environmentally harmful than relevant alternatives. Environmental technology are according to ETAP categorized into the following areas; air pollution control, bio energy, district cooling/heating, energy efficiency, environmental consultants, environmental training & information, hydro power, noise protection, soil remediation, solar energy technology, sustainable building, systems/control/monitor engineering, transportation, waste management & recycling, water & wastewater treatment, wave power, wind energy technology.
Bio energy	Bio energy is energy from biomass. Includes solid, liquid, gaseous bio fuels for production of heating/cooling, electricity and fuel for transport.
Market	In this report a market is defined as a geographical country.
Microgeneration	Microgeneration is the generation of zero or low-carbon heat and power by individuals, small businesses and communities to meet their own needs.
Cofiring	Cofiring is the combustion of two different types of materials at the same time. For example, biomass is sometimes cofired in existing coal plants instead of new biomass plants.
Energy Crop	An energy crop is a plant domesticated for use in agriculture and is produced as a low cost and low maintenance harvest to be used to make biofuels or directly exploited for its energy content.



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IN THE SHORT TERM THE BIOENERGY FOR ELECTRICITY IS MOST ATTRACTIVE, DUE TO INCREASED USAGE OF BIOMASS CROPS



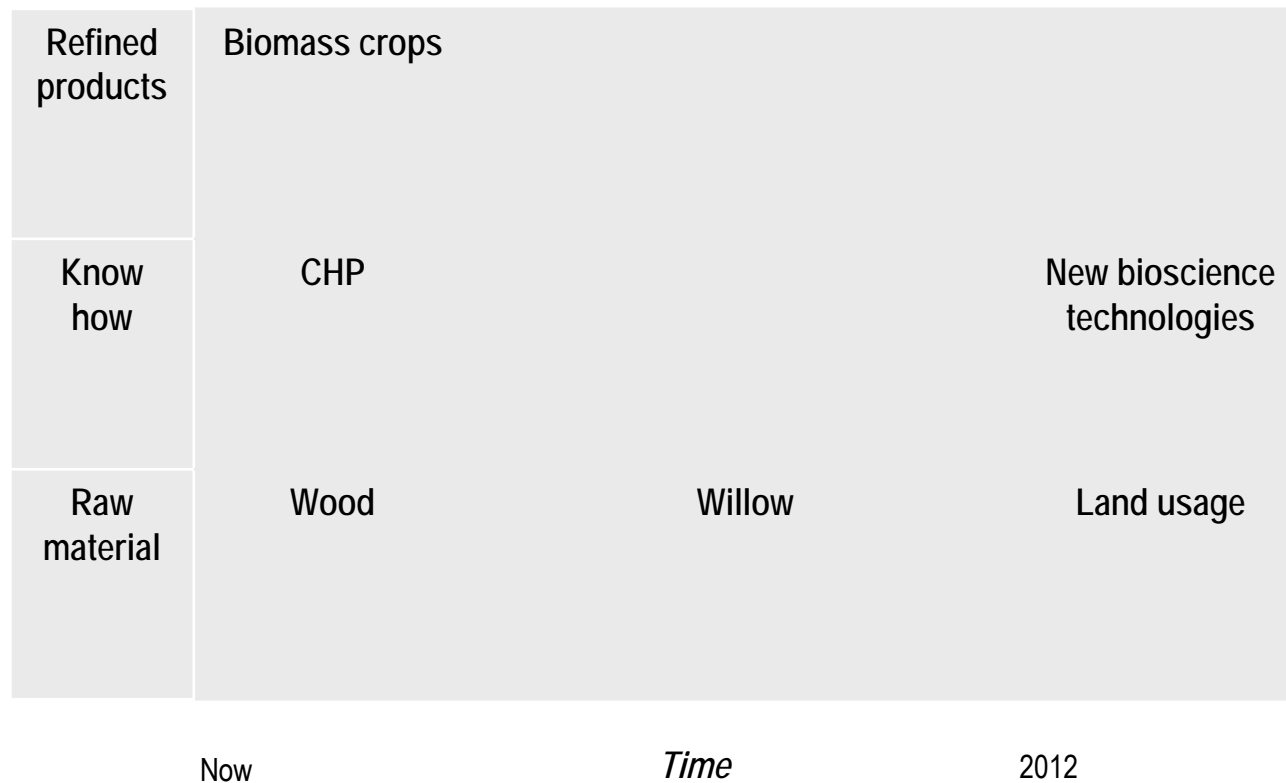
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BIOMASS CROPS ARE AN IMPORTANT AND COMPETITIVE ENERGY SOURCE WHEN OIL-FIRED PLANTS ARE REPLACED WITH BIOMASS

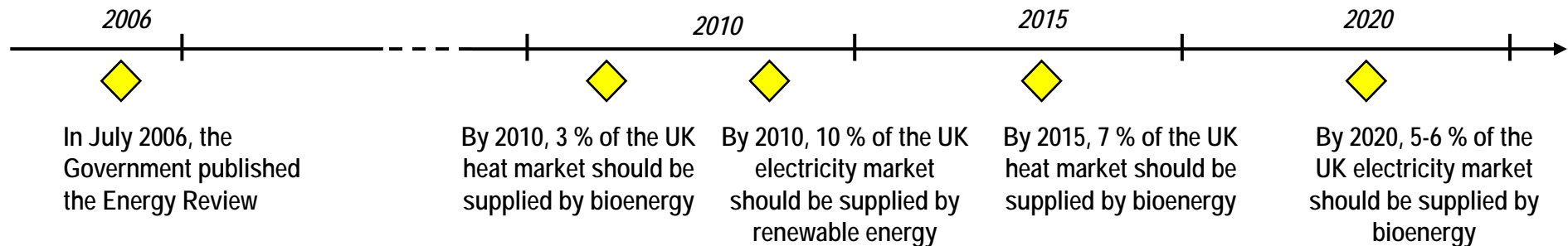
Timeline according to type of company



- Replacement of oil-fired heat plants by biomass-fired systems is attractive in short term
- Investments in developing new varieties of willow has made it increasingly competitive as an energy source
- Focus on developing a limited number of bioenergy chains, linked to CHP-microgeneration and the use of bioenergy for community and public sector projects
- In the long-term future, possibility of new bioscience technologies harnessed to improve photosynthetic gains and plant systems biology for bioenergy

New bioscience technologies are important to further develop, but also consideration to the land usage

BIOMASS IS SEEN AS A KEY COMPONENT OF THE GENERAL MIX OF RENEWABLES AND WILL MAKE AN IMPORTANT CONTRIBUTION



Comments

- The Energy Review states that biomass is seen as a key component of the general mix of renewables and will make an important contribution, particularly as a source of distributed energy
- Energy from burning biomass contribute to 1% of total heating. By 2010, 3 % of the UK heat market should be supplied by bioenergy and 7% by 2015
- By 2020, 5-6 % of the UK electricity market should be supplied by bioenergy
- Energy consumption in the UK divides almost equally into one third electricity, one third transport and one third heat. Only 1% of this heat is generated from renewable sources, with a further 8% coming from combined heat and power systems

Actions

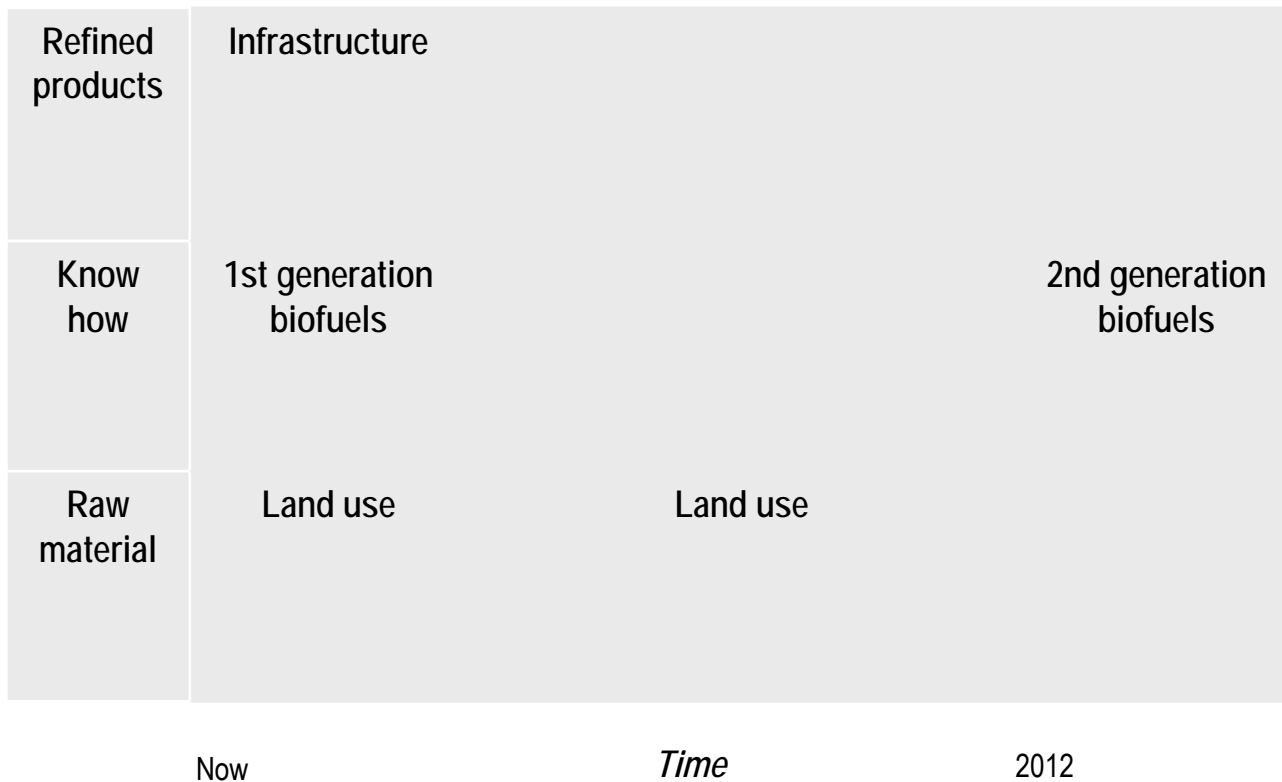
- The change from oil-fired plants to biomass fired will bring opportunities for usage of biomass crops
- Most combustion technologies may be considered as “mature” although bottle necks in the quality and quantity of feedstock are apparent
- Good potential for energy crops that can be used in bio-fermentation or hydrolysis processes
- Electricity production from biomass has not developed so well, partly because it is not standalone operation and is often an integral part of facilities for heat generation

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THE UK MARKET FOR BIOFUELS IS EMERGING BUT IS STILL LAGGING AFTER OTHER EUROPEAN COUNTRIES

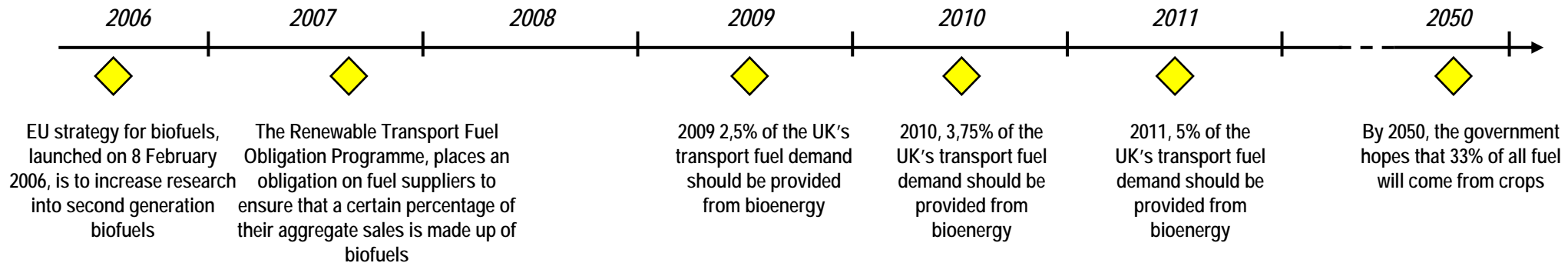
Timeline according to type of company



- First generation biofuels are and will continue to be important
- 1st generation, bioethanol is attractive as the technology
- Bio ethanol is currently limited in Europe to 5% or it requires a special engine, furthermore the technology from corn has low energy efficiency
- Lignocellulosics pre-treatment for second generation needs to be improved
- In some cases more energy is input that is derived from ethanol, and significant improvements are needed. Furthermore, land usage is a significant issue for the UK

Governmental regulation together with EU regulations are incentives to increase the usage of biofuels

BIOENERGY FOR TRANSPORT IS AN IMMATURE SEGMENT IN THE UK



Comments

- The Renewable Transport Fuel Obligation Programme place an obligation on fuel suppliers to ensure that a certain percentage of their aggregate sales is made up of biofuels
- The effect of the Renewable Transport Fuel Obligation Programme will require 5% of all UK fuel sold on UK forecourts to come from a renewable source by 2010
- Production for usage of biofuels for transport is currently very small but there is investments taking place in relation to the 2010 targets
- The UK has the capacity to produce over 350 million litres of biodiesel per annum equivalent to 1,5 % of 2005 total diesel sales. A further 114 million litres of biodiesel was in line in the end of 2006

Actions

- Both 1st and 2nd generation bioethanol needs to be improved, both regarding knowledge and infrastructure
- Improve lignocellulosics pre-treatment for 2nd generation
- Reduce the cost and increase the efficiency for production and supply of biofuels
- Consider biomass and biofuels trading. Without possible hedging and trading possibilities of biomass, the market will be unsure regarding energy supply

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UK

- A KEY MARKET IN EUROPE

Country facts

Population:	61 million
GDP/capita:	\$ 31,400
GDP growth:	2,5 %
Swedish export:	78,7 mrd SEK
Swedish export, growth:	4 %

Bioenergy facts

Feed in tariffs:	N/a (Renewable obligation certificates (ROCs), Levy exemption certificates (LECs))
RES in energy mix:	4.7 %
Share of EU funds for bioenergy:	N/a
Available financing sources:	Bioenergy Capital Grants Scheme, DTI, DEFRA
Available raw material:	Varied
Domestic expertise:	Wind, Hydro
Environmental public awareness:	High
Bioenergy companies present:	TallOil
Active Swedish regional networks:	Sustainable Business Hub, Region Skåne



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UK

- BIOENERGY IS HIGH ON THE GOVERNMENT AGENDA

Business opportunities

- Segments with opportunities for Swedish companies: liquid biofuels for transport, district heating
- Demand for: domestic heating segment, CHP, etc to respond to government target of Zero Carbon Homes by 2016
- Opportunity from companies that can show good track-record and financial viability of investments/technology

Challenges

- Large competition in fields such as hydro and wind power
- Difficulty to access financing as government relies mainly on private market to implement change
- Natural gas is available and relatively cheap

Conclusion

- Sustainability is high on the agenda from both government level as well as general public awareness
- Large potential for Swedish companies in the domestic sector as 20% of energy for new homes has to come from renewable sources. Governments target is for zero carbon homes in 2016
- Swedish companies could benefit from growing market potential. Government has set very ambitious target but the market is slow to react due to lack of know-how and experience. Market experts believe that the biggest potential in 1 to 5 years will be observed in such areas as production of biomass, establishment of a logistical system, as well as production of biofuel.
- Sweden is seen as a role model for sustainable development and both UK companies and government officials are visiting Sweden regularly for inspiration both on policy and technology level.

UK IS A SMALL BUT INCREASING MARKET FOR RENEWABLE ENERGY AND BIOMASS

Indications from the market

- Renewable energy is a small but well established part of the UK's energy portfolio and as the UK's fossil-fuel output decreases, it will help to fill the gap between energy production and energy demand
- The supply of biomass is not large enough to support a large number of installations. The situation is somewhat a catch-22, quantity of burners being limited by the supply of fuel, and the supply of fuel limited by the demand of the burners
- Price volatility and risk is associated with a developing market where the balance between supply and demand will stabilise prices as the market develops in the longer time
- Bio-electricity has had neither the time nor the efficient deployment to reach a critical mass and is therefore unable to compete in this new market

Implications

- For Swedish companies this mean that the increased market for renewable energy will bring opportunities for biomass know how, raw material and refined products
- Each sector will gradually grow, but currently the market is too small to support multiple manufacturers
- If prices are seen o fluctuate significantly after the commitment to use a biomass system is made, this will have a major impact on confidence to develop the sector
- The implication for Swedish companies as well as others is that there will be limited interest in bio-electricity. Governmental grants have facilitate production of renewable electricity from wind with higher efficiency than biomass produced electricity

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BIOMASS IS AN IMPORTANT ENERGY SOURCE WITHIN THE UK MARKET FOR RENEWABLE ENERGY

UK BIOENERGY MARKET

Heating / Cooling / Electricity	Transport
<ul style="list-style-type: none"> ▪ Biofuels and wastes are the most important sources of renewable energy used in the production of heat in the UK ▪ Biomass resources represents 85% of UK renewable energy supply, which is equivalent to 1,4% of total UK primary energy use and there is scope for considerable further development • Bioenergy from biomass is the ultimate source of renewable energy and the UK has a considerable biomass resource, estimated at an annual 20 million tonnes, although only a fraction of this resource is effectively captured for energy, contributing approximately 2.5 % to heat and electricity supply in the UK • CHP (combined heat and power) is becoming an increasingly attractive option for biomass plants, offering a reliable low-cost heat source for industrial or commercial uses, together with electricity that can be sold to the local grid • Only around 1% of the heat market is generated from renewable sources, with a further 8% coming from combined heat and power systems • Co-firing of biomass with coal is a step towards establishing a market for energy crops 	<ul style="list-style-type: none"> ▪ The UK is currently lagging behind some other EU countries in biofuels production, only managing to make up around 0,24% of its fuel supply from biofuels ▪ Biodiesel is available with 5% blend is currently available at over 100 filling stations in the UK • Vehicle manufacturers warranties cover use with 5% biodiesel blends • Bioethanol has become an economic proposition partly because of the 20 pence per litre discount on duty available from the Government bioethanol is yet available commercially • Mature technology for 1st generation from sugar and corn • The EU Directive on biofuels provides a stimulus to develop technology for the production of fuels from plants. Technologies here require developments in suitable agriculture, processing plant and fuel technology



THE KYOTO PROTOCOL IS THE AGREEMENT WHICH ENSURES THE OTHER OBLIGATIONS AND PROGRAMS WILL BE FULFILLED

Kyoto Protocol

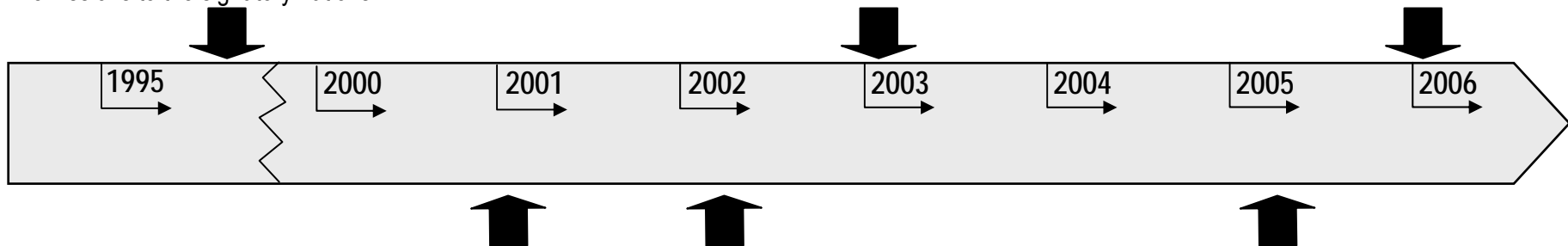
- 1997
- It is an amendment to the international treaty on climate change, assigning mandatory emission limitations for the reduction of greenhouse gas emissions to the signatory nations

White Paper

- 2003
- Published with the recommendation that carbon-dioxide levels should be reduced by 60% of 2000 levels by 2050

Low Carbon Building Program

- 2006
- Low carbon buildings programme provides grants for microgeneration technologies for householders, community organisations, schools, the public sector and businesses



The Climate Change Levy

- 2001
- Is applied to business on a sector basis to those using fossil fuels

Renewable Obligation

- 2002
- It is designed to incentive the generation of electricity from eligible renewable sources in the UK

Renewable Transport Fuel Obligation

- 2005
- It is a requirement on transport fuel suppliers to ensure that, by 2010, 5% of all road vehicle fuel is supplied is from sustainable renewable sources

Comments

The Kyoto Protocol is the most important agreement for the UK and the rest of the 168 countries that have ratified the agreement. The agreement is mainly the underlying reason to the other obligations and programs

In addition, there are other Directives that support energy-efficiency measures



THE MOST SIGNIFICANT CHALLENGE INCLUDES CUSTOMER BEHAVIOUR

BIO ENERGY – major challenges in each field

- Large biomass projects are associated with traffic, noise and fear relating to toxic emissions also receive criticism on social grounds
- Lack of confidence in a reliable fuel supply chain is one of the most significant challenges to the more widespread uptake of biomass
- The lack of information regarding fuels makes identification and coordination of large scale supply structures difficult to achieve. The need to contract without reference price and terms increases negotiating and contracting costs
- The absence of major counterparts results in credit risk. In addition, the lack of significant trading of major fuels means that supply risk cannot be hedged
- Difficulty to access financing as government relies mainly on private market to implement change

Heating / Cooling / Electricity

- High capital costs
- Combustion technologies for heat and electricity are “largely” mature and so key challenges relate to the development and integration of these technologies for the future
- Lack of understanding, where key market sectors not always aware of potential benefits or required technical understanding

Transport

- Producing biofuels costs (pre tax) about twice as much as fossil fuels, depending on the cost of feedstock and crude oil
- Logistical and market compatibility
- Engine warranties and vapour pressure
- Materials, land use for biofuels production
- Fuel compatibility
- Lack of understanding for biofuels usage and customer behavior

THE MOST SIGNIFICANT ENTRY BARRIER INCLUDES EXISTING PLANNING PROCEDURE

BIO ENERGY – major barriers in each field

Renewable energy projects can be seriously delayed by the UK' complex planning procedures. Public opposition to large biomass plant can be strong and above a certain size, the Environmental Agency is involved, adding complexity to the planning process

Heating / Cooling / Electricity	Transport
<ul style="list-style-type: none"> • Fuel supply risk including concern about market infrastructure/availability, lack of reliable contractual terms, fuel availability and price volatility may become real risks as the market expands • The lack of fuel market information makes identification and coordination of large scale suppliers difficult to achieve • The need to contract without reference prices and terms increases negotiating and contracting costs • Lack of confidence in security of supply of suitable-priced wood fuel is a key impediment to the market developing at present 	<ul style="list-style-type: none"> • Fuel supply risk, uncertainty concerning land usage and supply of raw materials • Lack of a working infrastructure, which needs to be developed to facilitate the usage of biofuels • High capital costs for investments and lack of governmental finance incentives

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EUROPEAN AND UK GOVERNMENTAL ORGANISATIONS ARE THE MOST INFLUENTIAL MARKET PLAYERS IN THE UK

BIO ENERGY – influencing entities

- Government and EU directives and regulations
- Department for Business Enterprises and Regulatory Reform, responsibilities for productivity, business relations, energy, competition and consumers
- Department for Environmental Food and Rural Affairs (DEFRA), putting sustainable development into practice every day
- Renewable Energy Association; established in 2001 to represent British renewable energy producers and promote the use of sustainable energy
- Carbon Trust; an independent company, working with business to accelerate the move to a low carbon economy
- Media; such as Financial Times, BBC and several other newspapers and magazines

Heating / Cooling / Electricity

- European Commission
- Combined Heat & Power Association
- Media

Transport

- European Commission
- Government, Department for Transport
- Media



THERE ARE SEVERAL COOPERATIONS BETWEEN SWEDISH AND LOCAL ENTITIES

Sustainable construction in the UK & Sweden

Set up by the Swedish and UK Governments, this is an initiative to encourage sustainable construction, management and renovation.

It is hoped that it will help foster new joint UK-Sweden projects related to the use of environmental technologies in sustainable construction and refurbishment.

- DEFRA
- Ministry of Sustainable Development Sweden

Smart LIFE

SmartLIFE will unlock strategic solutions to sustainable growth area management across the EU starting with its three international partners

An innovative pilot project led by Cambridgeshire County Council, SmartLIFE's partners are in the cities of Hamburg (Germany) and Malmö (Sweden). Each city faces very similar growth related challenges.



SMALL BIO ENERGY PROJECTS ARE MAINLY FINANCED THROUGH THE CLEAR SKIES PROGRAMME

	Private	Public
National	<p>Private financing</p> <ul style="list-style-type: none"> Projects can be financed through independent companies, such as The Carbon Trust (funded by the government). They offer e.g. interest free loans to small and medium sized companies. The main source of funding for small-scale renewable installations is the Clear Skies programme. 	<p>Public financing</p> <ul style="list-style-type: none"> Projects can be partly financed through grants from DEFRA, normally they are about 40% of the total cost Regional development agencies (RDA's) are also possible financing institutions (there are 9 all over the UK – see: http://www.dti.gov.uk/regional/regional-dev-agencies/index.html)
International	<p>Public Private Partnerships</p> <p><i>No biomass related project is identified the since the last six months however, there are several waste management projects financed through national or international public private partnerships</i></p>	
	<p>International private financing</p> <ul style="list-style-type: none"> The projects are financed through international private capital <ul style="list-style-type: none"> Investment companies International private capital Contractors 	<p>International public financing</p> <ul style="list-style-type: none"> Various European agencies/programmes/institutions have funding sources for bioenergy projects. E.g. The Intelligent Europe-Energy Programme and the LIFE Programme

Principal small national biomass projects are common in the UK and both private and public financing are common on a national level



There are several financing alternatives available from Sweden (1/2)

Financing alternatives for Swedish corporations from Sweden

EKN (Exportkreditnämnden)

Financing: Government authority that gives warranties in order to insure export deals and cross border investments. Such a warranty can be the prerequisite for offering the buyer credit – and can also enable better financing.

Environmental focus: Gives warranties for different types of business endeavors incl. Environmental oriented ones. Takes the environment into consideration when evaluating all business endeavors.

Geographical focus: Basically all countries, but with different levels of premiums according to the country list on the website.

Info: www.ekn.se, martin.Kallervald@ekn.se

SEK, Svensk Exportkredit (“Swedish Export Credit”)

Financing: State owned corporation that offer export financing solutions, general corporate financing, project financing, capital market transactions or qualifies consulting services Swedish companies and their international customers.

Environmental focus: Not specifically

Geographical focus: All regions

Info: www.sek.se, bo.leander@sek.se

There are entities for different needs – venture capital, credits, subsidies and warranties



There are several financing alternatives available from Sweden (2/2)

Financing alternatives for Swedish corporations from Sweden

Exportlånet ("The export credit")

Financing: "The export credit" is administrated by Almi and is a collaboration between Almi, EKN, Swedish Trade Council and Swedfund. The credit is developed to be complementary to a market and specifically for export deals. It can finance up to 90 per cent of the total capital need without a maximum credit amount.

Environmental focus: Not specifically

Geographical focus: The credit is only offered to Swedish SMEs with operations in Sweden

Info: http://www.almi.se/finansiering_export.html

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THE MOST SIGNIFICANT CUSTOMERS INCLUDE BOTH PRIVATE HOUSEHOLDS, FARMERS COMMUNITIES AND COMPANIES

BIO ENERGY – main customers

Heating / Cooling / Electricity	Transport
<ul style="list-style-type: none"> • Farmers investing in pellet burners and pellets usage etc. • Private households that invest in system such as pellet burners and combustion • Companies with biomass as byproducts, such as farmers and chicken farms etc. • Large companies such as Drax Group, which has started with co-firing for the UK's largest electricity generating plant 	<ul style="list-style-type: none"> • Automotive industry such as Saab and other players that focus on developing green cars etc. • Oil companies such as BP etc. • Private customers with biofuels cars • Biofuels manufacturer such as Wessex Grain etc. • Logistic and shipping companies • Other transport companies



THE MOST COMMON TECHNOLOGY INCLUDES CO-FIREING EQUIPMENT AND FIRST GENERATION BIOFUELS

BIO ENERGY – most common technologies	
Heating / Cooling / Electricity	Transport
Today	
<ul style="list-style-type: none"> • Co-firing equipment • Pellets systems, including pellet burners, pellets etc. • CHP equipment • Electricity generation 	<ul style="list-style-type: none"> • First generation biofuels • Biofuels and mainly biodiesel • Usage of biofuels together with petrol or diesel
Trends	
<ul style="list-style-type: none"> • Pellet systems • Larger biomass plants 	<ul style="list-style-type: none"> • Second generation biofuels • Extension of existing filling stations • Local fuel distribution network

ALL PROJECTS OVER £153,376 (FOR SERVICES) AND £3,834,411 (FOR WORKS) WILL BE HANDLED THROUGH A TENDER PROCESS

Purchasing process relative to project size and degree of public ownership

Project size	Larger	Tender process or connections / relations / marketing	Tender process
	Smaller	Connections / relations / marketing	Tender process
		Smaller	Higher
		<i>Degree of public ownership</i>	

- For large projects, the purchasing process is mainly in form of a tender process
 - All projects over £153,376 (for services) and £3,834,411 (for works) will be handled through a tender process
 - A tender process is handled according to the EU directives in the UK

All larger projects are purchased through a tender process

THE TENDER PROCESS IN THE UK FOLLOWS THE EU NORM

- The tender process in the UK is handled according to the EU Directives which, in turn, are implemented into UK law through a number of regulations.
 - Local authorities are also governed by the UK Acts of Parliament and regulations and guidance issued by the Government and, as such, may not act outside the powers given to them under such legislation
 - More information is available through the following websites:

http://www.ogc.gov.uk/procurement_policy_and_application_of_eu_rules_eu_procurement_thresholds_.asp

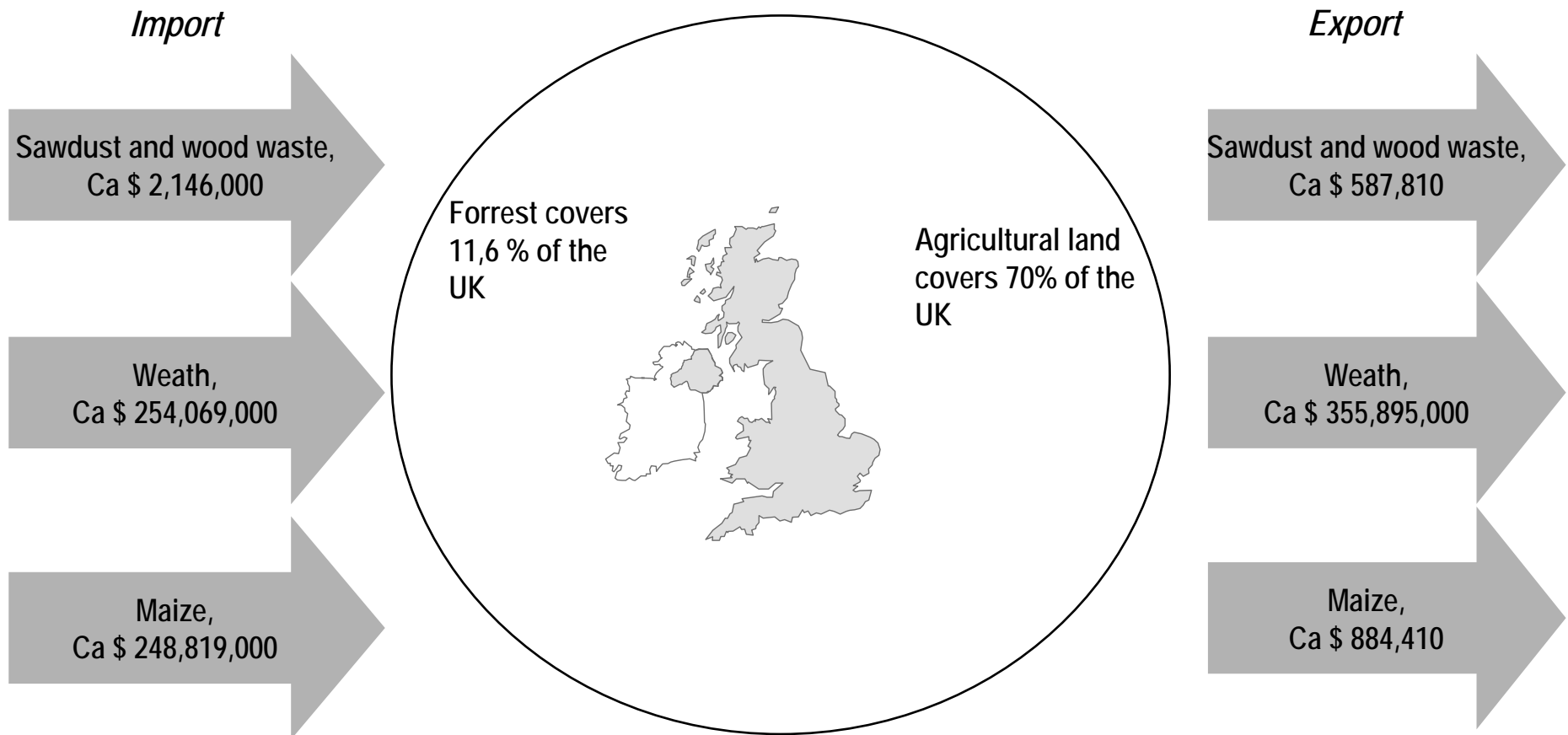
<http://www.bipsolutions.com>

<http://www.government-online.net/bs4.html>

Personal connections and relationships may, as always, play a role in doing business in the UK as in most other countries, however not to any significant extent. Because of the small size of the Biomass industry in the UK, the personal contact between the supplier and the client would be very important. People are looking for reference plants to look at and the people who might build the plant, rather than just choosing well known names.

SME Enterprises are the winners of the greatest numbers of tenders generally

AN SIGNIFICANT AMOUNT OF WOOD AND SAWDUST IS IMPORTED TO THE UK



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THE LARGEST COMPETITORS AND COMPLEMENTING COMPANIES INCLUDE BOTH E.ON AND BP

Bio energy – main competitors and complementing entities

Heating / Cooling / Electricity

Transport

National

- | | | | |
|---|---|--|--|
| <ul style="list-style-type: none"> • Renewable Heat and Power Ltd • Welsh Biofuels • Balcas • Riello • Rural Energy • Scottish Power • Slough Heat and Power | <ul style="list-style-type: none"> • Hadfield Wood Recyclers • Drax • SembCorp • Supergen | <ul style="list-style-type: none"> • Wessex Grain • Green Spirit Fuels • Bio UK Fuels Ltd • Green Fuels Ltd • BP Alternative Energy • Argent Energy • British Sugar | <ul style="list-style-type: none"> • PDM Group • MK Biodiesel • Biofuels Corporation • Agromass Biofuels • Grainfarmers |
|---|---|--|--|

International

- | | | | |
|---|---|--|---|
| <ul style="list-style-type: none"> • E.ON • Viessman Group • Man • Haase Energietechnik • Naanovo Energy | <ul style="list-style-type: none"> • Caterpillar • ABB • SKF | <ul style="list-style-type: none"> • General Motors • Ford • Agip • Alfa Laval | <ul style="list-style-type: none"> • Talloil |
|---|---|--|---|



DRAX GROUP PLC

– Owner of the largest coal-fired power station in the UK

Category	Electricity
Line of business	Coal fired power plant with output capacity of six generators at 4,000 megawatts. Sales of electricity and of by-products of the electricity generation process
Turnover	1497 mn GBP 2006
Ownership structure	Public, quoted company. Invesco owns 11%. Other main shareholders are Morgan Stanley, Zurich Financial Services Group and Lloyds Tsb Group Plc with 5-6% direct ownership each.
Growth	Average turnover increase in of 29% per year in 2002-2006
Comments	Drax is the first power station in the UK to use Tall Oil. The use of the oil will make an important contribution in reducing the emissions of Drax Power Station. Burning Tall Oil and other biomass fuels at Drax Power Station will make a significant contribution to the use of renewables in electricity generation by helping towards meeting the Government's target of 10% of electricity supplies coming from renewables by the year 2010



RENEWABLE HEAT & POWER LIMITED

– Consultants in renewable energy

Category	Renewable energy
Line of business	Consulting and engineering within renewable energy. Pellets promoter.
Turnover	N/a
Ownership structure	Private company. Robin A Cotton and Mrs S Cotton are shareholders
Growth	N/a
Comments	Renewable Heat and Power Ltd (RHPL) are a leading renewable energy company based in Devon with over 7 years of experience of working within the renewable energy sector across South West England and the UK



BALCAS

– Britain and Ireland's largest wood products suppliers

Category	Wood products
Line of business	Construction timber, fencing products, internal mouldings, pallet and packaging products as well as wood pellets.
Turnover	62 mn GBP 2006
Ownership structure	Private company. Owners: A. S. Richardson & co. Limited, Balcas Bioenergy Limited, Balcas Timber Limited, Ballycassidy Sawmills Limited, P.C.L. Wood Products Limited
Growth	Average turnover increase in of 7% per year in 2001-2006
Comments	A series of acquisitions since 1988, has facilitated Balcas to grow to a turnover of £65 million. One of the most exciting projects has been the acquisition of a sawmill in Estonia, now known as Balcas Eesti.



GREEN SPIRIT FUELS LIMITED

– Bio ethanol producer established 2005

Category	Renewable energy
Line of business	Production of bioethanol and animal feed. Today one existing plant (Henstridge) and an additional plant under construction (Somerset). Expected to produce some 130 million litres of bio ethanol per year and 120,000 tonnes of animal feed.
Turnover	N/a
Ownership structure	Private company. WESSEX GRAIN LTD is the main shareholder with 68% direct ownership, other owners are Credit Suisse Securities and Barclays Capital Nominees with 20% and 12% respectively
Growth	N/a
Comments	Green Spirit Fuels Ltd is at the forefront of the development of the UK bioethanol industry



BP

– On of the worlds largest energy companies

Category	Fossil fuels and renewable energy
Line of business	Exploration, production, refining, marketing and sales of fuel mainly for transportation, heat and light, Petroleum, coal and natural gas as well as alternative energy launched in 2005 coming from solar, wind, hydrogen power and gas-fired power technologies.
Turnover	266134 mn USD in 2006 ~ 14 371 mn GBP
Ownership structure	Publicly quoted company. JP Morgan Chase Bank main shareholder with approx 25%
Growth	Average turnover increase in of 8,8% per year in 2001-2006
Comments	One of the world's largest energy companies



BRITISH SUGAR PLC

– Leading supplier of sugar to the UK market

Category	Sugar and future bioenergy producer
Line of business	Production, refining, marketing and sales of various kind of sugar products. Coming producer of biofuels.
Turnover	750 mn GBP 2006
Ownership structure	Public company, not quoted. Associated British Foods and Abf Investments are owners.
Growth	Average turnover increase in of 1,7% per year in 2001-2006
Comments	Leading supplier of sugar to the UK market

WESSEX GRAIN LTD

– Cereal producer for bioethanol market

Category	Renewable energy
Line of business	Wholesale of grain, seeds and animal feed for non-food markets for, especially the use of cereals for fuel bioethanol market.
Turnover	39 mn GBP 2006
Ownership structure	Private company. Owners unknown.
Growth	Average turnover increase in of 9,2% per year in 2001-2006
Comments	Wessex Grain is a farmer owned business based in the south west of England that trades 550,000 tonnes of Cereals, Oilseeds and Pulses per annum for local and export markets. The company is committed to providing grain users with a service that is reliable both in terms of delivery and quality.



WESSEX GRAIN

– Trades Cereals, Oilseeds and Pulses for local and export markets

Category	Biofuels trader
Line of business	The company is committed to providing grain users with a service that is reliable both in terms of delivery and quality
Turnover	N/a
Ownership structure	Farmer owned business
Growth	N/a
Comments	As a farmer owned business Wessex Grain aims to help farmers achieve premium prices at a low cost whilst minimising the trading risks from bad debts, malpractice, quality claims and adverse price movements



GREENFUELS LTD

– Small but fast developing company

Category	Biofuels producer
Line of business	The company provides turnkey solutions for biodiesel, bioethanol and biogas with a range of proven operating technology
Turnover	N/a
Ownership structure	N/a
Growth	With satellite offices in Berlin and New Delhi the company has tripled turnover year on year.
Comments	Europe's largest biodiesel equipment supplier



THERE ARE SEVERAL LARGE SWEDISH COMPANIES ON THE UK MARKET

- most have been present for decades

Company	Line of business	Local position	Large projects	Contact data
Saab Great Britain Ltd	Cars	Saab is enjoying great success with its innovative BioPower model range in Europe, being the number one supplier of flex-fuel cars on the road	No identified projects in the UK	Saab Great Britain Ltd Griffin House Osborne Road Luton Beds LU1 3YT www.saab.co.uk
SKF (UK) Ltd	Ball Bearings	N/a	N/a	SKF (UK) Ltd Sundon Park Road Luton Beds LU3 3BL Tel: +44 1582 490 049 www.skf.com www.skf.com
Scania (Great Britain) Ltd	Buses and trucks	Working actively with biofuels. Ethanol busses are one example, however they are even not launched in the UK by now	Scania promotes biodiesel together with other UK companies	Scania (Great Britain) Ltd Tongwell Milton Keynes MK15 8HB Tel: +44 1908 210 210 www.scania.co.uk



THERE ARE SEVERAL LARGE SWEDISH COMPANIES ON THE UK MARKET

- most have been present for decades

Company	Line of business	Local position	Large projects	Contact data
Volvo Truck & Bus Ltd	Trucks and buses	Not so strong position as Scania and Saab. They only have a sales office in the UK	N/a	Volvo Trucks & Bus Ltd Wedgknock Lane Warwick CV34 5YA Tel: +44 1926 401 777 www.volvotrucks.co.uk
Skanska	Construction	Third largest construction services group in Europe	They have several projects in the UK, no biomass projects identified	Skanska Construction Group Maple Cross House Denham Way, Maple Cross Rickmansworth Herts WD3 9SW Tel: +44 1923-776 666 www.skanska.com

Content

- Introduction and background
- Local action plan
- Market analysis
- **Appendix**

Contact list - UK

Company	Contact person
Datamonitor	Jon Lane
Bioenergy Technology Ltd	Tony Redman
Enviros Energy Consultants	Cole Williams
Enviros Energy Consultants	Nicole Schraibe
ENTECH	Anna Abrahamsson
The Forestry Commision	Helen McKay
CLG Energy Consultants Ltd	Colin Godfrey
The Carbon Trust	Peter Strutton
DTI, Department of Trade & Invest	Gary Shannanhan
Business Link	Mr. Hiran Pattani
Combined Heat & Power Association	Mr Peter Smith
DEFRA	Ms. Catherine Donne
European Commission	Mr Peter Löffler
The Carbon Trust	Mr Tom Beelay
Renewable Energy Association	Ms Clair Wenner



Contact list - UK

Company	Contact person
British Inst Energy Economics	Debbie Heywood
Renewable Energy Association	David Collins
Environment Agency	Chris Cunningham



List of used reports - UK

Organisation	Report
House of Commons (Environment, Food and Rural Affairs Committee)	"Climate change: the role of bioenergy", Volume 1, 18/09/2006
DTI (department of Trade and Industry)	"Renewable Supply Chain Gap Analys", Summary report, January 2004
Aston University	"Renewable transport fuels from biomass", Tony Bridgewater, 23-24 April 2007
The University of Manchester	"The role of bioenergy in the national legislation and implementing EU directives", Jiri Klemess & Igor Bulatov, February 2006
Carbon Trust	"Renewable Energy Sources, opportunities for businesses"
BABFO & Defra	"The facts on biodiesel and bioethanol", July 2003
Keynote	"The European Renewable Energy Industry", 2005
Carbon Trust	"Biomass sector review for the Carbon trust", October 2005
Keynote	"Renewable Energy", 2006