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# 1 Introduction and objectives

This report forms the second deliverable of BIONIC Work Package 2 state-of-the-art review. The report provides an overview of the current policy regarding the use of biofuels in transport across the EU, and of recent development and debates, together with a summary of the policy position of each of the partner countries.

The objectives of this policy review are:

- To identify the state and direction of current European policy and the implications this has for the BIONIC project and partner regions; and
- To identify any potential policy developments or policy issues that may arise during the project.

Chapters 2 and 3 set out the European and International policy context, respectively. Detailed information about the biofuels policy in each of the partner countries is given in chapter 4, and a summary of biofuels policy in other EU member states is given in chapter 5. Finally, the conclusions and implications for the BIONIC project are discussed in chapter 6.

## 2 European policy

### EU Policy

The EU Strategy for Biofuels<sup>1</sup> published in February 2006, defines the role that biofuels produced from biomass, a renewable resource, may play in the future as a source of renewable energy serving as an alternative to the fossil fuel energy sources (chiefly oil) used in the transport sector. It also proposes measures to promote the production and use of biofuels.

The Strategy complements the Biomass Action Plan adopted at the end of 2005 and responds to a threefold objective: further promotion of biofuels in the EU and in developing countries, preparation for the large-scale use of biofuels, and heightened cooperation with developing countries in the sustainable production of biofuels. This threefold objective breaks down into seven policy areas, which encompass the priorities envisaged by the Commission.

Among the measures intended to stimulate demand for biofuels, the European Commission intends to bring forward a report on the implementation of the Biofuels Directive and the possible revision of the Directive, stressing the importance of national targets, biofuel use obligations and ensuring sustainable production of biofuels.. It will continue to encourage the use of biofuels in public

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<sup>1</sup> <http://europa.eu/scadplus/leg/en/lvb/l28175.htm>

and private vehicle fleets, by introducing a Directive on the promotion of clean and energy-efficient road transport vehicles

## **DIRECTIVE 2009/33/EC The promotion of clean and energy-efficient road transport vehicles**

This Directive<sup>2</sup> although not directly addressing biofuels does have some relevance. The Directive extends to all purchases of road transport vehicles, as covered by the public procurement Directives and the public service Regulation. The Directive requires that energy and environmental impacts linked to the operation of vehicles over their whole lifetime are taken into account in purchase decisions. These lifetime impacts of vehicles shall include at least energy consumption, CO<sub>2</sub> emissions and emissions of the regulated pollutants of NO<sub>x</sub>, NMHC and particulate matter. Purchasers may also consider other environmental impacts.

The Directive has a positive stance on biofuels as it states:

*“This Directive should not prevent contracting authorities and contracting entities from giving preference to the latest Euro Norms in the purchase of vehicles for public transport services before those standards become obligatory. It should also not prevent contracting authorities and contracting entities from giving preference to alternative fuels, for example hydrogen, Liquefied Petroleum Gas (LPG), Compressed Natural Gas (CNG) and biofuels, provided the lifetime energy and environmental impacts are taken into account”.*

This Directive is expected to result, in the longer term, in a wider deployment of clean and energy efficient vehicles. Increased sales will help reduce costs through economies of scale, resulting in progressive improvement in the energy and environmental performance of the whole vehicle fleet.

### *Biofuels and Media Coverage*

There has been significant media coverage on the use of biofuels in transport, together with comment and concern from a number of organisations, including politicians and the scientific community.

The UK Telegraph<sup>3</sup> reported in April 2009 that Friends of the Earth had stated that rules introduced a year ago which required a certain percentage of UK transport fuels to be made up of the "green" fuels could, instead of cutting emissions, create an extra 1.3 million tonnes of CO<sub>2</sub>. The emissions could have come from the "indirect" impacts of biofuels, for example the cutting down of

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<sup>2</sup> [http://ec.europa.eu/transport/urban/vehicles/directive\\_en.htm](http://ec.europa.eu/transport/urban/vehicles/directive_en.htm)

<sup>3</sup> <http://www.telegraph.co.uk/earth/greenertransport/5153781/Green-fuels-produce-twice-as-much-carbon-as-fossil-fuels.html>

forests for food production which had been displaced from land turned to growing crops to make ethanol or biodiesel. But supporters of biofuels said that in the first year of the Renewable Transport Fuels Obligation (RTFO), the industry had shown it was possible to produce sustainable fuels in the UK.

### 3 International biofuels perspective

There are several reasons why some nations have started considering biofuels regulations in recent years: national security, and perhaps even more importantly international security. However some countries' progress has stalled.

The EU and the US are the two largest consumers of petroleum based fuels today, yet they remain paralysed on proper definitions for sustainable biofuels regulations, land use criteria, mandates, and import/export regulations. On the subject of biofuels they remain undecided on regulations, and confounded by uncertainties of defining sustainability from several perspectives.

The three largest emerging markets of the BRIC countries – China, India and Brazil continue to move forward on biofuels policies, mandates and programmes while Washington and Brussels sidestep, punt, and delay mandates for unclear sustainability rationale (and agricultural protectionist reasons).<sup>4</sup>

A recent report titled 'Towards Sustainable Production and use of resources: assessing biofuels'<sup>5</sup> the first by the United Nations Environment Programme's (UNEP) International Panel for Sustainable Resource Management, states that some biofuels are leading to net increases in carbon emissions calculating that the use of biodiesel from palm oil plantations grown on deforested peatlands, for example, results in greenhouse gas emissions that are up to 2,000 per cent greater than those generated from fossil fuels.

In addition, the report states categorically that biofuel adoption targets in developed countries, such as the UK Renewable Fuel Transport Obligation are contributing to land use changes in developing countries - a position long held by environmental groups that have argued that biofuel demand is indirectly contributing to deforestation in countries such as Brazil and Indonesia.<sup>6</sup>

## 4 Biofuels policy in BIONIC partner countries

### 4.1 Bulgaria

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<sup>4</sup> [http://www.biofuels-news.com/magazine\\_store.php?issue\\_id=32](http://www.biofuels-news.com/magazine_store.php?issue_id=32)

<sup>5</sup> [http://www.unep.fr/scp/rpanel/pdf/Assessing\\_Biofuels\\_Full\\_Report.pdf](http://www.unep.fr/scp/rpanel/pdf/Assessing_Biofuels_Full_Report.pdf)

<sup>6</sup> <http://www.guardian.co.uk/environment/2009/oct/20/un-report-biofuel-policies>

### 4.1.1 Biofuels Policies

Indicative targets for consumption of conventional fuels and biofuels in Bulgaria are shaped by:

- Fulfillment report for the indicative targets - implementation of biofuels in transport in 2008” –Ministry of the Economy, Energy and Tourism – April 2009;
- National Law for Renewable and Alternative Energy Sources and Biofuels, adopted in June 2007 and amended in November 2008; and
- According to the Law from 01.01.2008, producers and importers of biofuels have to deliver a mix of oil fuels in compliance with the Bulgarian standards EN 228 and EN 590.

<b>Fuel (<math>1 \times 10^3</math> tons)</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Petrol (gasoline)	485.3	456	426	417.1	370.5
Diesel	1707.8	1808.7	1891.3	2314.8	2775.5
<b>Total Conventional fuels</b>	<b>2193.1</b>	<b>2264.7</b>	<b>2317.3</b>	<b>2731.9</b>	<b>3146</b>
Bioethanol	9.7	16	24.5	33.4	37
Biodiesel	34.2	63.3	108.7	185.2	277.5
<b>Total Biofuels</b>	<b>43.9</b>	<b>79.3</b>	<b>133.2</b>	<b>218.6</b>	<b>314.5</b>
<b>Indicative target for biofuels in %</b>	<b>2%</b>	<b>3.5 %</b>	<b>5.75 %</b>	<b>8 %</b>	<b>10 %</b>

Additions to the laws include:

- The law on the excise duty and tax storehouses (LEDTS) from 23.01.2009 – mixing the fuels in licensed tax storehouses is obligatory
- Law on the purity of the atmospheric air (LPAA) from 06.06.2008 and 23.01.2009,
- Regulations on the quality requirements for liquid fuels, the conditions, the order and their control, of 2007,
- Regulations on the conditions and the order for supporting the producers of energy crops, of 15.01.2008.

The National Association for Biofuels in Bulgaria (NABB), which includes 25 producers, is of the opinion that away from the availability of relatively good regulative basis, it has been a few years since that the indicative aims have not been attained, despite the great potential for production (240 000 t/y).

Fuels (tons)	2006	2007	2008	2009
Biodiesel	9 431	4 036	14 000	0
Total Conventional fuels	-	-	2193000	2264000
Indicative target for biofuels in %	0.2 %	0.1 %	0.6 %	0.00 %

The main reasons are the unexecuted legislative requirements and the contradictory actions on behalf of the institutions: ministries, custom-houses, and organisations for certification and control.

A few organisations, including t producers and distributors of biofuels, want urgent changes in the legislation and better coordination between the institutions.

*The result is a total stagnation of the usage of biofuels in transport during 2009.*

#### 4.1.2 Financial incentives

The Bulgarian Petrol and Gas Association (BPGA) regard that:

- Biodiesel fuel is 1.5 times more expensive than common diesel fuel, and in order to sell it successfully it has to be at least 10 st. cheaper. This cannot happen – the legislation foresees a 3% reduction on the excise on liquid fuels when mixing them with biofuels, but still this is not enough.
- Until October 2008, Customs used a zero duty on biofuels producers who are already licensed storehouse keepers. Despite the fact that since October 2008 there have been no changes in the legislation, Customs impose a higher duty on biofuels as it is required in the corresponding requirement for safe storage of biofuels in tax storehouses. The amount appointed in the requirement is equal to the amount of the excise duty on
- the mineral fuels: for biodiesel – the duty applicable to petrol (600 lv./1000 l.) – and an even higher price on bioethanol – the duty applicable to ethanol (1100 lv./ 100 l. pure alcohol).
- The common opinion is that the excise on the mixtures involving biofuels must be eliminated. Not all of the market chains have storehouses for mixing fuels; this is also related to additional financial costs.

According to the Law of 15.01.2008 (on the conditions and order for supporting the producers of energy crops), the direct payments for energy crops are in the range of €45/ha. This subsidy is not being applied because of the above-stated reasons and its relation to the contracts made between agricultural producers and biofuel producers.

## **4.2 Romania**

### **4.2.1 Biofuels Policies**

In preparation for Romania joining the EU in 2007, strategic objectives in the renewable energy resources field were considered. The most important legal document is The Directive 2001/77/EC regarding the promotion of new and renewable energy sources. This Directive stipulates that until 2010, 12% of the total amount of energy must be produced from renewable sources. The contribution of renewable sources (solar energy, biomass, biogas, bio-fuel, wind energy) therefore should increase from 14% to 22%.

Since 2000 the Commission has proposed a considerable number of new legal instruments to promote renewable energy and energy efficiency. The European Parliament and Council have adopted the following which are implemented in the member states and also in the accession countries, like Romania:

- Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources (OJ L283/33, 27.10.2001); and
- Directive 2003/30/EC on the promotion of biofuels (OJ L123/42, 17.5.2003)

These Directives (on the promotion of electricity produced from renewable energy sources in the internal electricity market) will be implemented in Romania in the near future. These Directives have already been included in the national legal frame through Government Decisions:

- HG-443/10.04.2003 that promotes electricity generation from renewable sources; and
- HG-1535/18.12.2003 that approve the strategy for the valorisation of renewable energy.

At the national level, work has taken place looking at biogas production from different types of waste from the agriculture and alimentary industry. Presently, there are very few installations in Romania to produce biogas from waste water and none to generate electricity from biogas. These installations have various capacities and a reduced efficiency being over dimensioned. Most of them do not work anymore. At the very few sites which are still operating, the biogas produced in the existing installations is used for the site's own heating needs.

The policy and strategy documents relating to agriculture do not mention the raw material culture for biofuel production purposes. The Ministry of Economy and

Commerce should promote the needed Romanian legislation to transpose this Directive until 31 December 2005.

Nevertheless, within the Romanian Fiscal Code (the Law 571/2003), non conventional biofuels (biodiesel) are exempt from taxes. As transport is a significant source for air pollution, we mention in this context, the key legislation regarding air quality. For the transposition of Directive 2000/69/EC relating to limit values for benzene and carbon monoxide in ambient air, the following legal acts were adopted:

- *Order of the Minister of Water and Environmental Protection No. 745/30.08.2002 (OJ 739/09.10.2002)* establishing agglomerations, the classification of agglomerations and of areas for the assessment of air quality in Romania;
- *Order of the Minister of Waters and Environmental Protection No.592/25.05.2002 (OJ 765/21.10.2002)* for the approval of the Norm establishing limit values, threshold values and criteria and methods of assessment of sulphur dioxide, nitrogen dioxide and nitrogen oxides, particulate matter, (PM10 and PM2,5) lead, benzene, carbon monoxide and ozone in ambient air.

For the implementation of Directive 94/63/EC (on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations), a calendar was established for the elaboration of compliance programmes for the small installations for which transitional arrangements had been requested.

GD No. 142/6.02.2003 relating to the sulphur content limitation of liquid fuels (OJ No.112/21.02.2003), which transposes Directive 1999/32/EC (relating the reduction of sulphur content of liquid fuels) has been adopted. The Ministry of Industry and Resources is the authority responsible for establishing the follow-up and compliance system for the sulphur content from crude oil and diesel oil, used in economic units or placed on the market.

Despite the considerable progress achieved by Romania in regenerative energies, (especially for hydro energy) energy production from biomass still has a great unused potential compared with other EU countries. The interest for biomass has increased over the last few years in the EU in the context of biofuels for the transport sector. This has led to a series of strategic choices to increase their use in the economy. Biofuel production in Romania is at a low level compared with other more developed countries like Germany or France. Thus, outlining the country profile of Romania from a perspective for national production of biofuels becomes imperative for integration into the EU market and the development of a new industrial branch.

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The present study aims at laying the foundation for strategic analysis of biofuels production in Romania. In this regard different factors with a direct impact on sustainable biofuels production were identified and analysed. For the purpose of this study information from various reports, issued by both governmental and non-governmental bodies from Romania and internationally, were used.

The public RTD programmes contain Energy as a specific thematic direction, including the renewables field. Biofuels technologies were considered within several R&D projects. Research centres/studies include:

- INMA (the National R&D Institute for Machinery in Agriculture and Food Industries),
- ICECHIM Chemical Research Institute,
- ZECASIN; and
- Developed studies and pilot installations regarding biofuel production.

The Old Fiscal Code (Law 343/2006) was applied from January 1st 2007. Article 201 in Law 343/2006 gives full de-taxation for biodiesel. The full exemption from excise tax applies only for the FAME content.

The Ministry of Economy and the Ministry of Finance are working in collaboration with Petrom, Lukoil and Rompetrol on methodology norms regarding biofuel tax exemption in the new code fiscal. In July 2007, the excise on conventional diesel was RON 918,938(=â,-260).

The New Fiscal Code (G.O. 106/2007, completing Law 571/2003, published in Official Monitor, Part 1, nr. 703/18.10.2007) was applied from January 1st 2008. The Fiscal Warehouse obligation was also introduced for biofuels producers.

#### 4.2.2 Financial incentives

The political factors identified refer to an unfavourable change in support offered by the Romanian state to the biodiesel industry. General support schemes for the Romanian biodiesel industry relate to the accomplishment of targets set by the EU for the percentage of renewable sources for transportation fuel. According to the latest EU decision (Euractive – “Biofuels for transport”) member states have to increase their share in renewable sources for transportation fuel (including but not limited to biofuels) to 10% by the year 2020.

The political risk factors in the biofuel industry are:

- Agricultural subsidies are currently granted for oilseed crops both from the EU and from the Romanian state. The level of subsidy from the EU amounts to €50/hectare, which is supplemented by €30/hectare from

- national funds. In addition developers receive up to €45/hectare more in case they close delivery agreements of oilseed with biofuel producers.
- Based on these subsidies the area cultivated with oilseed increased to approximately 349,000 hectares in 2007 from approximately 48,000 in 2004<sup>7</sup>
  - Based on the Tax Law 343 from 2006, which applied from 1 January 2007, biodiesel is exempt from tax excise duties. Compared with biodiesel regular diesel is subject to an excise duty in 2009 of approximately €0.283/litre<sup>8</sup> or approximately 34% of the current sales price of diesel at pump<sup>9</sup>.

### **Mandates**

A new legislation was adopted in May 2007 (Government Decision no 456/2007, published in the Official Monitor no. 345 from 22 May 2007). It modifies Decision no. 1844/2005 which provide for the gradual introduction of mandatory targets (by volume).

Governmental Decision 456/2007 also introduces a new article indicating the level of sanctions in case of a failure to blend in the above-mentioned proportions. This may result in a fine between RON 7500 and RON 15,000.

### **Biodiesel Bursa Romania**

The Bursa is an electronic system for transactions of raw materials, plants or equipments involved in the biodiesel process. Negotiations, crops reacquisitions, transport and storage services are offered and the security of information is important. By registering, members accept that their data will become public on specialised lists. Basically the connections are made by means of the Bursa.

The Biodiesel Bursa is a portal devoted exclusively for transactions and any general announcements or advertising will be restricted as per site provisions. The site of the Bursa is public and allows free access for registered members. General facilities of the Bursa available to registered members are:

- access to site areas;
- translation of announcements for foreign partners;
- utilisers have access to specials sections of the Bursa in connection with the running of projects;
- access to the rating of Bursa utilisers;
- the evolution and tracking of a service/product; and
- to notify the appearance of adequate offers (facility in construction).

<sup>7</sup> FAOSTAT

<sup>8</sup> E-transport – “Accize, benzina mai scumpa cu 16 bani”, 2008

<sup>9</sup> Europe Energy Portal

## **4.3 Spain**

### **4.3.1 Biofuels Policies**

#### **ORDER ITC/28779/2008.**

On October 14, the Ministry of Industry, Tourism and Commerce released Order ITC/28779/2008, a new disposal in order to promote biofuels and renewable energies in transport. Through this new tool, the Government is hoping to reach a global objective of seven per cent of biofuels and renewable fuels in blends commercialised for transport in 2011. In addition, the regulation establishes a procedure for labelling biofuels in order to guarantee the quality of the product.

#### **Strategy against climate change in Cantabria 2008-2012.**

In July 2008, a regional strategy to fight against climate change from 2008 to 2012 was published in Cantabria. This document is designed around 7 strategic pillars:

- Clean energies;
- Energy efficiency and saving;
- Mobility: modal shift and biofuels;
- Waste management;
- Carbon drains;
- Adaptation to climate change; and
- Research, training and awareness raising

With regard to biofuels, the most important strategy is number 3: Mobility: modal shift and biofuels, and more concisely measures number 34 and 35:

34. Promotion of the tax reduction for biofuels: Biofuels taxes will be partially transferred to the regional administrations; and

35. Promotion of the substitution of conventional vehicles by others using alternative energy sources: The scope of application of this measure will be road transport fleets, both industrial and private vehicles.

#### **Regional Funding Program for promoting biofuel usage in 2009**

The bases of the program regulated incentives for public bus operators which use biofuels in their fleets. It was released on March 24th through the Order IND/6/2009. It's foreseen that more than 2.000.000 litres of B10 will be supplied for regional buses in 2009.

Approximately 75 % of the public transport fleet in Cantabria has been running with biofuels during the past year, and the program aims to maintain the current rates.

## **4.4 Sweden**

### **4.4.1 Biofuels Policies**

In 1999 the Swedish Parliament adopted goals for environmental quality in a number of areas. These goals are based on the quality and state of Sweden's environmental, natural and cultural resources that are sustainable in the long term. The following environmental goals are directly connected with biofuels:

Limited climate effect: stabilization of concentrations of greenhouse gases in the atmosphere at levels which ensure that human activities do not have a harmful impact on the climate system  
No over fertilisation, only natural acidification: This aims to reduce emissions of nitrogen oxides. A good built-up environment, where the use of renewable fuels is widespread will be promoted.

The Värmland County Administrative Board has also established ten regional environmental goals that concern biofuels.

In December 2005 the Swedish government appointed a commission to prepare a comprehensive programme to reduce Sweden's dependence on oil. In its final report in 2006, the commission proposed a number of far-reaching concrete measures that can break Sweden's dependence on oil and significantly reduce the use of oil products by 2020. One of the goals is for road transports to reduce their use of oil by 40-50% by increasing efficiency and using new fuels. The state is also to contribute to a large-scale production of new domestic biofuels from forests and fields, and to take the lead in the usage of biofuels. Most of these fuels come from the Swedish forest and agricultural industries. The commission proposed that, as a substitute for petrol and diesel, Sweden should produce 12-14 TWh of biofuel annually from forest and agricultural land in 2020.

In June 2006 the Swedish Parliament also passed the National Climate Policy in Global Co-operation Bill (Prop. 2005/06:172), which confirms the national climate goal that was adopted for the climate policy in 2002. This means that in the period 2008-2012 Swedish emissions of greenhouse gases are to be at a level that is 4% lower than they were in 1990. The Bill also includes continued tax reductions for biofuels.

In the budget proposals for 2008 the government proposes a special investment in the climate field of one billion Swedish kronor for the period from 2008 up to and including 2010. This includes support for second-generation biofuels and for

international research co-operation. During the period 2008-2010, forty million Swedish kronor a year will be allocated to support demonstration work with second-generation fuels. This investment is intended to facilitate and prepare the construction of full-scale demonstration plants for second-generation fuels. There are three such pilot plants today, in Piteå, Örnköldsvik and Växjö.

Through continued investment in research, development and the introduction of biofuels and new vehicle technology, Sweden is trying to take a prominent international position and thus create new business opportunities, both in the fuel sector and in the vehicle industry, while at the same time reducing the environmental burden of transports.

To meet the educational need towards end-users the driving license education has been upgraded with a part called "Eco-driving". For haulage contractor companies "Heavy Eco-driving" is grown to be a way to lower their fuel consumption and to show their environmental and climate efforts towards customers.

In February 2008, Klimatberedningen (the Government Climate Committee) has now given its overall proposal for Swedish climate policy. The following points concern biofuels:

Consider higher targets than 10% non-fossil energy carriers in the transport sector in 2020

Sweden should actively contribute to the formulation of a uniform and ambitious certification system for the sustainable production of biofuels

Investments in pilot, demonstration and full-scale plants for second-generation fuels

Special support for the development of biogas driving

Investigation of means of control to stimulate biofuels

- A maximum of 120 g/km CO<sub>2</sub> from cars in 2012, and then a gradual reduction to under 95 g/km in 2020
- CO<sub>2</sub> – differentiated vehicle tax
- Investigation of the tax system for fringe-benefit cars and incentives for reduced emissions
- Changed taxation of fringe-benefit fuel

In March 2009 the Swedish government presented two proposals for an energy and climate policy to the parliament. The proposals contain 3 action plans which aim to:

- create a transport sector independent of fossil fuels in year 2030
- promote renewable energy
- promote rational use of energy

The targets for the proposed climate and energy policy for 2020 are:



- 40 percent reduction of climate emissions
- Minimum 50 percent renewable energy
- 20 percent more effective use of energy
- Minimum 10 percent renewable energy in the transport sector

The Swedish government has in 2009 established a new transport authority responsible for the coordination and strategic development within all means of transport.

The rules of public procurement is now having a recast to better meet the need of prioritizing sustainable alternatives, this has as far shown in purchase of new cars and taxi agreements.

There are no regional policies with regard to biofuels in Värmland. Many municipalities, however, have a policy of purchasing clean cars for official municipal use.

Region Värmland has also given suggestions for measures in various fields of investment in its action plan "Sustainable Growth in Värmland 2004-2007". For the field of Environment and Ecology the following points appear:

- Environmental aspects are to be a positive driving force in all development and growth work in Värmland.
- The concept of sustainable development is to be guiding in all investments.

The strategy is to strengthen Värmland's role in environmentally-actuated business development. The sustainable perspective is profitable, as the use of resources is reduced and the degree of refinement is increased.

In order to stimulate high environmental performance in goods and services, business development support for sustainable development is to be offered to innovators and entrepreneurs, and to existing small and medium-sized companies.

In November 2008 a regional development plan for Värmland was adopted. The plan establishes that:

*"Today traffic is the largest individual source of emissions of climate gases. An increase of car traffic in Värmland involves a large risk that these discharges increase. To reach the regional environmental goals a development of renewable biofuels, such as for instance biogas, is most important. "*

An initiative to evolve a regional climate and energy strategy for Värmland has been taken. The first part, which includes an analysis of the potential for renewable energy sources, was completed in October 2008. A regional action plan is now being developed and this work is expected to be concluded during the spring 2009.

In mars 2009 the Swedish Association of Green Motorists presented a report over biofuels in Värmland, as a result of a commission from Region Värmland. Among others the report establishes that several municipalities in Värmland have adopted policies for procurement of cars to their administrations. Several municipalities have also developed cooperation concerning the procurement of clean cars. The report also point out the lack of environmental policies concerning procurement of transport services.

#### 4.4.2 Financial incentives

In Sweden there are already a large number of incentives in place that promote the introduction of biofuels into petrol and diesel and the use of vehicles that can be run on other fuels than petrol and diesel. The main means of control behind the introduction of biofuels into petrol and diesel is the fact that biofuels are exempt from energy and carbon dioxide taxes. According to an inventory (GSI, 2007), Sweden gives the highest subsidies to biofuels in the world by means of this tax exemption.

In addition, a law was introduced in 2006 that filling stations over a certain size must be able to supply biofuels. The law has been supplemented with grants to biogas filling stations, as they are more expensive than filling stations for ethanol. The government allocated a total of 150 million Swedish kronor in 2006 and 2007 to subsidize the building of more filling stations for other fuels than ethanol. In the middle of January 2007 subsidies had been granted to 46 filling stations. With all the applications that have come in, this means that the present 71 filling stations will be almost doubled to 130.

In addition, clean cars (mainly ethanol but also biogas, electric and electric hybrid cars) are stimulated with a number of supplementary incentives from the state and municipalities. The principal incentive is that from 1 April 2007 till 31 December 2009 a special clean-car premium is payable to individuals who purchase a new car that fulfils the National Road Administration's definition of a clean car. The aim of the clean-car premium is to encourage more people to buy fuel-efficient cars and cars that are run on renewable fuels.

Ethanol and biogas vehicles also have a 20% lower fringe benefit value for tax assessment, up to 8,000 Swedish kronor less than a comparable petrol or diesel

car. Electric and electric hybrid cars have a 40% reduction. The reduction applies for four years for ethanol and biogas cars, and three years for electric cars. Clean cars are also exempt from congestion tax in Stockholm and street parking fees in most towns. The National Road Administration's definition of a clean car is also a condition in the state purchasing rules.

The authorities stress that in the present situation it is more important to strengthen incentives for using more energy-efficient cars and to develop new cost-efficient biofuels than to carry out an extensive phasing-in of first generation fuels. Consequently the authorities point out that more far-reaching targets for the introduction of biofuels than those adopted at EU level for 2020 should not be considered until methods for the production of biofuels have been developed that are more sustainable in the long run.

### **Supplementary means of control in Sweden**

To supplement future EU rules with national means of control in the long run and to strengthen the incentives to choose fuel-efficient new vehicles now, the Climate Committee (*Government Committee on the Environment Jo 1968:A*) also makes the following proposals:

- The carbon dioxide differentiation in the motor-vehicle tax should be increased.
- A carbon dioxide based fringe benefit tax should replace the present assessment of the fringe benefit value of a free car, and the factor for the assessment of the fringe benefit value of free fuel should be raised to 2.
- Consumer information on the fuel consumption of cars should be developed to reach prospective car buyers better.

The proposal presented by the Swedish government in March 2009 includes following actions to promote clean cars and sustainable bio fuels:

- New clean cars (from 1 July 2009) are excepted from motor-vehicle tax during five years. The definition of clean cars is to be sharpened gradually.
- Co-operation projects and commissions to authorities to compile knowledge about the market for electric cars and plug-in hybrids. The commission is to show how additional support to this market should be designed.
- Extension of present subsidy for filling stations for renewable fuels.
- Stimulating the development of biogas for vehicles

- A fast introduction of the new EU directive for quality of fuels which allows up to 10 percent ethanol and up to 7 percent biodiesel (FAME) in low percentage blending.
- The Swedish National Energy Agency has an assignment to analyse the conditions and consequences of an introduction of a quota system to accelerate the introduction of renewable fuels in the transport sector.
- In addition to the measures to promote clean cars and sustainable fuels the proposal includes climate taxes, for instance:
  - The tax for diesel is going to be increased in two steps with totally 0.40 Skr per litre.
  - The motor-vehicle tax is changed to be higher for cars with high emissions of carbon dioxide.

Clean cars may park free in the street car parks of many municipalities. Parking permits are granted to vehicles that are run on electricity or are electric hybrids, and vehicles run on biogas or ethanol.

Support for biofuel projects can be applied for from Landsbygdsprogrammet (the Rural Development Programme), Interreg Sverige-Norge (Interreg Sweden-Norway).

The overall objective of the Rural Development Programme is a long-term positive development of rural areas in Värmland by promoting sustainable and creating rural areas where it is attractive to live and work. The programme is intended to give stimulation to all who want to create broad and living rural enterprises and an attractive life in the country in Värmland.

The Interreg Sweden-Norway programme is intended to support innovative projects, the increase of knowledge and competitiveness in trade and industry, technology and social development. Economic growth is to be promoted through investments in the infrastructure and the removal of border obstacles. The attractiveness of the living environment is to be increased by creating a region where people want to live, work and stay.

## **Biofuels guidance**

In collaboration with trade, professional and industrial organizations, SIS (the Swedish Standards Institution) is working on criteria for eco-labelling biofuels with the Svanen (Swan) eco-labelling. Svanen is an official voluntary eco-labelling that is used in Sweden, Finland, Norway, Denmark and Iceland.

SIS Eco-labelling does the practical work of developing criteria, checking and issuing licences for Svanen and Blomman (Flower). SIS is commissioned by the government and its work is conducted without the purpose of benefiting trade or making a profit.

To be able to Swan-label fuels 50% or more of the raw materials used in their production must be renewable. In this context SIS Eco-labelling have chosen to define renewable material as biological material that is reproduced in nature within 100 years. The degradable fraction of products, waste and residues from agriculture and fishing (both vegetable and animal), forestry and similar industries, and the biodegradable fraction of industrial and household waste are also defined as renewable. The product must meet all the requirements for the eco-labelling of fuels to be able to be Swan-labelled.

There are demands with regard to greenhouse gas emission, energy consumption, the traceability of raw material, the use of certified raw material, the emission of health-impairing exhaust fumes while driving, and quality

The criteria are expected to be finalized during 2008.

There are no regional or local sustainability criteria for biofuels in Värmland.

## 4.5 UK

### 4.5.1 Biofuels Policies

The development of the Lancashire Biofuel sector will be dependent on market prices linked to financial and regulatory incentives tied to the development of the sector. The Policy review provides a resume of the public sector input. UK biofuel policy covers a broad range of interventions from financial incentives, capital funding and positive regulatory controls.

The principle UK policy intervention is associated with fiscal incentives associated with fuel duty and the Road Transport Fuel Obligations (RTFO). Unfortunately both these interventions are now in jeopardy as the fuel duty incentive will expire in March 2010. No guarantees have yet been provided that this will be extended. The RTFO programme is also failing to deliver benefits as the RTFO certificates, designed to be worth 15p per litre are now valueless due to government's cuts in the RTFO target combined with a legislative error that excluded imported blended fuel.

A number of capital grant incentives exist. These range between capital funding for plants and infrastructure. Although funding is available, without a viable fiscal incentive take up these funds has been low.

Advice to the sector has been provided by a number of industry bodies. These include the Renewable Fuels Agency and the Home Grown Cereal Association.

The regulatory framework for the biofuels sector is complex. The national planning policy guidance is split between different PPS's as the sector is both a renewable energy and waste industry. There are few specific policies at both a national, regional and sub regional level specific to biofuels. Planning applications will fall under either renewable, general industrial or waste planning. There are further regulatory controls associated with waste permitting and environmental health legislation.

In summary both the regulatory and funding incentives are in place but without the required financial incentives the industry will continue to operate in an uncertain environment.

## 5 Conclusions and Implications for BIONIC

### International Perspective.

Current debates about the sustainability of biofuels and the conflicts of biofuel production with food production have led to a position in which future biofuels policy direction is uncertain. For example The EU and the US remain undecided on biofuel regulations, and are confounded by uncertainties of defining sustainability from several perspectives.

This is a contrast to some countries such as China, India and Brazil, who continue to move forward on biofuels policies, mandates and programmes.

In addition, the report by the UN states categorically that biofuel adoption targets in developed countries, such as the UK Renewable Fuel Transport Obligation are contributing to land use changes in developing countries. This can also impact upon future policy development and therefore impact upon BIONIC's influence to encourage policy development.

### The EU

DIRECTIVE 2009/33/EC The promotion of clean and energy-efficient road transport vehicles has a positive stance on biofuels as it is expected to result in a wider deployment of clean and energy efficient vehicles in the longer term. Increased sales will help reduce costs through economies of scale, resulting in progressive improvement in the energy and environmental performance of the whole vehicle fleet. This Directive<sup>10</sup> although not directly addressing biofuels does have some relevance.

Some case studies in the BIONIC project are centered around clean and energy efficient vehicles, such as the BIOBUS in Cantabria and Ploiesti. The direction of

<sup>10</sup> [http://ec.europa.eu/transport/urban/vehicles/directive\\_en.htm](http://ec.europa.eu/transport/urban/vehicles/directive_en.htm)

the Directive in the future will affect these projects if they are to be extended and implemented in the future.

Policy and regulations in all partner countries are developing. The powers of the regional/local organisations to implement policy measures in differ between the partners. All partners are influenced by the national policy in their country, which is in turn influenced by EU policy. In Bulgaria and Romania the policy and incentives operate on a national level.

In Sweden and the UK policy is developed at a national level although there is some, albeit limited, scope for incentives at a local level. In Spain the regional governments are informed by national policies and incentives and although for most of the regions there is no specific regulation at regional level many regions do have specific biofuels plans in place, or other regional energy plans which feature biofuels.

In general the local initiatives and policies in each region seem to operate in isolation from the national policy, with little or no direct support from the national governments.