

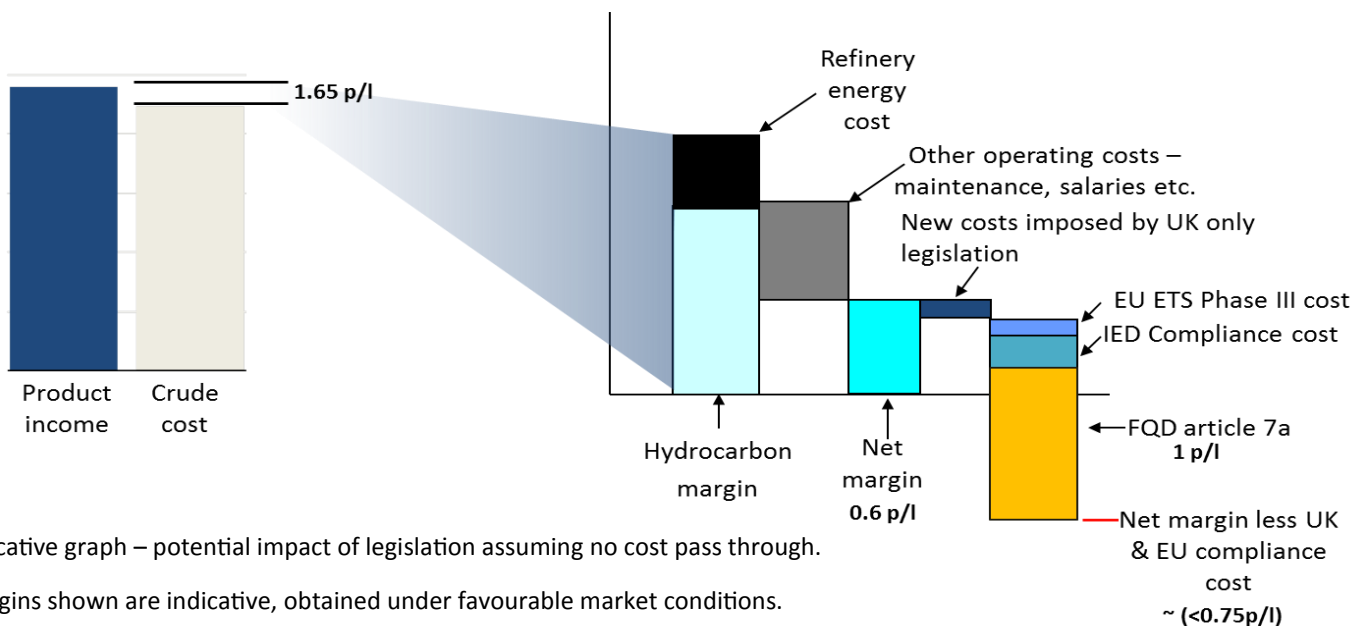
A Perfect Storm

The refining industry in the UK and the threat of a perfect storm



The storm clouds are gathering...

- UK refining faces a threat to its survival through a **'Perfect Storm'** combination of factors: low margins on refining of crude oil; cost impacts of meeting EU and UK legislation creating an un-level playing field in comparison with competing non-EU refineries and supply sources; an increasing misalignment between refinery output and product demand; and demand destruction partly due to legislative impacts to reduce carbon emissions.
- **With two refineries having closed between 2009 and 2012, the loss of further UK refining capability poses a serious risk to energy security of supply and resilience and could also jeopardise other industrial sectors dependent upon refining feedstocks. It could make the UK highly import dependent for fuels such as diesel and aviation kerosene, and represents a substantial loss to the economy nationally/regionally of income, employment and skills generated by refineries.**
- Meeting global future energy needs will be a major challenge but oil is not running out and will continue to be dominant in meeting future transport energy needs. The International Energy Agency's New Policies Scenario in the *World Economic Outlook* envisages that in 2035, even with a range of measures to improve efficiency and reduce carbon emissions, oil will still be meeting close to 80% of the EU's transport requirements.
- **Legislative changes associated with carbon reduction and air quality, such as EU ETS Phase III and the Industrial Emissions Directive (IED), will add to these pressures with the risk that UK and EU refineries are competitively disadvantaged versus overseas refineries that do not have to meet the same standards. In addition, UK only legislation such as the CRC Energy Efficiency Scheme and reform of Climate Change Levy**



Indicative graph – potential impact of legislation assuming no cost pass through.

Margins shown are indicative, obtained under favourable market conditions.

Source: UKPIA, Wood Mackenzie

EU Emission Trading System

Under the revised EU ETS Phase III, an EU-wide, harmonised approach will be introduced for the allocation of allowances and a single EU-wide cap on emission allowances will apply from 2013. This will be reduced annually by 1.74% (based on the 2010 cap), limiting the number of allowances available to 21% below the 2005 level by 2020.

The EU ETS will run from 1 January 2013 to 31 December 2020 .

Impact EU ETS costs represent a significant cost for UK refiners during Phase III and place them at a competitive disadvantage against non-EU refineries, particularly in India and the Middle East, which already supply the UK with jet fuel and other products.

Cost Based on the draft UK allocations, UKPIA have calculated the total additional costs for UK refineries as up to £75M(€86M)/year using an allowance cost of €15/t CO₂e.

Industrial Emissions Directive

The IED regulates industrial installations requiring a permit covering emissions to air, water and soil, along with waste management and energy efficiency. Emission limit values (ELVs) are set on the basis of the application of best available techniques (BAT). **The IED entered into force in January 2011 and must be transposed into national legislation by Member States by January 2013.**

Impact A key issue for UKPIA members is the need for clarity on whether the permit conditions must be updated by the regulator within 4 years, or whether both update of the permit conditions and compliance with the conditions must be achieved by the installation operator within the 4-year period. **This timescale is unmanageable where investment in new abatement technology is required to meet the revised emissions limits.**

Cost The cost impact of revised permit requirements is likely to vary significantly and by refinery, depending on their configuration, layout etc. However, given Environment Agency priorities to reduce NO_x and SO_x emissions, significant investment costing around £100M/year (*UKPIA Estimates*) is likely to be required from around 2015 onwards, with corresponding increases in operating costs.

CRC Energy Efficiency Scheme

The CRC was introduced in 2008 to improve energy efficiency and cut emissions in large public and private sector organisations. It features reputational and financial drivers to encourage the development of energy management strategies and is designed to address CO₂ emissions not already covered by Climate Change Agreements (CCAs) and the EU ETS. The cost of allowances for 2011-2012 was set at £12 per tonne of CO₂ equivalent (tCO₂e) in the 2011 Budget Report.

Impact **In 2010, recycling of revenue from allowances to CRC participants was abandoned, transforming the Scheme into an additional tax burden on industry.**

Cost Over £20M/year during Phase I (*UKPIA estimates*). The Government has announced plans to simplify the Scheme including exemption of EU ETS installations and sites covered by a CCA, but the additional cost for refineries during Phase I, which has been extended to 2014/2015, amounts to over £14M/year.

Carbon Floor Pricing

Plans were announced in 2011 to introduce a carbon price support (CPS) mechanism from 1 April 2013, to help increase incentives for investment in low-carbon electricity. The proposals include changes to the climate change levy (CCL) and fuel duty, ending the exemption from CCL for electricity produced in a combined heat and power (CHP) plant, and withdrawal of levy exemption certificates (LECs). **The carbon price floor has been set at £16/tCO₂e for 2013 and will be increased steadily to £30/tCO₂e in 2020. The CPS rates for 2013-14 and 2014-2015 have been set at £4.94 and £9.55/tCO₂e, respectively.**

Impact The ending of the exemption from CCL for CHP plants and withdrawal of LECs jeopardises recent investments by UKPIA members in CHP, reducing returns at an early stage in the investment cycle. In addition, the application of CPS to gas used for electricity generation in refineries introduces significant cost and undermines the basis for allocation of free allowances under EU ETS Phase III, placing UK refiners at a competitive disadvantage to EU and non-EU refiners.

Cost The withdrawal of LECs and the introduction of CPS has a cost impact of over £20M/year for UK refineries (*UKPIA estimates*), but also compromises further investment in CHP plants, which have higher efficiency and lower emissions than conventional power generation plant.

Fuel Quality Directive Article 7a

'Member States shall require suppliers to reduce as gradually as possible **life cycle greenhouse gas emissions** per unit of energy from fuel and energy supplied by 6 % by 31 December 2020. [They] may require suppliers, for this reduction, to comply with the following intermediate targets: 2 % by 31 December 2014 and 4 % by 31 December 2017, [versus] the fuel baseline standard based on the life cycle greenhouse gas emissions per unit of energy from fossil fuels in 2010.'

Impact **EC proposed methodology for implementing 7a (differentiating between refinery crude feedstocks on a life cycle basis) will create administration complexity for fuel suppliers. There is also the threat to the competitiveness of EU refining versus international competition as a result of legislation imposed on EU refiners only.**

Cost According to data prepared by WoodMackenzie (published on Europa's website), coupled with the location of UK refineries, the potential cost of this proposal could indicatively be ~1ppl.

What you/we can do...

The oil refining industry is faced by conditions creating a 'perfect storm' with the risk of further refinery closures that impact upon UK energy security of supply and resilience, employment and skills and the substantial contribution refining brings to the national and local economy:

- The value of refining to the UK economy is estimated at ~£6+ billion pa. Each large refinery is estimated to inject at least £60+million locally (*UKPIA estimates*).
- It supplies over 30% of the energy used in the UK and important feedstocks for other industrial sectors and processes - petrochemicals, lubricants and greases, heating fuels, solvents, carbon electrodes.
- It supports 150,000 jobs across the UK directly and indirectly and it is an important sector for chemical/ engineering graduates, related vocational skills, training and apprenticeships.

For these reasons, UKPIA would like to see a healthy refining sector maintained in the UK. UKPIA does not seek measures to protect UK refining from competition but seeks a level playing field with competitors within the EU and elsewhere.

- In this context, UKPIA welcomes and is actively supporting the study being undertaken by DECC to examine the legislative impacts upon the competitiveness of UK refining. We expect this study, due in late 2012, to help inform a future policy framework by:
 - quantifying the benefits of retaining an indigenous refining base from the perspective of security of supply/resilience and other benefits to the economy
 - showing how the different patterns of evolution for this refining base may help/hinder security of supply in the medium term and show how the current/evolving legislative framework helps or hinders these different patterns of evolution
 - identifying those areas of policy that can help create a level playing field in comparison with overseas competitors, avoiding disincentives to investment.

The UK Petroleum Industry Association is committed to working with the Government to help develop a policy framework for the industry but urgent action is required before it is too late. We trust that the DECC study, combined with the EU level dialogue opened up with the Director General Energy via the EU Refining Roundtable, will lead to vigorous positive actions to address the policy issues identified.