Esso Petroleum Company Limited
RTFO Annual Carbon & Sustainability Report 2010/2011

Context

ExxonMobil Corporation is the world's leading publicly-owned energy company and it or its affiliated companies (collectively or singularly "ExxonMobil") operates facilities and markets products in most of the world's countries. ExxonMobil is the world's largest refiner and marketer of petroleum products. In the UK, business is conducted through individual operating companies, one of which is Esso Petroleum Company, Limited ("Esso") – an obligated supplier under the Renewable Transport Fuels Obligation (RTFO).

ExxonMobil's goal is to achieve excellent environmental performance in each of its businesses and to operate responsibly by implementing scientifically sound and practical solutions that consider the needs of the communities in which it operates. A dual challenge of providing energy to support economic growth and progress, while reducing greenhouse gas emissions (GHG) is recognised. Efforts to reduce GHG emissions include increasing energy efficiency in the short term; implementing current proven emission-reducing technologies in the near and medium term; and developing breakthrough, game-changing technologies for the long term.

As a major fuel supplier, ExxonMobil understands the importance of alternative and next-generation fuels and engine technologies to meeting the world's long term energy needs while protecting the environment. At the same time, we recognise that major shifts in energy usage occur over decades, not years. So whilst it is expected that the availability of renewable fuels will grow rapidly, in annual percentage terms, they start from a very small base and therefore it will take considerable time before their share of the total energy mix becomes significant.

ExxonMobil is involved in next-generation biofuels research through an alliance with leading biotech company Synthetic Genomics Inc. (SGI) to research and develop biofuels from photosynthetic algae.

Algae produce bio-oil that can be processed into biofuels similar in structure to today's gasoline and diesel fuels. This helps ensure the fuels are compatible with existing transportation technology and infrastructure. Under the programme, if research and development milestones are successfully met, ExxonMobil expects to spend more than $600 million. Analysis has concluded that final development and broad deployment of algae-based biofuels by ExxonMobil would require future investments of billions of dollars.

In the past year progress on this project has included isolating and developing a large number of candidate algae strains, both natural and engineered, and some of the culture conditions under which these strains can possibly be made more productive; identifying some of the preferred design characteristics and trade-offs of the different production systems, which will be further evaluated and investigated as the programme moves forward; and initiating life cycle and sustainability studies to assess the impact of each step in the process on GHG emissions, land use and water use.

In July 2010, ExxonMobil announced the opening of a greenhouse facility to support evaluation of most productive strains of algae and most efficient production methods. In the greenhouse facility, researchers from ExxonMobil and SGI will examine different growth systems for algae, such as open ponds and closed photobioreactors.

They will evaluate various algae, including both natural and engineered strains, in these different growth systems under a wide range of conditions, including varying temperatures, light levels and nutrient concentrations. They will also conduct research into other aspects of the algae fuel production process, including harvesting and bio-oil recovery operations.

ExxonMobil believes that with a rapidly growing global biofuels market, it is important that biofuels policy development should assess all potential consequences, consider cost-effectiveness, and evaluate net environmental impact. It is critical to include indirect land use change (iLUC) in the assessment of GHG emissions from biofuels if GHG reduction goals are to be achieved.

Carbon & Sustainability Data, Overview

Table 1: Summary of C&S data by Feedstock

2010/2011 Data

Feedstock	General		Environmental	Social	Carbon	
	% Fuel supplied by feedstock type (by volume)	% Data reported on biofuel characteristics	% Meeting Qualifying and/or RTFO standard	% Meeting Qualifying and/or RTFO standard	Average carbon intensity, g CO2e / MJ	Average % GHG saving
Biodiesel						
Palm Oil	17.9	75	0	0	67	20
Oilseed rape	4.7	75	3	0	52	38
Soy	64.1	67	0	0	58	31
Tallow	13.4	100	100	100	17	80
Used Cooking Oil	100.0	100	100	100	14	83
Unknown						
Bioethanol						
Sugar Beet	98.3	100	100	0	22	74
Corn	1.7	75	0	0	37	56
Weighted Average (All)		82	41	22	43	49
Target (2010/11)	-	90	80	-	-	50

Table 2: C&S Characteristics of Each Feedstock

General Information			Sustainability Information				Carbon Information	
Feedstock	% of total	Feedstock origin	Standard	Env level	Social Level	Land-use on 1 Jan 2008	Carbon Intensity (g CO2e / MJ)	GHG saving (%)
Oilseed Rape	0.0	Belgium	Unkown	Unkown	Unkown	Cropland - non - protected	52	38
	12.0	Belgium	Unkown	Unkown	Unkown	Cropland - status unknown	52	38
	0.7	Germany	Unkown	Unkown	Unkown	Cropland - non - protected	52	38
	34.6	Germany	Unkown	Unkown	Unkown	Cropland - status unknown	52	38
	0.1	Germany	Unkown	Unkown	Unkown	Unkown	52	38
	30.5	Spain	Unkown	Unkown	Unkown	Cropland - status unknown	52	38
	0.1	France	Fediol	Unkown	Unkown	Unkown	52	38
	0.0	France	Unkown	Unkown	Unkown	Cropland - non - protected	52	38
	0.1	France	Unkown	Unkown	Unkown	Cropland - status unknown	52	38
	0.0	France	Unkown	Unkown	Unkown	Unkown	52	38
	2.6	United Kingdom	ACCS	QS	Unkown	Cropland - non - protected	52	38
	0.0	United Kingdom	ACCS	QS	Unkown	Cropland - status unknown	52	38
	0.1	Netherlands	Unkown	Unkown	Unkown	Cropland - status unknown	52	38
	0.0	Poland	Unkown	Unkown	Unkown	Unkown	52	38
	1.6	Unknown	Unkown	Unkown	Unkown	Unkown	52	38
	0.1	Ukraine	Fediol	Unkown	Unkown	Unkown	52	38
	17.5	Ukraine	Unkown	Unkown	Unkown	Cropland - status unknown	52	38

General Information			Sustainability Information				Carbon Information	
Feedstock	% of total	Feedstock origin	Standard	Env level	Social Level	Land-use on 1 Jan 2008	Carbon Intensity (g CO2e / MJ)	GHG saving (%)
Palm Oil	64.2	Indonesia	Unkown	Unkown	Unkown	Cropland - status unknown	68	19
	0.2	Indonesia	Unkown	Unkown	Unkown	Unkown	68	19
	7.4	India	Unkown	Unkown	Unkown	Cropland - status unknown	68	19
	0.0	Malaysia	Unkown	Unkown	Unkown	Cropland - non - protected	68	19
	27.8	Malaysia	Unkown	Unkown	Unkown	Cropland - status unknown	65	23
	0.3	Malaysia	Unkown	Unkown	Unkown	Unkown	68	19
Soy	67.4	Argentina	Unkown	Unkown	Unkown	Cropland - status unknown	58	31
	31.4	Argentina	Unkown	Unkown	Unkown	Unkown	58	31
	0.3	Unknown	Unkown	Unkown	Unkown	Unkown	78	7
	0.0	USA	Unkown	Unkown	Unkown	Cropland - non - protected	49	42
	0.8	USA	Unkown	Unkown	Unkown	Unkown	41	51
Tallow	0.4	Canada	Byproduct	QS	QS	Byproduct	17	80
	0.0	Switzerland	Byproduct	QS	QS	Byproduct	17	80
	29.2	Germany	Byproduct	QS	QS	Byproduct	17	80
	18.5	Danemark	Byproduct	QS	QS	Byproduct	17	80
	0.2	Finland	Byproduct	QS	QS	Byproduct	17	80
	0.9	France	Byproduct	QS	QS	Byproduct	17	80
	26.3	United Kingdom	Byproduct	QS	QS	Byproduct	16	81
	11.5	Ireland	Byproduct	QS	QS	Byproduct	17	80
	0.1	Lituania	Byproduct	QS	QS	Byproduct	17	80
	11.3	Netherlands	Byproduct	QS	QS	Byproduct	17	80
	0.6	Poland	Byproduct	QS	QS	Byproduct	17	80
	1.0	USA	Byproduct	QS	QS	Byproduct	18	79
Used Cooking	2.4	Belgium	Byproduct	QS	QS	Byproduct	14	83
Oil	4.4	Germany	Byproduct	QS	QS	Byproduct	14	83
	20.1	Spain	Byproduct	QS	QS	Byproduct	14	83
	18.2	United Kingdom	Byproduct	QS	QS	Byproduct	14	83
	54.8	Netherlands	Byproduct	QS	QS	Byproduct	14	83
	0.1	Unknown	Byproduct	QS	QS	Byproduct	14	83
Sugar Beet	100.0	United Kingdom	ACCS	QS	Unkown	Cropland - status unknown	22	74
Corn	100.0	USA	Unkown	Unkown	Unkown	Cropland - non - protected	37	56

Fuel Supplier Information – Esso

Esso is committed to meeting the mandatory volume targets for the supply of biofuel in petrol and diesel in the UK. In addition, we strive to deliver strong performance against non-mandatory data, GHG and sustainability benchmarks. However, we believe that the current method of measuring obligated supplier performance in relation to GHG savings is imperfect and contributes to a distorted picture of obligated supplier performance in the UK by not reflecting the levels of GHG savings which some companies, including Esso, are actually achieving.

As an illustration, Esso has been sourcing and supplying ethanol with very strong sustainability credentials through our Birmingham Fuel Terminal for more than 12 months from a non-obligated party. Since this feedstock has already crossed the duty-point when we purchase it, none of the positive credit for Esso supplying this material to customers in the Midlands is captured in the RFA's obligated supplier data. If the RFA is seeking to provide good quality information to fuel consumers about the sourcing of the biofuels in the petrol and diesel they purchase, examples like this can be misleading for consumers and do not encourage fuel suppliers to source sustainable feedstock after the duty point.

Environmental Management Systems

At Esso, environmental management processes are guided by our *Protect Tomorrow.Today.* initiative, which outlines our expectations for each business to deliver superior environmental performance, drive environmental incidents with real impact to zero, and achieve industry-leading performance in focus areas of importance to each business. Progress toward these goals is managed through *Environmental Business Planning*, which integrates environmental improvement efforts with other business plans. Our continued efforts to identify areas for environmental improvement have reduced impacts to the environment, improved safety and decreased operating costs.

We introduced our Operations Integrity Management System (OIMS) in 1992. Today, it provides a set of expectations embedded into everyday work processes at all levels in the organisation and addresses all aspects of managing safety, health, security, environmental, and social risks at our facilities worldwide. The overall effectiveness of OIMS is reviewed every five years and enhanced accordingly. As a result, OIMS has gradually evolved to enhance behaviour-based safety, leadership, security, environmental aspects, and community involvement. Lloyd's Register Quality Assurance, Inc. (LRQA) has reviewed our ongoing performance and has attested that OIMS meets the requirements of the standard for environmental management systems (ISO 14001:2004) and the Occupational Health and Safety Assessment Series for health and safety management systems (OHSAS 18001:2007).

Existing Verified Environmental and Corporate Responsibility Reports

ExxonMobil develops a Corporate Citizenship Report annually. The 2010 report was published in May 2011 and is available at:

http://www.exxonmobil.com/Corporate/Imports/ccr2010/pdf/community_ccr_2010.pdf

Information on Third Parties within the Supply Chain

Esso has worked with a number of supply chain partners to deliver its commitments during the third year of the RTFO. Esso has worked with three principal suppliers. The information in this section is drawn from information supplied publicly by those suppliers:

- Supplier 1's refined oils business has become the first company to receive official certification for its sustainable palm oil supply chain according to the International Sustainability and Carbon Certification (ISCC) standards. The ISCC requires the minimisation of GHG emissions and the preservation of biodiversity during the production of biofuels and bioenergy. This is in addition to Supplier 1's existing ability to provide customers with Round Table for Sustainable Palm Oil (RSPO) products.

  Supplier 1 has its own policies in place for responsible palm production on its own plantations, including commitments to not plant on high conservation value forests (HCVF); to not develop new plantations on deep peat land or land that would threaten biodiversity; and a strict no-burn policy for land preparation.

- Supplier 2 is able to supply feedstock with full traceability including a full life-cycle analysis, thereby demonstrating that the whole process of production is undertaken in such a way that genuine environmental benefits are delivered. Supplier 2 uses Combined Heat & Power (CHP), recognised as one of the most fuel-efficient processes available and as a result of the close integration with the manufacturing process are able to demonstrate GHG emissions savings of over 70% relative to petrol when measured on a full life-cycle basis which includes all direct and indirect emissions associated with growing, producing, distributing and using the fuels.

  Supplier 2's principles and commitment to the success of its customers requires that it maintains industry-leading quality standards by striving to achieve excellence in service, production and distribution. The company operates robust management systems for business and environment, which revolve around the principle of continuous monitoring, review and improvement. The environmental standard ISO 14001 has been held at all of the company's sites since 2004.

- Supplier 3 aims to choose biofuels that make use of the world's limited resources in the most efficient and sustainable way to deliver the greatest GHG emission savings. This means maximising use of biodiesel derived from byproducts (used cooking oil and tallow) and using detailed information from its suppliers to improve its understanding of the GHG emissions of biofuels it supplies. In addition, the company has an extensive and ongoing audit programme to inspect its suppliers' production and are advised by leading environmental consultants who have expertise in the development and application of land-use based sustainability standards. This collaboration has led to the development of a gold standard sustainability programme specifically designed for Brazilian bioethanol imports into the UK. This audit programme is in its third year and Supplier 3 is working towards an audit programme for biodiesel made from South American soy.

  Supplier 3 is expanding use of biodiesel derived from wastes and residues, including used cooking oils and animal fats, by developing new long-term contracts. In addition, the company is restricting its purchasing of soy and palm biodiesel to suppliers who can trace the palm back to well-managed plantations where there has been no recent land use change, whether rainforest or peat land destruction.