SIPTU

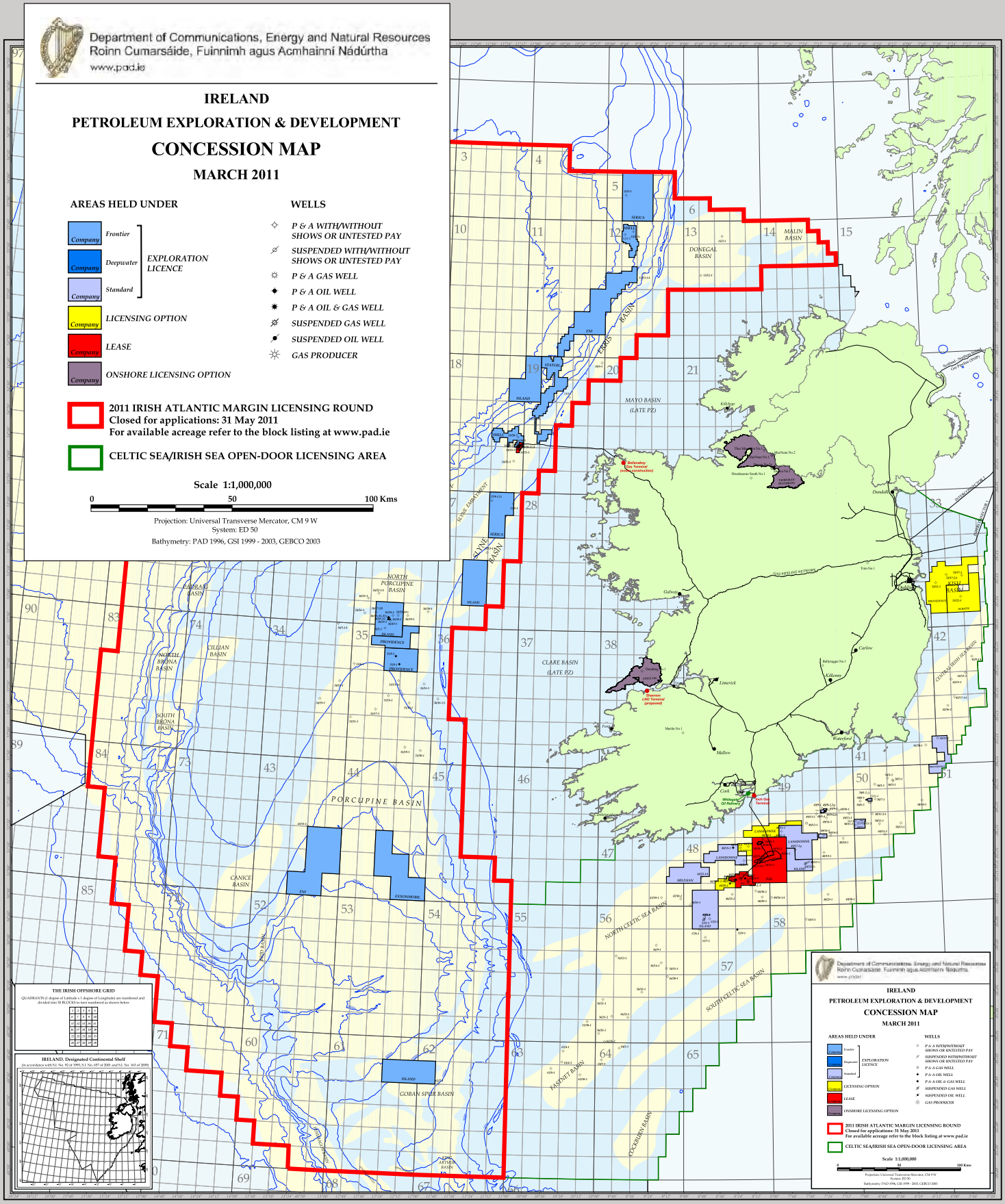
Optimising Ireland's Oil and Gas Resources

Report of the SIPTU Oil & Gas Review Group

Contents

Abbreviations;

BBOE	*Billion Barrels of Oil Equivalent*
DCENR	*Department of Communications, Energy and Natural Resources*
DCMNR	*Department of Communications, Marine, and Natural Resources*
GAO	*Government Accountability Office (United States)*
INPC	*Irish National Petroleum Corporation*
IOC	*International Oil Company*
NOC	*National Oil Company*
PAD	*Petroleum Affairs Division*
PRRT	*Profit Resource Rent Tax*
PSC	*Production Sharing Contract*
SA	*Service Agreement*
TCF	*Trillion Cubic Feet*


Department of Communications, Energy and Natural Resources
Roinn Cumarsáide, Fuinnimh agus Acmhainní Nádúrtha
www.pad.ie
IRELAND
PETROLEUM EXPLORATION & DEVELOPMENT
CONCESSION MAP
MARCH 2011
AREAS HELD UNDER
Company Frontier
Company Deepwater
Company Standard
EXPLORATION LICENCE
Company LICENSING OPTION
Company LEASE
Company ONSHORE LICENSING OPTION
WELLS
P & A WITH/WITHOUT SHOWS OR UNTESTED PAY
SUSPENDED WITH/WITHOUT SHOWS OR UNTESTED PAY
P & A GAS WELL
P & A OIL WELL
P & A OIL & GAS WELL
SUSPENDED GAS WELL
SUSPENDED OIL WELL
GAS PRODUCER
2011 IRISH ATLANTIC MARGIN LICENSING ROUND
Closed for applications: 31 May 2011
For available acreage refer to the block listing at www.pad.ie
CELTIC SEA/IRISH SEA OPEN-DOOR LICENSING AREA
Scale 1:1,000,000
0 50 100 Kms
Projection: Universal Transverse Mercator, CM 9 W
System: ED 50
Bathymetry: PAD 1996, GSI 1999 - 2003, GEBCO 2003
THE IRISH OFFSHORE GRID
IRELAND. Designated Continental Shelf
DONEGAL BASIN
MALIN BASIN
ERRIS BASIN
MAYO BASIN (LATE PZ)
SLYNE BASIN
SERICA
ESB
ENI
EXXONMOBIL
PROVIDENCE
ISLAND
CLARE BASIN (LATE PZ)
KISH BASIN
CELTIC SEA BASIN
NORTH PORCUPINE BASIN
BARRAS BASIN
CILLIAN BASIN
NORTH BRONA BASIN
SOUTH BRONA BASIN
PORCUPINE BASIN
CANICE BASIN
NORTH CELTIC SEA BASIN
SOUTH CELTIC SEA BASIN
FASTNET BASIN
GOBAN SPUR BASIN
COCKBURN BASIN
GAS PIPELINE NETWORK
Ballinaboy Gas Terminal (under construction)
Shannon LNG Terminal (proposed)
Kinsale Head Gas Terminal
Corrib Gas Terminal
Cork
Limerick
Waterford
Galway
Sligo
Donegal
Dublin

Introduction

The Department of Communications, Energy and Natural Resources (DCENR) estimates a total reserve potential in the order of 10 billion barrels of oil equivalent (bboe) beneath the seabed off the west coast of Ireland. On the basis of geological studies, seismic surveys and drilling results these estimated reserves divide approximately into 6.5 billion barrels of oil and 20 trillion cubic feet of gas. This quantity of estimated reserves, if found and exploited, would be sufficient to meet Ireland's demand for hydrocarbons for over 100 years, based on current usage.

Ireland's offshore and onshore oil and gas reserves are managed by the Petroleum Affairs Division (PAD) of the DCENR which issues different authorisations for exploration and production activities[1] under a licensing system[2]. This system governs petroleum prospecting licences, licensing options, exploration licences and petroleum leases. The licensing regime includes fiscal terms (for example rates of taxation) and non-fiscal terms (such as the duration of licences, commitments to drill wells etc.).

This discussion document seeks to assess whether the licensing system under which companies explore and develop oil and gas reserves is appropriate for this country at this difficult time in our history. The report compares the Irish licensing regime with those of other countries and examines possible changes that could improve the return to the Irish exchequer from any future oil and gas finds. It also assesses the potential employment benefits from oil and gas exploration and production, and related services, and reviews the experience of the industry in this country over recent decades.

In particular, it examines the significant changes to the 1975 licensing terms which allowed for a 50% State holding, royalties and a 50% tax on profits accruing from an oil or gas find and development. In 1987 royalties and state participation were abolished and in 1992 the corporate tax rate was reduced from 50% to 25%. There were further changes to the regime in 2007 which allows for an improved return to the State from very large finds.

The Irish Government has said that it intends to keep the licensing terms, both fiscal and non-fiscal, under review while focusing on attracting a larger share of mobile international exploration investment to Ireland.

While significant reserves have been discovered off shore, most notably in the Corrib field in the Atlantic margin, the scale of Ireland's recoverable oil and gas resources remains unknown. To date, four discoveries off the Irish coast have been declared commercial while 13 other discoveries in the Irish offshore are currently under assessment. There have been two offshore oil finds and three gas finds since 2002. There has also been a significant onshore discovery of natural gas in the North West Carboniferous and Clare basins which cover an area of approximately 8000 square kilometres in parts of south Donegal, Cavan, Leitrim, Sligo, Mayo, Monaghan, Roscommon, Fermanagh, Clare, Cork, Kerry and Limerick.

By the end of March 2011, three petroleum leases, 13 exploration licences (under the 1992 terms) and 8 exploration licenses under the 2007 terms had been awarded and remained in place. The PAD is currently reviewing applications from two other exploration licence holders for lease undertakings in the Celtic Sea (off the south coast). A lease under-

[1]Authorisations for exploration and production activities include: petroleum prospecting licences; licensing options; exploration licences (3 kinds – standard, deep-water and frontier); lease undertakings; petroleum leases; and reserved areas licences.
[2]The current licensing system was established in 1992 and revised in 2007. Authorisations granted between 1992 and January 1, 2007 are subject to the1992 *Licensing Terms for Offshore Oil and Gas Exploration and Development. The Licensing Terms for Offshore Oil and Gas Exploration, Development and Production 2007* are applied to authorisations granted from 2007.

taking means that the exploration licence holding company has made a discovery of gas/oil and that the licensee is not yet in a position to declare the find commercial but expects to do so in the near future.

A licensing round aimed at encouraging further exploration in the Atlantic margin off the west coast closed at the end of May 2011. Covering an area of over a quarter of a million square kilometres, this licensing round was the largest ever opened. The DCENR is currently assessing 15 applications for licensing options under this latest round. This compares to just two applications for the 2009 offshore licensing round and confirms a renewed interest in the Irish offshore.

As new technologies allowing for the exploitation of previously inaccessible reserves emerge, and the rising cost of oil and gas makes investment in exploration and production more economically viable, a review of the Irish licensing terms is timely. Indeed, given the rapidly changing world energy market and the spiralling cost of oil and gas, it is essential that government policy with regard to the exploitation of any hydrocarbon reserves should be re-assessed before any new licenses are issued.

It is noted that the Minister for Communications, Energy and Natural Resources has accepted that the current licensing terms for oil and gas exploration and production should be reviewed by an Oireachtas committee. *(see Dáil Eireann Debate Vol. 730. No. 3. 19th April 2011)*

Liberty Hall
Dublin
June 2011

This report is intended to contribute to the public debate as the proposed Oireachtas review approaches.

In this regard it is the considered view of the SIPTU Oil and Gas Review Group that no new exploration licenses for oil and gas should be issued by the DCENR until a detailed reassessment of the current licensing system is completed. It is also our view that the proposed Oireachtas review should have the widest possible brief to consider not only possible changes in the licensing terms which might include the imposition of royalties, State equity stakes and increased taxes, but should also examine alternatives involving a more direct State involvement in oil and gas exploration and production.

The review should examine the potential for job creation and skills development of a revived oil and gas industry and should also investigate the implications of oil and gas production on climate change.

The Oireachtas committee should also be charged with considering actions aimed at getting the companies which have announced discoveries of oil and gas to either get these finds into production or declare them non-commercial and relinquish control of them.

It should consider a new approach to the management of Irish hydrocarbons that offers the prospect of greater sovereign control over our natural resources in line with international best practice and that ensures a better return for Ireland while remaining profitable for investors. A new approach to the management of Irish hydrocarbons should also involve a reduction in dependence on, and consumption of, oil and gas. This will help to mitigate against the known and increasing dangers arising from global climate change.

The potential scale of Ireland's hydrocarbon resources underlines the necessity to create the conditions for the development of an indigenous oil and gas industry that can help to generate long term employment, technological skills and revenues. Furthermore, increased levels of financial returns from a revised fiscal system could be used to fund a transition to renewable energies reducing demand for fossil fuels and growing renewable energy supplies which are critical to our energy security.

In this regard it is the considered view of the SIPTU Oil and Gas Review Group that no new exploration licenses for oil and gas should be issued by the DCENR until a detailed reassessment of the current licensing system is completed. It is also our view that the proposed Oireachtas review should have the widest possible brief to consider not only possible changes in the licensing terms which might include the imposition of royalties, State equity stakes and increased taxes, but should also examine alternatives involving a more direct State involvement in oil and gas exploration and production.

In relation to onshore exploration the real concerns over the potential damage to human health and the environment arising from the use of hydraulic fracturing or 'fracking' in the extraction of natural gas from shale must be addressed and an alternative, safe, process for the development of these known onshore resources identified.

In the light of the 2010 oil spill disaster at a BP facility in the Gulf of Mexico it is also essential that a review takes place of the regulatory and supervisory powers of the State in relation to oil exploration and production, particularly in the more hostile offshore territories of the Atlantic Margin.

insale, Co. Cork

Chapter 1;
Terms and Potential

It has long been asserted that the current licensing terms and conditions are excessively generous to the oil and gas companies particularly since the changes made to the regime by Fianna Fáil led governments in the late 1980s and early 1990s. The reason given for the abolition of royalties and the reduction in tax on profits from 50% to 25% (which can be written off against exploration, development, close down and other costs) was in order to encourage greater levels of exploration. Since that time a major gas find has been made in the Corrib field off the north-west coast of Mayo while significant prospects exist off the west and south west coasts.

In 2006, the Petroleum Affairs Division (PAD) of the Department of Communications, Energy and Natural Resources (DCENR) estimated a potential 10 billion barrels of oil equivalent (gas and/or oil) in the Atlantic Margin West of Ireland).

This 10 bboe figure does not include the South or South East of Ireland where there has been commercial production (Kinsale, Ballycotton and Seven-heads) and other shows of offshore oil and gas or any onshore reserves. At current market prices of around €75 or over $100 dollars a barrel of oil (June 2011), the resources in the Atlantic margin are potentially worth €750 billion.

Fifteen applications under the latest Atlantic Margin licensing round were submitted by the end of May 2011 and successful companies will be awarded licensing options over 250,000 square kilometres of the Atlantic shelf, an area three times as large as the Irish land-mass. Once these licensing options, which are valid for a period of up to two years, are granted the option holder has the first right to an exploration licence or licences. With the current licencing terms, the PAD essentially commits to granting petroleum leases to exploration licence holders if commercially recoverable amounts of hydrocarbons are found.

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Once granted a petroleum lease companies are subject to the fiscal and non-fiscal conditions outlined in the specific Licensing Terms under which the initial authorisation (such as a licensing option or exploration licence) was granted. This means that if an exploration licence was granted between 1992 and 2007 and the petroleum lease was granted after 2007, the petroleum lease holding company will be subject to the 1992 Licensing Terms. Under the 1992 Licensing Terms for Offshore Oil and Gas Exploration, companies are only required to pay nominal fees and a 25% tax rate against which companies can offset all costs related to the project accrued over a

previous 25 year period. This includes exploration costs and the costs of closing down a project on completion. In a 2006 review of Ireland's fiscal terms, the Department of Communications, Marine and Natural Resources (DCMNR*) described the 1992 terms as 'simple and extremely attractive, so much so that Ireland has had the best fiscal terms in the world for exploration and production.' (Executive Summary of Ireland's Fiscal Terms August 2006. A report and proposal from Petroleum Affairs Division, DCMNR).

While heralded as an improvement on these generous pro-corporate terms, the introduction of the 2007 licensing terms with its new Profit Resource Rent Tax (PRRT) also results in few additional benefits for the State. The PRRT is calculated on a graded basis of profitability (profit ratio), after costs have been offset and tax has been paid, with companies potentially paying a PRRT of between 5% and 15% on their profits. For very large finds the tax rate can go up to 40% (25 % tax rate and PRRT of between 5 to 15%). Except in the case of very profitable fields, Ireland will see little additional revenue from the 2007 terms. This PRRT is only applied to authorisations granted after 2007.

The current licensing terms essentially offer companies with exploration licences a 'first refusal' on petroleum leases to develop potentially productive oil and gas fields in areas covered under the company's exploration licence. In the event of such discoveries, the 1992 and 2007 licensing terms both state that it shall be the duty of the Minister to grant a petroleum lease, which permits companies to produce Irish gas and oil in a specific area, if the Minister is satisfied by the applicant's likely production profile, the applicant's outline development, financial and marketing plans and an outline statement of the likely effects of the proposed development on the environment.

It would appear that these elements of the licensing system bind the Irish State into fixed contract terms without it having prior knowledge of the value of the reserves in the relevant field. Under the current licensing terms, the State effectively passes ownership of any finds to the petroleum lease holding company. In return, the company pays 25% tax on its profits in the case of small and medium sized finds, rising to 40% on large finds under the terms of the PRRT which only applies to licenses granted after 2007.

**(The name of the Department was changed to the Department of Communications, Energy and Natural Resources (DCENR) on foot of legislation introduced in 2007).*

Gas pipeline

Chapter 2;
Fiscal regime - International Comparisons

One of the most significant elements of a fiscal regime is the economic return which accrues to the resource owning government upon production of its gas and oil. These returns are often known as 'government take.' The US Government Accountability Office[3] (GAO) defines government take as the total per cent of revenue taken from production, regardless of whether it is a tax, a royalty, a bonus, or some other method of taking revenue. A 2007 report by the GAO examined 142 fiscal systems and confirmed that Ireland had the second lowest rate of government take of all the countries studied (Cameroon had the lowest). Of these 142 fiscal systems, only 34 resulted in government take of less than 50% (50% being twice the rate of Ireland). Indeed, in 60 of these fiscal systems rates of government take are over 70%. According to a report prepared by the DCMNR in 2006, the United States sets the minimum Government take at 42% and it can rise above 60%. South American governments take between 25% and 90%. The take in sub Saharan Africa ranges from 44% to 85% (see chart below).

The State's current approach to the management of its resources means that Ireland has one of the lowest returns from its oil and gas resources anywhere in the world as acknowledged by the Irish government's own commissioned reports.

The 'current fiscal system…yields among the lowest government take in the world' (Indecon, 2007, p.15). This is acknowledged in two Government sponsored research reports (Fox, 2003[4] ; Indecon, 2007[5]) and in the following chart by the DCMNR contained in the Indecon report.

Estimated Government Take

Country/Region	Government Take (%)
North America	42 – 60+
South America	25 – 90
Ireland	25
Europe excluding Ireland	35 – 65
Sub Saharan Africa	44 – 85
FSU, Middle East, North America	60 – 90+
Asia (exclude Central)	40 – 84

Source: DCMNR (2006)

[3]US Government Accountability Office (2007)

[4]Fox, D. (2003). Fiscal terms comparison: A study for Petroleum Affairs Division, DCMNR. Dublin: Department of Communications, Marine and Natural Resources.

[5]Indecon International Economic Consultants in association with London Economics. (2007). Expert Advice on Review of Irish Petroleum E & P Licensing Terms. Report prepared for the Department of Communications, Marine and Natural Resources. London: Indecon.)

The DCENR's use of a licensing system, as opposed to production sharing contracts or service agreements, means that once Irish oil and gas is produced, ownership of these resources is transferred to the petroleum lease holding companies with the State essentially conceding control over its resources to these corporations. Companies are not required to sell this oil and/or gas to the Irish market and if they choose to sell to consumers in Ireland, they can do so at full market prices as they are not obliged to sell these resources at a reduced price.

Considering the current high oil prices, maturing North Sea fields and heightened geo-political tensions over security of supply, the lack of restrictions on the selling and supply of Irish oil and gas is most problematic, particularly when one considers that Ireland imports all of its oil (primarily from the UK and Norway) and most of its gas yet is not guaranteed a supply of its own resources. While the Corrib field could provide a certain security of supply its operators (Shell/Statoil/Vermillion) are not obliged to sell the gas to the Irish market.

The concerns over security of supply are separate to the even more significant issue of the lack of economic return to the State from its resources, including the potential for significant onshore and downstream job creation.

Not only does the State's current approach to the management of Irish oil and gas mean that Ireland has one of the lowest rates of returns to a government anywhere in the world, there is no state participation in exploration, development or production. In addition, companies are under no obligation to use Irish services, goods or workforce and aren't required to land Irish hydrocarbons in the country. Indeed modern technology would permit operators to extract oil at sea and load and transport it by tanker without ever landing its product in Ireland. An area of further concern is the acceleration of licensing rounds by the PAD in recent years, through which the DCENR invites companies to apply for exploration licences or licensing options for onshore and offshore acreage. Recent rounds include inviting applications for licences in the Rockall Basin (2009), the 2010 onshore round in the North West Carboniferous and Clare Basins (allowing companies to apply for licensing options for blocks across 8,000 square km in counties such as Donegal, Sligo, Leitrim, Mayo, Clare and Kerry) and the recent Atlantic Margin offshore round. In this 2011 round, the PAD invited companies to apply for licensing options in the largest amount of acreage ever opened – around 250,000 sq km.

By the end of March 2011, three petroleum leases, 13 exploration licences (under the 1992 terms) and 8 exploration licenses under the 2007 terms had been awarded and remained in place. The PAD is currently reviewing applications from two other exploration licence holders for lease undertakings in the Celtic Sea (off the south coast).

Chapter 3;
Licensing systems

The exceptionally low rate of return to the Irish State is only one questionable feature of the DCENR's approach to the management of Irish oil and gas. Another issue lies in the actual use of a licensing system. Licensing systems, also known as concessionary or royalty/tax systems, are one of two main approaches used by countries across the world to manage their resources. The other approach is commonly known as a contractual system. While a licensing system transfers ownership of a state's resources to the producing oil company, a contractual system means that the resource-owning state retains strong control over its resources. A contractual system typically comprises production-sharing contracts (PSCs) and/or service agreements (SAs) with PSCs 'likely to be the preferred contract type in new acreage rounds.[6]'

Under a production sharing contract/agreement, the state as owner of the hydrocarbons, permits the international oil company (IOC) as a contractor to carry out exploration and production work, often in partnership with a state-owned national oil company, in exchange for an IOC entitlement to a stipulated share of revenues from the hydrocarbons produced (rather than ownership of all the resources), as compensation for the risks taken and services rendered[7]. Johnston, Johnston and Rogers (2008, p. 4) suggest that under a production sharing contract, unlike a licensing system, the government receives a larger share of oil and/or gas 'which can be commercialised and monetised according to the host government's development programmes and economic needs.' They add that slightly over half of the governments with hydrocarbon production worldwide use PSCs which are the system of choice in countries such as Malaysia, India, Nigeria, Angola, Trinidad, the Central Asian Republics (of the FSU, former Soviet Union), Algeria, Egypt, Yemen, Syria, Mongolia, and China – countries which all have higher rates of government take than Ireland.

The service contract is a regime under which the state retains full ownership of all the hydrocarbons being produced on its soil and the international oil company performs the exploration and production work as a service to the State[8]. With a service contract, the State 'at all times…maintains ownership of the hydrocarbons produced and usually the IOC (contractor) does not acquire any rights to oil and/or gas, except when a contractor is paid its fee in kind (oil and/or gas) or is given a preferential right to purchase production.[9]'

In a 2008 study of 45 fiscal systems[10], 21 of the systems studied were licensing/ concessionary, 18 were production sharing contracts and 6 were service agreements (meaning 24 were contractual). Ireland, as one of the 21 licensing systems studied, had the lowest rate of government tax rate (estimated at a maximum of 28%, even with the 2007 terms) with the second lowest rate of government tax take of between 38% and 42%.

Of the licensing systems studied, 15 (including the US, UK*, Canada, Australia and Alaska) resulted in government take of over 50%. Seven licensing systems resulted in government take of over 60% – more than twice the rate of return to Ireland from its oil and

[6]Easo (2009, p. 35)
[7]Easo (2009, pp. 37-38)
[8]Johnston et al. (2008, p. 4)
[9]Johnston (2008)
[10]Ernst and Young (2009, p.219)

gas. This study also served to emphasise how countries with higher rates of government take utilised production sharing contracts or service agreements, ensuring that alongside higher returns, the Government retained control and ownership of its hydrocarbons with additional benefits occuring through local employment, service provision and supply of goods. Fifteen of the countries with PSCs (including Indonesia, Malaysia, China, Trindad and Tobago, and Libya) received government take in excess of 70%. Of the six service agreements studied, two countries,Venezuela and Iran, had a government take of over 90%.

**(The British government recently introduced a plan to increase its take to 62% and up to 80% of future profits in order to fund a 1 pence cut in fuel duty).*

Known offshore and onshore reserves

The Dunquin prospect Block number off the south west of erry has a reserve estimated by Davy's at trillion cubic feet of gas Hequivalent to 1. billion barrels of oil and of similar siFe to the Corrib reserve off north est Mayo. The licence was issued to Providence Resources a company owned by Tony O'Reilly which sold on a substantial part of its holding to ExxonMobile in 200 for a reported €100 million leaving Providence with a 20 stake and ExxonMobile taking up the cost of development.

If the State had retained control of the exploration licence or used a contractual system either a production sharing or service agreement it could have done the deal with Exxon directly thus raising substantial revenues for the exchequer while retaining an interest in the find. Now Exxon Mobile and Italian oil company, ENI, each hold 0 with Providence controlling the remainder.

The Dooish prospect 12 2 some 1 0 kilometres off the Donegal coast was drilled by Shell in 200 after earlier drillings in 2001 and 200 confirmed the presence of a Gsubstantial gas condensate column.I

A prospect off Spanish Point in county Clare yielded both oil and gas flows when first drilled in 1 1. The licence was first acquired by Providence Resources in 200 and the company still has a stake. It is estimated to contain 1. TCF and 1 0 million barrels of recoverable oil. The Burren prospect nearby has also yielded small flows of oil.

Statoil ydro 1 controls the Cashel prospect which contains an estimated 2 0 million bbbe according to published estimates.

The ish in Dublin Bay was first drilled in 1 by Amoco, in 1 by Charterhouse and in 1 by Enterprise. In 2010, Providence said there is an estimated 0 million barrels of oil in the area, worth an estimated € 0 billion at current prices and announced it intended to re-start drilling and is also looking for possible gas storage structures in the area.

The Connemara 2 2 prospect was owned by Island Oil and Gas since taken over by Irish company, San eon Energy, which has recently talked up its potential for development. It flowed oil when drilled by Statoil in 1 . San eon has estimated that there could be 12 trillion cubic feet of gas in its illala, ingfisher and Inishmore prospects off the west coast - the equivalent of 12 Corrib gas fields while its Tir na nJ g prospect off the south west coast could hold . billion barrels of oil, according to the company.

The Slyne prospect owned by San eon Energy and undin Petroleum 0 each is potentially as large as the Corrib gas field, according to the operators.

The elvick ook ead Dunmore prospects are owned by Providence which announced its intention in May, 2010 to intensify exploration in the area.

The Seven eads and Ballycotton prospects off the Cork coast are linked to the insale field which supplied gas to the Irish grid for several decades.

There are considerable differences in the accessibility of the oil and gas finds that have been disclosed and the costs of their development. The ish Bank off Dublin Bay, for example, is in relatively shallow water compared to the Dooish discovery at a depth of 1 00 metres or even the Corrib field at 00 metres. This raises the question of whether there should be different incentives or tax breaks for the exploration of more difficult prospects.

In August 200 , Canadian firm) ermillion Energy Trust announced that it was to pay 00 million €2 0 million for the 1 . in the Corrib gas field owned by Marathon Oil. The balance is owned by Dutch owned, Shell and the partly State owned Norwegian company, Statoil. The purchase puts a value on the field in 200 of just €1. billion but the actual profits will be multiples of that. Under the current regime Shell and its partners can write off all exploration and development costs and the cost of abandoning the find before declaring a taxable profit.

Onshore

Irish ough Allen Natural Gas set up in uly 2010 by Dublin based Thomas Anderson and Askeaton based Martin awrence eeley has been granted a licence to explore for gas in the border counties along with an Australian company, Tamboran Resources PT td. Full details have yet to be disclosed but reports prepared in the mid-1 0s on the basis of past drillings in the ough Allen area indicated that three sandstone reservoirs could potentially contain over 10 trillion cubic feet of gas.

ough Allen

British based company, Enegi Oil plc which has exploration interests in Newfoundland was also granted a licence to explore onshore. Enegi's licences covers an area in the Clare Basin which includes parts of Clare, imerick and erry.

These latest onshore licences cover an area of over 0 square miles 1 sq km which is about as large as the whole of County icklow from an original acreage on offer of over 000 sq kilometres in the North- est and Clare basins. A case can be made for leaving offshore exploration to the experts with deep pockets while ensuring that the State gets an adequate share.

Onshore exploration is well within the capability of various semi-State and State organisations.

Exploring onshore is relatively cheap compared with offshore exploration and development costs are almost certain to be lower although there are major difficulties in exploiting the type of shale gas likely to be found. Most of the gas has often to be left in the ground. There are also major potential environmental costs, given the need to fracture the underground shale with pressurised water to which chemicals, including known carcinogens, are added. The hydraulic fracturing or 'fracking' process has been halted in some countries, including most recently in France, due to environmental and health concerns and is the subject of growing controversy in the US and in the counties surrounding ough Allen in the north-west.

Rig workers

Chapter 4;
What are the best alternative options for Ireland?

There are a number of options open to Ireland to ensure that it begins to benefit fully from its own resources. It is arguable that until an alternative model can be devised and agreed, a moratorium is required on the granting of new authorisations and on existing exploration licences, lease undertakings, petroleum leases, and the opening of new acreage.

The following section outlines three options for Ireland;

1. Licensing system

It is highly apparent that the current licensing system offers few benefits to the Irish state and at the least requires modification, if not replacement, as this type of system concedes control and ownership of resources to international oil companies in exchange for very limited financial returns. If a licensing system were to be used, the current system could be modified in the following ways:

- Increase taxes (Norway has a tax rate of 78%)
- Re-introduce royalties. The US Federal Government receives royalties from production in onshore federal lands and offshore in areas such as the Gulf of Mexico.
- Introduce a 'State Direct Financial Interest' as in Norway.
- Introduce signature or other bonus payments as in Indonesia, Iraq and the US.
- Grant licences to an Irish national oil company to explore and produce Irish hydrocarbons with profits from this company returned to the State.
- Introduce a requirement upon companies to guarantee supply to the Irish market at agreed prices.
- Make licensing, regulatory and planning processes (from the opening of acreage to the granting of authorisations to the decommissioning of wells) open and genuinely participative. The Corrib gas project is a graphic example of the failure of regulatory, planning and political processes.
- Make all elements of the system transparent – Norway has an open approach to information sharing and the public can easily access information on licence-holding companies, returns to the State, and on-going exploration and production works.

It is arguable that until an alternative model can be devised and agreed, a moratorium is required on the granting of new authorisations and on existing exploration licences, lease undertakings, petroleum leases, and the opening of new acreage.

2. Contractual system

The introduction of a contractual system could positively transform the Irish State's model of resource management, ensuring stronger control and greater benefits for the country. Using the under-utilised, state-owned Irish National Petroleum Corporation (INPC) or through the formation of a new national oil company, Ireland could enter into production sharing contracts or service agreements with oil companies to explore and produce Irish hydrocarbons. Or the State could carry an interest and permit the oil companies to conduct the work with the State sharing in the proceeds from production.

It is acknowledged that the offshore and onshore skills base developed in Ireland in the 1970's and 1980's to service the Kinsale field and other exploration activities has diminished but that experience shows that with proper management and foresight they can be revived.

While the INPC, or a new national oil company (NOC), may not have the capital, human or technical resources for production sharing, it is possible to devise a contract in which the NOC is carried through the exploration, development and production phases with a requirement that its staff are subject to training and involvement in the international oil companies' operations, with a significant proportion of the NOC's share of profits initially going towards the development of the company.

Upon developing the necessary expertise and resources, the NOC could then become an equal partner in production or could conduct operations on its own (this approach could also be applied to a NOC under a licensing system). When developing its model of resource management

Norway ensured it developed its technological abilities through international oil companies being required to work with Statoil which was a state owned company. Although partially privatised in more recent times, the Norwegian State still owns 67% of Statoil.

Service contracts are another option for Ireland and by offering financial, or other, incentives the Irish state could contract oil companies to carry out the exploration, development and production work, while ensuring strong state control and meaningful financial returns.

3. Hybrid system

A third option is to develop a hybrid system which contains both licensing and contractual elements. This would improve state control and find a mid-point between a 'free market' approach and state controlled production. Such a system could include production sharing agreements being implemented alongside improved terms and conditions under a licensing system, meaning exploration and production would be conducted by both international oil companies and the Irish state. If a licensing system is used alongside contractual arrangements such as production sharing contracts or service agreements the current fiscal terms (namely the 1992 and 2007 licensing terms) will need to be replaced with terms which will bring additional benefits to the Irish state.

An interesting model to examine is Peru which operates a licence system and service contracts. Peruvian oil and gas exploration and production activities are conducted under licence or service contracts granted by the government. Under a licence contract, the contractor pays a royalty and tax, whereas under a service contract the government pays remuneration to the contractor. As stated in the Peruvian Constitution and the Organic Law for Hydrocarbons, a licence contract does not imply a transfer or lease of property over the area of exploration or exploitation. By virtue of the licence contract, the contractor acquires the authorisation to explore or to exploit hydrocarbons in a determined area and Perupetro (the entity that holds the Peruvian state interest) transfers the property right in the extracted hydrocarbons to the contractor, who must pay a royalty to the state . Companies are also subject to a corporate income tax of 30%.

Chapter 5; Conclusions

As established throughout this report, the very generous fiscal, regulatory and licensing regime governing oil and gas development in Ireland must be reviewed. This report intends to contribute to public debate on this topic as the proposed Oireachtas review approaches. There are many reasons why changes to the State's approach to the management of its oil and gas are required from an economic, social responsibility and sustainability perspective. These include the necessity to realise an appropriate and just return to the State of the value of developed carbon resources and in order to bring the fiscal and regulatory regime into line with best international standards. It is also required in order to maximise the economic, employment, education and skills training potential of the oil and gas industry.

In addition, a number of specific reasons for change have arisen since the 1992 Terms were introduced. These include the on-going appreciation in the value of carbon resources which has generated massive windfall profits to oil and gas corporations worldwide; the greater understanding of climate change and the enormous costs associated with its mitigation; and, finally, the extent of the recession which requires a meaningful and proportionate contribution from all sectors of the economy and society.

The appreciation in the value of natural gas also means that the investment – return ratio is now much more favourable than before while the threshold for determining the commerciality of finds has been greatly reduced. This is of particular significance in the Irish context. Finds previously declared non-commercial may now in fact be so.

While it is clear that there is no easy or quick way to access the potential offshore resources it is equally evident that the current fiscal and licensing regime is generous to the oil and gas companies. Those companies that get control of new exploration licenses will enjoy the benefit of the current generous terms when and if they decide to exploit any finds.

It is also without question that the current price of oil and gas and the availability of new deep sea exploration and production technologies have made the Irish offshore a more viable investment prospect than in the early 1990s when the current terms were largely devised.

There have been two oil and three gas finds since 2002. However, there have often been lengthy delays between discovery of a find and confirmation of its commerciality. Speedier assessment and either exploitation or relinquishment of authorisations for the 14 finds that have been already made and not yet declared commercial should be encouraged by the DCENR.

Any review must re-consider whether it is appropriate or financially sensible for the State to guarantee that companies with exploration licenses will automatically secure petroleum leases to develop potentially productive oil and gas fields without the State having prior knowledge as to the value of the reserves in the relevant field. This binds the Irish State into fiscal and non-fiscal arrangements without having vital information about the value of these resources. Increased levels of financial returns from a revised fiscal system could be used to fund a transition to renewable energies reducing demand for fossil fuels and growing renewable energy supplies which are critical to our energy security.

Gas pipeline

Chapter 6; Recommendations

It is the considered view of the SIPTU Oil and Gas Review Group that no new exploration licenses for oil and gas should be issued by the DCENR until a detailed reassessment of the current licensing system is completed under the proposed Oireachtas review.

It is our view that the proposed Oireachtas review should have the widest possible brief to consider possible changes in the licensing terms which might include the imposition of royalties, State equity stakes and increased taxes.

It should also examine alternative models for the development of oil and gas resources and the growing global trend towards increasing direct State involvement in the exploitation and production of hydrocarbons.

The review should examine the potential for economic development, job creation, skills enhancement and training in an advanced oil and gas industry and seek information and advice from countries that have successfully managed and grown their hydrocarbon production.

It should also investigate the impact of oil and gas production on climate change.

The Oireachtas review should also be charged with considering actions aimed at getting the companies which have announced discoveries of oil and gas as far back as 1 to either get these finds into production or declare them non-commercial and relinquish the authorisations.

The review must re-consider the licensing terms offer of a 'first refusal' to companies with exploration licenses for petroleum leases to develop potentially productive oil and gas fields as this would appear to bind the Irish State into fixed contract terms without it having prior knowledge of the value of the reserves in the relevant field.

The review should consider whether increased levels of financial return from a revised fiscal system should be used to fund a transition to renewable energies reducing demand for fossil fuels and growing renewable energy supplies which are critical to our energy security.

Attention should also be paid to the absence of requirements for oil or gas discoveries to be landed in Ireland. It may make economic sense for oil from some small finds to be shipped directly to refineries abroad but in marginal situations the State should, at the very least, retain the right to ensure companies land the produce in Ireland even if that doesn't maximise profit for the company.

It is important that any significant finds that are developed to production are landed in Ireland and contribute to the revival of the onshore servicing and supply industry as well as other potential educational, skills development including at third level and professional level and job creation initiatives, particularly in coastal towns with harbour facilities.

In relation to onshore exploration, the review must examine the real con-

cerns over the potential damage to human health and the environment arising from the use of hydraulic fracturing, or 'fracking', in the extraction of natural gas from shale and seek to ensure that a safe, alternative process for the development of these known resources is deployed.

In the light of the 2010 oil spill disaster at a BP facility in the Gulf of Mexico it is also essential that a review takes place of the regulatory and supervisory powers of the State in relation to oil exploration and production, particularly in the more hostile offshore territories of the Atlantic Margin.

The Oireachtas review should consider the establishment of a body which would involve industry stakeholders, including the oil and gas companies, trade unions, government nominees, environmental and community representatives in order to improve communications between the various interests and ensure that the maximum potential for Ireland is derived from all aspects of hydrocarbon development. In this context the review should also consider the future role and remit of the Petroleum Affairs Division of the DCENR.

Economic and Employment Potential of Oil and Gas production

Many countries have developed an industry for the servicing and supply of offshore oil and gas operations. Indeed, in Ireland in the 1970's and early 1980's when there was extensive offshore exploration a new industry emerged which employed several thousand workers, including many that became members of the ITGWU (which merged with FWUI in 1990 to form SIPTU).

Oil and gas exploration started in Irish waters in 1970 and a commercial gas field was discovered by Marathon Oil off Kinsale Head. Over an eight year period until 1978, when gas production at Kinsale Head began, many Irish based companies and workers got involved in all aspects of oil and gas exploration, appraisal and production activities in the Celtic Sea. Marathon's Alpha and Bravo gas production platforms for the Kinsale Head field were constructed at Cork and New Ross, county Wexford providing employment for higher skilled marine trades, including shipbuilders, engineers, riggers, welders, crane operators, dockers, painters and general operatives. The construction company was Micorpori, an Italian company.

Other services such as shipping, supply boats, container services, food, fuel, engineering, diving, transport, manufacturing, training, administration services, construction of gas onshore receiving facilities, pipeline construction, transport infrastructure, haulage, housing, etc, all significantly developed as Marathon's gas production programme got under way. The infrastructural link by Bord Gais of the Kinsale Head supply into the developing national natural gas grid expanded the economic benefits of this indigenous hydrocarbon resource.

Many offshore oil rig jobs were created for platform operators, drillers, assistant drillers, derrickmen, roughnecks, roustabouts, maintenance roustabouts, cooks, painters, welders, mechanics, subsea engineers, mechanics, motormen, geologists, radio operators, stewards, seamen, mud loggers, and medics while shore based personnel were involved in logistics, port services and administration. A large skills pool developed in the Cork area that responded to the needs of the oil industry.

The then State training agency Anco (later FÁS), in conjunction with the oil companies, drilling companies and supply boat owners developed offshore fire-fighting and survival courses. The main impetus for the development of an Irish offshore oil and gas services sector came from the ITGWU (now SIPTU) in Cork's number 3 Branch with the support of Cork number 5 Branch. The economic spin-off to the local economy was ensured by this approach of the Union in securing both offshore and onshore job opportunities. Highly skilled Irish based seamen secured work with the offshore supply companies such as Doyle's and Mainport. Many skilled rig workers returned from abroad to work in the industry.

From 1977, offshore exploration companies commenced exploration activities along the west coast of Ireland from south west of Kerry to Donegal. From 1975 to 1985, seventy three exploration wells were drilled in Irish waters,

and ports such as Fenit, Foynes, and Galway on the west coast and Dublin on the east coast were involved in offshore hydrocarbon related activity. Cork port was used for further exploration along the south coast. Offshore and onshore jobs and related supply of goods and services developed around these ports. Workers with transferable skills such as mechanics and fishermen were trained in oil rig and related work.

There were significant employment and economic benefits to the Irish economy from the upstream and downstream oil and gas exploration/production related activities. However, the depth of water of west coast offshore areas such as the Porcupine Basin along the Western Atlantic Margin, allied to the strong Atlantic weather and sea swells hindered exploration and production. Deep water production technology had yet to develop while lower oil and gas prices did not provide an economic incentive in Irish waters. (In subsequent years, Norway and other oil provinces have developed the necessary technology for deep-water oil and gas production).

In 2007[11] the Irish Offshore Operators Association (IOOA), the organisation which represents oil and gas companies claimed that "expenditure on offshore exploration has exceeded €2 billion and of this figure 30% has been direct expenditure in Ireland" since 1970.

Less than a decade ago, 400 Irish companies had the capacity for oil and gas related activity in Ireland according to a directory of the industry compiled by Enterprise Ireland.

In 2002, the then Fianna Fáil led government sold Ireland's only oil refinery at Whitegate, Cork together with the massive Whiddy oil terminal in Bantry Bay to multi-national ConocoPhillips for €77 million. Five years later the company sold on the refinery for €380 million.

[11] IOOA, (2007). Securing our energy future.

Observations on the Environmental Costs of Carbon Resource Usage

Contemporary society is about to undergo a profound change. The society that we have developed in the Western world is one that has been dependent on carbon resources. We have designed a society based on cheap and readily available supplies of carbon resources. Not only has carbon provided us with physical power, electricity, transportation and the capability for global market expansion, it has also determined our clothing and food resources. 95% of all our food products require oil use. Based on cheap and available carbon resources we have built an industrial and consumer wonderland for many people in the Western world. The reality is that this is now coming to an end.[12]

Historically, the West's dependence on, and use of, carbon resources has caused it to create two serious dysfunctions. The first is that it has led the West into a series of aggressive militaristic wars and collaborations with oppressive regimes throughout the world, most particularly in the Middle East. This has resulted in the death and abuse of hundreds of thousands, perhaps millions, of people. Second, the exploitation of carbon resources has caused extraordinary levels of direct pollution, which has impacted on human life and health and on biodiversity. The most notable recent example has been the Gulf of Mexico oil spill disaster in 2010.

To these on-going dysfunctions have now been added two profound new realities. First, we are at, or close to, the peak carbon resource production point. From now, the reserves of available, commercially recoverable carbon resources will decline and their cost will rapidly appreciate. The result is that over the coming few decades the cost of carbon resources will simply become too high and consequently the

To these on-going dysfunctions have now been added two profound new realities. First, we are at, or close to, the peak carbon resource production point. From now, the reserves of available, commercially recoverable carbon resources will decline and their cost will rapidly appreciate. The result is that over the coming few decades the cost of carbon resources will simply become too high and consequently the configuration of the global economy will profoundly alter.

[12] See Jeremy Leggott (2005) 'Half Gone: Oil, Gas, Hot Air and The Global Energy Crisis.' London: Portobella Books.

configuration of the global economy will profoundly alter. Second, it is now clear that the burning of carbon resources has precipitated a climate change event of unprecedented scale. The evidence and data on this is now overwhelming and compelling. One of the key drivers in this has been the concentration of Carbon Dioxide (CO2) in the atmosphere. CO2 is a direct consequence of carbon resource burning. In simple terms, we are returning solid carbon back into the atmosphere in the form of gas which is trapping heat on the planet's surface.

For these two primary reasons, the age of carbon resources is now coming to an end. This is the context within which we must examine the continuing exploration and exploitation of carbon resources. We need to make a transition to a non-carbon economy as quickly as possible. For these reasons, we need to radically question government policy in regards to the utility and ethics of any further exploration for oil and gas and we need to examine the fiscal regime surrounding existing commercial finds.

The principles governing fiscal policy should include:

Carbon taxes [levies, etc.] have been misapplied to users when they should be applied to suppliers. This re-configuration should be on the logic of seeking to change behaviour and forcing the energy companies to develop new energy sources whether international or state owned. Taxes [levies, etc.] are needed to pay for external costs associated with climate change and are also required to pay for the transition to a sustainable resource economy.

Brief History of Oil and Gas Industry in Ireland

1969 *– Marathon awarded licence for offshore exploration*

1970 *– Marathon Oil begins exploring for oil and gas off the Cork coast and drills first gas well*

1973-75 *– Resources Protection Campaign lobbies against sell out of States oil, gas and mineral wealth*

1973 *– Marathon declares a commercial find 50 kilometres near Kinsale Head off Cork*

1975 *– Labour Party Minister for Industry and Commerce, Justin Keating, introduces licensing terms for offshore exploration and production, including provision for 50% State participation and production royalties of between 8% and 16% and production bonuses on significant finds. Standard corporation tax of 50% was also applied. Discussions were held with Norwegian officials concerning possible co-operation in the formation of a State oil company and direct participation by the Irish State in North Sea fields to help Ireland develop expertise and financial capacity*

1977 *– Petroleum Affairs Division of the Department of Industry and Commerce established and becomes the ad hoc administrative centre for the oil and gas industry*

1978 *– Marathon begins production of gas from Kinsale field*

1979 *– Fianna Fáil Minister for Energy Des O'Malley sets up Irish National Petroleum Corporation but precludes it from direct involvement in exploration or production*

1982 *– Enterprise Oil established as an independent company following privatisation of the British government's ownership share in North Sea oil and gas licences*

1985 *– Labour Party Minister for Energy Dick Spring introduces revised terms for marginal fields of less than 75 million barrels*

1987*- PAD selling reports on seismic and drilling data for several blocks in the Porcupine bank to oil companies for £8000 (€10,300)*

1987 *– Fianna Fáil Minister for Energy, Ray Burke, introduces new licensing terms, abolishing State royalties and State participation, and introduces 100% tax write-offs for exploration and development costs dating back 25 years and the ending of all State participation in oil and gas development on 30th September. This follows intensive lobbying by oil industry representatives*

1989 *– Ballycotton gas field discovered – added to the Kinsale Head field*

1992 *– Minister for Finance Bertie Ahern introduces 1992 Finance Act, reducing corporation tax on oil profits from 50% to 25%. Minister for Marine and Natural Resources Bobby Molloy introduces new licensing terms*

January 1993 *– Enterprise Oil (Enterprise Energy Ireland) awarded deep-water exploration licence for block 18/20, which contains Corrib gas field*

October 1996 *– Enterprise Oil announces discovery of the Corrib gas field in the Slyne basin 80 kilometres off the northwest coast of Mayo. Enterprise Oil incorporated in the Bahamas*

July 2000 *– Government passes Gas (Amendment) Act of 2000*

September 2000 *– Bertie Ahern introduces Statutory Instrument 110, transferring powers over production pipelines from Department of Public Enterprise to Department of the Marine and Natural Resources*

2001 *– Appraisal well drilled on the Seven Heads structure off Cork and declared commercial two years later with small levels of oil brought onshore*

January 2001 *– EEI applies to Department of Marine and Natural Resources for petroleum lease. Mayo County Council requests further information from EEI*

August 2001 *– Mayo County Council grants planning permission for the Corrib Gas terminal; Rossport residents immediately appeal decision to An Bord Pleanála*

15 November 2001 *– Fianna Fáil minister, Frank Fahey introduces Statutory Instrument 517, giving him as Minister for the Marine and Natural Resources powers to grant compulsory acquisition orders for land along the route of the proposed Corrib gas pipeline*

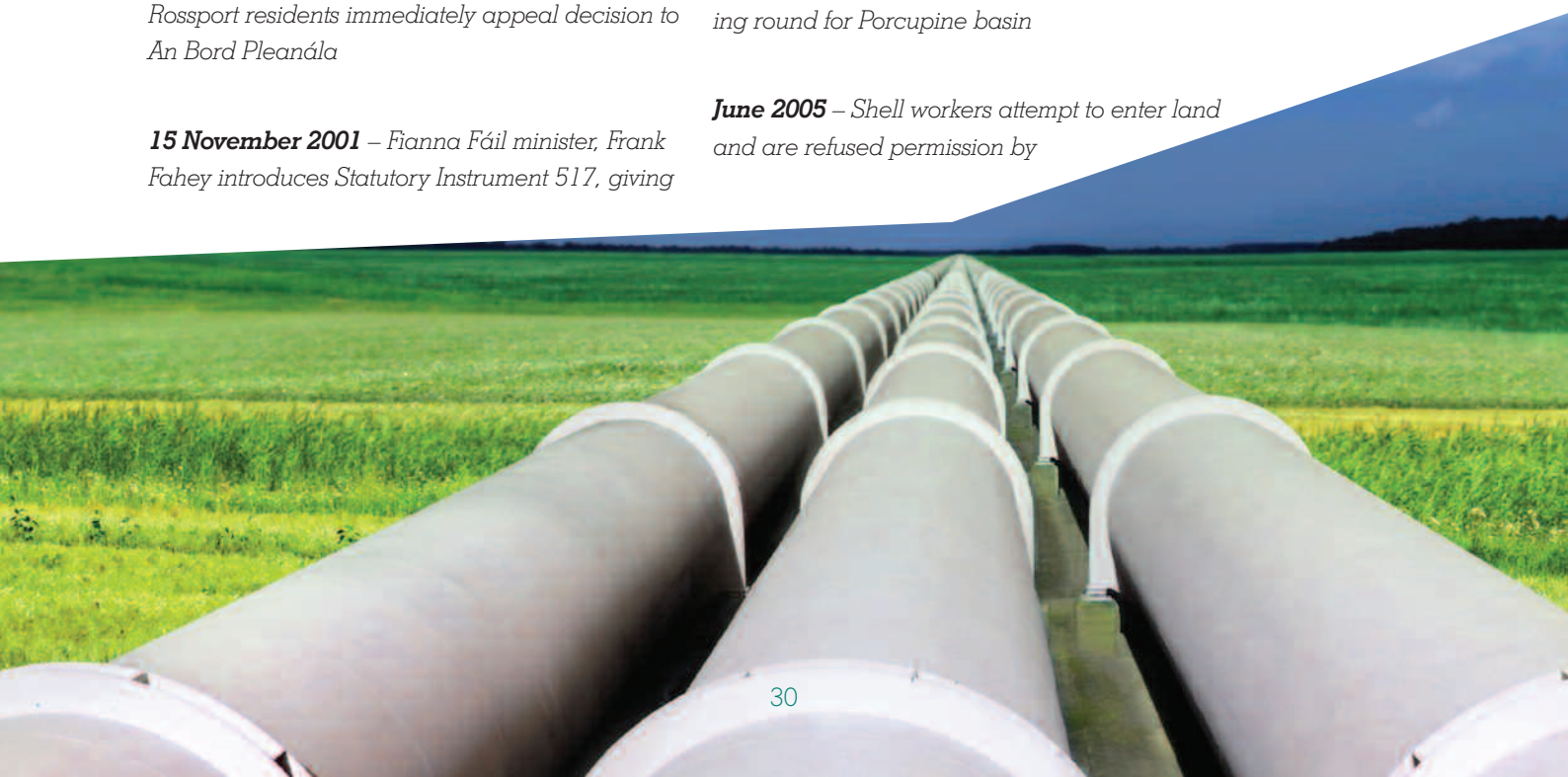
16 November 2001 *– Frank Fahey grants petroleum lease to EEI; Bord Pleanála announces oral hearings into appeal against Mayo County Council planning decision for the terminal at Ballinaboy*

21 November 2001 *– EEI submits new environmental impact statement (EIS) to Department of Marine and Natural Resources in support of application to build a gas pipeline from sub-sea facilities to the processing plant at Ballinaboy. EEI applies for approval of its plan of development, foreshore licence and consent to construct the pipeline*

April 2002 *– Shell buys Enterprise Oil. Frank Fahey issues consent for plan of development and for pipeline at Ballinaboy*

2003 *– After a lengthy oral hearing, ABPs planning inspector refuses permission for the Corrib gas terminal arguing that it was in the wrong location and posed a significant environmental threat. Following a re-application planning permission was again granted by Mayo County Council and upheld by An Bord Pleanála. Licensing round for Porcupine basin*

June 2005 *– Shell workers attempt to enter land and are refused permission by*



landowners; Five Rossport men are jailed for breach of high court injunction and contempt of court. (Since the five men were released in October 2005, protests and opposition to the route of the pipeline and the location of the terminal have continued with over €14.245 million expended on Garda overtime and allowances alone. The on-going opposition to the project and issues around policing have resulted in a serious breakdown in relations between Shell, its partners and the local communities.)

***2005** – Licensing round for Northeast Rockall Basin*

***2006** – Five applications from four countries received for Frontier exploration licence in the Slyne/Erris/Donegal licensing round*

***2007** Licensing round for the Porcupine Basin off the west coast*

***2007** – New licensing terms introduced by Green Party Minister for Communications, Energy and Natural Resources, Eamon Ryan*

***2009** – An Bord Pleanála opens new hearing on modified onshore pipeline route to Ballinaboy terminal. Off shore pipeline from Corrib gas field laid despite protests by local fishermen, other members of the community and supporters. ABP rules that half of the modified route is unacceptable on safety grounds. Licensing round for Rockall off the north-west*

***2010** – Licensing round for onshore licensing options opened. New round for licensing options in the Atlantic Margin opened with applications sought by May 2011*

***2010** – ABP oral hearing on third proposed onshore pipeline route to Ballinaboy through a special area of conservation and under Sruwaddacon Bay*

***2011** – ABP approves new route. Permissions granted by Minister Pat Carey just before Fianna Fáil leaves office in March. Application date for new offshore exploration licenses in Atlantic margin expires end of May. New Fine Gael/ Labour Government defeats Sinn Fein motion for introduction of a 50% tax on profits from any oil and gas find and a return to 51% State participation and 7.5% royalties. Minister for Communications, Energy and Natural Resources, Pat Rabbitte agrees to Oireachtas committee review of oil and gas licensing terms*

The SIPTU Oil and Gas Review Group was convened in early 2010 by SIPTU General President, Jack O'Connor, and asked to consider the potential that could accrue to the Irish exchequer from a change to the current licensing regime that governs the exploration, development and production of Ireland's offshore and onshore oil and gas reserves. The Group includes Jack O'Connor; Noel Dowling and Padhraig Campbell of the SIPTU National Offshore Committee; Amanda Slevin UCD Phd Candidate; Dr Mark Garavan Lecturer GMIT; Marie Sherlock SIPTU Economist; Colm Rapple financial journalist; and Frank Connolly SIPTU Head of Communications.

Bibliography

Easo, J. (2009). Licences, concessions, production sharing agreements and service contracts. In G. Picton-Turbervill (Ed), Oil and gas: A practical handbook. London: Globe Law and Business.

Ernst & Young. (2009). Global oil and gas tax guide 2009. Dublin: Ernst & Young.

Fox, D. (2003). Fiscal terms comparison: A study for Petroleum Affairs Division, DCMNR. Dublin: Department of Communications, Marine and Natural Resources.

Indecon International Economic Consultants in association with London Economics. (2007). Expert Advice on Review of Irish Petroleum E & P Licensing Terms. Report prepared for the Department of Communications, Marine and Natural Resources. London: Indecon.

Irish Offshore Operators Association, (2008). Securing our energy future. Dublin. IOOA.

Johnston, D. (2008). Changing fiscal landscape. Journal of World Energy Law and Business, 1(1) , 31-54.

Johnston, D., Johnston, D. & Rogers, T. (2008). International Petroleum Taxation. Independent Petroleum Association of America (pp. 1-55). Hancock, New Hampshire: Daniel Johnston & Co., Inc.

Kaiser, M.J. & Pulsipher, A.G. (2006). Capital investment decision making and trends: Implications on petroleum resource development in the U.S. Gulf of Mexico. New Orleans: Mineral Management Service, U.S. Department of the Interior.

United States Government Accountability Office. (2007). Oil and gas royalties: A comparison of the share of revenue received from oil and gas production by the Federal Government and other resource owners. Washington DC: US Government Accountability Office.

Jeremy Leggott (2005) 'Half Gone: Oil, Gas, Hot Air and The Global Energy Crisis.' London: Portobella Books.

Chart of Oil and Gas finds

While only four discoveries offshore Ireland have so far been declared commercial, another fourteen are still being assessed. The table issued in April 2011 details the 18 significant hydrocarbon onshore and offshore discoveries.

Discovery Name	Hydrocarbon Type	Status	Current Operator	Discovery Year	Discovery Well	Original Well Operator	Area
Bandon	Oil	Under assessment	Serica Energy	2009	27/4-1,1z	Serica Energy	Slyne Basin
Hook Head	Oil	Under assessment	Providence Resources	2007 (Initially identified 1971	50/11-3	Providence Resources	North Celtic Sea Basin
Schull	Gas	Under assessment	Island Oil and Gas	2007 (Initially identified 1987)	57/2-3	Island Oil and Gas	North Celtic Sea Basin
Old Head of Kinsale	Gas	Under assessment	Island Oil and Gas	2006	49/23-1	Island Oil and Gas	North Celtic Sea Basin
Dooish	Gas Condensate	Under assessment	Shell	2002	12/2-1	Enterprise Energy Ireland	Rockall Basin
Corrib	Gas	Undergoing development	Shell	1996	18/20-1	Enterprise Oil	Slyne Basin
Ballycotton	Gas	In production	PSE Kinsale Energy	1989	48/20-2	Marathon	North Celtic Sea Basin
Dunmore	Oil	Under assessment	Providence Resources	1985	50/6-1	Gulf	North Celtic Sea Basin
Galley Head	Gas	Under assessment	Lansdowne Oil and Gas	1985	48/18-1	BP	North Celtic Sea Basin
Helvick	Oil	Under assessment	Providence Resources	1983	49/9-2	Gulf	North Celtic Sea Basin
Spanish Point	Gas Condensate	Under assessment	Providence Resources	1981	35/8-2	Phillips	Porcupine Basin
Connemara	Oil	Under assessment	Island Oil and Gas	1979	26/28-1	BP	Porcupine Basin
Burren	Oil	Under assessment	Providence Resources	1978	35/8-1	Phillips	Porcupine Basin
Ardmore	Gas	Under assessment	Providence Resources	1974	49/14-1	Marathon	North Celtic Sea Basin
Barryroe	Oil	Under assessment	Lansdowne Oil and Gas	1973	48/24-1	Esso	North Celtic Sea Basin
Seven Heads	Gas	In production	PSE Seven Heads	1973	48/24-1	Esso	North Celtic Sea Basin
Kinsale Head	Gas	In production	PSE Kinsale Energy	1971	48/25-2	Marathon	North Celtic Sea Basin
Dowra	Gas	Under assessment and under application		1963	Dowra-1	Ambassador Irish Oil Company	Onshore NW Carboniferous Basin

"I saw the thing that had happened all over the world.... Irish governments were so anxious to get a little bit of revenue that they wrote conditions that were much too soft. I don't know the extent of their agreements now. I'm terrified that they have detailed unbreakable agreements which will be very dis-advantageous to us which...were made at a time when oil was much cheaper and in much greater supply. They were made at a bad time and I would like to add this thought, which is a thought about the future. If we waste this resource it will be a crime against the Irish people. We are in danger of doing it. I would like to see the abrogation or long fingering of existing agreements and to open up the situation to the world...Oil is $100 a barrel and the technologies of deep water drilling are developed. We should go again fresh in the light of current circumstances and not the circumstances of a decade ago when nobody ever believed oil would start to run out."

Interview in April 2008

Justin Keating, former Labour Party Minister for Industry and Commerce who introduced the 1975 terms for offshore exploration. He died in December 2009.

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