

Regulatory Impact Assessment

Biofuel Obligation Scheme



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Note

The Department of Communications, Energy and Natural Resources has prepared this Regulatory Impact Assessment (RIA) to accompany a Memorandum to Government on the drafting of legislation to establish a Biofuels Obligation Scheme. This RIA can be considered a Screening RIA under the terms of the RIA Guidelines *How to Conduct a Regulatory Impact Assessment* (Dept. of the Taoiseach, 2005). This RIA will continue to develop as the means by which the Obligation is to be administered becomes clearer.

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Policy and Background Context

1.1 Policy and Legislative Context

Successive Irish Governments have sought to progressively encourage the use of biofuels as a substitute for mineral transport fuels. A number of factors underlie these developments, factors which are substantially shared across much of the developed world. The first of these is that the overall Greenhouse Gas (GHG) emissions associated with biofuels are generally much lower than their mineral comparators. Biofuels can be produced from a variety of feed stocks, a diversity of supply which means that they can be produced in most regions, which has important implications for security of supply in an era when a large proportion of transport and other fuels are sourced from geopolitically unstable regions. Lastly, the fact that some biofuels are made from agricultural commodities offers the potential to create an alternative market for farmers.

The European Union has also played an important role in encouraging the use of biofuels, initially through instruments like COM (2001)547 (which called for initiatives to promote biofuels) and the ensuing Biofuels Directive (2003/30/EC), and later through the 2002 Renewable Energy Directive. COM (2001)547, published in November 2001, proposed a new Directive to promote the use of alternative fuels for transport. A regulatory package including an action plan and two proposals for Directives which would establish minimum biofuels content in transportation fuels and allow reduced taxation rates for biofuels was also adopted. The subsequent Biofuels Directive in 2003 created a legislative framework in the Member States and facilitated a rapid increase in biofuels production and use. In the Directive, indicative targets were set out, with the headline goal being to replace 5.75% of all transport fossil fuels (petrol and diesel) with biofuels by 2010. The adopted action plan included the following objectives:

- to reduce the European Union's dependency on foreign supply for oil.
- to contribute to the achievement of the European Union's greenhouse gases emission reduction objective as decided in Kyoto (an 8% reduction of greenhouse gas emissions by 2010)

- to meet the objective of substituting 20% of traditional fuels by alternative fuels in the road transport sector by 2020.

The European Commission set out its vision for a “Strategic EU Energy Review” in March 2006, and followed this with a “Renewable Energy Roadmap” and the “Energy Policy for Europe” in 2007. This roadmap document included an overall binding 20% target for renewable energy and a binding minimum target of 10% for transport biofuels for the EU by 2020. The Energy Roadmap emphasised the need for a coordinated development of biofuels throughout the EU.

While the 2003 Biofuels Directive set out indicative targets for biofuels use in all Member States, the 2009 RE Directive (2009/28/EC) set both overarching targets for renewable energy use, and specific targets of 10% renewable energy in transport for all Member States. The RE Directive also sets binding sustainability criteria which biofuels must meet before they can be counted towards meeting EU targets. This focus on biofuels has been reflected in the recent sequence of energy policy papers produced in Ireland, and an associated series of policy actions.

The Bioenergy Action Plan, published in 2007, set out future policy for biofuels in Ireland, including the formal decision to introduce an obligation type scheme by 2010. This was reflected in the 2007 Energy White Paper, “*Delivering a Sustainable Energy Future for Ireland*”, and the 2007 Programme for Government. Importantly, the decision to proceed to an obligation system was based on a series of research documents, most notably “*Policy Incentive Options for Liquid Biofuels Development in Ireland*” prepared by Sustainable Energy Ireland for the Department of Communications, Marine and Natural Resources and finalised in December 2005. This document reviewed the various policy options available and came to the conclusion that an obligation type approach had a number of clear advantages. As such, the commitment to introduce an obligation was re stated in the White Paper on Energy Policy in 2007, and in the Programme for Government.

The Biofuel Obligation Scheme will be a key component in achieving a 10% penetration of renewable energy in transport by 2020, to which the Government has committed under the Renewable Energy Directive. This type of regulatory mechanism

is increasingly being adopted across the EU and generally supplants earlier and more direct means of supporting biofuels, such as excise tax relief schemes. The Biofuel Obligation Scheme will allow for a gradual uptake of these new fuel supplies and will adopt the new sustainability criteria which will come with the new binding EU targets. While other forms of renewable energy will play an important role in transport by 2020, it is expected that biofuels will retain a substantial role, and that successively higher obligation rates will be required to deliver that overarching 10% target.

Under the Kyoto Protocol, the 15 Member States then in the EU have a binding collective emission reduction target of 8% below 1990 levels, to be achieved over the period 2008-2012. The EU has an internal burden-sharing agreement to meet its 8% target by distributing different targets to its Member States. Ireland's target is to limit its average annual emissions to no more than 13% above 1990 levels over the five-year period. EU biofuel policy as an alternative energy source to oil is required if there is to be a significant reduction in Greenhouse Gas (GHG) emissions from transport in the EU area.

1.2 Biofuels in Ireland

The large scale production and use of biofuels in Ireland is a relatively recent development. While there have been attempts in the past to use domestically sourced products as substitutes for imported liquid transport fuel, most notable in the distillation of ethanol from agricultural crops and in the gasification of turf, these proved to be commercially unviable. Moreover, since Ireland does not have a large proportion of its agricultural land given over to arable production (approximately 8%), there was relatively little interest in developing alternative markets for these crops. Another important factor in this lack of development was the absence of any large scale chemical or fuel production industry. For that reason, the initial policy measure chosen to incentivise the use of biofuels in Ireland was a fiscal one, that of excise relief for specific projects. The premise behind these excise relief schemes was that they would allow for a period of capacity building across the sector in Ireland, ranging from agricultural production, processing of materials, through to the

distribution and use of various biofuels (further details of this scheme are included below) . These initial schemes were accompanied by a policy study carried out for the Department of Communications, Marine and Natural Resources in 2005. This study, titled “*Policy Incentive Options for Liquid Biofuels Development in Ireland*”, reviewed developments across Europe at that time, compared a number of different options, and concluded that an obligation type system was the optimal approach for Ireland.

As already mentioned, the ‘Policy Options’ study analysed the spectrum of options available, and found that there were essentially two options available to Ireland, that of further excise schemes with a capital subsidy element and that of an obligation system including a certification element. The advantages of the obligation scheme included that it would allow for the differentiation of biofuels for the purpose of ensuring sustainability, that costs would be lower for government (no revenue foregone), and that an obligation would be more sustainable in the longer term (it would give producers greater certainty, and would also allow for modifications to the scheme). Moreover, one of the major disadvantages of the excise scheme option was that there was no form of guarantee that national and international targets could be met, a finding subsequently borne out in the Mineral Oil Tax Relief (MOTR) Scheme.

Obligation type schemes were regarded as far more likely to be effective, and at substantially less cost to the state. Among the disadvantages of the Obligation scheme was that there was little scope for supporting domestic production, and an acknowledged degree of administrative complexity. While any measure with an associated domestic support mechanism would doubtless experience a number of legal problems, the administrative complexity of any obligation type scheme is notable, and suitable measures to ameliorate this difficulty for producers and consumers will be an integral part of the Obligation Scheme.

1.3 Mineral Oil Tax Relief Scheme I and II

As in many other Member States the first policy instrument used by the Irish Government to stimulate the development of alternative fuels is excise relief applied to biofuels. The pilot MOTR scheme was introduced in 2005. The scope of the

scheme was limited, with a total allocation of 8 million litres per year over a two year period. The intended impact of this was to deliver biofuels equivalent to an estimated 0.12% of transport fuels in 2006. Pure Plant Oil (PPO) was given the largest share of the allocation in the pilot scheme, primarily because the annual limit on excise foregone was set at €2.6 million. At this level it was considered that significant biodiesel or bioethanol development was not viable, while PPO presses could make some immediate impact due to the relatively small capital investment and the fact that there were two PPO enterprises already in place.

Following the roll-out of the pilot programme, a significantly enhanced excise relief programme (Scheme II) was launched in 2006 and provided for excise relief for 663 million litres of biofuels between 2006 and 2010, with a monetary value of approximately €205 million at the initial contemporary rates of excise. There was very substantial interest in this scheme, with over 100 applications being received. The organisations receiving awards under Scheme II were announced at the end of November 2006.

Sixteen companies were allocated relief, with four distinct types of biofuels are being supported:

- Biofuels or biodiesel complying with diesel standard EN590 and sold at regular diesel pumps.
- Biodiesel in specific higher blends up to 100% in captive fleets of vehicles whose engine warranties cover such blends
- Bioethanol from wheat, barley, whey and other feedstock blended with petrol and sold at petrol pumps. The 2006 Finance Act allowed for a 50% VRT reduction in flexible fuel vehicles and bioethanol in blends of up to 85% which can be used in these vehicles have been placed on the market.
- Pure Plant Oil (PPO) produced from oilseed rape which is used in modified diesel vehicle engines.

The rationale behind the selection criteria used in MOTR II was to support schemes of substantial scale, along with those schemes that could make particular use of indigenous resources (namely tallow and recovered cooking oil). Biofuels, like most

other industries, is a scale business. While small 'pilot' type plants of the type supported under Scheme 1 have their place, a commercially viable industry would require units of sufficient size to be able to compete in an open international market when the MOTR Scheme II terminates at the end of 2010.

The background against which MOTR II has played out has proven to be less than ideal however. The wider European market for biofuels and related feed stock experienced very substantial volatility during the period in question, due to related shifts in the price of oil and the general soft commodities markets. This was compounded by the increasing availability of 'B99', a biodiesel blend imported into Europe from the US (with the benefit of a federal subsidy). B99 undercut much European biodiesel production, and when taken together with the impact of rapidly decreasing mineral oil prices, had a very severe impact on the European biofuels industry. Taken together, these factors resulted in very low output from existing production facilities, and a loss of investor confidence in building new plant. Similarly, there was also a substantial delay in the development of supply chains and the associated physical infrastructure for bring biofuels to market.

The development of projects under MOTR II was therefore compromised by very dynamic and challenging market conditions. While a number of companies had small scale facilities available, and were able to begin production immediately, a number had to build facilities. Progress in this regard was slow in many cases, due both to the commercial difficulties explained above, and delays in obtaining planning and other relevant consents. Moreover, a critical problem began to emerge as the scheme progressed; in the absence of an obligation, many of those companies attempting to sell into the general road transport fuel markets found it very difficult to come to a commercial arrangement with a retailer to sell their fuel. This became a pressing issue as falling oil prices and volatile commodities prices made the outright commercial competitiveness of biofuels difficult.

The result of these difficulties has been that uptake under MOTR II has been slow, with less than 28% of the allocated relief used at the end of the second quarter of 2009.

Objectives and Options

2.1 Ultimate Objective

The ultimate objective of the Biofuel Obligation Scheme (BOS) is to deliver a robust and flexible means of directing the inclusion of biofuels in the transport mix, as a means of meeting a number of Government commitments on climate change and energy security. The Biofuel Obligation Scheme will be heavily relied upon to ensure that 10% of all transport energy used in Ireland in 2020 will come from renewable sources, and to ensure that total GHG emissions must be cut by 20% on 2005 levels by 2020.

2.2 Immediate Objectives

The immediate objectives of the Biofuel Obligation Scheme are:

- To give the Minister the authority to mandate a certain penetration rate for biofuels in the general transport fuel mix from 1st January 2010.
- To give the Minister the power to set incremental targets for biofuels in transport beyond 2010.
- To encourage the proper labelling of fuels.
- To create a degree of certainty in the biofuels market, and thereby encourage investment in sustainable biofuels production.
- To promote the use of the most sustainable first generation biofuels through the introduction of the sustainability criteria.
- To encourage the introduction to the market of second generation biofuels in a strong and competitive market.

2.3 Consideration of Options

2.3.1 'Do Nothing' Scenario

Scheme II of the Mineral Oil Tax Relief will terminate at the end of 2010. It has succeeded in creating some market penetration for biodiesel and ethanol in diesel and petrol markets since being introduced in 2005, and a number of production facilities

have been constructed. If no further policy action is taken in the biofuels sector, it is a practical certainty that the nascent biofuels market would disappear. It is possible that those production facilities would find some market for their product elsewhere in the EU (most notably in the UK), but at a natural disadvantage (due to transport costs). An uncertain and unsupported biofuels market would also result in a failure to achieve the EU 2020 targets for emissions reductions and for renewable energy in transport, already committed to by government. There would also be notable consequences in terms of energy security and competitiveness.

2.3.2 Continuation of Mineral Oil Tax Relief

The MOTR Schemes have been in place since 2005 and have succeeded in assisting the initial penetration of biofuels in the transport fuels market. As such, these schemes should be considered as the first step in introducing biofuels to the market. To continue to increase market penetration, while simultaneously moving to more efficient first generation biofuels and eventually second generation biofuels, continued governmental involvement is required.

Another option would be to either hold another MOTR type competition, or to extend the relief already granted to certain companies. However, while relief from Excise obviously confers an immediate commercial benefit on biofuels, it does not encourage investment in second generation biofuels, and does not compel suppliers to use the fuels. In other words, as has been seen already with regard to MOTR, relief schemes are not effective in terms of meeting national targets. This type of instrument generally gives no long-term guarantee, which is a disincentive for investments and innovation. An additional and obvious disadvantage to this approach is the fact that costs to the state in terms of revenue foregone are high.

2.3.3 Subsidy for Biofuel Industry: Crops/Producers

Another option would be to introduce a direct subsidy for the biofuels industry to increase competitiveness with petrol and diesel. However, just like the previous example this would not necessarily generate market interest in purchasing biofuels, or in investing in more sustainable technologies. The cost to government of introducing such a subsidy is again high.

2.3.4 VRT Relief for Flexi-Fuel Vehicles and/or conversion kits

There was a VRT relief scheme for flexi-fuel vehicles in place until June 2008. From 1 July 2008, relief for series production hybrid electric and flexible fuel cars has been adjusted to provide a relief of up to €2,500 on the VRT payable, in addition to any benefits accrued under the new VRT CO₂ emission related system (which provides for lower rates of VRT for cars with lower emissions). This relief will apply until 31 December 2010. Such a scheme can have positive results and it is important that vehicles be taxed by CO₂ emissions performance rather than any particular technology, which is currently the case with the VRT reduction for hybrid and flexi-fuel vehicles, so that the best vehicle performance is incentivised and there is no market distortion. This policy of VRT relief does reward more fuel efficient cars but does not encourage the use of biofuels in cars *per se*. Therefore to meet the 2020 goals for renewable energy in transport some support for the industry itself is required.

2.3.5 Biofuel Obligation

A market-based obligation mechanism would provide a tool to ensure that the Government's policy objectives are attained, in a manner that ensures that the consumer is not adversely affected. A Biofuels Obligation Scheme (BOS) would require transport fuel suppliers to ensure that a specified percentage of their fuel was from a renewable source. This would provide market stability, both to existing road transport fuel suppliers and to those in the biofuels sector.

However, unlike either a direct subsidy or a further excise relief scheme, an obligation would be 'blind' as to how the obligation is to be met, meaning that the market would be left to determine the most cost effective means of delivering a mandated target, so long as certain conditions are met. Moreover, the use of tradable certificates as an additional means of balancing supply and demand for biofuels means that the consumer is protected from sudden spikes in prices. Both of these mechanisms provide an explicit protection for the consumer. Equally, the obligation has no negative implications for the exchequer, and will more than likely result in a reduction in the import of mineral fuel, as it is displaced by domestically produced biofuels. Certification also allows for the incorporation of EU sustainability criteria into the

obligation scheme, by offering a clear and transparent way of linking individual consignments of fuels to their origins.

3.0 Consultation

The public consultation process in relation to the Biofuel Obligation Scheme was launched in September 2008 and completed in November 2008. There were 40 submissions received as part of the consultation process, from a wide selection of stakeholders. Specific details of the obligation scheme have now been developed taking in the views of those who submitted papers as part of the consultation process.

Ireland's national biofuels obligation scheme will take full account of EU and global developments in relation to biofuels and related sustainability criteria. Ireland is working closely with the Commission and other Member States to ensure that all biofuels placed on the European and Irish market are produced in a manner that does not harm indigenous communities, do not give rise to food security issues and that deliver real and worthwhile savings in Greenhouse Gas Emissions.

Costs, Benefit and Impacts

4.0 Introduction

4.1 Costs associated with Obligation

4.1.1 Costs to Consumer

There will most likely be a cost to the consumer arising from the obligation in the early years of its use, of the order of .5-.8 cent per litre. Consumption of road transport fuels in Ireland in 2008 was 5,419 million litres, of which 2,342 million litres were petrol and 3,077 million litres were diesel. A 4% penetration rate would require total sales of biofuels of approximately 217 million litres, on 2008 figures. A total of 82.5m litres of biofuels were brought to market in 2008 under the terms of the MOTR Scheme, with additional volumes also arising (although figures for these will not be available until end Q2 2009).

While consumption of road transport fuel (particularly diesel) is falling, it is safe to assume that a shift to an obligation will result in a three fold increase in the amount of biofuels on the market. Given the relatively small size of the Irish market in a European context, it is expected that there will be no substantial difficulty in gaining access to sufficient additional supplies of biofuels (not least given the fact that biofuels are also presently exported from Ireland), and thus there will be no significant increase in the price of fuel. In any case, the use of a penalty clause provides a means of limiting the potential impact on Irish consumers. In effect, this means that any supplier which fails to meet the obligation in a given year (cannot produce a matching amount of certificates), must pay a penalty on each litre of biofuels they are short.

Given that the penalty will be set at 40 cent per litre, the worst case scenario for consumers would be that all suppliers paid the penalty instead of including biofuels in the mix. This should be considered highly unlikely given that biofuels are relatively easy to procure, and because the price differential is significantly less than 40c per litre. The cost implications of this highly unlikely scenario would equate to 1.6 cent per litre of fuel for the supplier, when averaged over the entire fuel mix. However, given that biofuels remain cost competitive with mineral fuels, and the increasing role of high blend biofuels such as E85 or PPO, it is to be expected that the actual impact

on the cost of fuels to suppliers, and thus to consumers, would be significantly less than half of the maximum amount – therefore at a 4% penetration rate, the cost impact on consumers would be of the order of .5-.8 cent per litre.

The penalty has a number of functions also however. In effect, it acts as an additional layer of protection to the consumer in that, were the price of biofuels to increase very substantially (to a point above that of mineral fuel plus the levy), suppliers could (and presumably would) chose to pay the levy, thus protecting consumers from any radical movements in the price of biofuels.

4.1.2 Costs to State for implementation

The Biofuel Obligation Scheme will require an administrative body to ensure compliance with the scheme and to apply the appropriate penalty in cases where there is non-compliance. This will involve the overall responsibility for the management and administration of the biofuels obligation scheme issuing of certificates, monitoring of trading of these and the application and processing of penalties. The National Oil Reserves Agency (NORA) is to undertake this role. NORA is currently responsible for ensuring that Ireland complies with its EU and international requirements for emergency oil supplies. It is funded by a levy on fuel, which it collects from oil suppliers. The administration of the obligation scheme will be funded by the extension of the NORA levy currently collected on mineral fuels to biofuels. As such, there will be no cost to the exchequer from administering the scheme.

4.1.3 Costs of MOTR vs. BOS

The Mineral Oil Tax Relief Scheme currently in place was intended to give rise to a sustainable biofuels market in Ireland and it has done that. The administrative costs of continuing this scheme would be very much greater than if the Obligation scheme was introduced in its place. Instead of tax relief the obligation should allow the market to grow well beyond the size it is currently.

4.1.4 Costs of Enforcement

As above, the role of enforcing the obligation will fall to NORA who are currently funded by a levy on fuel. The increased cost to NORA of enforcing the obligation will be met by an extension of the extant NORA levy to cover biofuels.

The Obligation is structured in such a way as to keep the costs of enforcement, together with the compliance burden on industry, to a minimum, while maintaining a robust and effective system to ensure that national targets are met.

4.1.5 Benefits of Obligation

The obligation provides a number of benefits additional to the core objective of delivering on government objectives and commitments in the renewable energy area. In the first instance, while practically all mineral fuels are imported, a significant proportion of the biofuels used in the state (32% of the MOTR volume) are actually produced in Ireland, with additional volumes being exported. While this domestic production has a positive effect on the balance of trade, it also improves the situation with regard to import dependence. Moreover, in providing an additional use for materials produced in Ireland, it delivers an opportunity to the enterprise sector to add further value in extant sectors. Leaving aside the possibilities around processing agricultural commodities for a moment, there are a number of waste streams from the food processing sector in Ireland that can be captured for biofuels production. For example, tallow, a by product of the substantial beef rendering industry in Ireland is an important feed stock for biofuels production. Opening up the possibility of greater uses for this product can have a substantial effect on the profitability of this sector as a whole. Other examples can be found in the use of Waste Vegetable Oil, or whey, a by product of the cheese manufacturing processes. There is significant research underway, both in Ireland and elsewhere, into alternative feed stocks for biofuels, and these may provide further opportunities in the future.

In the agricultural sector, the commodities most often used for biofuels production in Ireland are oilseed rape and wheat. Because these are internationally traded commodities, it is unlikely that a very significant price rise will follow from the introduction of the obligation, although both a slight rise and increased price stability

are to be expected. However this price stability, particularly for Oilseed Rape, could have important benefits for arable farming in Ireland, providing a viable break crop in the traditional cereal rotation, and contributing to greater profitability for arable farmers. In turn, this may lead to an expansion in the area of arable crops grown in Ireland. However it is in the area of second generation biofuels that the most significant opportunities exist for Irish production in the future. One of the most promising technologies in development in the area of second generation biofuels are ligno-cellulosic processes, whereby biomass is broken down by a variety of enzymatic and other processes and distilled to create ethanol. Because Ireland possesses a particular natural advantage in the production of woody biomass, this has particular potential for use here when that technology develops to the point of commercial viability. Among the other potential processes, is the anaerobic digestion of grass (silage) to create biogas – a biofuel that can be used in adapted engines. These second generation biofuels have the additional benefit that they can be grown on land that is not used for arable production, meaning that there is significantly less conflict between food and fuel production.

The manner in which the certification process will operate will provide a further incentive to high blend biofuel producers, and producers of biofuels from waste. These biofuel producers, bringing products like Pure Plant Oil (PPO) and E85 (a blend of 85% ethanol and 15% mineral petrol), will be able to claim certificates for all biofuel content they bring past the duty point. They will then be able to trade these certificates with those companies who may have not been able to bring their required volumes to market through blending with mineral fuels. This mechanism allowing these obligated parties to meet their obligation under the scheme, while also providing support to specialist biofuels producers, and ensuring that the consumer is protected.

Taken together with downstream enterprise (and employment) opportunities in processing and production, biofuels offer significant potential to contribute to national economic development, not least in rural areas. The obligation, while providing a degree of certainty the sector has lacked to date, will also incentivise investment across a number of productive sectors of the economy, will encourage more productive use of existing resources, and will reduce national dependence on imported fossil fuels. Moreover, it will do so at no cost to the exchequer.

4.2 Potential Impacts

4.2.1 National Competitiveness

The Biofuel Obligation Scheme will slightly add to the retail price of road transport fuels and this may have a knock-on effect on inflation. However, it will also create a competitive and strong biofuels market and will create jobs and opportunities for business development, particularly in rural areas.

4.2.2 Environment

The obligation scheme will result in significant Greenhouse Gas emissions reductions. At a level of 4% biofuels market penetration, the resulting CO₂ emissions reduction will be equivalent to taking 80,000 cars off the road. The EU Sustainability Criteria, included in the 2009 Renewable Energy Directive (2009/28/EC), provide a set of clear and internationally binding criteria around the types and provenance of biofuels that can be counted towards EU targets. These criteria effectively have 3 main themes, the first of which is to establish a minimum threshold for the Greenhouse Gas Emissions reductions which biofuels will have to deliver. These thresholds, which take into account the full life cycle of the fuel including cultivation, transport, processing and end use, are set at 35% savings until 2017, at which point they increase to 50% savings. The second theme included in the sustainability criteria is around the preservation of land with a high carbon stock, including forests and pristine peat land – biofuels sourced from these types of areas will not be eligible for counting towards EU targets (and will thus be of dramatically lesser value). The third theme is ensuring that biofuels are not grown on land with particular habitat value, ensuring that indigenous species (flora and fauna) are not destroyed by the cultivation of biofuels. There is also a very substantial reporting requirement placed on suppliers, including information on the social conditions faced by workers involved in growing biofuels, labour rights, and a number of socio-environmental issues like land rights and access to water.

These criteria are constructed in such a way as to encourage and facilitate investment in second generation biofuels, but also to incentivise production of the most

sustainable first generation fuels. As such, they will be applied to the Obligation at the same time as they come into force across the rest of the EU.

4.2.3 Significant Policy Change

There already exist extant targets for the market penetration of biofuels, and a series of policy measures in place to deliver these. Therefore the introduction of an Obligation is not a significant policy change, since the promotion of biofuels is already government policy, but does mark a significant shift in terms of the chosen means of delivering it.

4.2.4 Consumers

Within an obligation, the public bears the extra production costs of biofuels compared to fossil fuels, since the fuel sellers will presumably include it in the fuel selling price of all fuels (biofuels and fossil fuels). There may therefore be a slight increase in retail transport fuel prices due to the Biofuel Obligation Scheme, of the order of .5-.8 cent per litre. This is highly dependent on the price of fossil fuels however. If the price of mineral petrol and diesel were to rise, there is a threshold at which biofuels become cost competitive in any case. In that situation, the inclusion of biofuels would actually result in a reduction of fuel costs at the pump.

The consumer also benefits from reduced emissions, under the terms of the obligation scheme, along with the security of supply benefits. Moreover, the obligation will also give consumers the option of pursuing much lower emissions from their vehicles, though either implicit or explicit support for the use of high blend biofuels.

4.2.5 Rights of Citizens

The Biofuel Obligation Scheme has no effect on citizens rights.

4.2.6 Compliance Burden

There will not be a high cost of compliance with the new obligation scheme. For the majority of consumers, the introduction of the obligation will not require any change in behaviour, and the compliance burden will be nil. For those Obligated Parties, an online system will be used to allow them to make reports and deal in certificates,

keeping the staffing requirements and cost of complying with the obligation to a minimum.

4.2.7 Vulnerable Social Groups

People living in rural communities can potentially benefit from this scheme. It will result in a strong niche market for biofuels providing farmers who produce biofuel crops with confidence in market in the long term. The obligation scheme will have no effect on marginal social groups.