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Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **28-Sep-2011**

English - Or. English

TRADE AND AGRICULTURE DIRECTORATE
FISHERIES COMMITTEE

TAD/FI/A(2011)2
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Cancels & replaces the same document of 12 July 2011

DRAFT AGENDA OF THE 108TH SESSION OF THE COMMITTEE FOR FISHERIES

Paris, 10-12 October 2011

This Draft Agenda cancels and replaces TAD/FI/A(2011)2 for the following reasons:

Conference room number of meeting has not yet been determined. We were informed that the meeting will not be held in CC4.

Title of document TAD/FI(2010)8/REV3 "Fossil Fuel Subsidies" mentioned in Item 3, has now changed to "Fuel Tax Concessions".

For further information, please contact:
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JT03307778

English - Or. English

IMPORTANT

Delegates participating in this meeting should be advised that the security arrangements in force at the OECD include the obligation to present an identity document bearing a photograph.

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It is desirable that Delegates should be made aware of this requirement in order to avoid any difficulty in obtaining entry.

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COMMITTEE FOR FISHERIES

DRAFT AGENDA of the 108th SESSION

OECD Conference Centre, CC13
2, rue André Pascal, Paris 75016

10-12 October 2011
9:30 – 18:00

1.	**Adoption of the Draft Agenda for the 108th Session**	TAD/FI/A(2011)2 ***Action required***: Approval
2.	**Statement of the Director of Trade and Agriculture** Statement by Ken Ash, Director of TAD.	For Information
3.	**Fuel Tax Concessions** As agreed at the 107th Session the paper has been revised and some delegations have submitted updates. The revised paper is now submitted for approval with a view to a wider dissemination of the paper.	TAD/FI(2010)8/REV3 ***Action required*:** Discussion and Approval
4.	**Economics of Rebuilding Fisheries** i) Draft Best Practice Guidelines This document was originally drafted at the 107th Extended COFI meeting but has since then been revised taking into account discussions at the 107th COFI Session as well as written comments received since then. ii) Issues Paper– for approval This new version has been revised according to discussions at the 107th COFI Session and written comments submitted. iii) Inventory of National and Regional Approaches to Fisheries Rebuilding The Inventory of National and Regional Approaches to Fisheries Rebuilding has been updated with one additional country submission.	 TAD/FI(2011)3/REV ***Action required*:** Discussion and Approval TAD/FI(2010)10/REV2 ***Action required*:** Discussion and Approval TAD/FI(2010)11/REV2 For information

5.	**Development and the OECD** At the May 2011 OECD Ministerial Council Meeting, Ministers endorsed an OECD Strategy on Development [C/MIN(2011)8]. This Strategy is now being developed [C(2011)105] and is of strategic importance to the OECD and its future. This agenda item will be an opportunity for Delegates to be informed about the Development Strategy and discuss how the fisheries and aquaculture sectors can contribute to this end. As announced at the 107th session a background note [TAD/FI(2011)9] entitled *"Poverty, Food Security and Fisheries and Aquaculture"* by Edward Allison, WorldFish Center, is now tabled to assist the Committee in scoping out a possible contribution to the OECD Development Strategy.	C/MIN(2011)8 C(2011)105 TAD/FI(2011)9 ***Action required:*** for Discussion
6.	**Further Consideration of Elements of the Programme of Work 2011-2012 and beyond** i) As requested at the 107th Session, four scoping papers have been prepared for programme of work elements on green growth, fisheries and aquaculture. Document TAD/FI(2011)8 provides an overview of the 2012 PoW elements while Parts 1-4 provide detailed scoping outlines of the requested areas of interest, *i.e.* energy use, waste, governance and aquaculture. ii) Programme of Work and Budget 2013-2014. The COFI will have a first discussion of priorities for the 2013-2014 biennium. This discussion should allow the Secretariat to produce a template document for the COFI's decision in April 2012 and subsequent submission to Budget Committee/Council.	TAD/FI(2011)8 and Parts 1-4 ***Action required***: for Discussion and Approval ***Action required:*** for Discussion
7.	**Presentation of the FAO/OECD Agriculture Outlook** The Secretariat will provide an overview of the FAO/OECD fisheries model used for the Agriculture Outlook.	***Action required:*** for Discussion

8.	**Other Activities** i) Report on Other OECD Activities Related to Fisheries As has been established practice, the Secretariat will inform Delegates about projects in other parts of the Organisation that have relevance to the work of Fisheries Committee. Representatives from other directorates of the OECD will provide the Committee with an update of their work. ii) Report on Activities of the Fisheries Secretariat The Secretariat will report on past and planned activities of the Secretariat, including attendance at meetings. iii) Reports from member countries on activities of relevance to the COFI Oral reports from Delegations are welcome. iv) Reports from Observers Oral reports are expected from observers of the FAO, Council of Europe, World Bank and UNEP.	TAD/FI/RD(2011)3 ***Action required***: Information TAD/FI/RD(2011)4 ***Action required*:** Information Oral report ***Action required***: Information Oral report ***Action required*:** Information
9.	**Election of Bureau to serve for 2012** The facilitators of the Bureau Elections for 2012 will present the results of their efforts. Members of COFI will decide on the composition of the Bureau to serve in 2012.	***Action required:*** For decision (Members only)
10.	**Other Business**	***Action required***: Discussion
11.	**Adoption of the Summary Record**	TAD/FI/M(2011)2

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Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **19-Sep-2011**

English - Or. English

TRADE AND AGRICULTURE DIRECTORATE
FISHERIES COMMITTEE

Cancels & replaces the same document of 16 September 2011

FUEL TAX CONCESSIONS

10-12 October 2011

Delegates will find enclosed a revised version of the paper on support for fossil fuel use. This paper is submitted for Discussion and Approval at the Committee's 108th Session under Agenda item 3. Delegates are asked to consider that the paper be disseminated in the OECD's Food, Agriculture and Fisheries Working Paper Series as well as the OECD web site.

For further information, please contact Roger Martini (e-mail: Roger.Martini@oecd.org)

JT03307219

TAD/FI(2010)8/REV3
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NOTE BY THE SECRETARIAT

This document has benefitted from the voluntary submissions and responses of the countries surveyed. Their comprehensive and transparent assistance was crucial in developing a credible estimate of the total value of support to fuel use, including in particular tax concessions for OECD fishing vessels. Data compiled during this exercise has been included in the Committee's Governmental Financial Transfers (GFT) database.

Preliminary analysis based on country submissions (as of March 2010) was included as part of the Organisational response to the G-20 Leader's request for information and analysis on fuel support policies as follows. There was a report for G-20 Finance Ministers (April 2010) and a final version of the report presented to G-20 Leaders (June 2010) which included a line on the fisheries as follows: "A preliminary and incomplete analysis of tax concessions relating to rebates, reductions and exemptions on excise taxes normally charged on fuels used by OECD fishing vessels suggests these could be on the order of USD 1.4 billion a year".

A revised document was presented to Delegates at the 107th Session for discussion and approval. At that meeting, Delegates were requested to verify the accuracy of the data presented here, and ensure that their national submissions are appropriately captured. In addition, Delegates were asked to agree to submit information on fuel-tax exemptions to the Secretariat on a regular basis as part of the *Review of Fisheries* (Government Financial Transfers – GFT - section).

This version of the paper on fossil fuel consumption, support to fuel use and tax concessions has been revised following discussions and feedback received on the draft of the paper presented at the 107th Session of the COFI, and in light of the additional information and data received during the inter-sessional period. It is submitted to the 108th Session of COFI for DISCUSSION and APPROVAL.

This current assessment of fuel-tax exemptions is also a useful starting point for a possible future review of the Committee's GFT framework.

It is envisaged that this paper would be included in the OECD Food, Fisheries and Agriculture Working paper series and on the OECD web site following confirmation at the 108th Session of COFI.

TABLE OF CONTENTS

Tables

Figures

Boxes

FUEL TAX CONCESSIONS

Context

1. In September 2009, leaders from the Group of Twenty (G-20) nations gathered in Pittsburgh for a Summit. Among other things, they agreed to "phase out and rationalise over the medium term inefficient fossil fuel subsidies while providing targeted support for the poorest". In their joint communiqué, they "request relevant institutions, such as the IEA, OPEC, OECD, and World Bank, provide an analysis of the scope of energy subsidies and suggestions for the implementation of this initiative and report back at the next summit".

2. In October 2009, at its 104th session, the Committee for Fisheries identified an interest in assessing the long-term impacts to fishing fleets of phasing out fuel support. In this regard, the Committee agreed to an immediate effort that would both contribute to this interest while also providing timely input to the G-20 process. This analysis responds to that request by providing:

- an approximation of the value of government transfers related to fuel use for fishing fleets in OECD Member countries, as well as non-member economies where data was made available.

- an initial assessment of the impacts of such support and the implications for the fishing industry of phasing them out.

3. At the 2009 Pittsburgh Summit, G-20 Leaders recognised that "inefficient fossil fuel subsidies encourage wasteful consumption, reduce our energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change". The presence of policies whose side effects encourage carbon emissions (*e.g.* budgetary transfers, tax exemptions) can undermine the effectiveness of climate policy instruments. This context is important as it points to the reason for undertaking this exercise: to reduce inefficient fossil fuel consumption with a view to reducing greenhouse-gas emissions.

4. This document provides a starting point in determining the extent of fuel tax concessions and fuel consumption in the fisheries sector for those countries (primarily OECD member countries) participating in the exercise. To what extent the various fuel tax exemptions/concessions reported in this document can be equated to a "fuel subsidy" is still debated in various forums (in particular WTO). This is further underscored by difficulties in measurement that make comparisons across fisheries and countries a very challenging task. However, the report provides an indication of the potential contribution to reducing greenhouse-gas emissions and other impacts that phasing out fuel support policies would yield.

Identification and measurement of tax concessions

Measuring support to the fisheries sector

5. The international debate over financial support to the fisheries sector has resulted in a variety of definitions and classification frameworks to measure and evaluate support. In the context of the WTO, these definitions have implications for trade negotiations. For example, the term subsidy has a particular

definition in the context of the WTO that is very specific and serves a role that more vernacular uses of the term do not. [1]

6. OECD work on measuring policies in agriculture and fisheries has come to use the terms "transfer" or "support" as interchangeable terms describing the level and nature of policy efforts made with respect to specific recipient groups and has thus deliberately chosen not to apply the WTO definitions.[2] Apart from the WTO dimension, the reason for this is that the term subsidy has come to imply a certain degree of impact on production or trade, a presumption that the more neutral term transfers avoids. The OECD's Committee for Fisheries has developed an analytical framework to define and catalogue all governmental financial transfers (GFT) to the fishing industry, specifically the monetary value of government interventions associated with fisheries policies (Box 1). The GFT framework is intended to lead to a dataset of transfer-generating policies directed to the fishing sector and a better understanding of the effects of such transfers on fisheries.

7. GFTs may arise as a result of budgetary expenditure. In addition support may come through market interventions such as tariffs or other price interventions which are not captured in the case of fisheries which is different from the case in agriculture [see Financial Support to Fisheries: Implications for Sustainable Development (OECD, 2006)]. GFTs may occur in the market for output (fish) or inputs (fuel and other factors of production). For example, the GFT system classifies fuel-tax exemptions as: "Other cost-reducing transfers and direct payments". This category refers to all transfers that are intended to reduce the costs of fishers that are not elsewhere captured in the classification system with the exception of market base price support.

1. The Norwegian submission to this exercise specifically notes that "… in the context of subsidies within the framework of the WTO, tax relief systems may or may not be considered as subsidies. The purpose of such systems is primarily to regulate or 'improve' the conditions of competition between different national sectors and the WTO does not take as a premise that possible countervailing measures will even out different conditions of competition between like sectors in different countries. To the contrary, the situation where a country taking countervailing measures subsidises its own sector (for the 'like product') is not addressed by the WTO Agreement."

2. The WTO Agreement on Subsidies and Countervailing Measures sets out a definition of a subsidy as "conferring a benefit to the recipient". At the same time, the subsidy must be specific. Fuel subsidies may be specific or non-specific. In some countries the direct fuel support that stabilizes fuel prices is part of a more general support system for fuel for all purposes. In such circumstances, depending on how it is designed, the subsidy is non-specific. On the other hand, for those systems that have generally applicable taxes on fuel and then give a tax rebate or exemption, this will be considered a specific subsidy within the meaning of the WTO Agreement. Lastly, a system that taxes a certain externality (wear and tear of roads) does not provide a specific subsidy to those who do not use the high-way and are exempt from the tax. On the other hand, if we consider climate gas emissions as the externality, taxing some kinds of fuel use and not others, would imply a specific subsidy for those that that are not taxed.

Box 1. OECD's GFT Analytical Framework

The OECD's Committee for Fisheries has undertaken a systematic effort to define and measure GFTs to the fisheries sector in Member countries. The development of a GFT classification system and the collection of detailed information on GFTs in OECD Member countries were undertaken as part of the OECD's project on the *Transition to Responsible Fisheries*. As a result, country-level data have been collected by the OECD on an annual basis, and results included in its regular statistical publications, *The Review of Fisheries in OECD Countries: Country Statistics*. GFTs are defined as "the monetary value of government interventions associated with fisheries policies" and covers transfers from central, regional and local governments.

The analytical framework used to develop the GFT framework is based on the sustainable development concept. Government implementation of a transfer policy will impact firstly on the economic dimension as it is an economic policy instrument designed to change the prices faced by agents in the sector, or to change the relative wealth of participants. The effects on the economic dimension will then flow through to the environmental and social dimensions, which will in turn generate dynamic feedback effects among the three dimensions. The main advantage of taking a sustainable-development approach is that it allows the full range of short-term and long-term effects of transfer policies to be addressed, potentially identifying and avoiding unintended or unforeseen consequences.

Sources : OECD (2000, 2006)

8. The objective of this exercise is to better understand the different public policies related to fossil fuel consumption by fisheries. While budgetary policies are used in some cases, the majority of support to fuel use comes in the form of tax concessions (Box 2).[3]

9. Many countries have well-established procedures for measuring and reporting tax expenditures in personal and corporate income taxes as well as for broad consumption taxes like the VAT (OECD, 2010). All OECD countries apply excise taxes to some fossil fuels. But the tax rates that apply for some transport fuels are typically different than for other use, e.g. private transport fuels or fossil fuels used for residential heating, for industrial processes or for other purposes. The tax expenditures that fiscal authorities report for reduced rates, refunds or exemptions can represent substantial amounts in many countries.

Box 2. What are tax expenditures?

Tax expenditures are defined as "a transfer of public resources that is achieved by reducing tax obligations with respect to a benchmark tax, rather than by a direct expenditure" (Kraan 2004) – cited in *Tax Expenditures in OECD Countries* (OECD 2010). Tax expenditures can be used as an incentive to change behavior or to provide an income transfer. While the terms "tax expenditure" and "tax concession" are synonymous, the term "tax expenditure" emphasises the similarity to direct budgetary outlays. For example, the Canadian Department of Finance defines tax expenditures as "a subset of tax concessions that are used as alternatives to direct government spending for achieving government policy objectives" (CDF 2000).

Tax expenditures take many different forms. They can be difficult to measure as "some tax measures may not be readily classified as part of the benchmark or an exception to it" (Whitehouse 1999). Tax expenditure estimates measure the benefit of the tax concession to the recipient, whereas direct expenditure estimates measure the impact of the expenditure on the budget on a pre-tax basis (AT 2005). Unlike budgetary outlays, tax expenditures are not always estimated by governments and depend in part on how beneficiaries respond to them. Some examples of tax expenditures are:

- ***allowances***: amounts deducted from the benchmark to arrive at the tax base;
- ***exemptions***: amounts excluded from the tax base;
- ***rate relief***: a reduced rate of tax applied to a class of taxpayer or taxable transactions;
- ***tax deferral***: a delay in paying tax;
- ***credits***: amounts deducted from tax liability (Anderson, 2008).

3. Several countries (Canada, Denmark, Japan, Korea, New Zealand, Norway and the United States) specified that they do not consider fuel-tax exemptions reported here as subsidies, but nevertheless provided data, in keeping with the G-20 Leaders' request.

10. Tax concessions for fisheries are usually provided through lower rates, exemptions, or rebates with respect to the two main types of consumption taxes:

- *Value added taxes* (VAT) which are broad-based taxes levied at each stage of the value chain, representing a percentage of the value of the good or service sold.

- *Excise taxes directed at specific fuels*. These are generally the most visible form of tax concessions related to fossil fuels, as they have a direct effect on prices and therefore consumption, though they can be difficult to measure.

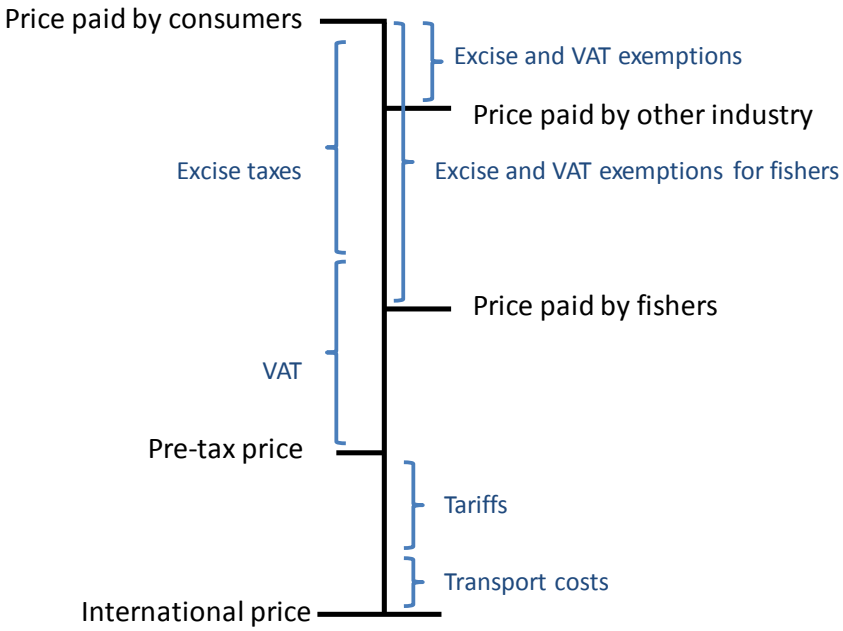
11. Tax concessions directed at fisheries usually are targeted either at fisheries as a specifically-identified industry or part of a group of industries (either as targeted support for the sector or the fact that fuel is used as an input to production rather than for final consumption), or to fisheries by virtue of the type of fuel that is used. In the first case, fuel used in fisheries is taxed less heavily than for users subject to the standard rate of tax. In the second case, specific fuels can be subject to reduced rates or exempted from tax altogether. A common example is a lower tax rate (or exemption) on diesel relative to gasoline.

12. An important point to bear in mind when reviewing any tax concessions relating to VAT and excise taxes on fuel is that, in most OECD countries, the majority of the fuel that is consumed is taxed to some degree, but the rate of taxation and its application can vary widely across countries. The differential treatment of fisheries relative to the standard tax rate reported for a specific country will be reflected in relative prices *within* an economy, but does not by itself provide an indication of differences in fuel costs *between* countries.

13. Cross-country comparisons of the impact of tax concessions for fisheries cannot be made because a benchmark for comparison does not exist. Within a country there will be many different prices paid for fuels of different types and for different uses according to tax concessions granted to different users (Figure 1). Should the price for fuel paid by fishers be compared to consumers or other industrial users? If so, which ones? Between countries, differences in tariffs and transport costs as well as in VAT and excise taxes will lead to different prices faced by fishers, consumers and others in different countries[4]. The level of the tax expenditure is only part of the story if one is interested in evaluating the impact of tax concessions on fisheries, and is not by itself sufficient to draw conclusions about the relative prices paid by fishers in different regions, or the impacts of that price differential.

4. In addition, different tax regimes may allow for wide differences in the definition of income and allowable deductions.

Figure 1. Tax concessions and price formation



14. Tax concessions represent real transfers in the domestic economy, from taxpayers to fishers, and in this context the fact that other transfers to other users exist is less important. The size of the transfer reflects, along with other components of the GFT, the level of policy effort expended on the fisheries sector. Measuring the level of policy transfer is a necessary first step in an analysis that may lead to an estimate of their impact.

15. Tax concessions are one of the less transparent ways to deliver such transfers, such that their scale and importance may not be appreciated by policy makers, i.e. such exemptions are less visible than a direct transfer with a budget line. This is important for policy coherence as well as policy review and evaluation. However, in the context of efforts to reduce emissions related to climate change, a good understanding of all policies that may affect emissions is essential. Understanding the scale of these expenditures is also important to contributing to fiscal reform.

16. A challenge for this report is determining the scope of policies to be considered as directed to fisheries. VAT exemptions can be available for a variety of activities and so may not be exclusive to fisheries. In this case, it can be difficult to claim such an exemption as targeted support to the fisheries sector.

17. Excise taxes, however, intentionally raise the price of the taxed item, e.g. because its use is deemed harmful to society, or because governments can raise revenues easily and relatively efficiently on their consumption. Given this intent, there is much less rationale for exempting the fisheries sector and exemptions are usually justified for reasons of competitiveness or social equity. Fuel used by producers in primary sectors (agriculture, fishing, forestry and mining) is exempted because users do not operate on publicly financed roads, on the argument that at least part of the tax serves as a means for recovering the cost of building and maintaining those roads. On the other hand, excise taxes may be applied with the intention of internalising the environmental costs of fuel use or to raise revenues, in which case the tax exemptions may limit the effectiveness of the tax.

Data collection

18. For the purposes of collecting data for this exercise, a questionnaire was developed and circulated to Delegates of the Committee for Fisheries (COFI) in December 2009, which includes OECD member countries as well as some non-member economies (Annex 1). This questionnaire asked about any government intervention relating to fossil fuels that reduces the cost and increases the revenues of commercial fishers, regardless of whether or not they involve direct financial transfers. This would include a rebate, refund, expenditure or reduction (to fishers) from Value Added Taxes (VAT) and other such direct fuel taxes that are normally levied by the government on fuel users in the economy; price controls that suppress fuel prices below market prices; and programmes that provide direct transfers or payments.

19. Data on fossil fuel consumption by the fisheries sector, budgetary support and tax concessions were provided through the voluntary responses of OECD member, accession and observer economies. The most recent data were requested, with a focus on 2007 and 2008 and for both the national and sub-national levels as feasible. Information was also requested on any specific budgetary or tax concession implemented as a result of the increase in fuel prices in 2008 (see Figure 2 below). Existing data collected as part of the annual statistical collection on GFTs was also examined.

20. This information was supplemented by the data collected on fuel taxes, which are compiled in a database of instruments used for environmental policy and natural resources management by the OECD and the European Environment Agency, as well as a desktop review of the literature.[5] The market price paid for fuel by fishers was supplemented using data from the International Energy Agency where necessary (OECD/IEA, 2009) (See Annex 3).

21. The methods used by countries for calculating the total value of fuel-tax concessions depends on how the tax concessions are applied in each case: this may be through a tax refund where an individual pays the fuel tax and the government refunds part or all of it. In such cases, the amount of the refund the government makes (*i.e.* forgone revenue) is the value of the tax concession. Alternatively, there may be a tax reduction or an immediate exemption; this refers to instances in which an individual pays less or no tax at the time fuel is purchased. Budgetary payments related to fuel use are relatively rare; only Russia reports the use of these during the study period.

Summary of Results

22. While the rate of the fuel-tax concession per litre varies across countries, in the majority of instances, a full tax exemption is applied to the fisheries sector. In some countries, fuel-tax concessions vary depending on the level of government. For example in Canada and the United States, fuel taxes, and therefore the value of concessions from these taxes, vary at the sub-national (provincial or state) level, as well as from those at the federal level. These sub-national tax concessions are not fully captured in this exercise.

23. All OECD Member countries but one were able to complete the survey in the timeframe of the development of this report. Of these countries, the questionnaire was not applicable to seven OECD economies as they do not have commercial fishing fleets (Table 1). Some comments on the method and ancillary information are presented in the country reviews section.

5. The database is located at http://www2.oecd.org/ecoinst/queries/index.htm

Table 1. Summary of Country Submissions

Fuel-tax Concession	Australia, Belgium, Canada, Denmark, Estonia, Finland, France, Greece, Italy, Japan, Latvia, Mexico, New Zealand, Norway, Slovenia, Spain, Sweden, Turkey, United Kingdom, United States, Korea
Budgetary Support	Russian Federation
No Fuel-tax concession or other support	Chile, Germany, Iceland, Netherlands, Poland, Portugal, Thailand
Not applicable	Austria, Czech Republic, Hungary , Luxembourg, Slovak Republic, Switzerland, Israel

24. Based on the data submitted, the estimated total value of fuel-tax concessions for OECD countries was USD 2 billion in 2008, with a total amount of fuel consumed of 9.3 billion litres; this latter figure also includes fuel consumed by fishing vessels that were not eligible for a tax concession or other form of support (Table 2). Not all countries report the use of tax concessions, and not all countries have responded to the data request for this report.

25. The EU also provides other payments which may be linked to fuel use, but are not captured here. Specifically, the "*de minimis*" regulation for fisheries, EC Reg. 875/2007, allows a maximum support of EUR 30 000 per firm for each three-year period during 2007-2013. These funds cannot be used to increase fishing capacity, though they may be used to finance variable costs of fishing vessels, including fuel (see the discussion of the EU in the Country Review section for more details).

26. The estimate of total value of fuel tax concessions under-estimates the total value of fuel-tax concessions in OECD countries, because:

- Not all countries have responded;
- there are sub-national tax concessions that have not been reported; and,
- in some cases, a reasonable estimate of the total value of fuel-tax concessions could not be estimated because fuel-consumption data were not available, though the tax and exemption rates were known.[6]

27. The previous section cautioned against international comparisons of this data, because of the lack of appropriate benchmarks for comparison. To this should be added the issue of the different methods of estimation seen in the data submissions (Box 3).

6. An example is that of Canada, where there is a rebate of the federal excise tax of 4 cents per litre of diesel, available to many sectors of the economy, including fishing vessels that fish outside 12 nautical miles offshore. However, access to data on how many vessels proceed beyond 12 nautical miles from shore is not available, and there is therefore no way of knowing how many claim this federal rebate or the total amount of rebates claimed.

Box 3. International comparability

Tax expenditure accounting was never designed with international comparability in mind. The main challenge in any analysis of tax expenditures is to identify the reference point or benchmark tax system to be used in order to establish the nature and extent of any concession. Even where countries have adopted broadly the same methodological approach, the way in which they have implemented it in response to practical issues such as how far a relief should be regarded as a structural part of the tax regime may well differ (*e.g.* depreciation allowances used in calculating taxable profits). Moreover, differences in reporting in nominal versus present values can impede comparability. Without definitive answers to many of the issues outlined above, countries have either taken different approaches in measuring their tax expenditures or have simply not measured them at all. Ensuring a consistent approach across countries in this regard is a first step.

Leaving aside conceptual difficulties, cross-country comparison of tax expenditures remain a poor measure of how "green "is a country's tax system. Tax expenditures are dependent on two important factors: (i) the level of the standard or "optimal" tax rate and (ii) the existence of taxes on fossil fuels. As an example of the first issue, if two countries each applied a reduced rate of VAT of 10% to domestic consumption of fuel and power, but the standard VAT rate in one was 20% and in the other it was 25%, the latter would show a higher tax expenditure (in relation to GDP). In the case of the second issue where there are few taxes on fossil fuels, a country that applies a carbon tax with some tax breaks would have more tax expenditures than another country with no carbon tax in an analysis where the baseline was a standard tax and not an "optimal" tax. Clearly, any final statistic must be taken in the context of other statistics.

Source : Extracted from OECD (2010b).

Table 2. Fuel Tax Concessions and related statistics, 2008

	National Currency (NTC)	Fuel price	Rate of fuel tax concession	Net fuel price	Total volume of fuel consumed	Total Value of all fuel support	Volume caught, 2008, metric tons*	Fuel per ton caught in 2008	Landed value	FTC as % of total landed value	GFT	FTC+GFT	FTC as % of all support
	ISO symbol	*per litre*	*per litre*	*per litre*	*million litres*	*NTC millions*	*thousand tonnes*	*litres/tonne*	*NTC milliions*	*percent*	*NTC millions*		
		a	**b**	**a-b**	**c**	**b*c**	**d**	**c/d**	**e**	**(b*c)/e**	**f**	**b*c+f**	**(b*c)/(b*c+f)**
Australia	AUD	1.49	0.38	1.10	196.7	75.0	180.7	1 088.4	1 426.2	5%	37.8	112.8	66%
Belgium	EUR	0.63	0.00	0.63	45.6	0.1	22.6	2 015.6	84.1	0%	3.4	3.5	3%
Canada	CAD	1.25	0.14	1.11	82.7	11.4	950.0	87.0	1 873.6	1%	748.2	759.6	1%
Chile	CLP	440.50	0.00	440.50	167.3	0.0	3 939.4	42.5	855 827.5	0%	25 259.3	25 259.3	0%
Denmark	DKK	4.31	2.73	1.58	92.8	253.7	690.2	134.5	2 503.6	10%	586.2	839.9	30%
Estonia	EEK	15.19	0.98	14.21	4.1	4.0	102.5	39.7	231.1	2%	68.3	72.3	6%
Finland	EUR	1.04	0.25	0.78	1.2	0.3	158.4	7.7	18.5	2%	23.9	24.2	1%
France	EUR	0.99	0.43	0.56	520.0	225.0	496.9	1 046.5	958.9	23%			
Germany	EUR	1.12	0.00	1.12		0.0	229.5	0.0	206.6	0%	6.1	6.1	0%
Greece	EUR	1.22	0.29	0.93	100.3	29.4	89.4	1 121.9	299.1	10%	56.8	86.2	34%
Iceland	ISK	115.28	0.00	115.28	164.0	0.0	1 306.6	125.5	111 670.9	0%	4 159.0	4 159.0	0%
Italy	EUR	1.34	0.65	0.69	422.0	274.3	237.2	1 779.0	1 236.0	22%	47.5	321.8	85%
Japan	JPY	119.41	8.45	110.96	2 021.0	17 078.7	4 354.7	464.1	978 258.7	2%			
Korea	KRW	1 614.96	605.47	1 009.49	836.8	506 671.6	1 957.7	427.4	3 439 092.4	15%	968 183.0	1 474 854.6	34%
Latvia	LVL	0.76	0.19	0.57	17.9	3.4	157.9	113.1					
Mexico	MXN	6.42	2.00	4.42	467.5	935.0			596 759.2	0%			
The Netherlands	EUR	1.08	0.00	1.08	238.0	0.0	416.7	571.1	452.1	0%	29.7	29.7	0%
New Zealand	NZD	1.29	0.00	1.29	216.0	0.4	451.2	478.7	300.8	0%	61.7	62.1	1%
Norway	NOK	4.69	1.40	3.29	404.0	565.6	2 430.8	166.2	11 611.9	5%	1 713.9	2 279.5	25%
Poland	PLN	3.37	1.05	2.33	16.0	16.7	142.5	112.1	185.6	9%			
Portugal	EUR	1.13	0.00	1.13			240.4	0.0	256.5	0%			
Slovenia	EUR	1.13	0.30	0.82	0.2	0.1	0.9	200.5					
Spain	EUR	0.58	0.10	0.48	674.9	64.1	917.3	735.8	1 728.3	4%	168.1	232.2	28%
Sweden	SEK	9.22	3.90	5.32	47.5	185.6	231.3	205.5	1 535.5	12%	638.6	824.2	23%
Turkey	TRY	3.23	0.94	2.29	93.6	88.3	494.1	189.4	207.8	42%	357.0	445.3	20%
United Kingdom	GBP	0.83	0.09	0.74	338.6	30.5	596.0	568.1	501.9	6%			
United States	USA	1.00	0.06	0.94	1 337.5	85.6	4 357.0	307.0	1 150.0	7%	2 149.9	2 235.5	4%
Russian Federation	RUB		18.46		1 590.0	29 351.4	3 394.0	468.5					
Thailand			0.00			0.0			42 147.0				

Notes:

1. Most recent data available used; 2007 for Australia and Japan, 2005 for France. New Zealand fuel consumption estimate is from 2005;
2. Averages used for Sweden and Estonia as a range of values supplied.
3: The national fuel market price was not available in all submissions. When not otherwise available, data is from the International Energy Agency`s 2009 report - Automotive Diesel Oil Prices for Commercial Use in US Dollars/litre section (OECD/IEA 2009). *For Iceland, no IEA data available - used GTZ data instead for 2008 (http://www.gtz.de/de/dokumente/gtz2009-en-ifp-full-version.pdf)
4: OECD calculated total volume of fuel consumed for Spain and total value for Japan based on the respective country submission.

Source: Country submissions to the OECD, IEA, OECD.Stat

28. The data in Table 2 are assembled from a number of different sources. The primary source of data is the country submissions, with other data sources used where the submissions are incomplete. For example, when domestic fuel price is not available, IEA data on "Automotive Diesel Prices for Commercial" is used. However, comparing fuel prices submitted by countries with the IEA data reveals significant differences which can complicate analysis of the data. Part of the problem may be the definition of "Commercial" in the IEA data, which may or may not already include tax concessions available to fishers. Moreover, while the data reported in Table 2 is nominally for 2008, some of the data is for earlier years when 2008 data was not available. Even using this approach, there are number of empty cells in the table where data was not available.

29. The importance of fuel tax concessions as a share of landed value varies considerably across countries. Fuel tax concessions accounting for less than 3% of the total landed value in a majority of cases, of which seven countries report no concessions and seven others do not have commercial fleets (see Table 1). Six countries provide concessions worth between 3% and 9% of landed value, while seven countries offered concessions worth more than 10% of landed value. This statistic is only as good as the underlying data, and some of the variation is likely due to data problems such as under-reported landings.

30. Fuel use per tonne of fish landed also shows strong variation across countries. This statistic is obtained by dividing the total amount of fuel consumed by the total landed volume in each country in 2008. Fuel use per tonne of fish landed shows little correlation with the value of tax concessions as a share of output, with only France and Italy showing both high levels of concessions and high fuel use per tonne of landings.

31. Some of the variation is to be expected, due to the variety of fishing patterns in place. These are determined by, *inter alia*, access to stocks, gear use, management system and price. On the other hand, some of this variation is likely due to data limitations and errors. For example, the quantity of fish landed for Greece excludes small vessels which make up 60% of the total fleet, and so may under-report actual landings significantly (Tsikliras *et al.*, 2007). Under-reporting of landings will inflate the measured fuel use per tonne. It can also be difficult to separate fuel sales to the petroleum industry, shipping, fisheries and distributors. Moreover, statistics on landings may be reported on different weight bases[7].

32. Prior to this study, the value of fuel-tax concessions (exemptions and rebates for fossil fuels) was not systematically reported in the fisheries Government Financial Transfer database or the Review of Fisheries. Fuel tax expenditures are an important component of overall support and their inclusion will improve the quality and utility of the GFT database. Fuel-tax concessions can form a large or small share of GFTs in different countries. In Italy and Australia, FTCs comprise more than half of all measured support.

33. In the countries where fuel prices are higher due to higher country-wide taxes or fees, the impact of fuel-tax exemptions is to bring the cost of fuel for fishers closer to the international average. In countries where there are no fuel-tax exemptions or very low fuel-tax exemptions, the costs of fuel to fishers will be higher if country-wide fuel tax rates are high (*e.g.* Belgium, Germany, The Netherlands, Portugal) or close to the cross-country average if country-wide tax rates are low (*e.g.* New Zealand and the United States). Differences in fuel prices are also explained by country-specific factors other than tax concessions such as domestic supply and demand balance, refining capacity, degree of competition and relative transportation costs.

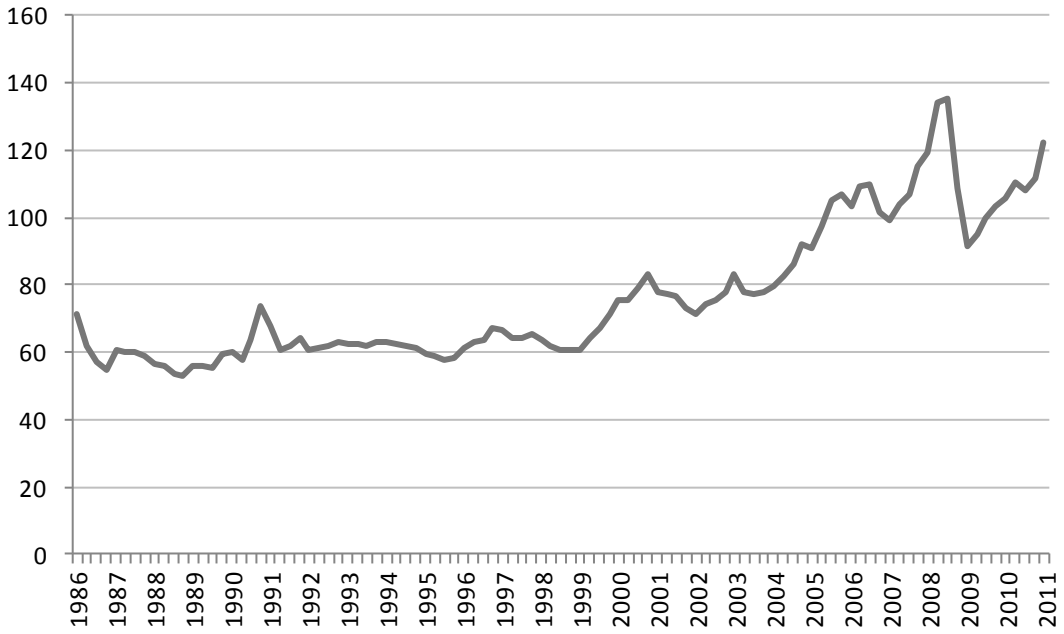
7. Green weight, live weight, landed (processed) weight, and weight recalculated to live weight are all used. The composition of catch (fish, crustaceans and algae) may also influence the analysis.

The impacts of fuel support

34. Overall, the fuel consumption of fishing vessels has been estimated to be 1.2% of the world oil use, and fuel represents a large share of variable costs in most fisheries.[8] Fuel prices have been particularly volatile in recent years. The index of OECD real energy prices for end-users of oil products shows substantial price movements after 2004, in particular increases between 2004 and 2005 and a spike in prices followed by a downward correction in 2008-2009 (Figure 2). High fuel prices have motivated fuel tax concessions in the past, and the current fuel price volatility can make removing fuel tax concessions more difficult.

Figure 2. Real price of oil products to industry

Quarterly data, 2005=100



Source: IEA

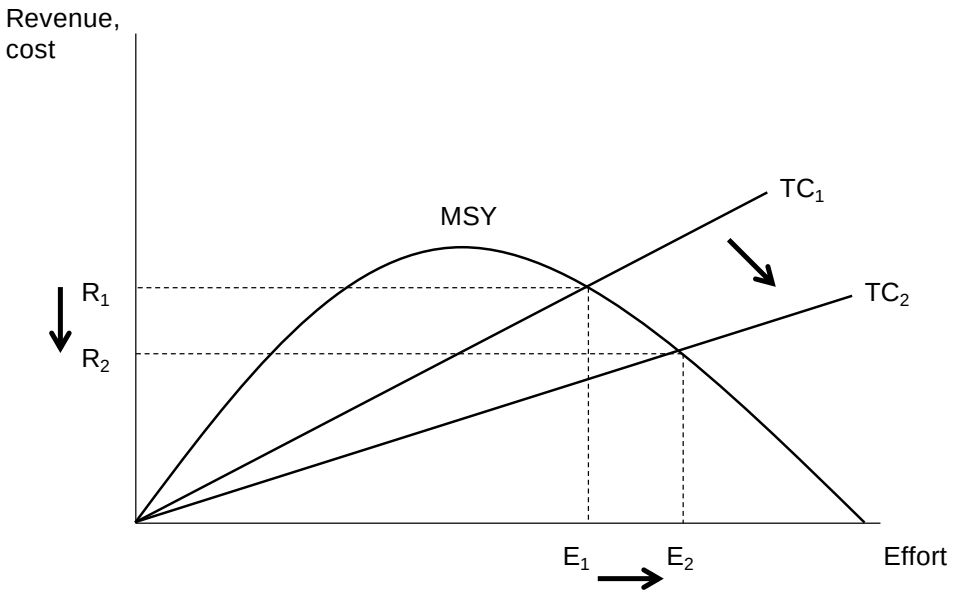
35. Reducing support to fuel use has received particular attention from the G20 and others because it has the potential to generate both environmental and economic benefits (OECD, 2005). While the analysis of the impacts of similar forms of support demonstrates that they can be some of the most production distorting and inefficient means of transferring income to producers (OECD 2010, 2011), their impact on fisheries is less clear. Central to understanding the impact in the fisheries sector is how the management system operates for the fishery in question. While fuel is an important input and tax concessions can have a significant impact on the fuel price paid by fishers, the impact of such support will be contingent on the management system constraints faced by and alternatives available to the fisher.

8. Tyedmers, Watson and Pauly (2005) "Fuelling global fishing fleets", Ambio vol 34. In particular "As a consequence of burning almost 42.4 million t of fuel in 2000, representing approximately 1.2% of total global oil consumption, fishing boats released approximately 134 million t of CO2 into the atmosphere at an average rate of 1.7 t of CO^2 per tonne of live-weight landed product." See http://sres.management.dal.ca/Files/Tyedmers/Fueling_Fleets1.pdf

Theoretical relationship between management systems and fuel support

36. The classic analysis of the impact of support to variable input use such as a fuel tax concession is in the context of an **open access fishery**. [9] An open access fishery places no restraints on fishing effort. In this case, support lowers the cost of effort, leading to more effort and a smaller fish stock in equilibrium. Depending on the initial situation, total harvest can be lower than before the support if catch-per-unit-effort declines sufficiently (Figure 3). In this case, the fuel tax concession gives no benefit to the fisher; the benefits are competed away through increased effort. The concession can produce increased effort in the fishery, but not increased profits. In the case of inefficient fleets with low profitability, the removal of fuel support could drive the less efficient firms out of the fishery, further reducing pressures on the resource and increasing the profitability of the remaining firms. As drawn, Figure 3 shows the initial stock above the MSY level, such that the increased support to fuel use lowers revenue in the fishery.

Figure 3. Fuel tax concessions in an open-access fishery

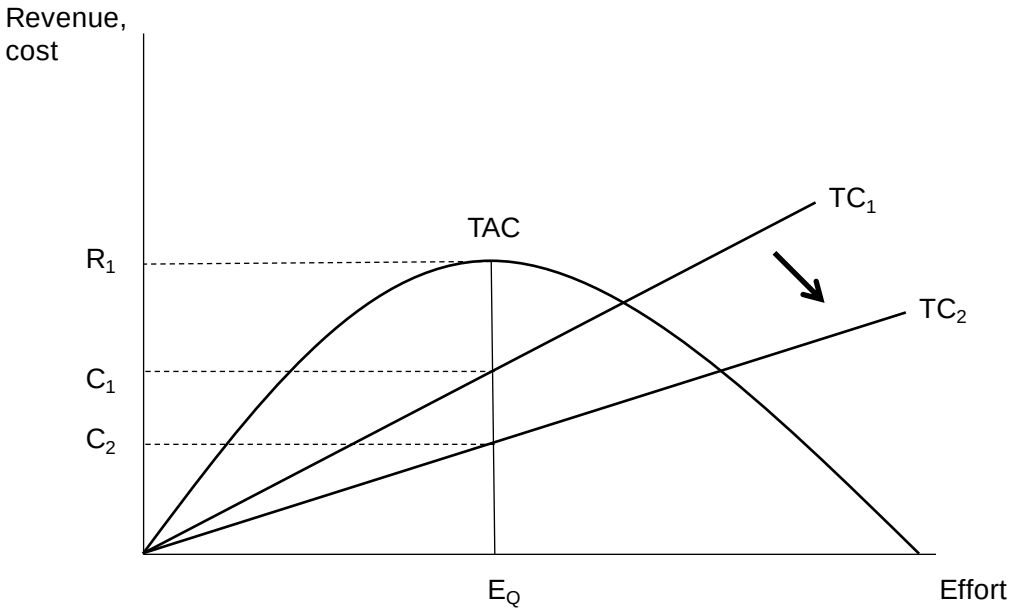


37. Fisheries management using **output controls with limited entry** offers something of an opposite example. In the situation where the TAC is set to the MSY level and is effectively controlled, fishers earn positive profits of R1-C1 in the initial situation (Figure 4). When a tax concession in introduced that lowers cost, there is no effort response due to the TAC as effort is assumed to be effectively controlled by the TAC. The fuel support leads to higher profits as costs are lower with no changes to stock or effort level. This implies that fuel tax concessions under a binding TAC are transfer efficient - the value of the support tends to be reflected in increased profits. This is a consequence of the management regime; effective

9. The concept of "open-access fisheries", while theoretical important, is largely non-existent in OECD fisheries in practice. In OECD countries most fisheries are characterised as "regulated open access" (e.g. TAC, permissions, technical regulations) and, increasingly as rights-based fisheries, where access has been curtailed and the allowable catch has been given to individual fishers, their vessels or groups of fishers or vessels. A detailed and complete modelling of the impacts of fuel support and tax concessions therefore needs to be based on individual fisheries regimes in place.

control means that support cannot impact effort or stocks and limited access means that positive profits are possible[10]. The result would hold for any form of support that lowers cost.

Figure 4. Fuel tax concessions with a TAC



38. Under **rights-based regimes** (such as ITQs), support to fuel use would generally not have any effect on the volume caught, but could distort the choice of production inputs compared with a cost-minimising choice at market prices. The degree to which this effect will produce new outcomes will depend on the extent to which production inputs, or factors of production, are substitutable and whether it is economically efficient to do so. While fishers will not have an incentive to fish more under fixed individual quotas, they may elect, for example, to fish for longer periods of time and with less gear or manpower. Any additional profits deriving from the fuel support should become capitalised in the value of the quota right (OECD, 2006).

39. In the situation of a **binding TAC but unlimited entry**, the TC curve touches the revenue curve at the TAC level. Fishers compete away profits not by increasing effort as in the open access case, but by bidding up the cost of inputs such as fishing vessels or licenses such that profits are capitalised into the value of these inputs. Adding a fuel tax concession would lower variable costs, but this benefit would also become capitalised in the value of other (fixed) inputs. The result is no change in stock, effort or profits, but higher values for fixed inputs such as fishing vessels. This capitalisation effect may make it difficult to remove tax concessions once they are in place; fishers will have already invested the value of the support in capital and would suffer a real loss if the tax concession were removed (this is also true for rights-based regimes).

40. Under a fishery managed through **effort controls**, the impact of fuel tax exemptions will be similar to that which occurs under a rights-based regime, and will depend on how effort is controlled. If the number of days at sea is limited, for example, with reduced fuel costs could enable fishers to switch to

10. It is possible that the higher profits earned by fishers could lead to higher input costs as input suppliers increase prices to try to capture some of the rents. The ability of input suppliers to do this depends on how competitive the market for inputs is.

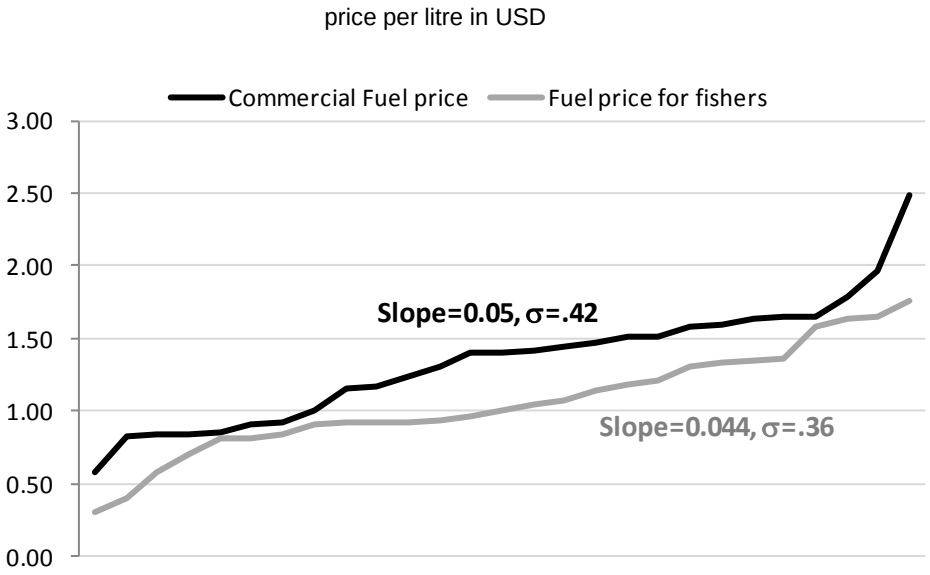
more powerful engines or bigger boats, which may lead to raising the total real effort of the fleet despite the controls.

Empirical Evidence

41. The data collected here can help understand how support affects relative fuel costs for fishers in different countries and its impact on the overall competitive picture for fishing. This can be evaluated by measuring the impact of fuel tax concessions on the variability and distribution of fuel prices.

42. The data suggests that fuel support does reduce the amount of variation in fuel prices across countries. That is, the distribution of fuel prices paid by fishers is smoother that the distribution of national commercial prices. The standard deviation of the former in the data is 0.36, vs 0.42 for the commercial price. The distribution of prices paid by fishers is also flatter, meaning that generally speaking, fishers in different countries pay more similar prices for fuel after FTCs are taken into account (Figure 5). This is calculated by ordering fuel prices from least to most expensive and measuring the slope of the resulting price distribution, for both the commercial price and the net price for fishers. [11]

Figure 5. Fuel price distribution, commercial and net of FTC, 2008



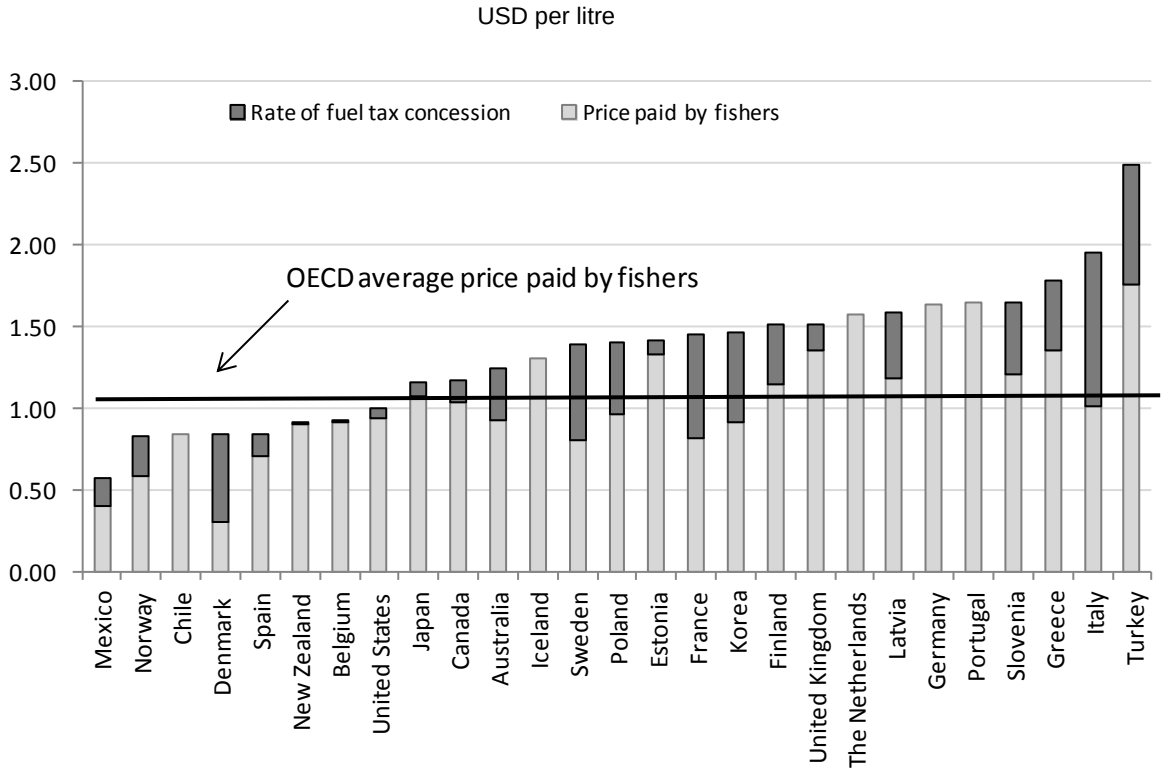
Source: OECD FTC database 2011

43. That fuel tax concessions flatten the price distribution for fishers is not surprising. When higher national fuel prices are the result of high excise taxes, the possible value of an exemption is also higher. That is, price differences driven by differences in the tax regime are likely to be eliminated when FTCs are used and higher taxes are a precondition for higher FTCs. This can be seen by looking at the rate of FTC

11. As calculated here, slope and smoothness are complementary measures. That is, they are alternative ways of measuring the same change in price distribution, such that a flatter slope measure implies a smaller σ and conversely. Calculations are made on the basis of the price in USD in 2008. Both lines in Figure 5 are sorted by value separately, such that any point on the horizontal axis can reflect data for two different countries. Compare this to Figure 6, where the data is sorted by the commercial fuel price only, preserving the relationship in the figure between the commercial price and the price paid by fishers by country.

and resulting net price for fishers by country, ordered by the prevailing domestic fuel price (Figure 6). This does not mean that all fuel tax concessions act to equalise relative prices across countries. While fuel concessions in Turkey, Italy and Greece (for example) bring the fuel price paid by fishers closer to the OECD average, tax concessions in Denmark have the opposite effect, lowering the price of fuel in a nation with already relatively low fuel prices (Figure 6).

Figure 6. FTC and net fuel price for fishers, 2008



Source: OECD FTC database 2011

44. While the need to bring the fuel costs of domestic fishers more in line with their competitors has been put forward as an argument justifying fuel tax concessions, fuel costs are only one part of the story. Whether domestic fisheries are competitive or not depends on a wide range of market and regulatory factors, including the fisheries management regime. In particular, whether fishers participate in domestic or international markets and whether the fleet has fuelling opportunities in other countries are important factors. Moreover, whether tax concessions (or support generally speaking) raise or hinder competitiveness in the long term is an open question. Central to understanding the cost structure in fisheries remains the management regime and in particular the existence or not of over-capacity and the use of rights-based management regimes.

45. There are very few empirical studies of the effects of varying fuel-tax concessions on fishing operations. One such study was undertaken of the Senegalese fishery (UNEP, 2002). Based on the operating accounts of small-scale fishing units, a reduction in the fuel subsidy by one-half was estimated to result in a substantial reduction in the operating profits of boats, possibly leading to losses. That notwithstanding, the elimination of such support would not necessarily put an end to small-scale fishing, but it would certainly cause some boats to leave the fishery and so reduce fishing effort. The lower effort

would, however, most likely result in a higher catch per unit of effort as fish stocks increase. The study shows that, over time, the catch per unit of effort has declined drastically for most Senegalese stocks, which most likely is due to the increase in effort and the resulting depletion of fish stocks over the same period.

46. A 2009 OECD report estimated that the Norwegian fishing fleet has limited possibilities for fuel substitution. In response to reduced refunds for CO_2 and mineral oil base tax, vessels would be able to adjust their operations (*e.g.* reduce the time of travel between fishing areas, more seasonal fisheries, higher capacity for storing fish on each tour) but these modifications would be of minor significance. However, the possibilities of substitution between different vessel groups requires further consideration. In the Norwegian case, it appears that the larger vessels (*i.e.* the ocean going fleet) will not necessarily adjust or change their input mix to lower the proportion of more costly fuel input if the refunds are terminated but go abroad to purchase fuel at lower cost.[12] Some larger vessels already fuel abroad, and this practice could increase if the refunds are terminated. The vessels that have least flexibility for adaptation, and limited possibilities for fuel consumption reduction or fuelling abroad, are the smaller vessels (coastal fleet). In most cases the coastal vessels have the most favourable operation pattern with least fuel consumption per kg harvested.

Conclusion

47. The objective of this report is to improve the quality of information regarding fuel tax concessions in fisheries. The motivation for this was the call by G20 leaders for reductions in support to fossil fuel use as part of climate change mitigation efforts. The review of information shows that fuel tax concessions are a common though not universal feature of the fisheries policy landscape.

48. The importance of this data lies in its ability to clarify the role and relative importance of tax concessions in the overall policy framework, not in its ability to determine their impacts. The first step in policy reform is measurement, and tax concessions are a form of support that is less transparent and more challenging to measure in practice. Such support is no different from budgetary support in terms of the transfer it provides from taxpayers to the fisheries sector, but can fall under less scrutiny by virtue of its seemingly smaller fiscal implications and due to the fact that tax concessions are less transparent compared to other GFTs.

49. Reducing support to fuel use can be an attractive policy option as it has the potential to generate both environmental and economic benefits. The extent to which this is true depends largely on the nature of the fisheries management regime in place. In any case, tax-based policies should be considered as part of the overall management framework, and merit the same level of attention as other forms of support in the policy reform process.[13]

50. Concerns regarding competitiveness have motivated support reducing fuel costs, under the theory that reducing fuel costs through support are necessary to mitigate any competitive disadvantages of domestic fisheries. However, the ability of the New Zealand fisheries sector to remain competitive following the phasing out of most policy support has shown that this need not be the case. The analysis in this report has shown that the effect of fuel support policies can only be understood in the context of the

12. As an extension of this particular case it may be worthwhile to ascertain if similar possibilities are available in other fishing areas characterised by short distances to foreign harbours e.g. the Baltic Sea, the Southern part of the North Sea, etc. A key issue is if such practices provide a competitive edge to certain types and sizes of vessels that can fuel abroad.

13. See OECD work on Liberalising Fisheries Markets: Scope and Effects (2003), Using Market Mechanisms to Manage Fisheries (2006), and Fisheries Policy Reform: National Experiences (2011).

fisheries management regime. In general, successful policy reform initiatives in the fisheries sector will be done in concert with reform of the fisheries management regime.[14]

51. When making the case for reform, it may be more useful to consider the policy objectives motivating support than the impacts of such support. While the impacts of fuel support are uncertain, there is considerable evidence in OECD policy research that better options exist to achieve most common policy objectives. Transfers that are not contingent on production or use of inputs can be much more effective in transferring income to recipients, as they impose less market distortions and don't require fishers to take costly decisions to receive them. Support based on income can also be relatively efficient while at the same time addressing issues of fairness, especially when systems based on or using commonly available social-security frameworks are used. Regional development objectives are likely best met through targeted programs that are not sector-specific, such as infrastructure development or retraining. If the objective is improving competitiveness, in the long run support can be counter-productive as it delays adjustment and masks structural problems.

Possible Future Work

52. This report contains first results from a survey of support instruments to fossil fuel use in fisheries. As such, it opens the possibility for future work to improve the understanding of the nature, objectives, and impacts of such support. Future work could be undertaken with respect to the following:

- **Improving estimates of fuel prices and support**. While tax concession data by itself is not an indicator of the impacts of that support, the question of what impact tax concessions have on prices and income remains important. This report highlights some remaining limitations in the data concerning FTCs and demonstrates the value of improving the quality and completeness of the data over time.

- **Modelling the impacts of reform**. Gaining further understanding as to the impacts of fuel tax concessions and other forms of support to fuel use will require investment in more rigorous analytical tools that can investigate the effects of FTCs in the context of different fisheries management systems.

- **Understanding energy use in fisheries**. Fuel tax concessions and their impact are just a part of a larger question regarding energy efficiency in fisheries and ensuring that fisheries are placed on a green growth trajectory in the future. Improving the efficiency of energy use in fisheries, which remains predominantly fossil fuels, will contribute to national objectives with respect to climate change while offering the potential to improve profitability and sustainability of the fishing sector. A scoping paper to this effect will be discussed by the COFI at its 108th Session [TAD/FI(2011)8/PART1].

14. See footnote 13 and work on capacity reduction, *i.e. Reducing Fishing Capacity: Best Practices for Decommissioning Schemes* (OECD, 2009).

Country Reviews

53. This section provides an overview of the methods used to calculate or estimate the total value of fuel-tax concessions for fishing vessels. For most countries, this information is drawn largely from country submissions to the OECD, based on the questionnaire circulated in December 2009 (Annex 1). [15] Possible fuel-tax concessions applicable to fishing vessels were also extracted from the OECD and the European Environment Agency database on instruments used for environmental policy and natural resources management. Finally, reference is made as to whether an OECD member country has supplied this information for previous years as part the annual submission on GFTs.

European Union OECD Member Countries

54. The Council of the European Union issued a directive in 2003 (Directive 2003/96/EC) which restructured the Community framework for the taxation of energy products and electricity and established minimum tax rates and tax exemptions. Article 14 (1) (b) of this Directive states that fishing activities can be exempted from fuel taxes in Community waters as follows:

In addition to the general provisions set out in Directive 92/12/EEC on exempt uses of taxable products, and without prejudice to other Community provisions, Member States shall exempt the following from taxation under conditions which they shall lay down for the purpose of ensuring the correct and straightforward application of such exemptions and of preventing any evasion, avoidance or abuse:

(c) Energy products supplied for use as fuel for the purposes of navigation within Community waters (including fishing), other than private pleasure craft, and electricity produced on board a craft.

55. Data on fuel consumption in the marine fishing fleet is gathered according to the data collection framework, Council regulation (EC) No 199/2008of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy, Commission regulation (EC) No 665/2008 of 14 July 2008 laying down detailed rules for the application of Council Regulation (EC) No 199/2008 and the Commission decision of 6 November 2008 adopting a multiannual Community programme pursuant to Council Regulation (EC) No 199/2008.

56. The European Union also provides other payments which may be linked to fuel use. Specifically, the "de minimis" regulation for fisheries, EC Reg. 875/2007, allows a maximum support of EUR 30 000 per firm for each three-year period during 2007-2013 for which the Commission does not require prior-notification. Nevertheless they are subject to a monitoring mechanism, including ex-post reporting to the Commission, if it so requires these funds cannot be used to increase fishing capacity, though they may be used to finance variable costs of fishing vessels, including fuel. A recent study indicates that EUR 1.3 billion was spent on fuel by EU fishers in 2006 (based on information from 53 700 vessels). This amount has been estimated to have increased to EUR 1.7 to 1.8 billion under the average fuel price of 2008. As a result, the aid that could be provided by way of *de minimis* resources would represent approximately 13% of the 2008 fuel costs of the EU fleet (Framian BV in co-operation with Symbeyond Research Group, 2009).

15. As currently defined, this questionnaire is not applicable to Austria, Czech Republic, Hungary, Israel, Luxembourg, Slovak Republic or Switzerland as they do not have commercial fishing fleets, and are such, not included here. Data included in the submissions are not repeated here, but are included in Table 2.

57. This aid can be made available to fishing enterprises as well as to fish processing, trade and aquaculture companies. Eligibility rules are determined and set by the individual EU Member States. Box 1 provides a summary of a recent assessment of the "*de minimis*" aid and the link to fuel for fishing vessels.

Box 4. EU de minimis aid and fuel costs

In July 2008, the European Commission agreed to a package of measures to promote the restructuring of fishing fleets most affected by the fuel-price increases, allowing short-term support to fishers who undertake restructuring (European Commission 2008b, 2008c). As part of this effort, a study was commissioned to examine the effects of amending the regulation to allow for € 30,000 *de minimis* aid per vessel instead of per firm, with a limit of € 100,000 per enterprise. Below is an extract from the Commission funded study assessing *de minimis* aid and fuel costs:

"The maximum amount per firm allowed under the present regime leads to highly different impacts on fishing firm firms, depending on the size of the vessels they operate. On one hand, for small vessels below 12m, EUR 30 000 would often represent a very significant contribution to their annual production value and income. On the other hand, for vessels over 24m, and even more strongly for those over 40m, the maximum *de minimis* represents less than 10% of their gross value added over the total period of three years. Consequently, the present regime over-compensates the higher fuel costs, for the purpose of which it was set up, for small vessels, which are not very energy dependent. At the same time, the contribution to the alleviation of high fuel costs for the larger vessels remains uncertain because of the constrained ceilings.

The total fuel costs of the European fishing fleets have been estimated at about EUR 1.8 billion, at average 2008 price level. The fuel price increased between 2006 and 2008 by 29%. This implies that in 2008 fuel costs were about EUR 400 million higher than two years earlier. The *de minimis* budget could on average compensate 60% of this increase over the three year period for which it is set. However, it must be stressed that 58% of the total fuel costs are incurred by 6% of the fleet (in terms of numbers), being vessels over 24m. This illustrates to which extent the increase of fuel costs of small vessels is over-compensated and of the larger vessels under-compensated, unless additional eligibility criteria in this respect would be introduced."

Source : Adapted from Framian BV in co-operation with Symbeyond Research Group. (2009) Economic Analysis of Raising De Minimis aid for Fisheries (MARE/2008/12).

Belgium

58. Belgium reports that its fuel support consists of an excise-duty exemption, granted at the national level, for gasoline - light fuel oil [HS code 2710 1945]. This type of fuel is differentiated in the tax codes according to its final use. The level of excise duty for the fuel used by the Belgian fleet is EUR 18.4854 per 1 000 litres (instead of EUR 21/1000 litres). Fishers are exempted from this excise tax on the basis of "Energy products supplied for use as motor fuel or heating fuel for the purposes of navigation within Community waters (including fishing) and electricity produced on board a craft" (OECD and the European Environment Agency database on instruments used for environmental policy and natural resources management). Data provided by companies that supply the Belgian fishing fleet with fuel indicate that fishers use gasoline of 0.1% sulphur content (with 0.86 density); this is also known as marine gas oil.

Denmark

59. No direct support to fuel use is paid to fisheries. The calculated support provided to the OECD Secretariat represents tax-exemptions (e.g. taxes that *would* have to be paid *if* fisheries were subject to the same tax regime as road transport). Processing of fish etc. is not included. The taxes consist of a direct tax on fuel, a CO_2 tax on fuel and 25% VAT. These fuel-taxes are not paid by fishing vessels. The VAT is calculated as 25% of the value of the fuel including other taxes. In its submission, Denmark specifies that "In general it should be noted that this type of calculation tends to overstate the value of the support

because it does not take into consideration the substitution which would take place at higher prices. Moreover VAT, if it was imposed, would be a tax on the added value not a fuel tax".

60. The volume of fuel consumed is calculated from the "Account Statistics for Fishery 2008". The statistics cover 97% of the fishing fleet measured in landings and revenue. Some fuel is bought abroad and foreign fishing vessels buy fuel in Danish ports. These quantities are not known. The fuel market price is based on information from SHELL DANMARK on diesel fuel for transport.

Estonia

61. Data provided has been included in Table 2.

Finland

62. Article 9 of the Law of the Liquid Fuel Excise (no 1472/1994) notes that fuel used by commercial vessels (including fishing vessels to the extent they are used in commercial fisheries) are exempt from the fuel-excise taxes. This tax-exemption represents the full value of the excise tax.

63. Finland distinguishes three types of fuel (petrol, diesel and domestic fuel oil) consumed by fishing fleets along with the respective fuel-tax concession rates (see below).

Table 3. Fuel Types used in Finland, 2008

Fuel type	Tax rate	Tax concession value, EUR	Fuel consumed
Petrol	0.63	234 600	374 400
Diesel Oil	0.36	5 700	15 800
Domestic Fuel Oil	0.09	72 400	836 500

France

64. In December 2005, the Ministry of Food, Agriculture and Fisheries estimated the annual fuel consumption of the French fishing fleet (based on figures supplied by distributors) to have amounted to 520 000 tonnes, while the DGDDI (Directorate-General of Customs and Indirect Rights in the Ministry of Finance) estimated that the cost of granting exemption from the TIPP (domestic duty on petroleum products) that year had amounted to EUR 225 million. The cost of exemption from VAT was considered to be negligible due to the tax deductions for which enterprises would have been eligible

Germany

65. Through a separate exercise, Germany reported a fuel-tax concession for the OECD and European Environment Agency *database on instruments used for environmental policy and natural resources management - a*n Exemption for Navigation specified as "Use as fuel for the purpose of navigation, except private pleasure craft".

66. The Germany Delegation has clarified that this tax concession does not apply to its fishing fleet, and as such, Germany does not provide any fuel tax concessions to its fishing sector.

Greece

67. Professional fisheries are exempted from the *Special Consumption Tax* on fuel under Law 2960/2001 (article 78, paragraph 1b) "National Customs Code" (O.G.J. 265 A'), as amended by Law 3366/2005 (O.G.J. 96 A') and according to the provisions of Decision T1940/41/14.4.2003 of the Ministry of Economy and Finance. Greece also routinely reports the value of its fuel-tax exemption as part of its notification to the OECD on its Government Financial Transfers.

Italy

68. In Italy, a fuel tax concession for fishing vessels consists of an exemption from Value Added Taxes (VAT) and other direct fuel taxes, in accordance with the Council Directive 2003/96/EC of 27 October 2003. Italy has one fuel-tax rate for all fleets, but provided a breakdown of fuel consumption (and total value of the fuel-tax concession) by fleet; the total values are reported in Table 2.

69. Between 2007 and 2008 the cost of a litre of diesel fuel for fishing vessels rose from EUR 0.55 to EUR 0.70. Italian authorities have not undertaken any special measures to mitigate the consequences of the fuel-price rises.

Netherlands

70. Through a separate exercise, the Netherlands reported a fuel-tax concession for the OECD and European Environment Agency *database on instruments used for environmental policy and natural resources management* - Exemptions for Navigation: Petrol used for the propelling of ships (other than pleasure crafts) and Exemptions for Navigation: Mineral oils used for the propelling of ships (other than pleasure craft).

71. The Dutch Delegation has clarified that these fuel-tax concessions do not apply to its fishing fleet, and as such, the Netherlands reports no budgetary support or tax concessions for fuel used by fishing vessels. In 2008, 66% of the fuel oil for Dutch fishing vessels was purchased outside the country.

Poland

72. Fuel used for commercial navigation purposes (including commercial fishing trips) are exempt from the fuel-excise tax under the Law on Excise Tax of 6 December 2008. The fuel-excise tax in 2007 and 2008 year was 1048pln/1000 litres (Law on Excise Tax of 23 January 2004).

Portugal

73. Through a separate exercise, Portugal reported the following fuel-tax concession to the OECD and European Environment Agency *database on instruments used for environmental policy and natural resources management - a*n Exemption for Navigation specified as "Gas oil and fuel oils for consumption in sea-coast and inland waterways navigation.".

74. However, the submission from Portugal to this exercise indicates that there is no budgetary support to fuel use or tax concessions available to their fishing vessels.

Slovenia

75. Fossil fuel tax concessions in Slovenia are regulated by the Excise Duty Act (Official Journal of the RS, No 2/07, 25/09 and 41/09). Article 55(1) of this Act states that excise duties for fossil fuels shall not be paid for fossil fuels that are used to power fishing vessels. The implementation of the Excise Duty

Act is regulated by Rules on the Implementation of the Excise Duty Act (Official Journal of the RS, No 49/04, 47/05 and 17/07). Article 42(1) of these Rules provides that natural persons that are in position of a valid fishing license and perform fishing activities can assert the right to the use of fuel from Article 55(1) of the Excise Duty Act in the form of the return of the excise duty that was paid.

76. No quantity of fuel was acquired out of the country for national fishing vessels. The conditions for granting the fuel-tax exemption do not distinguish between certain fleet segments or gear types.

Spain

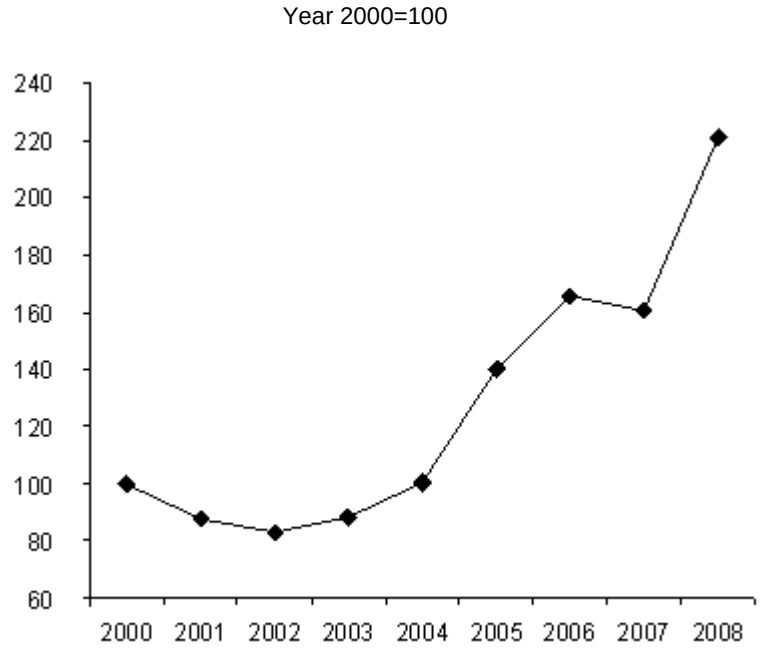
77. In Spain, fuel-tax exemptions relevant to fishing vessels are governed by Real decreto 1517/2007, de 16 de noviembre (Aids granted to undertakings with fuel consumption between 1/11/2004-31/10/2005). Due to exceptional circumstances in 2008 measures to help the fleet were in place. These exemptions were applied on a temporary basis and only during 2008.

Sweden

78. Registered fishing vessels are exempted from the carbon-dioxide levy and from the energy tax on fuel. Most fishing vessels are able to buy tax-free fuel directly from the fuel suppliers and the suppliers have the right to make a reduction in their specific tax declarations. The Swedish tax authority does not collect any separate data on tax concessions attributable to fishing vessels specifically, since other businesses such as trains and aircrafts as well as other maritime shipping are also exempted from the tax. For vessels other than fishing vessels, the owners pay the tax directly and request reimbursement in their declaration for tax on vessel fuel. The Swedish tax authority does not distinguish fishing vessels from other reimbursement claims. The only available data therefore refers to all professional shipping.

79. The fuel-tax concession is divided into two parts, the carbon-dioxide tax which is the same for all fuel types, 2883 SEK per m^3. The other part, the special energy tax, differs depending on fuel type. For vessels with an expenditure to buy green-coloured diesel the energy tax is SEK 764 per m^3. For highly taxed fuel the energy tax differs depending on the environmental standard of the fuel type. For the highest environmental standard, MK1 the energy tax is SEK 1277 per m^3. Because of this the rate of fuel tax concession and its total value are given as a range. The range is compiled by multiplying the estimated fuel consumption with the tax range ((2883+764)/1000) = SEK 3.647 per litre of fuel, (2883+1277)/1000 = SEK 4,16 per litre fuel). The number reported in Table 2 is an average of this calculated range. Sweden did not provide any additional fuel price support to its fishing fleet in response to the recent fuel price rises of 2008.

Figure 7. Index of fuel-prices in Sweden



80. Data on fuel consumption are collected and estimated from a yearly survey distributed to a random sample of fishing vessels. The fuel consumption is extrapolated to the total fleet by using an extrapolation based on the number of days at sea in the population related to the days at sea in the sample.

81. Data are not compiled per type of fuel. Most of the fuel consumption, however, consists of diesel. Gasoline is only used for some smaller vessels.

82. Information on the average national fuel price is gathered and compiled from the Swedish Board of Fisheries for research vessels bunkering of diesel. The research vessels buy their diesel from the same places as other fishing vessels and also receive the fuel tax concession. There have been two major shocks in fuel price in recent years (Figure 7).

United Kingdom

83. Weekly fuel prices are collected from a number of suppliers to the fishing industry around the United Kingdom. From this information, an annual average duty-free price is produced. UK-wide averages are available only, as prices from Welsh and Northern Ireland suppliers are not available.

84. A combination of bottom-up techniques (from a 2005 and 2006 fleet survey) and a top-down estimation using MFA figures for 2007 and 2008 fleet activity, was used to estimate the volume of fuel consumed. The UK estimates were calculated as follows:

- The Seafish fleet survey for 2005 and 2006 give estimates of total expenditures by the UK fleet on fuel.

- For 2005 and 2006, the estimated total UK fleet spent on fuel was divided by the price per litre, to provide an estimate of total litres used by UK fleet in those years.

- MFA fisheries statistics contain figures giving total kW days at sea expended by the whole UK fleet, per year.

- The United Kingdom's estimate of fuel volume for the United Kingdom, divided by total UK kW days at sea in the same year (2005/2006 average), provides an estimated average of fuel volume required per kW day at sea for the UK fleet, with the assumption that figure remained stable for 2007/2008.

85. National estimates of fuel consumption were derived through MFA fisheries statistics that indicate the volume of landings into each of the UK nations. It was assumed that vessels from one nation landing into another will even out to a net effect of zero. The total UK volume of landings per kW day at sea were estimated from the MFA figures for 2007 and 2008. Each UK nation's volume of landings then provides the required kW days at sea per nation, for 2007 and 2008. The figure for average UK fuel volume per kW day at sea (2006 figure, assumed to remain stable in 2007 and 2008) was applied to give estimated fuel volume per nation.

Australia[16]

86. The fuel tax credit rate for the following activities is 38.143 cents per litre.

87. If the fisher is undertaking commercial fishing operations, you can claim for taxable fuel (for example, diesel or petrol) the fisher uses for any of the following activities, provided these activities are not connected with sport, recreation or tourism:

- Taking, catching, capturing of fish;

- Processing fish on board vessels;

- Fish farming;

- Constructing ponds and tanks or other structure to contain fish to be farmed, as long as this is done by the fish farmer or a contractor or subcontractor to the farmer;

- Pearling;

- Operating a dedicated mother vessel in connection with eligible fishing operations;

- Sailing a vessel to or from a port for the purpose of refitting or repairing the vessel or its equipment;

- Undertaking trials connected with the repair or refit.

Canada

88. Both federal and provincial taxes apply to fuel in Canada. The federal excise tax rate is 4 cents per litre on diesel for all users, with a full expenditure for many sectors of the economy. For marine vessels (fishing or otherwise), the full rebate on the excise tax is available when they proceed outside of Canadian

16. *Source* : Australian Taxation Office (2009). Fuel tax credits for business. Available at: http://www.ato.gov.au/content/downloads/BUS76594nat14584.pdf.

inland waters (*i.e.* further than 12 nautical miles from the coast). There is no access to data on how many vessels proceed beyond 12 nautical miles from shore, and therefore there is no way of knowing how many claim this federal rebate or the total amount of rebates claimed.

89. Canada manages its fisheries in six Regions: Newfoundland and Labrador, Maritimes, Gulf, Quebec, Central and Arctic, and Pacific. The Maritimes and Gulf Regions do not align exactly with provinces. Each province levies its own taxes on diesel fuel, and a general fuel tax concession available to many sectors (to be defined), including fisheries. The exemption is from the full amount of the excise tax in four regions (Newfoundland and Labrador, Maritimes, Gulf, Québec). In the Pacific Region, there is also a general fuel tax exemption available to many sectors, including fisheries, for diesel fuel.

90. As data on fuel consumption by fleets is available by region, Canada has approximated each Region's tax rebate by taking the average of the rates (per litre) in its constituent provinces. The Maritimes Region includes parts of both New Brunswick and Nova Scotia, so the tax exemption rate was calculated using the average of the rates in these two provinces. The Gulf Region includes parts of New Brunswick, Nova Scotia and Prince Edward Island. The tax exemption rate was estimated using the average of the rates in these three provinces. Fuel consumption values are estimates only. Those on the Atlantic coast (all Regions except the Pacific) are based on surveys of fishers in 2004. Those in the Pacific Region are based on surveys and economic models from 2007. Estimates from those years are used for both 2007 and 2008.

Chile

91. Chile responded that no support policies are applied to fossil fuels in the fishing sector. In order to obtain an estimate of the fuel consumption of the fleet, a fuel consumption model for the industrial fleet was used (Box 5). No estimate has been made for the small-scale fleet, as there is not sufficient data to make a sound and reliable estimate.

92. The total fuel consumption corresponds to the annual consumption of each vessel operating in the national fishing fleet. The consumption of each vessel is estimated on two components. The first is the fuel consumption when the vessel is conducting fishing operations; the second is the consumption of the vessel when in port (basic consumption).

Box 5. Estimating fuel consumption in Chile

Chile estimated fuel consumption in the fishing sector as described below; validation of the model was carried out by evaluating real data of a 10-vessel fleet, which was compared with real consumption regarding the consumption determined by the model.

$$\text{Consumption in operation} = \frac{(\text{N°days} * 24 * \text{Const Yield} * \text{Main Engine Power} * 0.85)}{1000}$$

Where,

N° days= Number of days in operation
Constant Yield= Yield of fuel of the main engine (115 gr./HP*hrs.)
Main Engine Power= Main Engine Power (HP)
24= day-to-hour-conversion constant (hr/day)
0.85= fuel density constant (0.85 gr/cm3)
1000= conversion constant (cm3 to lts)

$$\text{Consumption in port} = \frac{(\text{Nº days} * 24 * \text{Const Yield} * \text{Aux Engine Power} * 0{,}85)}{1000}$$

Where,

N° days= Number of days in port
Constant Yield= Yield of fuel of the engine (115 gr./HP*hrs.)
Aux Engine Power= Auxiliary Engine Power (HP)
24= day-to-hour-conversion constant (hr/day)
0.85= fuel density constant (0.85 gr/cm3)
1000= conversion constant (cm3 to lts)

Source : Chilean country submission (2010)

Iceland

93. Iceland provided data on the fossil fuel usage of domestic fishing vessels (marine diesel oil and heavy fuel oil) from the Icelandic National Energy Authority (http://www.nea.is/) on. The figures apply to fuel sold, but would reflect fuel usage in general.

94. The Icelandic submission notes that no fuel-tax concessions or exemptions apply to the fishing fleet. Vessels as well as other vehicles that do not use the road system in Iceland are not subject to a levy/tax for road usage. This is not considered an exemption, but a special levy on vehicles using roads.

Japan

95. A tax exemption for heavy fuel oil (type A) in Japan is applied not only to fishing activities, but also to the use of heavy fuel oil by the agriculture and forestry sectors. There is also a special-purpose tax on light oil; the revenue generated is used for the construction and maintenance for public roads in Japan. For this reason, light oil consumed by any industrial activity that does not use roads is exempt from this tax. This exemption is available to all vessels (not only fishing vessels), as well as other industrial activities such as agriculture, forestry, and railways that are not road users.

Table 3. Annual Consumption of fuel by the fishing sector, by fuel type

thousand kilolitres

	1990	1995	2000	2005	2007
Heavy fuel oil type A	3 934	2 782	2 803	1 730	1 590
Light [diesel] oil	848	930	856	486	431

Source: Fisheries Agency of Japan.

96. As noted above, the tax exemption for fossil fuels is applied to various sectors of the economy, including agriculture and forestry; it does not target the fisheries sector. In particular, the tax on light oil in Japan is a special-purpose tax whose revenue is used for the construction and maintenance for public roads in Japan. Based on this institutional taxation arrangement, this exemption is applied to all vessels that do not use public roads, and is not granted exclusively to fishing sectors. The Japanese submission notes that this means that this fuel-tax exemption has not been established to promote or support any particular industry. This treatment is closely related to the national financial and administrative system including its overall taxation system. In this respect, the Japanese submission states that whether the analysis is intended for overfishing or climate change, singling out the fisheries sector and dealing with it separately from the national financial system upon which the tax exemption is based, is not considered to be fair and appropriate treatment.

97. Observations included in the Japanese submission regarding taxation and the fishing industry:

- As noted above, the fuel-tax exemption is not aimed at increasing fish production. It neither contributes to overcapacity nor to over-fishing.

- Annual consumption of fuel by the Japanese fishing fleet has declined over time despite the fuel-tax exemption.

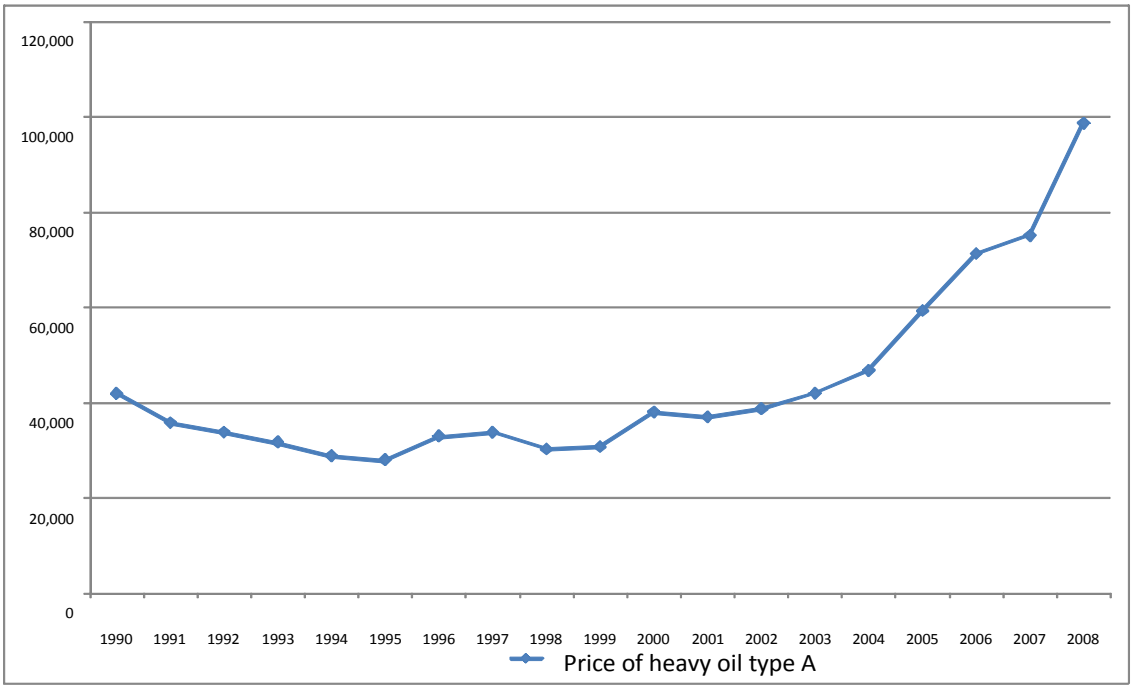
98. In response to the steep rise in the price of fuel between 2004 and 2007, the government of Japan introduced an emergency programme to encourage energy-efficient fishing operations. This was introduced in the second half of 2007 in order to prevent the collapse of fishing operations. Under certain conditions, this programme can support up to 90% of the incremental increase in the oil price, compared with the base-price of December 2007. As the price of fuel oil significantly declined after the introduction of this program, the number of fishers which participated in this programme was very limited. Consequently, the total amount of the nominal financial transfer from the government to fishers under this programme was limited to about JPY 30 million (approximately USD 0.33 million). In a general sense, however, the share of the fuel cost in fishers' operations remains significantly high throughout the marine capture fishery sectors (Table 5). In addition, the retail price of fuel oil doubled from 2004 to 2007 (Figure 8). The Japanese submission claims that there was a strong and legitimate need for the government to introduce such an emergency measure in order to prevent the collapse of fishers operations.

Table 4. Ratio of fuel price in fisher's operations (Japan)

Type of Fishing	Small trawler	Gillnet	Offshore trawler	Coastal squid
Proportion of vessels using oil, 2005	22.6	16.6	18.7	23.3
Fuel cost as % of total expenditure, 2007	29.6	22.4	25	30.5

Source: Fisheries Agency of Japan

Figure 8. Trends in the price of heavy fuel oil Type A in Japan



Source: The National Federation of Fisheries Co-operative Associations

Korea

99. In Korea, tariff and fossil fuel import levies are imposed on fuel for fishing vessels. However, in accordance with the "Special Tax Treatment Control Act (1965)", value-added taxes (VAT), special consumption taxes, transportation, energy, and environmental taxes, educational taxes and mileage taxes on fuels (light fuels, heavy fuels and others) for agriculture, livestock farming, forestry and fisheries are exempted. These tax concessions are given not only to the fisheries sector but also to other primary production sectors as well.

100. Fuel-tax exemptions for fishing vessels are given when the tax on such fuel does not conform to the purpose of the tax law or when there is a need to protect the socially and economically vulnerable groups. These exemptions are legitimate in line with Korea's tax legislation system. For example, the purpose of transportation, energy, and environmental taxes is to secure financial resources that are needed to improve transportation infrastructure, promote public transportation and implement energy-related projects. Therefore, it is reasonable to exempt such taxes for fuels for fishing vessels. Also, mileage taxes are imposed to discourage the use of cars and mitigate traffic congestions which are not related to fisheries and thus not applicable to fuels for fishing vessels.

101. The amount of fuel used by fishing vessels has been on the decline in recent years (1.51 billion litres in 2000 compared to 830 million litres in 2008). Also, the Korean government, with the national vision of 'low carbon green growth', is taking various measures to reduce the fuel consumption by the fisheries sector. For instance, with the government's support, Korean fishers are encouraged to use fuel saving devices and LED (light) fish aggregating devices. The government is also supporting the establishment of seaweeds forests as carbon sinks.

New Zealand

102. New Zealand does not provide any sector-specific fuel support policies for its fishing sector, but in the interests of transparency they have provided some details on a refund (Motor Vehicle Excise Duty Refund) for which fishing vessels may be eligible. The New Zealand submission notes that it will be apparent from the nature of the programme, and the very small proportion of estimated refunds to the fishing sector, that the design and application of the programme is directed elsewhere; namely across the economy as a whole and to all forms of commercial transport within the economy. Operators of commercial fishing vessels may be eligible for a Motor Spirits Excise Duty Refund.[17] This is an economy-wide programme which provides for a refund on the excise duty and the goods and services tax charged on motor spirits that are used:

- as fuel in an exempted vehicle;
- as fuel in a road user charges-licensed vehicle;
- as fuel in a commercial vessel;
- for commercial purposes other than as fuel in any motor vehicle, vessel, or aircraft.

103. Diesel, the principle fuel used in fishing vessels, is not eligible for a refund. The refund is only available for petrol, LPG and CNG.

104. A maximum estimate for refunds for commercial fishing vessels is NZD 435 306 in 2007, and NZD 436 681 in 2008, representing approximately 1.25% of the total of the programme.

105. Estimates are not available for total fuel use of the New Zealand fishing fleet in 2007 or 2008, but total fuel use in 2005 is estimated to have been 216 million litres. This figure was determined in 2009 using the following two converging methods:

- Direct method. A letter was sent to every vessel operator in the fishing industry seeking quantitative data on 2005 fuel consumption. The replies that were received represented nearly two thirds of the industry's installed capacity when expressed in terms of kilowatt-hours. Based on calculated estimates of total consumption, nearly 70% of the total consumption for 2005 is known from actual figures derived from this survey.

- Indirect method. The Ministry of Fisheries holds information on the engine size (the kilowatt output) and the time spent at sea for each vessel in the fishing fleet. This information was compared with the actual fuel consumption of vessels, where that information was known from the direct survey. This comparison allowed a correlation to be drawn between kilowatt-hours and actual litres consumed, from which a conversion factor was derived to allow the calculation of fuel use where only kilowatt hours are known.

106. These two approaches were drawn together by using the conversion factor to estimate consumption from kilowatt-hours, based on information held by the Ministry of Fisheries, where direct survey information was not available.

17. Further information on this programme is available at: http://www.nzta.govt.nz/resources/factsheets/14/excise-duty.html.

Norway[18]

107. Fuel taxation in Norway consists of several different elements, each meant to address different issues within the overall taxation policy. The rate of fuel tax concessions provided in Norway's submission includes the base tax on mineral oil and the carbon-dioxide tax, which are both refunded for fishing within the Norwegian economic zone; fishing vessels are completely exempt from the base tax on mineral oil and the carbon-dioxide tax. The taxes are described below.

- Base tax on mineral oil: The base tax is intended to correct any adverse effects arising from the introduction of an electricity tax in the year 2000. The base tax thus counteracts the tax incentives to the use of fossil fuels for heating. The tax is levied on all mineral oil, with the following exceptions: all mineral oil where a diesel tax applies, and jet fuel. Mineral oil used for the following purposes is also exempt: international shipping, goods and passengers traffic in international waters, construction on the continental shelf, supply shipping, high-seas fishing, and production in the fishmeal industry. The tax is refunded for fishing within the economic zone. High-sea fishing is exempted from these taxes. (Source: Garantikassen for fiskere).

- Carbon dioxide tax: A carbon dioxide tax is levied on all mineral oil, with the exemption of mineral oil used for international shipping, international flight, and fishing within the economic zone and high-seas fishing. The tax is fully refunded for fishing within the economic zone, whereas vessels fishing in high-seas are exempt from the tax.

- Petrol and diesel tax: A petrol tax is levied on all petrol. This tax is intended to capture the negative externalities from the use of motor vehicles such as: accidents; congestion; noise pollution; road wear; and environmental pollution (except carbon-dioxide emissions). A complete exemption from the tax is given for all petrol used by airplanes, boats, and snowmobiles in areas without roads. Petrol used for technical purposes, medical purposes and for the exploitation of national resources in the oceans outside of Norwegian territory is also exempt from the petrol tax.

108. The tax rate on petrol and diesel tax was not included in the Norwegian submission to the OECD. This tax is intended to capture the negative externalities arising from the use of land-based motor vehicles such as: accidents; congestion; noise pollution; road wear; and environmental pollution (except carbon dioxide emissions). All petrol used by airplanes, boats, and snowmobiles in areas without roads is exempt from the tax. Similarly, the diesel tax is levied on all diesel used for the propulsion of motor vehicles and is also meant to capture the negative externalities from the use of motor vehicles. In the Norwegian tax structure, these taxes are not levied on the use of fossil fuel as such, but on the use of the national road network. Thus, no relevant data regarding fishing vessels exists for these taxes.

109. The NOx tax applicable for each undertaking is based on calculated emissions with the rate in 2008 being NOK 15.39 /kg, and for propulsion engines it applies only to those with an installed engine power over 750 kW. High-seas fishing, international shipping and international air transport are completely exempt from the tax. In addition, an agreement to reduce emissions was signed by the authorities and several industry organisations, effective from 2008. This agreement allows undertakings whose activity falls within the limits of the agreement to pay a reduced tax rate of NOK 11 /kg for offshore oil activity and NOK 4 /kg for fishing, national and international shipping, supply shipping, industrial production, air transport and other sectors included in the agreement. Revenues from this tax are placed in a fund that

18. The figures and description given below is without prejudice to Norway's view on whether or not these constitute a subsidy within the meaning of the WTO Agreement on Subsidies and Countervailing Measures.

financially supports investments in emission-reducing measures. The agreement is set to expire in 2011. It has not been possible to calculate the value of support to the fishing fleet.

110. The consumption figures reported in Table 2 are estimates of the total volume of fuel consumed in Norway and include foreign vessels fuelling in Norway and Norwegian vessels fuelling for fishing in the high-seas. Estimates of fuel acquired in third countries by Norwegian vessels are 29 million litres for 2007 and 28 million litres for 2008. The reliability of the estimates is uncertain and stem from changes in reporting procedures from the oil companies where, inter alia, it is difficult to distinguish the sales between the petroleum industry, shipping, fisheries and distributors. The estimate of the fuel acquired abroad is based on a 30-year analysis, and the reliability of the estimate is uncertain. (Source: Statistics Norway (SSB)).

Turkey

111. Fuel tax concessions, in the form of fuel-tax relief have been provided since 2004. The fossil fuels used are subject to a special tax, namely the Private Consumption Tax. No tax relief was launched due to economic crisis. National level fuel market price reported is the average price on 2 July 2007 and average price on 1 July 2008, in Istanbul.

Table 5. value of tax concessions and number of vessels benefitting, Turkey

	2004	2005	2006	2007	2008
Value of tax concession as a % of fuel oil consumption	28%	31%	32%	30%	30%
Number of fishing vessels receiving tax concession	2 357	3 195	3 674	3 907	4 131

Source: OECD FTC database, 2011

United States

112. The Amount of Fuel Used By U.S. Commercial Fishing Vessels in 2007 and 2008: Economists at each of the six National Marine Fisheries Service (NMFS) Fisheries Science Centres and at the Office of Sustainable Fisheries provided estimates of the amount of fuel used and landings by fishery for the most recent year(s) that fuel use or expense data were available. In most cases, the fisheries were defined by species or species group and gear. That information was used to calculate the litres of fuel used per metric tonne of landings by fishery, and those estimates were used with fishery-specific landings estimates for 2007 and 2008 to estimate the amount of fuel used in each of those two years. Although the litres per metric tonne of landings can vary by year, better proxies of the litres of fuel used in 2007 and 2008 for those fisheries were not available.

113. The estimates for some fisheries are based on trip level data on the amount of fuel used and/or expenses on fuel that are collected on an ongoing basis. This is done with economic add-ons either to at-sea observer programs or to logbook programs. The estimates for the other fisheries for which fuel data were provided for this report are based on annual fuel use and/or expense data that are collected each year, periodically (*e.g.* each two to three years), on a less frequent but regular basis, or on an ad-hoc basis. In addition, there are some fisheries for which such data were not proved for this report. The fisheries for which no fuel use data were provided for this report presented more of a problem. Those fisheries include a number of Federally-managed commercial fisheries and most commercial fisheries that are not Federally managed. The fuel use estimates for the two largest components of those fisheries (*i.e.* the Gulf of Mexico

and Atlantic menhaden fisheries and much of the groundfish fishery off Alaska) were estimated using the landings from those fisheries and estimates of the litres per metric tonne of landings from somewhat comparable fisheries. The fuel use estimates for all other commercial fisheries combined were generated using the aggregate landings for those fisheries and the median of the estimated litres of fuel per metric tonne of landings for all the fisheries for which fuel use data had been provided. The landings estimate for all other fisheries is the difference between the total landings of US commercial fishing vessels as reported in Fisheries of the United States, 2008 (FUS 2008) and the sum of the landings for the individual fisheries with fuel estimates in Table 2 for 2007 and 2008. Before determining that difference, the landings for scallops and clams were converted from the round (live) weights used in this assessment to be comparable with the landings reported in FUS 2008 that typically are reported in round (live) weight for all items except univalve and bivalve molluscs, such as clams, oysters, and scallops, which were reported in weight of meats (excluding the shell). The other fisheries accounted for about 21% of the total commercial landings by US commercial fishing vessels in 2007 and about 23% of that total for 2008; and the fuel use estimates for the other fisheries, which probably are the least certain part of the total fuel use estimates, accounted for about 41% of the total fuel use estimate for 2007 and 43% of that total for 2008. It is estimated that about 1.4 billion litres (L) and 1.3 billion L of fuel were used by US commercial fishing vessels in 2007 and 2008, respectively. This was predominantly diesel fuel.

114. The estimates of the fuel used per metric tonne of landings ranged from less than 10 L for the West Coast coastal pelagic species fishery, which is principally a purse seine fishery, to about 3 000 L for the Federally managed (*i.e.* offshore) Gulf of Mexico shrimp trawl fishery. In their 2005 article, *Fuelling Global Fishing Fleets*, Peter Tyedmers, Reg Watson and Daniel Pauly note a similar variability across fisheries.

115. The scale of direct fuel inputs, however, can range widely. Purse seine fisheries for small pelagic species, such as herring and menhaden, that are destined for reduction to fish meal and oil, typically use under 50 L of fuel per tonne of fish landed. In contrast, fisheries targeting high value species like shrimp, tuna, or swordfish frequently consume in excess of 2000 L per tonne of landings.

116. Federal taxes paid on fuels are credited to the Highway Trust Fund (HTF). The HTF was established by the Highway Revenue Act of 1956 as a mechanism to finance an accelerated highway program, including construction of the Interstate Highway System. Initially, the revenues of the HTF were intended for financing highways, with the taxes dedicated to the HTF paid by the users of highways. Now, tax revenues directed to the HTF are derived from excise taxes on highway motor fuel and truck related taxes on truck tires, sales of trucks and trailers, and heavy vehicle use; and those tax revenues are also used for the Mass Transit Account and the Leaking Underground Storage Tank Trust Fund.

117. Because the Federal fuel tax is in principle a highway user tax, those that use diesel or other fuels for non-highway use can receive an income tax credit for most of the Federal fuel taxes they pay as part of the cost of the fuel they purchase for nontaxable purposes. That tax credit can be claimed using the Internal Revenue Service Form 4136 (Credit for Federal Tax Paid on Fuels). The following types of nontaxable uses, including a boat engaged in commercial fishing, are identified in the instructions for that tax form:

- On a farm for farming purposes
- Off-highway business use (for business use other than in a highway vehicle registered or required to be registered for highway use)
- Export
- In a boat engaged in commercial fishing
- In certain intercity and local buses

- In a qualified local bus
- In a bus transporting students and employees of schools (school buses)
- For diesel fuel and kerosene (other than kerosene used in aviation) used other than as a fuel in the propulsion engine of a train or diesel-powered highway vehicle (but not off-highway business use)
- In foreign trade
- Certain helicopter and fixed-wing aircraft uses
- Exclusive use by a qualified blood collector organisation
- In a highway vehicle owned by the United States that is not used on a highway
- Exclusive use by a non-profit educational organisation
- Exclusive use by a state, political subdivision of a state, or the District of Columbia
- In an aircraft or vehicle owned by an aircraft museum
- In military aircraft

118. The Federal fuel tax is now USD 0.244 per gallon of diesel fuel and USD 0.184 per gallon of gasoline. This includes a USD 0.001 tax per gallon that goes to the Leaking Underground Storage Tank Trust Fund. However, the tax credit per gallon is USD 0.243 and USD 0.183, respectively, for diesel fuel and gasoline because there is no tax credit for the USD 0.001 per gallon tax levied to support the Leaking Underground Storage Tank Trust Fund. The income tax credit received by fishers is intended to exempt them from the part of the Federal fuel tax that is a highway use tax, just as it exempts other non-highway uses of most of the Federal fuel tax.

119. State and local motor fuel excise tax rates in coastal states ranged from about USD 0.08 to USD 0.32 per gallon for diesel fuel and gasoline as of 1 January 2008. Typically, these fuel taxes are intended to be road or highway use taxes; therefore, to the extent that they do not apply to commercial fishing vessels or other non-road uses, such concessions are not considered as support. However, an assessment of any policies associated with state and local fuel taxes was beyond the scope of this report.

Russia (Accession Country)

120. Budgetary payments to fisheries organizations (legal entities) and individuals have been provided for a one-year period to partially compensate their expenses on loan interest payment received from Russian credit institutions in 2009 for material and technical supplies and fishing vessel equipment.

121. A considerable number of the vessels in the Russian fishing fleet have reached a critical level of depreciation. Russian fishing vessels consume far more volumes of diesel oil when conducting fishing operations as compared to modern, technologically advanced vessels of foreign fishing companies. For example, a domestic fishing vessel consumes about 400 litres of diesel oil to harvest one tonne of resources, whereas the corresponding figure for foreign fishing vessels is about 200 litres of diesel per tonne of catch.

122. The Russian submission notes that there has been a recent increase in the price of diesel oil used by fishing vessels. This has resulted in the escalation of costs incurred by Russian fishing organizations during fish harvesting, which in turn leads to an appreciation of domestic fishery products (price) and a decrease in their competitiveness as compared to the same seafood products produced abroad.

Latvia (EU member state)

123. The law "On excise tax" exempts marked oil products used by ships from taxation, other than those used for private recreation and entertainment purposes. The State Revenue Service is responsible for the collection of excise taxes.

124. The information provided as part of this exercise includes only uncollected excise taxes from marked diesel sold to ships in the country; the ships eligible to use marked fuel without paying the tax include not only the national fishing fleet, but also warships, transport ships, and pilot boats. Ships used for private and recreational purposes are not eligible for this rebate. There is no data on value of tax concessions for the amount of fuel consumed on the high-seas.

Thailand (COFI Observer)

125. Thailand stated that no support to fuel uses outlined in the OECD questionnaire has been available to fishing vessels in 2007 and 2008.

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ANNEX 1. DATA REQUEST

General Comments and Definitions

126. The goal of this exercise is to estimate the total benefit fishers may receive from governments regarding the price of fossil fuels. The term "fuel subsidy" (to fishers) refers to any government intervention regarding fossil fuels that reduce the cost and/or increase revenues of commercial fishers, regardless of whether or not they involve direct financial transfers.

127. For the purpose of this exercise, a fuel subsidy (to fishers) is defined broadly as a rebate, refund, expenditure[19] or reduction (to fishers) from Value Added Taxes (VAT) and other such direct fuel taxes that are normally levied by the government on fuel users in the economy; price controls that suppress fuel prices below normal market prices; and, programs that provide direct transfers or payments.

128. It is recognised that there will be cases of support to fossil fuel use as defined here that may be considered as working towards "green purposes" and not be considered as such inefficient; should this case arise for any country, it would nevertheless be appreciated if countries would provide the data specified in this request, along with the description of the program[20].

129. This analysis is focussed on the commercial fishing sector; the term "fishing fleet" refers to vessels in the fish harvesting sector (marine and inland).

130. Data is requested for the years 2007 & 2008, or the most recent years for which data is available. Data is requested as whole numbers in national currency; any conversion of monetary values into another currency or unit (*e.g.* millions, thousands) will be undertaken by the Secretariat. Volume (weight) is requested in litres.

131. Support to fuel use should be reported at both the national and sub-national levels. The type of fuel used by the fishing fleets should also be specified (diesel, gasoline, biofuels etc.).

Specific Request

132. Member countries are requested to provide data as outlined in Table 1, based on the information detailed in this section. A brief description of each type of subsidy/programme is also requested (*e.g.* its nature and how it operates).

19. An expenditure from a fuel tax to fishers may either be specified directly in the legislation or may be represented by cases where there is an economy wide tax that is not applied to fishing vessels.

20. This may include programs whereby authorities allow fishers to make payments to a general fund for a specific purpose (*e.g.* use of greener technology for fishing vessels) in lieu of a tax collected by government that reverts to the state's treasury.

1: Value of the Fossil Fuel Subsidy

133. The value of the fuel subsidy to all fishing fleets and the relevant authority as indicated in legislation or otherwise should be provided. This value may be represented as follows, depending on data capture and availability in Member countries; where possible, responses to both Option A and Option B is requested:

> **Option 1.A:** The rate of the fuel subsidy per litre of fuel. In cases where there are different and varying sub-national level fuel support policies in addition to a national level subsidy, these should be provided as well, with a distinct accounting for each level.
>
> AND
>
> **Option 1.B:** The aggregate foregone revenue to the national accounts for taxes not collected.

Considerations:

134. Where available, further details regarding the breakdown of the fuel subsidy by fishing fleet (*e.g.* inshore, offshore, high seas) or by gear type etc. can be provided, should the fuel subsidy be applicable in only certain cases.

135. Any additional one off fuel price supports provided to the fishing fleet, for example in response to the recent fuel crisis of 2008, should be reported separately and indicated as such, including the end date of such programmes.

2: Volume of fuel consumed

136. The total amount [volume] of fuel consumed by all fleets, expressed in litres should be provided. Should the volume be estimated, the details of the methodological approach taken should be provided.

Consideration:

137. In cases where there may be different and varying sub-national level fuel support policies, the breakdown in the volume per jurisdiction should be provided, if possible.

3: National level market price for fuel (Optional)

138. If readily available, countries are requested to provide a national average market price for fuel.

Country	Country Level	**Unit** [Currency]	1.A. Rate of fuel support (price per litre)		1.B. Total value of all fuel support		2. Total volume of fuel consumed by national fishing fleets (litres)[Error! Reference source not found.]		3. National level fuel market price (price per litre)		Brief description of subsidy, scope
			2007	2008	2007	2008	2007	2008	2007	2008	
Country A	National	ABC									
	Region 1	ABC									
	Region 2	ABC									

1. Where applicable and if known, indicate through a footnote whether or not some quantity of fuel is acquired out of country for national fishing vessels and an approximation of that amount (%).
2. Please provide additional information if the fuel subsidy is applicable only to certain fleet segments/gear type and duration of the programme (start and end dates).
3. Please attach a description of each subsidy/program, the type of fuel used (*e.g.* diesel).
4. This includes budgeted (direct transfers) and unbudgeted (market mechanisms) transfers.

ANNEX 2. G-20 LEADERS' STATEMENT - THE PITTSBURGH SUMMIT

Preamble

(Agreement ...) To phase out and rationalise over the medium term inefficient fossil fuel subsidies while providing targeted support for the poorest. Inefficient fossil fuel subsidies encourage wasteful consumption, reduce our energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change. [paragraph 24].

Main Text

Enhancing our energy efficiency can play an important, positive role in promoting energy security and fighting climate change. Inefficient fossil fuel subsidies encourage wasteful consumption, distort markets, impede investment in clean energy sources and undermine efforts to deal with climate change. The Organisation for Economic Co-operation and Development (OECD) and the IEA have found that eliminating fossil fuel subsidies by 2020 would reduce global greenhouse gas emissions in 2050 by 10%. Many countries are reducing fossil fuel subsidies while preventing adverse impact on the poorest. Building on these efforts and recognizing the challenges of populations suffering from energy poverty, we commit to [paragraph 29]:

- Rationalise and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption. As we do that, we recognise the importance of providing those in need with essential energy services, including through the use of targeted cash transfers and other appropriate mechanisms. This reform will not apply to our support for clean energy, renewables, and technologies that dramatically reduce greenhouse gas emissions. We will have our Energy and Finance Ministers, based on their national circumstances, develop implementation strategies and timeframes, and report back to Leaders at the next Summit. We ask the international financial institutions to offer support to countries in this process. We call on all nations to adopt policies that will phase out such subsidies worldwide.

We request relevant institutions, such as the IEA, OPEC, OECD, and World Bank, provide an analysis of the scope of energy subsidies and suggestions for the implementation of this initiative and report back at the next summit [paragraph 30].

ANNEX 3. DIESEL OIL PRICES FOR COMMERCIAL USE, IEA, ENERGY PRICES AND TAXES (ISSUE 2ND QUARTER 2009)

Table 7
Automotive Diesel Oil Prices for Commercial Use in US Dollars/litre

	2000	2001	2002	2003	2004	2005	2006	2007	2008	4Q2008	1Q2009	2Q2009*
Australia	..	..	..	..	..	..	..	..	..	..	..	..
Austria	0.598	0.558	0.565	0.650	0.747	0.810	0.890	0.981	1.257	0.973	0.826	..
Belgium	0.602	0.563	0.565	0.706	0.911	1.068	1.119	1.238	1.513	1.196	1.048	..
Canada	0.459	0.445	0.406	0.492	0.581	0.765	0.852	0.921	1.156	0.887	0.680	..
Czech Republic	0.524	0.520	0.544	0.638	0.809	0.978	1.077	1.189	1.562	1.243	0.994	..
Denmark	0.702	0.668	0.689	0.825	0.911	1.022	1.101	1.213	1.491	1.157	1.027	..
Finland	0.642	0.601	0.606	0.748	0.863	0.987	1.051	1.143	1.515	1.189	1.025	..
France	0.650	0.597	0.608	0.749	0.919	1.062	1.132	1.250	1.553	1.242	1.049	1.107
Germany	0.637	0.635	0.682	0.863	1.004	1.143	1.208	1.345	1.637	1.296	1.145	..
Greece	0.527	0.481	0.496	0.610	0.779	0.919	1.006	1.133	1.481	1.193	1.010	..
Hungary	0.610	0.583	0.625	0.749	0.864	1.026	1.076	1.197	1.491	1.184	0.927	1.023
Ireland	0.634	0.611	0.603	0.750	0.904	1.068	1.136	1.222	1.537	1.335	1.049	..
Italy	0.685	0.648	0.672	0.826	0.971	1.147	1.218	1.327	1.635	1.309	1.132	..
Japan	0.578	0.529	0.503	0.562	0.649	0.745	0.797	0.817	1.155	1.177	0.866	..
Korea	..	..	..	..	..	..	..	..	..	..	..	..
Luxembourg	0.553	0.511	0.517	0.627	0.745	0.911	1.001	1.114	..	..	..	..
Mexico	0.385	0.421	0.429	0.398	0.392	0.419	0.434	0.466	0.490	0.461	0.451	..
Netherlands	0.663	0.617	0.626	0.755	0.938	1.068	1.146	1.263	1.581	1.263	1.049	..
New Zealand	0.294	0.269	0.266	0.321	0.430	0.564	0.653	0.683	0.907	0.636	0.475	..
Norway	0.915	0.775	0.823	0.956	1.039	1.223	1.277	1.413	1.739	1.351	1.220	..
Poland	0.482	0.511	0.518	0.598	0.711	0.933	1.008	1.116	1.435	1.109	0.825	..
Portugal	0.559	0.556	0.561	0.738	0.900	1.066	1.197	1.356	1.692	1.360	1.138	..
Slovak Republic	0.557	0.515	0.505	0.679	0.882	1.019	1.128	1.287	1.638	1.371	1.174	..
Spain	0.553	0.534	0.560	0.676	0.809	0.957	1.024	1.131	1.424	1.127	0.960	1.019
Sweden	0.738	0.669	0.690	0.804	0.931	1.108	1.208	1.303	1.620	1.299	1.060	..
Switzerland	0.721	0.690	0.711	0.850	0.993	1.129	1.195	1.268	1.623	1.413	1.161	..
Turkey	0.695	0.597	0.725	0.927	1.080	1.459	1.555	1.771	2.212	1.792	1.486	..
United Kingdom	1.048	0.954	0.963	1.083	1.277	1.405	1.491	1.651	1.834	1.460	1.243	..
United States	0.395	0.371	0.348	0.398	0.477	0.633	0.714	0.761	1.003	0.790	0.580	..
OECD Europe	0.678	0.638	0.662	0.802	0.954	1.109	1.185	1.311	1.609	1.283	1.090	..
Total OECD	0.551	0.520	0.521	0.612	0.732	0.879	0.956	1.042	1.311	1.061	0.859	..

* Prices for 2Q2009 are preliminary.

**For Korea Automotive Diesel Oil Prices for Non Commercial Use in 2007: 1.37 USD/litre and 2008: 1.47 USD/litre has been used.

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Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **14-Oct-2011**

English - Or. English

TRADE AND AGRICULTURE DIRECTORATE
FISHERIES COMMITTEE

Draft Principles and Guidelines for the Design and Implementation of Plans for Rebuilding Fisheries

10-12 October 2011

As decided at the 108th COFI Session, this is the agreed text of the Draft Principles and Guidelines for the Design and Implementation of Plans for Rebuilding Fisheries.

For further information, please contact Mr. Gunnar Haraldsson (e-mail: Gunnar.Haraldsson@oecd.org)

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DRAFT PRINCIPLES AND GUIDELINES FOR THE DESIGN AND IMPLEMENTATION OF PLANS FOR REBUILDING FISHERIES

I. Introduction

1. The OECD Committee on Fisheries (COFI) decided in 2008 to contribute to the efforts of Member States to implement the commitment to rebuild overfished and depleted fish stocks by investigating the economic aspects of fisheries rebuilding and thus also contribute to the Organisation's on-going work on Green Growth and Food Security.

2. The conclusions of this work, as outlined here, intend to provide policy makers with a set of practical and evidence-based principles and guidelines to consider when designing and implementing rebuilding plans.

3. The focus of the analysis is on rebuilding fisheries as a broader concept than rebuilding fish stocks. "Rebuilding fisheries" refers here to programmes (government sponsored or otherwise), that seek to improve stock status while securing both the integrity of ecosystems and the livelihoods that depend, directly or indirectly, on fisheries. An improved understanding of the economic, social and institutional issues underlying successful rebuilding efforts will increase the likelihood that fisheries rebuilding programmes will meet their objectives.

4. This document contains three further sections that: outline the motivation for rebuilding fisheries (II); provide the general principles underpinning rebuilding (III); and outline specific guidelines on the design, implementation and governance issues of rebuilding plans (IV).

II. Motivation

5. There is need for action at all levels to ensure the long-term sustainable use and management of fisheries resources. Rebuilding fisheries is potentially both economically and socially beneficial as it:

- leads to a sustainable fishery where the harvesting and processing capacity is commensurate with the productivity of healthy fish stocks, thereby sustaining fishing communities, generating employment, and preventing a waste of human and physical capital;
- can increase food security and contribute to Green Growth; and
- has positive environmental effects, including the rebuilding of target fish stocks, supporting biodiversity, and strengthening the resilience of the ecosystem as a whole.

III. Principles

6. Fisheries should be managed in a sustainable and responsible way so as not to lead to a situation where rebuilding becomes necessary. Rebuilding plans should be based on social, biological and economic principles which should be incorporated throughout the design and implementation process in an integrated fashion, as opposed to sequentially or in isolation. Addressing risk and uncertainties should be explicitly incorporated into the rebuilding plan.

7. Efforts to rebuild fisheries should aim at restoring a sustainable fishery with a potential to generate profits and employment. Careful considerations of costs and benefits and their distribution is an important policy consideration.

8. Efforts to rebuild fisheries should take into account relevant international fisheries instruments, as well as environmental and ecosystem considerations and the interactions between the fishing activity and other industries.

9. Rebuilding plans should be an integral part of a coherent broader fisheries management system. The management instruments employed should be consistent among themselves and consistent with instruments applied elsewhere in the management system.

10. Good governance, which implies inclusiveness, empowerment, transparency, flexibility and a predictable set of rules and processes for fisheries management, is a key element in ensuring success. Good governance acknowledges the tensions and balance between objectives of different stakeholders and contributes to resolving those tensions. Transparency helps to build trust and foster dialogue between stakeholders. The inclusion of a wide range of stakeholders (including different levels of government, environmental and scientific communities, industries and local communities) calls for a clear specification of each group's role in institutional structures and processes.

IV. Guidelines

11. Rebuilding plans should be based on a comprehensive assessment of ecological, economic and social conditions, the interplay between fishing activity and the fish stock, and the existing management and governance regime, while accounting for uncertainty. New and existing research, data and analysis can contribute to this assessment.

12. Rebuilding plans should have well-defined objectives, targets, harvest control rules and assessment indicators which are clearly articulated and measurable. The rebuilding plans should provide estimates of the time pattern of likely economic benefits and costs with respect to catches, capacity, profitability, distribution of added catch value, employment, over the time of the recovery period and the values of the variables should be monitored during implementation. The original estimates and the results of the monitoring should be provided to stakeholders throughout the process in a clear and transparent manner.

13. Rebuilding plans should take account of the full costs and benefits of designing, implementing, and monitoring the programme and their distribution.

14. The design of rebuilding plans should take into account the characteristics of the fishery, such as fleet composition, the biological characteristics of the resource and whether the resources are managed at a local, national, regional or multilateral level.

15. In rebuilding plans, appropriate monitoring, control and surveillance instruments are necessary for successful implementation and should be designed and implemented for operational effectiveness but should also address administrative simplicity and cost effectiveness.

16. Stakeholders have an important role to play in many stages of the rebuilding process to ensure a common understanding of the state of the fishery. Such engagement will help in the development of clear, transparent policies that provide managers and stakeholders with a degree of predictability with respect to process and expected changes in policy variables, and may therefore help build support for rebuilding.

17. Fisheries rebuilding plans should also be communicated to the general public and results of their implementation reported in a timely fashion.

18. Rebuilding often implies incurring short-term costs in the interest of generating long-term benefits; weighing these costs and benefits is an important undertaking. The distribution of cost and benefits among stakeholders is a key policy consideration and will significantly influence stakeholders' support for a plan. Rebuilding plans should therefore: clearly articulate expected costs, benefits, and their distribution in the short and long term; seek to ensure that those stakeholders who bear the costs of rebuilding will receive some of the benefits; and should be designed to allow stakeholders to better recognise and value the expected long-term benefits of rebuilding efforts.

19. Rebuilding plans should account for the interaction between central and local authorities as well as a broad range of stakeholder groups. Decisions taken at the local level influence decisions taken at higher levels, and *vice versa*. This interaction should be addressed in the rebuilding plan and in the governance system more broadly.

20. The implications of risk and uncertainties, and means to address them and where possible reduce them, should be explicitly incorporated into the rebuilding plans. Rebuilding plans should be robust and adaptive to variability and unexpected changes in the environment, industry or the economy. The design of rebuilding plans should include mechanisms to monitor progress and anticipate actions to be taken if rebuilding is not advancing. It is important to have a mechanism to assess and communicate to the stakeholders and policy makers the biological and economic risks associated with various components of the rebuilding plan. Mechanisms that take uncertainty and risk explicitly into account and reduce possible negative effects should be used.

21. Rebuilding fisheries usually requires the concurrent use of multiple management measures. Measures may include input/output controls as well as various technical measures. Generally, output controls are effective in restraining catches but can be costly to enforce and monitor. Input controls are often less effective in restraining catches but may be cheaper and easier to implement.

22. Rebuilding requires a modification of fishing mortality to increase stock sizes and improve stock structures and the management instruments in use should be effective in this regard.

23. When a rebuilding plan concerns a species found in a multispecies, multi-gear fishery, specific management measures should be applied due to the interactions between the gears and fisheries, and the possible effects that this particular rebuilding initiative may have on other species and fisheries should be addressed.

24. Rebuilding plans should also take account of bycatch and discards, and include measures to reduce these where possible.

25. Habitat conservation and enhancement can be an important part of rebuilding plans.

26. The pace of rebuilding is an important aspect of a rebuilding plan. A moratorium or a sharp reduction in effort or catch can result in idled human and physical capital with accompanying waste and lost know-how and markets. Higher net present value of fishery output will normally be achieved by reduced but positive harvest levels, although this may require a longer time period to achieve the targets. In many cases a gradual or incremental implementation of the rebuilding plan can be useful as it may help to increase social acceptability and prevent abrupt economic and social harm and ease the financial and political pressures on governments. However, this gradual approach must be balanced against the possibility of significant and potentially irreversible damage to the fish stock and/or the ecosystem if harvest continues.

27. Retraining programmes, well-designed decommissioning schemes[1] and other flanking measures may help stakeholders to adapt to the changes in the fishery. Such measures may also engender stakeholder support for the rebuilding plan.

28. Harvest control rules or similar measures, where applicable, are central to rebuilding fisheries. They specify predetermined management actions, especially those related to allowable harvest levels, according to the difference between the current stock size and structure and target stock objectives. The use of such rules also allows for discussing and agreeing on specific trajectories, taking into account possible social and economic impacts and uncertainties.

29. Experience shows that there are various types of individual and collective rights-based management instruments that may be useful to consider under different conditions by creating incentives for industry self-adaptation. Well designed rights-based management systems may be effective if the objective is to reduce fishing effort, while at the same time securing profits for fishers in the longer term. Challenges associated with rights-based management can be addressed through specific safeguarding measures.

30. An integral part of a rebuilding plan is to decide on how the fishery shall be managed after the rebuilding period. Such a post rebuilding plan should ideally secure a sustainable fishery and prevent back-sliding.

[1] See, inter alia *Reducing Fishing Capacity. Best Practices for Decommissioning Schemes* published by OECD in 2009 and the Council Recommendation on the design and implementation of decommissioning schemes in the fishing sector, [C(2008)78].

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Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **30-Aug-2011**

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TRADE AND AGRICULTURE DIRECTORATE
FISHERIES COMMITTEE

A GREEN GROWTH PERSPECTIVE ON ENERGY USE IN FISHERIES AND AQUACULTURE

Paris, 10-12 October 2011

This document is submitted for the COFI's consideration at the 108th Session under Agenda item 6.

For further information, please contact:
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A GREEN GROWTH PERSPECTIVE ON ENERGY USE IN FISHERIES AND AQUACULTURE

Proposal for a project on energy use in fisheries

1. The OECD Green Growth Strategy promotes, among other things, innovative approaches to new market opportunities, a longer term view of the impact of policy on economic growth, and a better coherence between economic and environmental policies. In this spirit, the question of how energy is used by the fisheries sector is an important one. This is doubly so when one considers the need to reduce carbon emissions to mitigate climate change.

2. The proposed study will investigate fuel and energy use in the fisheries sector and identify potential pathways to reduce the energy intensity of the sector thus reducing environmentally harmful effects and contributing to green growth. For the capture fisheries sector in particular, the Study will investigate how the various policies applied, when combined, influence the use of fuel and thus contribute toward ensuring policy coherence across policy domains. While the focus will be on capture fisheries and aquaculture, other elements of the production chain will be considered where possible. This could include processing, refrigeration and transportation of fish products. In this regard, it should be noted that the energy consumption in the fisheries value chain has been lees surveyed than primary production.

Aim

3. The aim of the study is primarily to characterise energy use in fisheries by identifying the types of energy used by various sector actors, the amounts used, and how it is used. This information will be used to draw connections between different policy instruments and their impact on energy use in order to provide sound policy advice regarding how to improve fuel efficiency in a way that is positive for the sector and the environment. Connections to Green Growth principles will be highlighted where appropriate.

Scope

4. There are three domains to be covered by the study; capture fisheries, aquaculture and the fish processing sector. Of these, the capture fisheries sector will be the most important as it typically faces the largest number of (possibly conflicting) policy interventions. That is, the working assumption is that the policy environment is as important as are economic forces in determining energy use for capture fisheries, while for aquaculture and processing, market factors are generally dominant. A large portion of the study will come from a consultant's report, supplemented by information available within the OECD and from the research literature.

Outcome

5. The principal outcome is a study on the level of energy use in capture fisheries, aquaculture and fish processing and the factors that influence it. These factors will include *inter alia* the nature of the management regime for capture fisheries, market drivers and the potential for innovation, and the role of Government Financial Transfers (GFT). The report will present estimates of overall energy use by category and sector participant. One benefit of the study will be an indication of the nature of the data available,

which will identify gaps for future research. The report is unlikely to be able to definitively quantify the relationship between policy and energy use, but the information it contains should set the stage for research that can improve the effectiveness of fisheries policies impacting energy. Ultimately, this will help member countries to improve the efficiency and environmental performance of fisheries while contributing to meeting their climate change goals.

6. Ongoing OECD work on GFTs, including tax expenditures for fuel use, will provide an important source of information. The FAO has also provided some data such as estimates of total fuel use and studies of the technical factors behind fuel efficiency improvements. A consultant report will be commissioned as part of this work

Timing

7. It is proposed to undertake the Study in 2012 primarily as a desk study reviewing existing literature of fuel use in the fisheries sector with a preliminary report due in for the 109th Session and a final report for approval at the 110th Session of COFI.

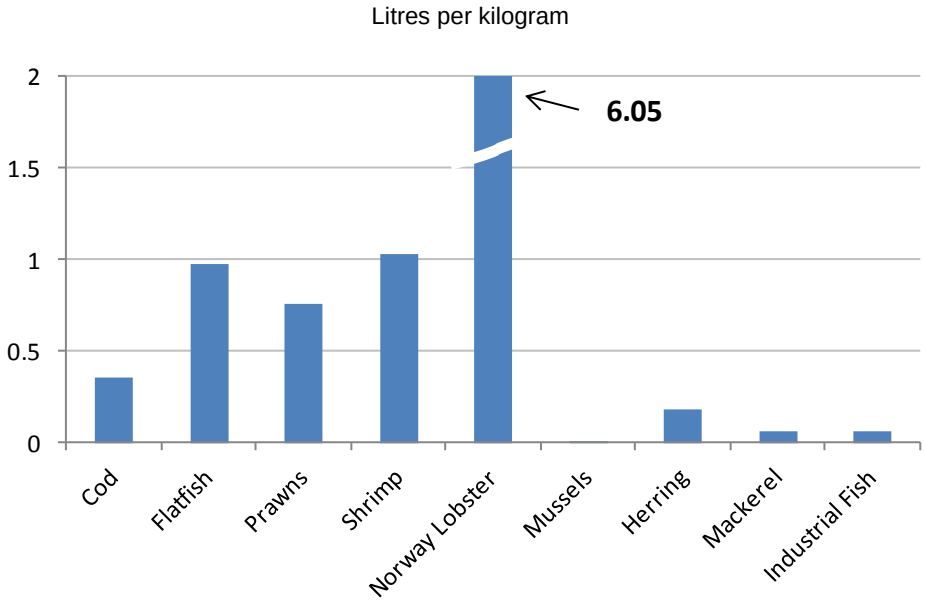
Overview of Main Issues

8. This paper scopes out a project on green growth and energy use in fisheries. It provides the background for such a study by describing the level and variation in energy use in some specific examples and identifying the need for better understanding the current status quo and its drivers as the basis for good policy design for reducing overall environmentally harmful energy use in fisheries and aquaculture.

Energy use in fisheries and aquaculture

9. Energy, in the form of fuel, is a major component of the total costs of capture fisheries. Improved energy efficiency can increase the profitability of the sector, but this depends on a number of factors. Across different fisheries there is broad variation in levels of fuel consumption per tonne of fish landed, indicating that fishers can deploy a range of alternative technologies in search of profit, and that conditions influencing that choice in different fisheries can be quite diverse. In this regard Figure 1 highlights energy use per kilo of fish caught across a selection of fishing methods. The larger the share of energy in the total cost of the fisher, the more they are exposed to fuel price fluctuations, which in turn places pressure on policy makers to respond when fuel costs rise.

Figure 1. Species-related fuel consumption for the Danish fishing fleet, 2000



Source: Thrane (2004)

10. The fisheries sector shares the responsibility to respond to climate change. It is estimated that global emissions from fisheries are roughly equivalent to that from the Netherlands, such that if it were a country, fisheries would be the 18th largest emitter in the world, representing 1.2% of global oil consumption (Tyedmers 2005, 2010). More significantly, fish products can have a large carbon footprint relative to other food choices (Table 1).

11. Pressure to reduce the energy intensity of fish production will increase if policies such as carbon taxation or cap-and-trade for carbon emissions are put into place or if fuel subsidies are removed. As well, consumer information and awareness regarding the carbon footprint of foods is increasing as initiatives are developed to estimate and report the carbon intensity of products (Richert 2010, Woodhouse 2010). Consumers have already demonstrated a preference for sustainable food choices, so fishers need to be aware of how their energy use can affect the marketing of their products (Roheim, 2008; Roheim and Sutinen, 2006).

Table 1. Energy Input of Selected Protein Sources

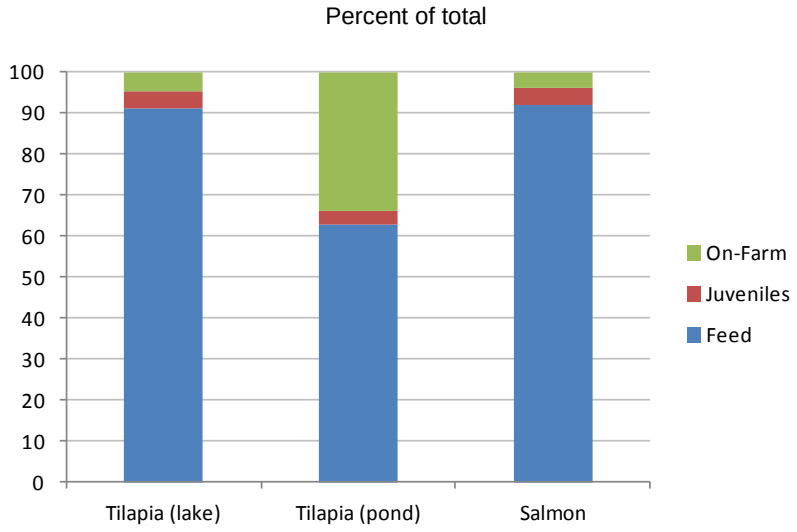
Protein Source	Energy Input *(Gigajoules/tonne)*	GHG emissions *(tonnes CO2/tonne)*
Beef, United States	38-48	15-19
Pork, United States	9.7-14.4	2.5-3.3
Poultry, United States	16.5	1.7
Farmed Trout, France	78	2.8
Farmed Sea Bass, Greece	55	3.6
Farmed Salmon, net pen	26-48	1.8-3.3
Farmed Tilapia, Indonesia	18-26	1.5-2.1
Lobster, trap, Canada	60	4.1
Tuna, purse-seine	-	1.6-2.2
Salmon, wild, Alaska	2.6-24.6	0.2-1.7
Herring, United States	0.8-4.7	0.07-0.4

Source: Tyedmers, 2010

12. The capture fisheries sector is subject to a number of policies involving management of the fish stock, influencing the size and composition of the fleet and the use of a specific fishing gear and, more generally, the profitability of fisheries. Also, in many cases the use of fuel for fishing activities is subsidised. Given the importance of the policy environment, investigating how these policies when combined influence the use of fuel, is a step toward ensuring policy coherence.

13. Aquaculture production is typically less energy-intensive in terms of on-site energy use, but may represent significant energy use when the embodied energy of feed is taken into account. In fact, the largest share of energy used in aquaculture comes from production of feed (Figure 2).

Figure 2. Energy Inputs to Aquaculture



Source: Pelletier et al. 2009, Pelletier and Tyedmers 2010

Characterising energy use

14. The absolute amount of energy used in the fisheries sector is important in the context of climate change, but is otherwise not by itself a useful statistic. Expressing energy used per kilo of fish landed, per Euro of value, or per kilocalorie are all ways of expressing energy intensity with respect to output, each focussing on a different aspect of fisheries production. Expressing energy use in terms of the value of production allows for results to be more easily aggregated and compared, and focuses on the bottom line for fishers. But value of production includes price—an element that is outside the production process for fish—and so can obscure the technical relationship between energy used and fish caught.

15. Measuring the energy efficiency of fisheries and aquaculture is an important component of understanding progress towards green growth, but energy efficiency alone does not tell the whole story. Strategies that improve conservation of the marine environment or the fish stock or that support other social objectives may be more energy intensive, and whether this is the case or not will depend on a number of related factors including the nature of the management regime. In aquaculture, for example, closed recirculating systems can reduce local environmental impacts, but at the cost of higher energy inputs. Measuring and characterising energy use in a way that is useful to policy makers will likely require additional context.

Factors influencing energy use

16. Energy is one of several inputs into the process of harvesting fish. Policies that influence the ability to use one input will in principle have an impact on all other inputs. For example, restricting the amount of time allowed for fishing could promote increased fuel use as boats decide to steam faster (and in the long run, bring about investments in larger, faster vessels). Choice of management regime influences energy efficiency; in particular proponents of ITQ systems point to improved energy efficiency as one of the benefits. Conversely, under open access regimes additional capacity (compared to restricted open access) may lead to higher overall energy use. However, maximising energy efficiency does not equate to maximising profitability, and management regimes seldom include fuel use among their objectives. The problem is one of policy coherence—how can management regimes achieve their objectives for the fishery while at the same time considering the impact of energy use on other policy objectives. In this regard, incorporating energy use/efficiency objectives into management regimes may be a central contribution to the green growth strategy for fisheries and aquaculture.

17. Declining catch per unit of effort impacts the fuel efficiency of the fleet. Depleted fisheries require more effort and fuel to achieve the same harvest as the fishers will use more time and steam on the fishing ground searching for the fish. It has been estimated that bringing global fisheries stocks nearer to the MSY or MEY levels can reduce fuel use by 50% or more, improving both fuel efficiency and fisheries profitability (Arnason 2010). However, this can only be achieved in combination with changes in fisheries management regimes.

18. The fish species targeted also has an impact on energy use. Some species can only be practically fished using active gear such as bottom trawls, while for others passive gear is best. This fact has often been used to justify fuel subsidies to fisheries, as it is claimed that certain fisheries are not viable without reduced fuel costs. While this is subject to debate, the use of fuel subsidies poses another serious policy coherence problem.

19. While some fisheries have few practical gear options, for others it is possible to use a variety of gear types to exploit the fishery. Fishers will choose gear to maximise profits subject to technical regulations, taking into consideration the input costs they face (including fuel) as well as the gear options for other fisheries in which they may participate. When flexibility in gear is possible, the potential response to incentives to increase fuel efficiency is larger.

20. In summary, the nature of the management regime, the targeted species and feasible gear types are the main determinants of the energy efficiency of a capture fishery. Other factors can include distance between the fishery and the market, the nature of the final product (fresh, frozen, canned, etc.), weather conditions, season and characteristics of the processing chain. For some of these, pre-existing policies are in place and the question turns mainly on policy coherence. For others (mainly post-capture), fewer interventions exist and the policy problem is more one of removing market impediments or providing new policy incentives.

21. Aquaculture involves a completely different set of production technologies than capture fisheries. As is the case for capture fisheries, energy is one of many inputs into production, and these can be substituted one for another to varying degrees according to the market or policy incentives faced by the producer. Some of these input trade-offs have implications for the local environment and resource base, such that energy efficiency is part of the larger environmental footprint of the operation.[1]

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1. Alternatively, local environmental services and resources can be considered as inputs in production, providing dilution of effluent and supply of fresh water for example.

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Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **30-Aug-2011**

English - Or. English

TRADE AND AGRICULTURE DIRECTORATE
FISHERIES COMMITTEE

A GREEN GROWTH PERSPECTIVE ON WASTE AND IMPROVED USE OF FISHERIES AND AQUACULTURE RESOURCES

Paris, 10-12 October 2011

This document is in response to the COFI's request for scoping papers for four specific studies on fisheries and green growth. They are submitted for the COFI's consideration at the 108th Session under Agenda item 6.

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A GREEN GROWTH PERSPECTIVE ON WASTE AND IMPROVED USE OF FISHERIES AND AQUACULTURE RESOURCES

Summary

1. The proposed study will examine the scale and nature of different forms of waste and losses in the fisheries food chain and indicate ways of improving the use of fisheries and aquaculture resources in line with the relevant green growth parameters identified by the OECD. The study also intends to provide policy recommendations to increase efficiency in a way that supports green growth sector profitability, sustainability and increased food security. The proposed study will primarily be carried out as a desk study using readily available information. The study could be carried out during 2012 with final delivery in 111th Session in April 2013.

Proposal for a Project on Waste and Better Use of Fisheries and Aquaculture Resources

Aim

2. The project aims to identify and increase our understanding of waste in the value chain, provide policy recommendations and further insight into on the roles of different actors (government, industry, consumers, NGOs) and how these actors can contribute to achieve Green Growth objectives.

3. In the context of the implementation of national policies, the study aims to indicate how governments can contribute to reaping the substantial potential gains from the systematic application of green growth policies. On the international scene, commitments undertaken have major implications relating to waste, climate change and food security issues. Furthermore, enhanced insight in conjunction with policy recommendations may assist international negotiation processes addressing these issues.

4. The report will be disseminated within and outside the OECD. An important part of the project is to have a global outreach perspective as well as contributing to the enhanced engagement strategy of the OECD.

Timing and sources of information

5. The proposed study will primarily be carried out as a desk study using readily available information. The study does not intend to use data-bases or rely on any particular methodology in its analytical parts. The study could be carried out during 2012 with an expected final submission at the 111th Session in April 2013.

6. Existing material available within the OECD, from the FAO, WorldFishCentre and other sources such as academic work of relevance will comprise the main sources of information. The lack of consistent and comparable data globally covering waste and losses in the value chain will require a dedicated study by an external consultant, the cost which is assumed to be limited to EUR 5 000. Members will be requested, to the extent possible, to supply relevant information to support the factual basis of the study.

Scope

7. The study will describe how fisheries are conducted and what part of the catch is not utilised (e.g. discards, cut-offs and trimmings, heads, etc). Other questions that will be addressed include: Once the catch is landed, what is the current utilisation-rate? What explains the current level of utilisation? What happens to those parts that are not currently marketed? What about cut-offs and trimmings, heads, etc? Finally, what happens further up the value chain? How much is thrown away due to spoilage during transport and storage, not being sold for cosmetic or commercial reasons and how much is wasted because the final date of purchase is exceeded, etc? In this regard, the analysis will consider the roles of different actors (government, industry, consumers, NGOs).

Outcome

8. The principal outcome will be a study that provides:

- A factual description of how fisheries resources are used, including for example shark-finning, fresh, fillets, various forms of freezing and processing, use of heads, and cut-offs and trimmings. This involves a description of the market segments for various products;
- Policy approaches to increase the rate of utilisation of the fisheries resources and the efficient use of raw material;
- An estimate of the potential for increased availability of fisheries products in the food system; and
- An analysis of the interaction between the main actors (government, industry, consumers, NGOs), identifying their respective roles and the contributions they can make to improve resource utilisation.

Introduction

9. The fisheries and aquaculture sectors are part of the food chain and characterised by sub-optimal use of seafood resources. Waste and losses take many forms. Discarding of fish at sea is one example. A kilo of filleted fish is derived from 2.5 kilos of round fish and trimmings, cut-offs and offal have in many cases no established markets. According to the FAO, around a quarter of fish stocks are currently not used sustainably.

10. Better use of seafood and reduction of waste will contribute to increased economic and sustainable efficiency in the sector as well as responding to food security needs[1]. Tentatively, the material available indicates (c.f. below) that increases of 10 million tonnes could be made from improved management alone. If we add discards in world fisheries which amount to about 10 million tonnes annually, a simple calculation would indicate that further availabilities of 100 million tonnes must be met by waste reduction, better utilisation of raw-material and increased aquaculture production to meet the requirements of an increase of 120 million tonnes of fish for human consumption.[2]

1 With a projected world population growth to 9 billion by 2050, it is assumed that (given current rates of consumption of seafood) at least 120 million tonnes of seafood is needed to meet food security needs.

2 Projected need for increase by 2050: 120 million tonnes, minus 10 million tonnes from (MSY) improved management and 10 million tonnes in reduced discards.

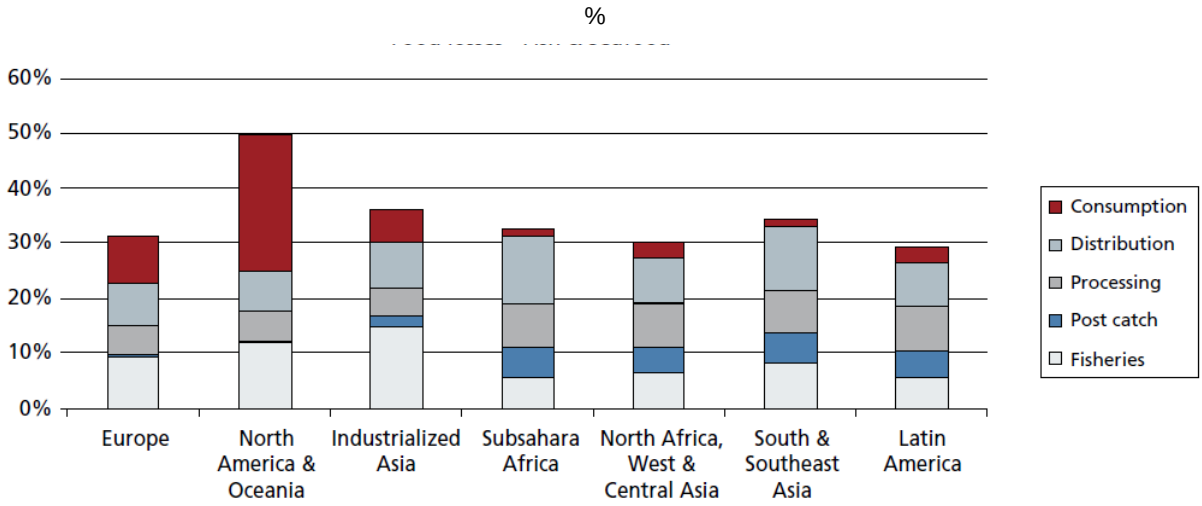
11. This paper uses concepts such as "loss" and "waste". Academic literature makes use of "loss" to describe phenomena which are deemed to be outside the control of the producer, e.g. a natural catastrophes, pests or parasites destroying crops, etc., whereas "waste" denotes deliberate activities which assume that the raw material could be put to some kind of use, but is "wasted" for some reason or other. Some of the different categories of food waste can be defined as follows[3]:

- **Losses** – Deliberate removals of food items that at current prices and technology are not economical to conserve in the food chain. Losses in the food chain can be subdivided into those losses that are **uneconomic to use**, compared with those that are **technically inedible** in their common use. Such losses are typically a consequence of the profit maximisation of producers and processors.

- **Discards (after primary production)** – Food that is edible in its current form at the time of disposal, or is discarded. This includes food removed from the retail chain due to cosmetic considerations/ standards, plate waste or spoiled food that is not consumed in a timely manner. The main difference between losses and discards is that losses generally are *unavoidable*, while discards are generally *avoidable*.

- **Inefficient Use** – Food that is used in a way that reduces its value or contribution to nutrition. This would include consumption of food items beyond healthy levels that contributes to obesity or other health problems, high-quality food used as pet or animal feed, and potentially industrial uses of food that are sub-optimal when other issues such as to food security are taken into account.

Figure 1. Proportion of initial catch lost, discarded or wasted by region and by value chain element



Source: FAO 2011.

12. To our knowledge, there is no overall comprehensive and reliable compilation of facts and policy recommendations on this subject. Consequently, this paper aims to identify the most important sources of waste and losses in the fisheries and aquaculture value chains as well as attempting to provide for policy makers a better understanding of the current situation and its drivers as a basis for future improvements in good policy design.

3 *Source:* TAD/CA/APM/WP(2011)7

13. Improved utilisation includes ensuring sustainable use of fisheries and aquaculture resources. It also includes examining how the fisheries and aquaculture sectors may better contribute to food security. These aspects should be seen within the green growth framework of how we can make better use of natural capital, i.e. in terms of pricing the use of the resource base and the ensuing environmental effects of such use, the role of innovation and how we can create incentives for the industry to profit from the emergence of new markets and activities.

Waste and improved utilisation of fisheries and aquaculture resources

14. Fish is a major source of food and protein globally. World population is estimated to increase to 9 billion by 2050, increasing demand for food by 70% from current levels. According to the FAO, total fish production is presently around 160 million tonnes, of which approximately 89 million tonnes comes from capture fisheries. Fish accounts for between 10 and 15% of global protein supply. If the fishing sector is to contribute to meeting future food demand, production will need to increase substantially. Simply keeping pace with projected population growth implies a need to increase total production of seafood by around 120 million tonnes. The recent OECD-FAO Agricultural Outlook 2011-2020 projects that world production will increase to 164 million tonnes by 2020 (compared to a 2008-10 average of 143 million tonnes) and of which 73.7 million tonnes is from aquaculture (compared to a 2008-10 average of 54.6 million tonnes).

15. The ability to increase production from capture fisheries is limited. According to the FAO, around 50% of world fish resources are fully exploited, around 25% overexploited and the remaining part (mainly low-value or in Antarctic waters) underexploited. The FAO thus predicts that any major expansion in global fish production will come from the aquaculture sector. How can the projected needs be met, keeping in mind that the most substantial increase will have to come from aquaculture?

Box 1. Aquaculture

According to the report "Blue Frontiers – Managing the environmental costs of aquaculture", the world needs to farm more fish and algae to meet the world's growing demand for animal products. A worldwide assessment concludes that the environmental impact of aquaculture is lower than raising cattle, pigs or poultry. Fish farming can have environmental benefits if done sustainably and aquaculture is most likely to meet the growing demand for animal products with the least demand on ecosystems. Fish process energy more efficiently than mammals such as cows and pigs. For each kilogram of protein from beef, a cow needs to be fed the equivalent of 61kg of grain, for pork, a pig needs 38kg, whereas a fish needs 13kg of grain. In addition, aquaculture emits less phosphorous, nitrogen and greenhouse gases than livestock farms.

Current trends indicate that the majority of the increase in global production will come from south and south-east Asia, with a continued drive by major producers such as China and Vietnam towards export to Europe and North America. Furthermore, the report predicts that worldwide production will rise from 52.6m tonnes in 2008 to between 79m and 110m tonnes by 2030. However, environmental constraints could slow growth in China due to shortages of land and water and increased competition for energy and feed. To improve the industry, they suggest greater monitoring, technological innovation and policy support. Mass production of microalgae – which is thought to be approaching commercial stage – is thought to have enormous potential for efficiency gains because it could replace fish feed and fish oil.

Source: World Fish Centre/Conservation International: "Blue Frontiers: Managing the Environmental Costs of Aquaculture"re

16. The expected growth of the aquaculture sector notwithstanding, sustainable and responsible fisheries management, including the rebuilding of fish stocks in capture fisheries are certainly part of the solution. These have been considered in several OECD reports (*e.g.* TAD/FI(2010)10). Improved fisheries management and rebuilding depleted stocks could increase capture fish production by around 13% (10 million tonnes) if stocks were managed to maximise yields (World Bank, 2009). On the other hand, it

is estimated that more than 30% (FAO 2011) and as much as 50% (Asche 2011) of the current catch from wild fisheries is lost to one form of waste or another (cf. Figure 1 above). Thus, reducing waste can have the same impact as increasing the stock size in terms of increasing the food supplies from the fisheries sector.

17. Apart from increased fishing on underutilised fish stocks, improved fisheries management[4] and rebuilding of fish stocks, making increased food quantities available from capture fisheries can be achieved through making better use of the fish resources once harvested.

18. Tentatively, the material available indicates (c.f. above) that increases of 10 million tonnes could be made available from improved management alone. If we add discards in world fisheries which amount to about 10 million tonnes annually, a simple calculation would indicate that further availabilities of 100 million tonnes must be met by waste reduction, better utilisation of raw-material and increased aquaculture production to meet the requirements of an increase of 120 million tonnes of fish for human consumption.[5]

19. A first step in identifying opportunities to improve the efficiency of the fisheries value chain is to understand the scope and nature of the waste problem. In this regard it should be noted that there is currently not a general measure of food waste that is consistent across countries. While some countries have dedicated research papers on fish waste (Box 2), we lack a consistent global quantitative figure or global measurement of the extent of waste.

Box 2. Marine by-products

The Norwegian research institute RUBIN has estimated the total amount of marine by-products in Norway to be around 700 000 tonnes and that approximately 75 % of this quantity (525 000 tonnes) is utilised in one way or another, representing a total value of 180 million euro (1, 4 billion NOK). The value created can be increased manifold if a greater part of this can be better utilised for human consumption and/or as ingredients in specialised feed for aquaculture, foodstuffs, health products, cosmetics and in the medicinal industry.

Source: "Havet – en uudnyttet ressourse" (The Oceans – An Untapped Resource), Ministry of Food, Agriculture and Fisheries Denmark, May 2010

20. However, the available evidence suggests that significant losses take place in all parts of the value chain. For this reason, the proposed study will address waste issues in the fisheries supply chain, including:

- Primary production (capture fisheries or farming);
- Processing – primary and secondary, and
- Distribution and retail, and consumption sales (including food services/restaurant).

21. As to the losses, there are significant differences in primary production between capture fisheries and aquaculture. However, once seafood enters further up in the value chain, the issues are mostly similar

4 Including technical regulations such as minimum sizes of fish, minimum mesh-sizes, by-catch regulations, area closures, etc.

5 Projected need for increase by 2050: 120 million tonnes, minus 10 million tonnes from (MSY) improved management and 10 million tonnes in reduced discards.

to those of food and foodstuffs in general. The study will therefore benefit from work underway or previously conducted in this area[6].

22. If current losses from the fisheries value chain are 30%[7], then the potential gain from capture fisheries is 26 million tonnes (89 million tonnes x 0.3). However, not all losses from the food system can be eliminated, especially considering that some of this loss is optimal from an economic perspective. Nevertheless, it indicates that there is a substantial potential to increase the effective food supply from fisheries without increasing pressure on the resource base.

23. Parts of the fish have no established markets, and there is a wide variety in prices for different parts of the fish. How can we best utilise all parts including offal, bone, skin, etc.? Surimi production is an example of innovative utilisation of fish meat parts, which otherwise would not be marketed.

24. Market creation through research and innovation are key parameters in any strategy to improve the utilisation of the seafood raw-material as well as in making the industry aware of and able to use emerging green market opportunities. In this context, the identification of bottlenecks is crucial. Bottlenecks are typically legal and administrative obstacles, established tax policies as well as other barriers to production and trade. Furthermore, lack of information (including research), skills and know-how are important bottlenecks to green growth.

25. Improving utilisation and reducing losses from the food chain will not only contribute to food security, but can also improve profitability in some cases. Waste is costly, not just in terms of the cost of disposal, but also when it represents forgone revenue.

26. Potential gains include the following components, which can be labelled under the generic phrase of "maximising the economic yield of each kilo of fish":

- Gains in quantitative or economic terms;
- Gains in terms of reduced costs; and
- Gains in terms of new market opportunities.

27. A crucial question in the context of green growth is whether actions can be taken by governments, industry or civil society to improve the utilisation of the raw material or products in the value chain. The potential, as indicated above, seems to be very substantial. However, the mere fact that some parts of the raw materials are not used does not necessarily mean that it *should* be used or that it *can* be used.

28. An important reason why parts of production are lost or wasted may be explained by the fact that regulators stipulate conditions prohibiting the marketing of commodities that do not satisfy sanitary requirements or "not to be sold after… (date)". However, in cases not involving such legal requirements the major reason for "wasteful" practices lie in the fact that there is no market for the product or that products are wasted for commercial reasons or due to consumer preferences. In many cases it makes economic sense not to utilise all the raw material. Market conditions therefore play a major role in defining the scope for potential gains.

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6 Work in the TAD is presently underway on food waste management see "Waste Management in the Food Chain: Scoping Paper" TAD/CA/APM/WP(2011)7.

7 Based on the FAO estimates.

29. The OECD Green Growth Strategy emphasises the use of market instruments and correcting market failures as key element of effective policy design. This includes the "pricing" of the use of natural resources as well as using the emerging market opportunities arising from the implementation of green growth strategies. Green growth provides a strong focus on fostering the necessary conditions for innovation, investment and competition that can give rise to new sources of economic growth.

30. The proposed study will highlight the actions that governments and other actors can take and are taking to improve resource utilisation in fisheries. For example:

- Governments can create appropriate legal and economic incentive structures and improve market infrastructure, including communication and making the market more transparent. Public funding to research and development can support private initiatives for innovation and creativity taken by the industry;
- Industry can identify bottlenecks to the emergence of green market opportunities. Industry can investigate beneficial market arrangements such as co-location of fish processing and fishmeal processing facilities, exploring the trade-offs between economies of scale and network externalities;
- The public can express their preferences by making "green" choices in the marketplace and by exercising political and market pressure on industry and governments, insisting on green growth progress.

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Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **30-Aug-2011**

English - Or. English

TRADE AND AGRICULTURE DIRECTORATE
FISHERIES COMMITTEE

A GREEN GROWTH PERSPECTIVE ON FISHERIES GOVERNANCE

Paris, 10-12 October 2011

This document is in response to the COFI's request for scoping papers for four specific studies on fisheries and green growth. They are submitted for the COFI's consideration at the 108th Session under Agenda item 6.

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A GREEN GROWTH PERSPECTIVE ON FISHERIES GOVERNANCE

Proposal for a project on Green Growth and Governance

1. The Green Growth agenda calls for potential changes in fisheries governance. Devolution of governance is a possible way forward to spur growth while concurrently addressing environmental considerations, *i.e.* green growth. Devolutionary governance involves the delegation of rights and responsibilities to the fisher, groups of fishers or fishing companies directly involved in harvesting the resources. This calls for a different role of public services in managing fisheries.

Objective

2. Getting fisheries on a Green Growth path requires a new holistic approach to fisheries governance as a widening of the policy objective is likely to challenge current governance systems. Devolutionary fisheries governance, which implies a re-evaluation of roles and responsibilities in the governance structure, is one way to help fisheries to contribute to Green Growth for example by decoupling growth in fisheries and resource pressures. The objective of this project is to analyse empirical evidence on whether and how devolutionary fisheries governance approaches can help in this regard.

Methods and Scope

3. In order to evaluate whether and how devolutionary governance can be of help in achieving Green Growth in fisheries it is necessary to 1) clarify the theoretical framework and concepts related to Green Growth in fisheries and 2) to collect and synthesise empirical evidence on whether and how devolutionary governance can contribute to Green Growth in fisheries.

4. The first part of the paper would be a synthesis report of the main issues related to green growth and fisheries.

5. The second part of the paper will be a collection of case studies from real world fisheries where devolution has been used summarising the main findings on whether and how they have led to Green Growth (possible cases/countries include New Zealand, Japan, Korea, Canada, US, Denmark, France). A common template for the case studies might help to make experiences comparable across countries and fisheries. As the subject matter is in many cases international, further work might take international aspects into consideration (Slaughter, 2004).

6. Bringing together academics and policy makers to kick-start the project by discussing the challenges and opportunities of using devolutionary governance to achieve green growth (a Workshop) would be extremely helpful to pool ideas and sharpen the focus of the project outcome.

7. The analysis of practices used in devolving fisheries governance will provide valuable lessons, both pitfalls and possibilities, as well as references for other countries that consider using devolutionary governance to addressing fisheries and green growth. For policy makers this would be a timely inventory of arguments for moving towards Green Growth in fisheries.

Outcome

8. The principal outcome is a paper on the main *issues* and *lessons* of using devolution of fisheries governance as a process towards GG in fisheries backed up with empirical evidence from selected case-studies.

Timing

9. The study could be done in 2013 with a final report for COFIs consideration at the 112th Session (October 2013).

Overview of Main Issues

10. What follows is a brief overview of some of the main issues concerning fisheries governance and green growth. This discussion provides a background for a study making the link between green growth and fisheries governance and also by discussing the challenges of getting fisheries on a green growth path through devolutionary governance.

Green Growth and Governance

Green Growth

11. According to the OECD[1], green growth (GG) is about maximising economic growth and development while avoiding unsustainable pressure on the quality and quantity of natural assets. It is also about reaping the growth potential that arises from transiting towards a green economy.

12. According to the first part of this definition the OECD Committee for Fisheries (COFI) has already been dealing with green growth related issues for a long time. Many of the Committee's projects, including recent work on climate change, aquaculture and the economics of rebuilding fisheries have stressed sustainability and the need to take a long-term view to promote growth while at the same time securing biodiversity and other ecosystem considerations as well as contributing to food security.

13. The second part of the GG definition, which deals with growth potentials that arise from placing more emphasis on GG, has received less attention. The reaping of growth potential arising from a transition to GG includes at least two dimensions. First, there are issues related to the link between natural and environmental resources and economic growth. The fundamental tenet is that a decoupling of growth and environmental resource impacts is the way forward towards GG. Secondly, it is quite possible that a move towards GG may create and develop other types of economic activity which may drive economic growth on their own and be fostered through research and development/innovation.

14. The OECD has spelled out the issues to be addressed in relation to GG, including; reframing growth, addressing tensions and systemic risks, productivity of the biosphere, climate change, biodiversity loss, possible tensions between local and global environmental and economic priorities, valuing natural assets, the role of uncertainty and seizing new opportunities. This means that the green growth agenda calls for a broader view to fisheries management than might presently be the case. At present most countries' policies and management plans focus on fish stocks and fishing firms without explicitly taking into account the effect of those policies on other industries, user groups or the environment, except in an informal manner. Under the GG agenda, consideration must be given to complicated interrelationships along the fisheries value-chain but also outside the fishing industry itself. Such an approach may challenge current governance structures.

1 A Green Growth Strategy for Food and Agriculture – Preliminary Report (OECD, 2011) and Towards Green Growth (OECD, 2011).

Governance

15. Governance is a rather vaguely defined concept in the work of the OECD. In the OECD Glossary of Statistical Terms it is defined as:

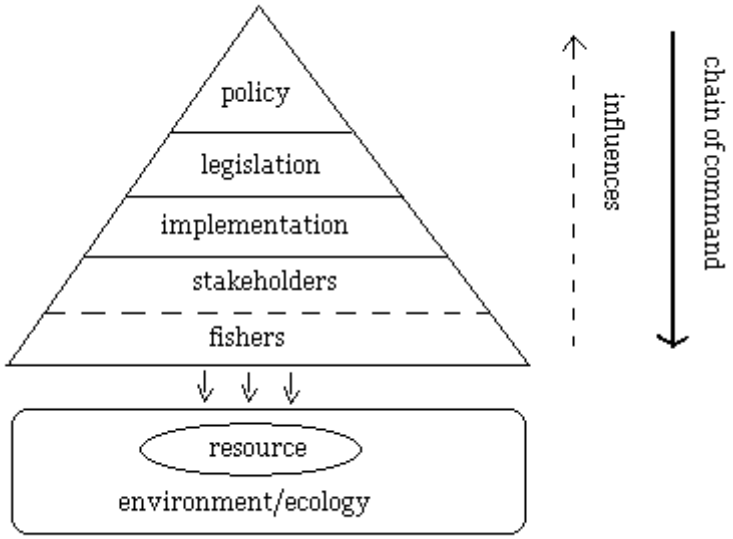
> *Governance is the exercise of political, economic and administrative authority necessary to manage a nation's affairs.*

And the context is given as:

> *The process by which decisions are made and implemented (or not implemented). Within government, governance is the process by which public institutions conduct public affairs and manage public resources.*

16. To make the following discussion more precise a stylised representation of common governance structures for fisheries is provided in Figure 1.

Figure 1. Schematic graph of common fisheries governance structures



17. It should be kept in mind that different countries have different governance structures and in some cases there are numerous and important horizontal linkages as well as vertical ones. Figure 1 nevertheless depicts a general and common governance structures for fisheries.

18. Rewording the OECD terminology and in the context of fisheries, governance is the exercise of political, economic and administrative authority necessary to manage a nation's fishery. Attention should be given to the fact that in order to link governance with GG, stakeholders have been included in Figure 1.

19. In this framework, policy is decided at the highest echelons of the structure and subsequently put into a legislation framework to be implemented, usually by public and private institutions. The implementation includes a number of activities and processes, such as securing necessary infrastructure, collecting data (science) and taking various management decisions (TACs, closures, technical measures, economic measures, surveillance, allocation and protection of rights, legal procedures, etc.).

20. Concurrently stakeholders (including fishers) respond to the system and through this process they influence the outcomes.

21. Figure 1 also shows two arrows. One arrow shows the typical chain of command going from higher levels of the governance hierarchy to lower levels (solid arrow). At the same time it must be recognised that decisions and actions taken at all levels are influenced, to a greater or smaller degree, by stakeholders. Although the chain of command is usually top-down (as shown with the downward pointing arrow) for most fisheries governance systems, the influences do not necessarily have to be bottom-up or linear (dotted arrow).

22. The links and the strengths between the different components of the command chain differ from one fisheries case to the next. The fundamental insight of such systems is that fisheries governance systems are rarely made up of isolated components, but rather are systems where all components interact. It should be noted that both the structure (components) and the links between them make up the governance system. Therefore, governance structures although similar in form (components) may produce significantly different outcomes.[2]

Devolution of fisheries governance

23. Going on a GG path calls for a more holistic view than simply maximising stock yields or reaching specific environmental goals. Such a widening of the policy objective is likely to challenge current governance systems.

24. In the words of Ruggie (2004):

[…] *it is increasingly beyond the capacity of any single sector of society to respond effectively to the magnitude and complexity of today's challenges.*

25. Governance and fisheries management costs increased substantially in the 20th century. In OECD countries the cost of fisheries management compared to landed value in 2003 was in the range of 3-20% with an average of 6-8% (OECD, 2003 and Schrank, et al. 2003). It is questionable whether simply boosting current governance structures, for example by increased funding, is a sufficient option towards green growth in fisheries. Additionally, against the background of limited public budgets, considering alternative ways of governance may be a cost effective way to implement green growth.

26. Experience suggests that in some cases the market and market instruments may be more useful than top-down directives to solve a number of complicated problems confronting fisheries managers (OECD, 2006). In the OECD's Green Growth Strategy there is a discussion on the use of market instruments for attaining GG, focusing on taxes and subsidies. Experiences from various fisheries show that such measures are often cost-inefficient and difficult to implement. However, allocating rights[3], in one form or another, have been used in numerous fisheries to solve complicated problems with notable success.

27. A key feature of such systems is the *devolution* of fisheries management from a top-down approach to a market/community approach (FAO, 2008). Devolution of governance implies the allocation of rights and responsibilities to lower levels of the fisheries governance hierarchy. Great strides have been taken in analysing how and when devolution of fisheries management, *i.e.* going from centralised

2. Some work has been done in evaluating different governance systems, see e.g. Grafton et al. (2006).

3. In this context, rights can take on a range of forms including user rights, access rights, property rights, area rights. The key is that the right or entitlement is appropriated and made exclusive which is a key role for government management institutions.

management with top-down governance structures to self-governance, is advisable and applicable. Ostrom (1990) has identified "design principles" of stable local common pool resource management and Eggertsson (2005) has provided a framework for economic analysis of *insufficient institutions*.[4] Pomeroy and Berkes (1997) discuss in general terms the role of government in decentralisation towards co-management while de Vivero et al. (2008) highlight the limits of public participation in fisheries governance.[5]

Box 1. Cases of devolutionary governance systems

Devolutionary governance is used as a broad term for systems where rights and responsibilities are allocated to lower levels in the governance hierarchy. Some authors refer to such measures as self-management but we have chosen to refer to devolutionary management as self-management implies that fishers or industries are fully in control in all aspects of the fishing activity. That may not always be the case.

There are many countries that have used devolutionary governance systems to a greater or lesser degree.

Various rights based systems are devolutionary in nature, such as the ITQ systems of New Zealand and Iceland as well as in specific fisheries in Denmark, the Netherlands, Morocco, Australia, Canada and Chile, to name a few.

Community based management systems are also examples of devolutionary governance which have been widely used, *e.g.* in various fisheries in Japan, South Korea, Canada and the United States.

There is a wide range of other types of governance systems which can be considered to be devolutionary to a larger or lesser degree, such as in a scallop fishery in France (Alban and Boncoeur, 2008) and the management role and participation of Producer's organisations in the UK (Hatcher, 1997).

28. Devolutionary approaches are not confined to fisheries management. The same approach is reflected in what is known as the subsidiarity principle. According to this principle, matters should be handled by the lowest or least centralised competent authority necessary to obtain the objective. The subsidiarity principle is one of the central principles of the European Union law[6].

29. It should be underlined that devolution of fisheries management does not mean that governments or governmental agencies are removed from the decision making but rather that the roles and responsibilities change. Public intervention is still necessary in producing public goods. Devolutionary management is not feasible without governmental intervention including assigning rights and responsibilities. Those rights and responsibilities must be acknowledged and protected by the government which plays a central role in settling disputes and imposing fines for infringements.

30. FAO (2008) provides 36 case studies of going from centralised fisheries management toward self-governance, in other words, devolution. Interestingly, with one exception all of the cases have been deemed relatively successful. In reviewing those case-studies, devolution is neither confined to highly

4. The robustness of those principles is well supported by empirical analysis. See Cox et al. (2010).

5. Arnason (2007) studies the necessary conditions that must hold in order for ITQ holders to agree on the socially optimal TAC among themselves without government intervention.

6. Article 3b reads of the Treat of the EU reads:

> […] In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community.

industrialised fisheries, nor less industrialised fisheries. To take some examples; New Zealand has gone very far in self-management for various industrialised fisheries. The specific case of deep-sea crab is an example where right holders have developed a governance framework throughout the entire value chain (Sobol and Craig, 2008). Hatcher (1997) gives an example of how producer's organisations in the UK have played in management within the Common Fisheries Policy while the Punta Allen lobster fishery in Mexico shows that devolutionary governance can also provide benefits to less industrialised fisheries (Sosa-Cordero, et al., 2008). The case studies show that devolutionary governance can benefit a wide range of different fisheries. The case studies presented in FAO (2008) also show that devolutionary fisheries management measures have a potential of helping fisheries evolve toward GG objectives.

31. The main parameters to be addressed in relation to GG include [C(2011)29]:

1. Reframing growth
2. Addressing tensions and systemic risks
3. Productivity of the biosphere
4. Climate change
5. Biodiversity loss
6. Tensions between local and global environmental and economic priorities
7. Valuing natural assets
8. The role of uncertainty, and
9. Seizing new opportunities.

32. Although indices are not available to measure progress towards GG the FAO case studies provide some guidance on how devolutionary fisheries management may help fisheries get on a GG path. A brief description on how devolutionary management can have an effect on those GG parameters is given in the following. For illustrative purposes some parameters have been grouped together where appropriate.

33. **Reframing growth/valuing natural assets**: Devolutionary management implies that distributional issues and also decisions on aims and goals can be addressed through a bottom-up approach. It may give room for different and novel growth potentials that traditionally are not available in a top-down approach. In some instances such empowerment of local groups can be an important driver in **poverty reduction** strategies. Devolution often means that entitlements and obligations are allotted to groups or individuals and in some cases those rights can function as capital, e.g. in the form of guarantees for loans. That has been the case in many property rights based systems such as in New Zealand (Clement et al., 2008) and Iceland (OECD, 2011). For those rights to function as collateral for loans there are several conditions that must be met. First, the rights must be allowed by law to be used in such a way. Secondly, the rights to transfer and tenure must be secure. Furthermore, evidence from agriculture in developing countries show that those attributes are necessary if property rights are to be used as loan guarantees (Beslay, 1995 and Ayalew et al., 2007). Community management systems usually do not allow for the use of rights as collateral.

34. **Addressing tensions and systemic risks/the role of uncertainty**: Fishers face many types of risks, both due to uncertainties regarding natural phenomena and human factors such as market conditions. Some of those risks may be better evaluated and dealt with at lower level of governance than in the upper

echelons of fisheries management governance systems. One reason often cited for the value of fishery self-management has been the ability to use local users' experience with the resource. The adaptive decision-making in the Japanese snow-crab fishery brought individual fishers into the process of choosing, examining and evaluating the effect of marine protected area sites. Their opinions were heard and their feedback was reflected in the revised plans. This adaptive decision making process by resource users reduced the risk of negative results from the MPAs and increased their legitimacy among users (Makino, 2008). The St Brieuc (France) scallop fishery is another example of how devolutionary management can lead to different approaches and solutions to problems related to both environmental and market risks (Alban and Boncoeur, 2008).

35. **Productivity of the biosphere/biodiversity loss and climate change**: Whether and how devolutionary management approaches can lead to improved productivity of the biosphere has not yet been studied in detail. Nevertheless the lessons from New Zealand and other countries suggests that in some cases fishers and industries demand more, not less, research into the state and future of their fisheries than is provided under centrally managed fisheries management systems (Clement et al., 2008).

36. **Seizing new opportunities**: Moving from a top-down (centralised) management towards a more bottom-up system enables those closest to the resource to take responsibility over their own future which may spur innovation and new uses of the resource. One aspect is that devolution of user rights give bargaining power to those that actually harness the resource and make it possible for them to bargain with other competing users of the ocean area about the use of the resource. In other words devolution empowers fishers. The Punta Allen lobster fishery in Mexico provides an interesting case where self-management has lead to new approaches in how to co-manage this important lobster fishery with an increase in tourism (Sosa-Cordero et al., 2008).

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TRADE AND AGRICULTURE DIRECTORATE
FISHERIES COMMITTEE

A GREEN GROWTH PERSPECTIVE ON AQUACULTURE

Paris, 10-12 October 2011

This document is in response to the COFI's request for scoping papers for four specific studies on fisheries and green growth. They are submitted for the COFI's consideration at the 108th Session under Agenda item 6.

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A GREEN GROWTH PERSPECTIVE ON AQUACULTURE

Proposal for a project on Green Growth Perspective on Aquaculture

1. Aquaculture[1] has been identified as a food production system that has a particularly important potential to contribute to green growth, in particular in light of food security considerations. However, to reap its green growth potential and to attract the necessary investments, aquaculture needs a legal and institutional framework in place that allows for predictable and stable outcomes. On the basis of case studies and an update of the questionnaire that was used for the "Advancing the Aquaculture Agenda"[2], the purpose of the proposed Study is to identify best practices for aquaculture management and development and, if feasible, to develop a set of indicators which can help countries to monitor progress. In this context progress towards green growth in aquaculture can be measured with indicators dealing with resource use (*e.g.* feed, water and energy inputs) and environmental performance (*e.g.* nutrient load, run offs, escapees).

Aim

2. The purpose of the proposed study is to identify best practices for aquaculture management and development and, if feasible, to develop a set of indicators which can help countries to monitor progress. This project aims to contribute to the creation of a predictable and stable aquaculture framework which can be a reference for national aquaculture planning.

Scope

3. In 2010, participating countries were asked to submit information related to a "Questionnaire on conditions for establishing aquaculture production sites in OECD countries". A follow-up questionnaire on the relevant issues will be circulated to update the inventory developed for the Workshop. The original questionnaire focused mainly on aquaculture site issues including public regulations, major constraints and potential areas for conflict and was the basis of compiling an inventory of practices (OECD, 2010). This time, participating countries will be asked to update the information and provide more information of relevance to sustainable aquaculture and green growth including on indicators for measuring progress.

Outcome

4. The possible outcome of this proposed work would be a set of clear and realistic guidelines which policy makers both in developing and developed countries can refer to. The proposed work will be based on national case studies and provide a platform for the exchange of knowledge of best practices and technologies.

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1 Aquaculture is the farming of aquatic organisms in inland and coastal areas, involving intervention in the rearing process to enhance production and the individual or corporate ownership of the stock being cultivated (FAO, 2008).

2 ` This work was carried out in connection with the Workshop on Aquaculture which took place in April 2010 and is published in the workshop proceedings "Advancing the Aquaculture Agenda" (OECD 2010).

5. The proposed work will be an opportunity for the OECD Fisheries Committee to reach out to enhanced engagement countries and developing countries more generally in terms of sharing technologies and knowhow in production, environmental mitigation and governance, and improving food security and reducing poverty.

6. This work can benefit from a workshop on sustainable aquaculture and green growth by bringing expertise and best practices together from a variety of countries – developed and developing – and would be a timely contribution to a better understating of policy coherence for development in aquaculture.

Timing

7. This proposed work is scheduled to be implemented in 2012 and 2013. A first draft of the report could be presented for discussion and direction to the 109th COFI meeting with a final draft to be submitted for approval to the 111th COFI meeting. A commitment by participating countries to review submitted material (or submit anew) and to provide case studies on their particular systems of aquaculture governance would be necessary. The work would benefit from the hosting of a workshop on "Green Growth and Aquaculture" bringing together key people involved in aquaculture knowledge systems (science, research, government and industry) to discuss how to further innovation in aquaculture with a view to contribute to green growth and food security. A workshop could be hosted in October 2012 back to back with the 110th COFI session.

Background

8. The Committee for Fisheries hosted a workshop on aquaculture which took place in April 2010. Key outcomes of this workshop, *i.e.* the Chairs' Key Messages are reproduced in Box 1. A key conclusion of the Workshop was that the aquaculture sector has a high potential for contributing to green growth and food security. This is because in aquaculture, through good management practices, it is possible to limit and reduce environmental harmful effects while concurrently increase efficiency in production. And, compared to the rearing of terrestrial animals, aquaculture offers much better feed conversion ratios.

Box 1. Chair's Key Messages from "Advancing the Aquaculture Agenda", April 2010 Workshop

The aquaculture sector is an important contributor to the Green Growth Agenda, but political will needs to be harnessed to further support Green Growth in aquaculture, which calls among others for:

- Risk reduction to encourage sustainable long-term investment in the capital intensive aquaculture sector in OECD countries;
  - Support adaptive innovation (*e.g.* improved water use, selective breeding, feed formulation)
- Improve the image of the industry

How to translate lessons from best practices into specific policy action?

- Galvanise political will
  - Develop clear and realistic national or regional plans for aquaculture development;
  - Develop flexible regulatory frameworks with coordination across government agencies and levels of government (*e.g.* agriculture, fish, urbanisation);
  - Use of green technologies and promotion of sustainable aquaculture species (*e.g.* in terms of feed, nutritional value, GMO);
  - Market-oriented production; benefiting from changing consumption patterns (*e.g.* healthy diet, preference for Omega3-rich food).

Timely and effective dialogue between all stakeholders: how can it be achieved?

- Ensure that stakeholders are involved in developing aquaculture plans and their implementation;

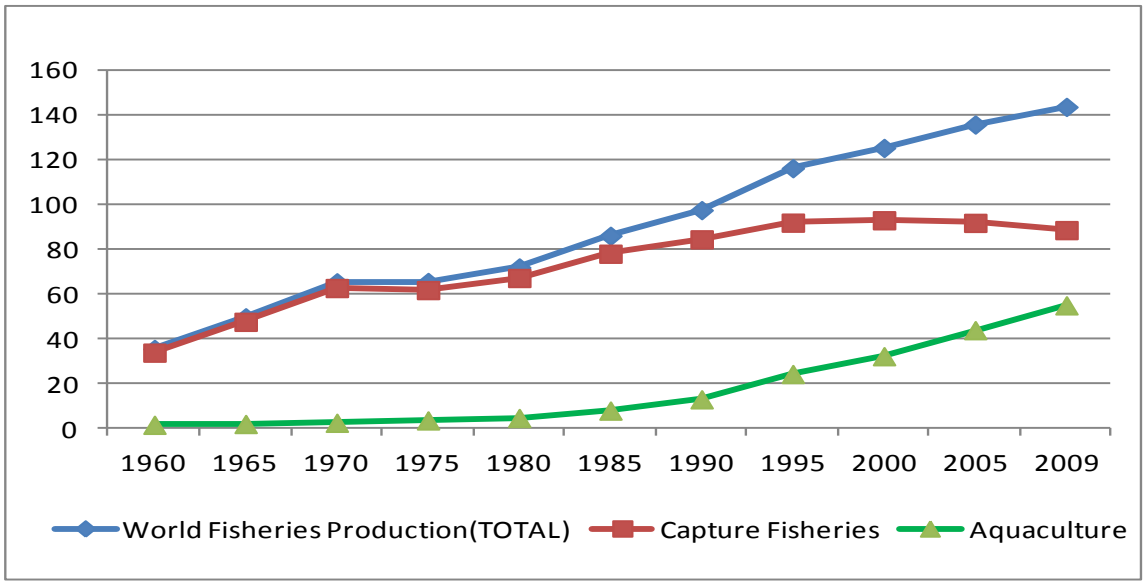
9. The world has experienced a major improvement in living standards over the past century. However, in many cases improvements in living standards has been at the cost of natural resources and environmental services which our livelihood and well being ultimately relies on. Meanwhile, there is a growing awareness that the way we use natural resources could endanger traditional economic growth. The growing concerns have questioned the traditional development pattern and put more importance on environment and natural resources. In this regard the world faces two major challenges, *i.e.* continue to develop economies to accommodate a growing world population while at the same time addressing environmental issues. According to the OECD, "Green growth (GG) means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies" (OECD, 2011a).

10. Global demand for fisheries products has increased over the last decades and the trend is expected to continue due to growing population and increasing wealth, and a growing preference for healthy foods (Garcia and Rosenberg, 2010). However, taking into account stagnating capture fisheries

production (see Figure 1) aquaculture will have to meet any[3] increase in demand for fish in the future (Bostock *et al*., 2010). Against this background, the aquaculture sector also needs to adopt a GG strategy *i.e.* provide more seafood to meet the demands of a growing population while mitigating the environmentally negative effects of production.

11. Since 1970 aquaculture has grown at an average annual rate of 8.4% and has been one of the fastest growing food sectors for decades. In 2009, it contributed 38% of the world's fisheries production (excluding aquatic plants) (Figure 1) and contributed about half of human consumption (FAO, 2011) of seafood.

Figure 1. World fisheries production (Unit: Million tonnes)



1. Aquatic plants are excluded.

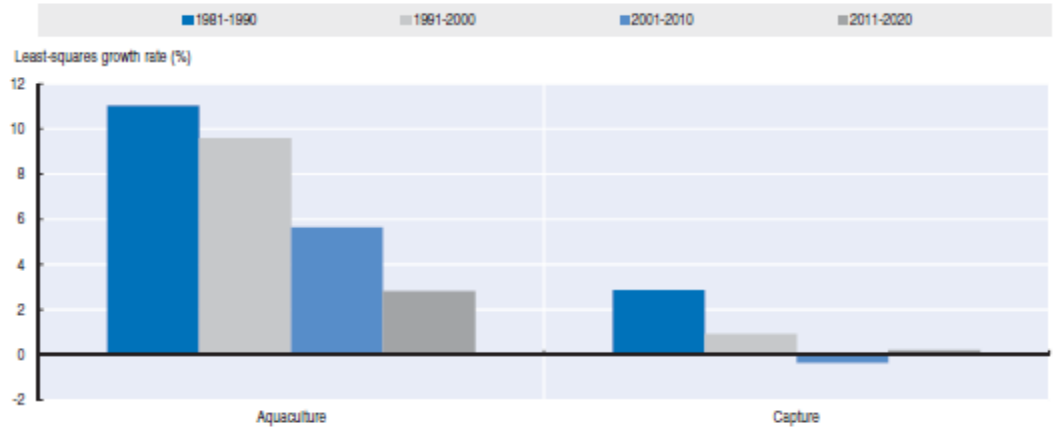
Source: FAO.

12. Aquaculture has been one of the fastest growing food sectors for years albeit the annual growth rate has decreased considerably (Figure 2). The annual growth rate for 2011-2020 is estimated at 2.8%, and this constitutes a major reduction compared to 5.6% for 2001-2010 (OECD, 2011b). Excluding aquatic plants, in 2008 FAO recorded 310 species as being cultured of which the top 10 species accounted for 53% of the world production by volume (the top 20 species accounted for 74% of the world production) (Bostock *et al.*, 2010) suggesting a concentration on few species. This implies that there is ample room for growth.

13. Over time, large retailers such as supermarket have become more important in distributing fish and fish products. Consumers purchase more ready-to-cook fish products than whole raw fish and more than 90% of trade of fish and fishery products are in processed products (OECD, 2010b). Retailers seek a consistent supply of specific species, quality and timing of fish from all over the world. Globalisation may require more standardisation of the fish products as this will make it easier to trade. Globalisation, together with innovation in aquaculture, will be key drivers of aquaculture industry developments.

3 Other sources of additional fish for food are in a reduction of discards and a better utilisation of already caught fish and are the subject of another proposed Study.

Figure 2. Declining growth rate of fish production



Source: OECD-FAO Agricultural Outlook 2011-2020

Green Growth and Aquaculture: some characteristics

14. **Green Growth and Aquaculture** fit well into the overall OECD green growth agenda. This encompasses growth potential, contribution to food security and poverty reduction, requiring a government role in creating a stable and predictable governance framework while ensuring policy coherence and increasing innovation in production and environmental mitigation.

15. Aquaculture has a major potential for **growth**. Aquaculture has better feed conversion efficiency than terrestrial animal husbandry including cows, pigs and sheep (Hall *et al*., 2011). Fish in general convert more food they eat into body mass than other animals because they do not have to spend much energy in maintaining their body temperature and in forming their skeleton (Hall *et al*., 2011). Also, there is vast space available for aquaculture in the ocean, lakes, ponds, and rivers, and there are many developing countries where aquaculture is not exploited to its full potential.

16. Aquaculture also has a major potential to help addressing **food security** and may help **reducing poverty and increase foreign currency earnings**. Increased production together with innovation in aquaculture has lowered the production price significantly and has provided **benefits to consumers** as well as producers. For example, shrimp production increased 43 times (72 thousand tons to 3.1 million tons) between 1984 and 2007. Concurrently, the price decreased to less than half (from USD 16.40 per kilo to USD 7 per kilo) (Asche, 2008).

17. There is much room for **innovation** in feeding, breeding, disease control and environmental mitigation. The characteristic of "production controllability" coupled with a demand from global markets provide incentives for innovation. Once a species is domesticated and production technology is developed (reproduction cycle, feeding through juveniles stages on to on-growing are particular challenging[4]) it can be spread out very fast to other regions. Even a simple breakthrough in technology can bring a leap forward to other aquaculture farms or species. It is also observed that aquaculture has less environmental impact than terrestrial animal husbandry (Hall *et al*., 2011).

[4] For example, it is only in the last couple of years that the whole cycle has been mastered for bluefin tuna by Japanese and Australian entrepreneurs.

18. There is also scope for **technology transfer.** Innovation may require major commitments in terms of time and money for research and development. Therefore, it may be more efficient to transfer the technologies than each country spending resources in already developed technologies.

19. Although the origins of aquaculture can be traced back to ancient Egypt and China it is only recently that aquaculture has become a flourishing global industry. Hence, well functioning **governance frameworks,** at both national and international levels, are needed. The Aquaculture Workshop characterised the situation by highlighting that there is a need to "develop clear and realistic national or regional plans for aquaculture development"[5]. This is where international organisations can help stimulate a discussion and, based on case studies and collected information can help identify best practices of path ways to green growth.

20. Aquaculture would be an excellent subject for the OECD's Fisheries Committee to **reach out** to enhanced engagement countries and, more generally, to developing countries. More than 90% of world's aquaculture production takes place in developing countries and China alone contributes more than 60% of world production. Hence, when developing a study on green growth and aquaculture it would be useful to also incorporate the developing country aspects in terms of knowledge and technology sharing. In fact, central to this is policy coherence for development.

21. In some cases **integration between** aquaculture, fisheries and agriculture, and other activities takes place. For example, livestock manure is used for feed and fertiliser in fish ponds or rice fields where fish can feed on plant elements. Species from different trophic levels are farmed in the same production facility where waste from one species is used as feed for other species (Bostock *et al.*, 2010).

22. On the other hand, there are **constraints and challenges** to be addressed including negative environmental impacts, climate change, fishmeal supply, genetically modified organism, disease spread, anti-biotic use, biodiversity, demand for land and water resources, trade and governance.

23. The growth in aquaculture requires the use of **more natural resources** such as sites, water, energy and feed. In many developed countries there is a tendency to focusing on the negative externalities of aquaculture. As a consequence aquaculture has had difficulties to establish itself as a growth sector in many developed countries. After the rapid growth in 1980s-1990s, aquaculture in Europe and North America has stagnated, mainly due to regulatory restrictions on sites and other inputs (Bostock *et al.* 2010). Against increasing concerns with respect to food security, this situation has called for a rethink of aquaculture policies, national development plans and governance of the aquaculture industry. In essence, if aquaculture's potential to contribute to green growth is to be harnessed political will needs to be galvanised.

24. Some countries have identified an economic opportunity for growth in aquaculture. The United States announced its national aquaculture policies recently and interestingly, the US sees aquaculture as a critical component not only to grow domestic economies through creating jobs, supporting exports, spurring new innovations in technologies and providing healthy seafood but also to maintain healthy ecosystems through restoring endangered species, rebuilding overfished fish stocks, and restoring habitats, and improve water quality (NOAA, 2011) (Box 2).

[5] See Chairs' Summary "Advancing the Aquaculture Agenda", (OECD, 2010a).

Box 2. US's National sustainable marine aquaculture policies[6]

The United States (US) Department of Commerce (DOC) and National Oceanic and Atmospheric Administration (NOAA) announced "National sustainable marine aquaculture policies" in June 2011. The policy aims to meet the growing demand for healthy seafood, to create jobs, and restore vital ecosystems in the US.

The US is the world third largest seafood consumer and imports 84% of its seafood, and about half of those imports from aquaculture. However, the domestic aquaculture only provides about 5% of the demand in the US, which contributes to approximately USD 9 billion of the US trade deficit in seafood. The most recent Dietary Guidelines for Americans (2010) recommended for Americans to more than double their current seafood consumption.

This policy focus on:

- Encouraging and fostering sustainable aquaculture and innovation that creates domestic jobs, products and trade opportunities;
- Making timely management decision based on the best scientific information available;
- Advancing sustainable aquaculture science to improve production, safeguard the environment, restore fish stocks and habitat, and sustain local food and cultural benefits;
- Ensuring aquaculture decisions protect wild species and healthy coastal and ocean ecosystems;
- Developing sustainable aquaculture compatible with other uses;
- Working with partners internationally to exchange scientific insights and promote participate in joint research; and,
- Promoting a level playing field for U.S. aquaculture businesses engaged in international trade.

25. In the meantime – and heavily related to the specific production system – aquaculture may have **negative environmental impacts**. For example, many shrimp aquaculture farms in Southeast Asia have been set up at the cost of mangrove destruction and later many of them were abandoned because of contamination (Allison, 2011). Escaped fish or disease transfer from aquaculture to wild population is also a concern (Bostock *et al.* 2010). Such environmental externalities should be addressed in order for aquaculture to grow sustainably.

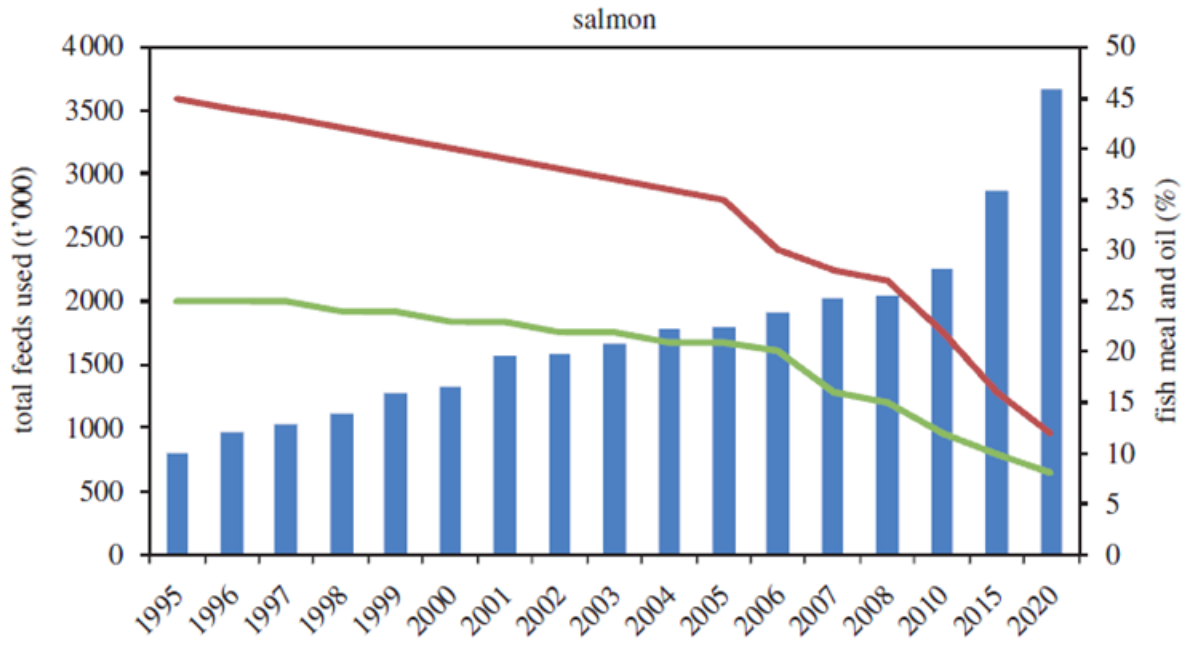
26. A positive characteristic of aquaculture production is its resilience to **climate change.** While capture fisheries are sensitive to changes in environment such as water temperature, nutrients and level of acidity (*e.g.* fish stocks disappear or move) the aquaculture production is more flexible and can easier adapt due to its control of the production process (change fish species that are more resilient, move).

27. Aquaculture is the biggest **fishmeal and fish oil** consumer and it is estimated that aquaculture consumes more than 50 % and 80% respectively of the world fishmeal and fish oil production (Hasan and Halwart, 2011). As the aquaculture industry grows the pressure on fishmeal and fish oil may increase, or alternatives to fishmeal/oil need to be developed. Ingredient substitution and improved feeding systems may be part of the solution, but more research and innovation are required in this field. It should however be noted that, for example in the salmon industry, major achievements in feed use have been made.

6 http://www.noaanews.noaa.gov/stories2011/20110609_aquaculture.html, http://aquaculture.noaa.gov/pdf/doc_aquaculture_policy_2011.pdf

Figure 3 demonstrates that the relative importance in feed compounds has decreased considerably over the past decades as fishmeal and oil are seen as expensive ingredients (Bostock *et al.* 2010).

Figure 3. Estimated global use of fish meal and oil by the salmon farming industry projected to 2020



Blue, total feeds used; red, mean % fish meal; green, mean % fish oil

Source: Tacon & Metian (recited from Bostock et al.)

Measuring progress

28. In the context of green growth in aquaculture monitoring progress can be measured with indicators dealing with resource use (*e.g.* feed, water and energy inputs) and environmental performance (*e.g.* nutrient load, run offs, escapees). The study will seek to identify best practices in this field and review country practices in capturing data for measuring progress.

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For Official Use **TAD/FI/M(2011)2**

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **19-Oct-2011**

English - Or. English

TRADE AND AGRICULTURE DIRECTORATE
FISHERIES COMMITTEE

Cancels & replaces the same document of 17 October 2011

SUMMARY RECORD OF THE 108TH SESSION OF THE COMMITTEE FOR FISHERIES

10-12 October 2011

This Summary Record was adopted at the 108th Session of the Committee for Fisheries held 10-12 October 2011.

This Cancel & Replace document now includes the List of Participants.

For further information, please contact:
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JT03309443

COMMITTEE FOR FISHERIES

DRAFT SUMMARY RECORD of the 108th SESSION

OECD Conference Centre, CC12
2, rue André Pascal, Paris 75016

10-12 October 2011
9:30 – 18:00

1. Adoption of the Draft Agenda for the 108th Session *[TAD/FI/A(2011)2]*

The Draft Agenda was adopted. Items 4 i, 4 ii, and 4 iii were discussed in reverse order.

2. Statement by the Director of Trade and Agriculture

Mr. Ken Ash, Director of TAD paid homage to Ms. Emily Andrews-Chouicha who passed away in May 2011. Delegations also stressed the important role she had played in the Committee's work.

Mr. Ash encouraged COFI to consider how the work of the Committee could be shared inside the OECD, with other international organisations and civil society. Furthermore, he gave an overview of the outcome of the 2011 Ministerial Council Meeting, the adoption of the OECD Development Strategy and the continued support of the green growth initiative, as well as the ongoing outreach activities. Mr. Ash encouraged COFI to consider these aspects when discussing and deciding upon the future work of the Committee. In this context, it was inevitable that the Committee would need, given limited resources, to focus on quality, less on quantity and getting the message across to the outside world in a timely manner. Lastly, he underscored the need to have an initial discussion of the 2013/14 Programme of Work of COFI already at this session with a view to a final adoption in April 2012.

3. Fuel Tax Concessions [*TAD/FI(2010)8/REV3*]

The Secretariat presented a new version of the paper that reflected comments received at the 107th COFI. Delegates generally found the revised paper to be a considerable improvement, although a number of Delegations noted that errors in the data remained. Some Delegations expressed concern that the document could still invite invalid cross-country comparisons, in particular in Table 2. In addition, several Delegations noted that the paper did not include a detailed analysis of the impacts of removal of fuel tax concessions, including socio-economic impacts as well as impacts on the fishery, or an outline of options concerning future quantitative work on illustrating the effects of phasing out fuel tax concessions, as decided at the previous session. It was noted that the Study by the Committee does not prejudge any policy outcome in this regard. It was agreed that such an outline would be presented for the next session in order for the Committee to be able to decide on the form and ambition of such a study. In addition, Table 2 would be modified to remove the item "fuel per tonne caught". Several other textual corrections were proposed, in particular for the Country Reviews section. It was agreed to declassify the document using the written procedure to incorporate and review corrections to the data. A disclaimer will be added that notes the reported data are based on different definitions that limit comparability across countries. Members were asked to provide their corrections in writing to the Secretariat by 18 November 2011, with the Secretariat producing a revised version of the document by 25 November 2011. Members would have until 15 December to signal their approval for declassification. Subsequently, the paper would be issued in the TAD Working Paper Series.

4. Economics of Rebuilding Fisheries

i) Draft Best Practice Guidelines [TAD/FI(2011)3/REV]

This document was originally drafted at the 107th Extended COFI meeting but has since then been revised taking into account discussions at the 107th COFI Session as well as written comments received. The paper was discussed and approved after taking into consideration various comments by delegates. The Committee agreed that the Best Practice Guidelines would be an important contribution to the ongoing work in the international fora on fisheries. It was therefore important that, pending confirmation by members, the Guidelines be given prominence and be submitted to OECD Legal Services with a view to draft an OECD Council Recommendation. A draft of the Council Recommendation will be submitted in written procedure by COFI over the coming months.

ii) Issues Paper [TAD/FI(2010)10/REV2]

This new version has been revised according to discussions at the 107th COFI Session and written comments submitted. The paper was approved subject to changes by delegates and subject to written comments to be submitted to the Secretariat by 1 November 2011.

iii) Inventory of National and Regional Approaches to Fisheries Rebuilding [TAD/FI(2010)11/REV2]

The Inventory of National and Regional Approaches to Fisheries paper was presented for information. It has been updated with one additional country submission.

5. Development and the OECD *[C/MIN(2011)8, C(2011)105, TAD/FI(2011)9]*

Mr. Brian Atwood, the Development Assistance Committee Chair, made a presentation on the work of the DAC. In his presentation he noted the importance of the fisheries and aquacultures sectors in providing food and economic opportunity to developing countries. He noted that the importance of non-OECD countries in global growth and that the situation with respect to developing countries and poverty is growing more complex. He stressed the need for engagement and dialogue with emerging economies, and the need to strengthen partnerships. Ms. Ebba Dohlman discussed the Green Growth and development strategies of the OECD and pointed out that aquaculture and fisheries sectors were seen as a major source of innovative and sustainable growth, fitting well into these strategies.

A paper by Mr. Edward Allison titled, "Poverty, Food Security, and Fisheries and Aquaculture", was presented. While delegates welcomed the paper as an input into the discussion of the role of the Fisheries Committee in broader development agenda, it was pointed out that some of the policy recommendations made by that document may not fit with the views of the Committee.

Overall, delegates were supportive about the potential for the Fisheries Committee to contribute to the OECD's development work and offered a number of options for how this could be done. The Committee considered that the development agenda could be mainstreamed in its future work.

6. Further Consideration of Elements of the Programme of Work 2011-2012 and beyond *[TAD/FI(2011)8 and Parts 1-4]*

i) Four scoping papers have been prepared for the programme of work elements on green growth, fisheries and aquaculture. Document ***TAD/FI(2011)8*** provides an overview of the 2012 PoW elements while Parts 1-4 provide detailed scoping outlines of the requested areas of interest, i.e. energy use, waste, governance and aquaculture. Those papers were presented by the Secretariat and received numerous comments from Delegations. The Committee noted that some proposals for future work were omitted from

the overview paper. The Committee requested that the main proposals should be included in the documentation for the next session and that the format decided by the Committee should be used.

A Green Growth Perspective on Energy Use in Fisheries and Aquaculture

Delegations found the proposed work to be relevant and interesting, but proposed a number of changes in the focus of the work. In particular, an investigation of the impacts of fuel tax concessions and similar policies was requested. Some delegates agreed that energy use in the value chain and aquaculture was important, while some others felt that the work should focus on capture fisheries, i.e. harvesting. Delegates reminded the Secretariat of where the OECD may best contribute according to the OECD's special competence in economic and policy analysis. Some concern was expressed about the fact that "carbon foot-printing" can be misleading and that this was a sensitive issue. A first draft of the analysis will be presented at the 109th Session.

A Green Growth Perspective on Improving Utilisation of Fisheries and Aquaculture Resources

Delegates welcomed this proposal and found that it fitted well with the green growth strategy. Furthermore, for some members it was also a contribution to development agenda as many developing countries have major challenges with waste. Delegates agreed with the suggested outline and focus of the paper recognising that there might be substantial data issues with respect to the post harvesting part of the value chain. Delegates looked forward to a first draft of the paper to be discussed at the 109th Session.

A Green Growth Perspective on Fisheries Governance

The Secretariat presented a proposal to study how devolutionary governance can be used to achieve green growth objectives. The proposal is for an empirical investigation into whether and how such approaches can help in this regard. Delegations generally welcomed the proposal for work on governance and green growth issues. Several Delegations stressed that the focus of this study should be sharpened and provided numerous comments on interesting aspects of how governance reforms could help fisheries on the green growth path. The importance of including development issues into the analysis was stressed. Other organisations have expressed interest on collaborating with the OECD on this issue. A workshop might help to bring other organisations and stakeholders into the discussion and further advance the issue of green growth and governance.

A Green Growth Perspective on Aquaculture

Some delegates welcomed the suggestions for work on aquaculture. However, it was also made clear that the scope and focus of the work needed more attention to find the best way the OECD can contribute to this area before the Committee could agree to the proposed work. In this regard the Secretariat would rework the proposal and proposed a revised version at the 109th Session.

ii) Programme of Work and Budget 2013-2014

The COFI had a first discussion of priorities for the 2013-2014 biennium. This discussion should allow the Secretariat to produce a template document for the COFI's decision in April 2012 and the subsequent submission to the Budget Committee/Council.

The COFI agreed that its first priority would continue to be placed on the Monitoring work, i.e. the Review of Fisheries. The Review is considered to be an important contribution, in particular the data sets. In this regard it was noted that the COFI is the only body that collates and disseminates data on government financial transfers. The COFI also agreed that the work in 2013/14 should contribute to both the Green Growth and the Development Strategies. Some delegates noted that most of the work of the COFI already is contributing to this end.

A number of specific work proposals for the 2013/14 biennium were discussed by the COFI; these included the possibility of hosting a joint COFI/DAC meeting with the participation of the World Bank and the FAO as well as relevant stakeholders in the development area. Another activity that was discussed was the possibility that COFI would compile information of development assistance (from DAC donors) to the fisheries and aquaculture sectors. Such an exercise would provide necessary transparency on the wide range of development efforts that are taking place.

7. Presentation of the FAO/OECD Agriculture Outlook

The Secretariat provided an overview of the FAO/OECD fisheries model used for the Agriculture Outlook. Wayne Jones, from TAD/ATM presented the process behind this work and encouraged delegates to take part in this exercise, in particular at the OECD Group on Commodity Markets which meets in Rome 29-30 March 2012. This work was appreciated by delegates.

8. Other Activities

i) Report on Other OECD Activities Related to Fisheries [TAD/FI/RD(2011)3]

As has been established practice, the Secretariat informed delegates about projects in other parts of the Organisation that have relevance to the work of Fisheries Committee.

Representatives from the Environment Directorate and the Centre for Tax Policy and Administration provided the Committee with an update of their work.

ii) Report on Activities of the Fisheries Secretariat [TAD/FI/RD(2011)4]

The Secretariat reported on past and planned activities of the Secretariat, including attendance at meetings.

iii) Reports from member countries on activities of relevance to the COFI.

Japan provided an overview of the effects of the earthquake and tsunami catastrophe that occurred in March 2011. Special attention was given to the effect of increased radioactivity on fish and how the issue of food security was and is being dealt with. The United States reported on recent advances in overcoming overfishing as well as several regulatory and legal measures that have recently taken place or are in preparation. The European Commission noted the recent proposal for a reform of the Common Fisheries Policy and especially the external dimension that has received more emphasis. The European Commission also noted its recent ratification of the FAO Port State Agreement.

9. Election of Bureau to serve for 2012

The Bureau to serve for 2012 was designated as follows:

- Mr. Philippe FERLIN (FRA) to serve as Chair
- Mr. Leon LOMANS (NLD) to serve as Vice-Chair
- Mr. Joji MORISHITA (JPN) to serve as Vice-Chair
- Ms. Brynhildur BENEDIKTSDOTTIR (ISL) to serve as Vice-Chair
- Mr. John CAMPBELL (CAN) to serve as Vice-Chair

10. Other Business

The Committee agreed to encourage the use of track-changes and other tools that ease the reading of changes made to documents when using written procedures, where appropriate and helpful. Also, the Committee noted and agreed to use the practical guidance for written procedures as prepared by the Executive Committee and released in document ***CE(2010)7/FINAL***.

11. Adoption of the Summary Record [*TAD/FI/M(2011)2*]

The Summary Record was adopted.

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OECD Conference Centre, CC12, Paris
10-12 October 2011

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