



FUELLING THE THREAT FOR SUSTAINABLE FISHERIES IN EUROPE

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**Fuelling the Threat for Sustainable
Fisheries in Europe**

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EXECUTIVE SUMMARY

All European countries provide fuel subsidies to their fisheries sector in one form or another. Those subsidies consist mostly of fuel tax exemptions, but there are also some other state aid and support schemes that play a role in reducing fuel costs for the fishing industry.

This report analyses fuel subsidies and the impact it has on fish stocks and the fisheries sector in the EU. It is well documented that by reducing operating costs and thus enhancing fishing effort, fuel subsidies are increasing the fishing pressure on the target species and related species (e.g. bycatch) and therefore contributing to the over-exploitation of EU fisheries. This does not only cause further depletion of fish stocks but will also support economically unprofitable practices and undermine future economic benefits.

Fuel subsidies have increased the profitability of highly fuel-consuming fishing techniques like beam trawling. However, these fuel intensive techniques are having further impacts on biodiversity, the ecosystem structure and marine habitats. The impacts arise both directly through over-exploitation of stocks, physical damage to other aspects of the ecosystem, and indirectly through the increased carbon dioxide emissions contributing to climate change.

Moreover, the economic and social impacts highlight that differences in fuel subsidisation between countries may also create distortion in the competitiveness between national fleets.

Fuel subsidies are commonly provided in the EU under various forms in addition to the tax exemptions. The amount varies by Member States which raises concerns also of internal market distortion. Often the subsidies are not transparent, raising concerns of conflicts with better regulation principles. Under the draft *de minimis* aid Regulation proposed by the European Commission, a fishing enterprise could receive significant and potentially harmful subsidies from Member State countries to finance operating costs without having to notify the payments to the European Commission. This aid opens the back door to further harmful fuel subsidies.

Current international and European policy reforms offer opportunities to address the issue of fuel subsidies. In the EU, the upcoming review of the Energy Products Taxation Regulation in 2008, the development of a 2008 roadmap for environmentally-harmful subsidies reform by DG Environment and the 6th Environmental Action Programme offer such opportunities. The Lisbon agenda taken together with a new momentum for environmental fiscal reform as seen in the recent Brussels Tax forum also can open up ways for improvement. Finally, climate concerns also contribute positive momentum as will the expected Stern-type review for biodiversity that should put biodiversity, natural resource management and ecosystem services higher on the political agenda.

This report proposes a series of recommendations on how to address fuel subsidies in the short as well as longer term. In the short term, it is recommended that fuel subsidies be used only in specific cases, and on a temporary basis. It is recommended

that greater transparency is given to the existence, nature, rationale, scale and impact of the subsidies and that the process of reform should not be delayed.

In the longer term it is recommended not to grant fuel subsidies and to phase them out as soon as possible. The saved funds could be better used to facilitate a transition from fuel intensive fishing practices to eco-friendly fishing techniques, which would help to fulfil the socio-economic objectives of the subsidies in a more sustainable, coherent and not self defeating fashion.

1 INTRODUCTION

The issue of subsidies to the fisheries sector has been the subject of national and international debate for some years now and a number of events have propelled it to the forefront of the international agenda. The World Trade Organization (WTO) at its Fourth Ministerial Conference in Doha, Qatar, in November 2001, undertook to “clarify and improve WTO disciplines on fisheries subsidies, taking into account the importance of this sector to developing countries”¹. This was followed at the World Summit on Sustainable Development (WSSD) in Johannesburg by a call to “eliminate subsidies that contribute to illegal, unreported and unregulated fishing and to overcapacity, while completing the efforts undertaken at the WTO to clarify and improve its disciplines on fisheries subsidies (...)” (United Nations, 2002). In parallel to these political processes there has been increasing and undeniable evidence of fisheries collapse. This has added to the urgency and made clear that it is not an issue of potentially acceptable ‘trade-offs’ between economic and social gain and environmental loss, but a case of economic and environmental loss and indeed social loss in the long term.

In spite of this global commitment for reducing the “bad subsidies”², which contribute to an increase in fishing effort or capacity, they are still used in European fisheries. Fuel subsidies used by the EU are considered as one of the key “bad subsidies”. Fisheries subsidies are not unique in being difficult to reform or remove (Valsecchi, 2007), but do deserve special attention in light of the growing impacts on fisheries stocks and ecosystems.

The main aim of this report is to raise the profile of subsidies as operating costs and especially fuel costs in the context of achieving sustainable fisheries in the European Union (EU). Bearing in mind that very little information is accessible or available about specific subsidies given the lack of transparency of subsidies, the purpose of this study is to examine the role of fuel subsidies in sustaining the fisheries sector, its contribution to the overexploitation of fisheries as well as on its broader environmental impacts on ecosystems, habitat and biodiversity. This report is also intended to stimulate wider discussion about the consequences of such subsidies in the context of climate change, air and marine pollution regulations and energy efficiency.

The report concludes with a list of recommendations aimed at management authorities, at both European and national level focussed on the need to reduce fuel subsidies and to initiate a transition from overexploitation of fish stocks towards sustainable exploitation of the marine resources. The newly adopted European Fisheries Fund (EFF) is viewed as a key opportunity for making changes to the way the EU uses subsidies. As such it is recommended that the EFF should facilitate the

¹ Paragraph 28 of the Doha Declaration which precise title is "Ministerial Declaration at Ministerial Conference", Fourth Session, Doha, 9-14 November 2001, WTI *MIN(OI)/DECIWI*, adopted on 14 November 2001.

² Bad subsidies include capital inputs and infrastructure investments from public sources that reduce the cost or enhance the revenue of fishing activities. Bad subsidies exacerbate overcapacity, which in turn, promotes overfishing and other destructive fishing practices.

transition to eco-friendly fishing techniques, and reduction in fishing effort and should not be used to fuel the current crisis in EU fisheries by sustaining harmful fishing practices, for example. It is further recommended that the proposed *de minimis* aid should exclude subsidies to operational costs.

2 THE ROLE OF FUEL IN THE HARVESTING INDUSTRY

During the 20th century, fossil fuels became the dominant energy input to most of the world's fisheries. With the improvements to fishing techniques, fishing vessels have based their proficiency on the fuel consumption rather than on the human power. The most common fishing technique, trawling, is known for its high consumption of fuel. Despite the increase in use of fuel-consumption in fishing operations such as beam trawling, the fishing industry "is the only major industry in the world that is getting more and more energy-inefficient" according to Daniel Pauly (Dean C., 2005).

Tyedmers *et al.* (2005) calculated that globally, fisheries use almost 50 billion litres of fuel in the fishing operations which land just over 80 million tons of marine fish and invertebrates, at an average rate of 620 litres per ton. Global fisheries also account for about 1.2% of the global oil consumption, an amount equivalent to the national consumption of the Netherlands.

European fishing fleets are one of the biggest oil consumers in the world. Figure 1 gives an illustration of the distribution and intensity of fuel consumption by marine fisheries across the world. It also highlights that fuel consumption is concentrated in certain areas, along the coastline and especially in the northern hemisphere and South-East Asia.

It should be noted that fuel consumption is the one of the largest cost of the variable fishing costs associated with fishing operations. However, this also varies depending on the fishing techniques used. Vessels operating closer inshore use less fuel as compared to vessels which fish in coastal and offshore areas. However, fuel costs can reach up to 60% of the operational costs in some fisheries (Sumaila *et al.*, 2006). Given that many fisheries in the world are currently overfished, and that fuel constitutes a significant component of fishing costs, it is prudent to question the financial viability of the sector with rising fuel costs, even with the access to government subsidies and the related impacts on the sustainability of fisheries.

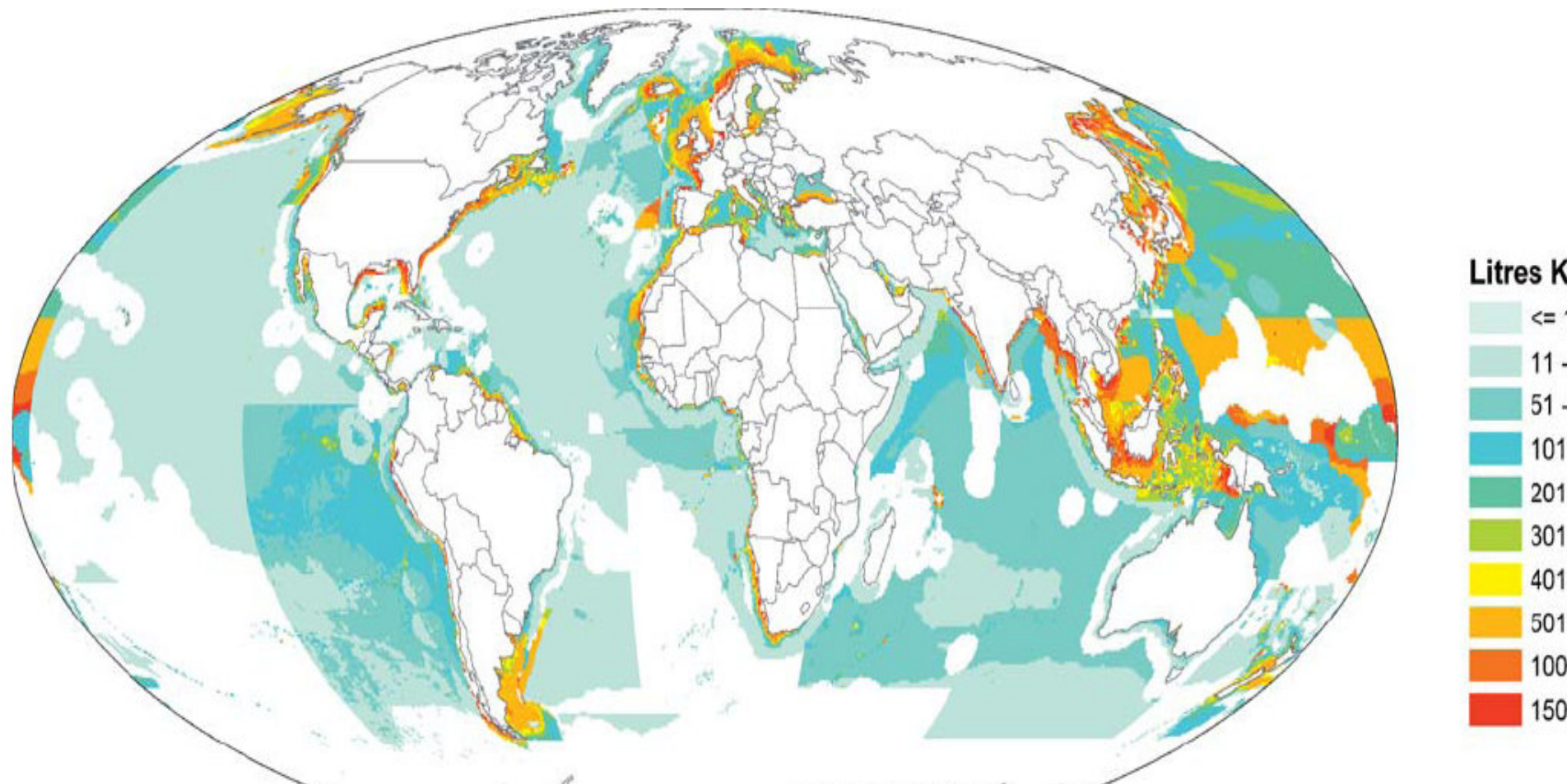


Figure 1: Distribution and intensity of fuel consumption by marine fisheries in 2000.

Source: Tyedmers et al., (2005)

3 FUEL SUBSIDIES AND THEIR IMPACTS

3.1 What is a fuel subsidy?

According to OECD (2000), the general term ‘subsidies’ in the fisheries context can also refer to “government financial transfers”, which are “the monetary value of interventions associated with fishery policies, whether they are from central, regional or local governments”. Financial transfers can be divided into “direct payments”, “cost-reducing transfers (CRT)” and “general services” (see Box 1).

Box 1: The categories of government financial transfers

Direct payments: they are transfers that enhance the revenue of recipients and are paid from government budgets directly to fishers. The objective of these direct payments is not to reduce the costs of fishers, but they effectively increase the incomes of fishers. Examples: price support payments to fishers, grants for modernisation, vessel decommissioning payments, buyouts of licences and permits, income support, unemployment insurance, etc.

Cost-reducing transfers: Those payments from the government to fishers reduce the costs of fixed capital and variable inputs. In this regard, they are a revenue-enhancing transfer that affects the operating decisions of fishers with respect to either output or the levels and types of inputs employed. Examples: fuel tax exemptions, subsidised loans for vessel construction, payments to reduce accounting costs, provision of bait services, loan guarantees, low cost loans to young fishers, transport subsidies, etc.

General services: it is a catch-all category that covers transfers that are not received directly by fishers, but that reduce the costs faced by the sector as a whole. About half of this category includes expenditures on research, management and enforcement. They also comprise expenditures by governments to support prices (for example, by withdrawing fish from markets) and expenditures on infrastructure that benefit the industry as a whole. Examples: research expenditures, market intervention schemes, regional development grants support to build port facilities, protection of marine areas, support to producer’s organisations, etc.

Source: Cox and Schmidt (2002)

Fuel subsidies can be broadly defined as the price differential between public costs for fuel and the price paid by fishers. They are traditionally given in various forms including grants, loans and loan guarantees, equity infusions, tax preferences or exemptions and similar to the subsidies used in the agriculture sector. In Europe, fuel subsidies, consist mostly of fuel tax exemptions, although in some cases, it could include other state aid and support schemes that subsidises fuel expenses of fishers indirectly but it is very difficult to quantify their contribution to operational costs for the fishing industry, as a result.

Within the CRTs, fuel tax exemptions while lowering the operational costs of fishing vessels, can also be categorized as variable costs support compared with capital costs support.

European countries provide tax exemptions to their fisheries sector in one form or another. However, only a small number of countries include the value of fuel-tax concessions (exemptions and rebates from diesel fuel) in their budget (ie on-budget subsidies). This remains mostly an off-budget item. Moreover, the *de minimis* Regulation (see chapter 4) can be expected to contribute to the increase in those CRT by giving Member States the right to give bigger amount of aid without notification to the European Commission.

A recent study by Sumaila et al. (2006) indicates that global fuel subsidies are in the range of between US\$ 4.2 and 8.5 billion per year, or around 8% of the annual commercial fish catch value of about US\$ 80 billion. A comparison of this amount to the US\$ 25.7 billion of global fisheries subsidies less fuel subsidies (Khan et al. 2006), highlights that fuel subsidies amount to about 25% of total fisheries subsidies and are part of the estimated 15 billion of bad subsidies annually transferred into the sector.

3.2 What are the impacts of fuel subsidies?

3.2.1 Environmental impacts

By reducing operating costs and thus enhancing fishing effort (Khan et al., 2006), fuel subsidies can have socioeconomic, as well as environmental impacts. Financial transfers to variable costs like operational costs have an impact on the fishing effort of individual boats.

The environmental impacts of fuel tax exemptions are diverse and could be significant. They can be divided into three sets of environmental impacts: impacts on the targeted species; impacts on associated species and habitats (e.g. by catch); impacts on the broader environment.

3.2.1.1 On the target fisheries

The effects of fuel subsidies such as fuel tax exemptions on target fisheries are greatly dependent on to the fisheries management regime (e.g. catch control regime, effort control regime, individual transferable quota regime or effort rights regime) within which they operate. Under the EU catch control regime, it is expected that reducing the costs of fuel through fuel subsidies will encourage fishers to use more fuel which could lead to an increase in fishing effort and capacity and therefore fishing pressure on targeted species. Fuel subsidies may actually affect the level of fishing capacity indirectly through their technology effects. They provide an incentive for vessel owners to use more powerful and fuel-consuming engines (Beddington and Rettig, 1984). They also induce more use of refrigeration on vessels by making it more profitable. Both effects of fuel subsidies give vessel owners greater incentives to extend fishing trips in time and space, implying large increases in catch (UNEP, 2006).

However, the level of impact of the fuel subsidies on target fisheries varies and is also dependent the enforcement schemes in place. In cases where there are effective enforcement systems, the impact of fuel subsidies on the target stocks is expected to be less. However, in more complicated management regimes where there are multispecies fisheries such as the gadoid fisheries in the North Sea and poor enforcement, the impact on target stocks may be greater.

3.2.1.2 On non-target species

Fuel subsidies may prevent fishers from abandoning fuel-intensive fishing techniques since it means no additional costs to the industry. Trawling and beam trawling in Europe is one of the most fuel-consuming activities and is well known for its impact on non-target species, particularly benthic species and habitats. Trawls and dredges kill non-target creatures living on the seabed and destroy coral reefs and other hard seabed habitats; they also stir up sediment which then drifts back to the seabed smothering wildlife. In addition, trawls can permanently modify the seabed and alter the ecosystem for creatures living in the water column above.

Recent research has shown that in the conventional trawl fishery for Norway lobster, 9 litres of diesel fuel is burnt per kg of landed lobster; this could be significantly reduced by switching to passive fishing techniques. Another example is the Danish flat-fish fishery where the amount of diesel fuel per kg of caught fish could be reduced by a factor of 15 by switching from beam-trawling to the Danish seine (Thrane,2006).

The absence of duty on marine diesel and direct subsidies for fuel (estimated at US\$4.2-8.5 billion per year globally) promote the use of active instead of passive fishing gear. The most direct and obvious way to encourage a shift towards fisheries with less environmental impacts would be to ban direct fuel subsidies and bring duty levels up to those paid by other users of diesel fuel (Thrane, 2006).

3.2.1.3 On the broader environment

Increasing fishing activity also has consequences for marine pollution and carbon dioxide emissions. These side effects are often not taken into account in fisheries policy decisions. There are very few studies on the impact of fuel subsidies on CO₂ in Europe, but the contribution that fisheries make to CO₂ emissions should not be underestimated. Tyedmers *et al.* (2005) calculated that the global fishing industry emits more than 130 million tons of CO₂ of per year into the atmosphere. This is comparable to the amount than the UK road transport emitted in 2005 (120 millions tons). The role of CO₂ emissions in climate change and, the effects on climate change on migration routes and fish distribution is well documented (Thrane, 2006). The change in fish distribution in European waters, where species such as cod are now found further away from traditional fishing grounds are affecting fishing behaviour as fishing fleets which now need to travel further away from traditional fishing grounds in search of viable fish. As the impacts of climate change continue to increase, there will also be an increasing demand for fuel to sustain fishing operations and it is expected that the impacts on the broader environment may also increase.

3.2.2 Economic impacts

3.2.2.1 Economic impacts of governmental financial transfers in the fisheries

The OECD (2006) gives details about the economic impacts of financial transfers to fisheries. The nature and intensity of the impacts is very dependent on the fishery management regime in place, but also on the status of target fish stocks. The long-term profitability for subsidised fisheries under different management regimes and targeting different stocks is illustrated in Table 1.

The cell highlighted in Table 1 corresponds to the current European situation in where there are no property rights, but fisheries are managed by catch controls and 80% of the European stocks are threatened by overfishing. The effects of governmental financial transfers in this particular situation would normally result in an increase in effort and typically in the number of vessels (if entry in the fleet is not controlled) followed by lower revenues, higher costs, lower industry profits and eventually a negative resource rent. However this is not applicable to the current EU situation where the number of vessels entering the fisheries is strictly controlled. In this case, the erosion of profit will not be caused by a falling of catch per unit of effort. It would instead be caused by a shorter fishing season and a less efficient use of capital, as boats competing for the same fish under Total Allowable Catches defined for the entire fleet. A drop in profit can also be caused by a loss of stock available (given over exploitation) and hence reduction of quantity caught (and size of catch), to the extent not countered by an increase in market price to reflect limited availability.

	Property rights		No property rights		No property rights No controls
	Catch controls	Effort controls	Catch controls	Effort controls	
Overfished stocks	<ul style="list-style-type: none"> No effect on catch or stock No effect on effort Higher value of fish quotas 	Same as with no property rights, except that the value of effort rights will increase	<ul style="list-style-type: none"> No effect on catch or stock if it is effectively controlled Greater effort and more boats Same revenue or lower Higher costs and lower industry profits Negative resource rent 	<ul style="list-style-type: none"> No effect on effort, if it is effectively controlled Higher revenues Higher profits Incentive to expand uncontrolled components of effort If effort expands: smaller stocks, lower catches, less increase in revenue, higher costs less increase in profits, lower resource rent 	<ul style="list-style-type: none"> Greater effort and more boats Smaller fish stocks Lower fish catch Lower revenue Higher costs Higher intra-marginal rents Negative resource rent
Underfished stocks	Same as overfished stocks	Same as overfished stocks	Same as overfished stocks	<ul style="list-style-type: none"> No effect on effort, if it is effectively controlled Higher revenues Higher profits Incentive to expand uncontrolled components of effort If effort expands: smaller stocks, larger catches, higher revenue, higher costs less increase in profits, lower resource rent 	<ul style="list-style-type: none"> Greater effort and more boats Smaller fish stocks Greater fish catch Higher revenue Higher costs Higher intra-marginal rents Negative resource rent

Table 1: Long term economic effects of governmental financial transfers

Source: OECD (2006)

3.2.2.2 Economic impacts of fuel subsidies

In relation to cost-reducing transfers and fuel subsidies, the economic impacts are different from those related to the broader governmental financial transfers. Also, the fisheries management regime may highly change the way fuel subsidies impact the fishing economy.

In a catch control regime that exists in the EU, fuel subsidies can enhance the competition among individual vessels. This could result in a 'race to fish' and result in the Total Allowable Catches (TACs) being caught in a shorter period of time. Equally, cost-reducing transfers may have no effect on the entrance of other vessels in the fleet (like transfers to capital costs), but can contribute to an increase in fishing effort.

Furthermore, it is expected that the fuel subsidies as part of operational costs will initially lead to larger profits in the short term, due to more intensive use of the vessels. In the medium and long term, however, the increased effort will lead to further depletion of fish stocks, decreasing catches and reduced profitability.

In effort control regimes, the incentives of the transfer would lead to an increase in effort. It then depends on how the effort is effectively controlled. If the effort control consists in the number of days at sea or the number of boats, this will not prevent from investing in more powerful engines.

With an individual transferable quota regime, the fuel tax exemption would not have any effect other than distorting the choice of factors of production compared to a cost-minimizing choice at market prices. This might have an impact on the method of fishing and the number of fishermen employed on board (3.2.3 Social impacts), but it would not be expected to have any direct impact on the targeted fish stocks.

In an effort rights regime, the effect would be to raise the price of these rights and to distort the cost-minimising choice of effort components. It then depends on how the total effort is controlled. If it allows the use of more powerful engines, this would have consequences on the overall fishing effort.

3.2.2.3 Increased competition among national fleets

Fuel subsidies can distort competition among different national fleets. In the EU, there are already different levels of subsidisation among Member States (see table 2 in chapter 4.2.1) with some Member States providing more subsidies than others. This means that fuel subsidies like other subsidies can result in differences in profitability within the EU and generate distortion in competition among Member States. Consequently, fleets whose Member States do not provide subsidies for operating costs could find themselves unable to compete with fleets which are subsidised.

This distortion on competition for fishing is likely to have distortion impacts on trade as some national fleets might be able to sell their fish at lower prices due to lower operational costs.

3.2.3 *Social impacts*

Government financial transfers, including fuel subsidies, can also have substantial social impacts. It is widely accepted that socioeconomic aids provided in case of structural adjustment (e.g. early retirement scheme, retraining measures, etc.) have social impacts. The same is true for capital or variable costs subsidies. By artificially keeping the resource rent positive, subsidies keep non-competitive fishing firms afloat in the short term by preventing bankruptcy when there is a financial crisis. However, in the long term, fuel subsidies by threatening the resources would lead to a negative resource rent (see economic impacts developed above) and negative social impacts for the coastal communities that depend on the fishing industry.

For the last two decades, management authorities in Europe have influenced the structure of the fleet by subsidising more powerful engines and labour costs-saving techniques, which in some ways runs counter the objective of supporting the local communities. Due to the heavy proportion of labour costs in the vessel operation, owners have switched to more mechanical fishing techniques that use fewer crews onboard. Yet, this switch has led to more fuel-consuming techniques and increased fuel costs. With the help of fuel subsidies, the governments have indirectly encouraged owners to reduce the use of manpower in favour of more mechanical techniques. This shift to use more fuel intensive techniques has therefore had social impacts in some cases.

The Spanish and French tuna fisheries can be used to highlight these impacts. Spanish vessels normally have bigger crew (sometimes 10 to 15 people) largely due to lower labour costs and are therefore in a position to use labour intensive techniques like lining. French trawlers of the same length are made up of only 3 to 4 crews onboard, because trawling requires fewer people to operate but requires more fuel to do so. With the increase in fuel price, even with the tax exemption, French trawlers tend to have lower turnover while Spanish liners and crew have been less affected by fuel price fluctuation.

4 THE FUEL SUBSIDIES IN THE EUROPEAN AND NATIONAL POLICY FRAMEWORK

4.1 Fuel subsidies policy in the European Union (EU)

4.1.1 *The general legal framework for energy subsidies*

In 2003, the Council adopted Directive 2003/96/EC which provides the Community framework for the taxation of energy products and electricity³. This Directive sets the minimum tax rates for various activities and the evolution of those taxes until 2010. The fishing industry is fully exempt from the implications of this Directive since it is included in commercial navigation in Community and international waters. However, the EU part of the Directive on that point remains quite vague:

“Existing international obligations and the maintaining of the competitive position of Community companies make it advisable to continue the exemptions of energy products supplied for air navigation and sea navigation [which includes fishing], other than for private pleasures purposes, while it should be possible for Member States to limit these exemptions.” (Preliminary note (23) of the directive)

The article 14 (1) (b) of the 2003/96/EC Directive provides the legal text for full tax exemption for the fishing activity:

“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.”

It appears that the Directive, while setting the framework for applying tax exemption to various activities, remains vague about the specific objectives of this form of subsidy. Also, the Directive contains numerous exemptions and derogations to various sectors in order to get agreement from all the Member States. However, the EU had to face a political challenge of maintaining tax exemptions for fisheries while adopting an anti-subsidy policy more generally. The compromise was to focus on avoiding extending the fisheries subsidies too much, because of their harmful consequences.

But the EU also raised the lack of tax harmonisation at Community level to justify energy products tax exemptions:

³ Council Directive 2003/96/EC of 27 October 2003

“Certain exemptions or reductions in the tax level may prove necessary; notably because of the lack of a stronger harmonisation at Community level, because of the risks of a loss of international competitiveness or because of social or environmental considerations.” (Preliminary note (28) of the Directive). Currently this does not distinguish the subsidies provided for fuel.

Article 6 stipulates that tax exemptions may take three different forms. The Member States can give it directly, by means of a differential rate or by refunding all or part of the amount of taxation. A review of taxation rates is on the political agenda, but it is unclear whether this will result in any substantial changes to the use of these tax exemptions.

At the international and European level, there is a general movement towards the elimination of environmental harmful subsidies. Article 6(5) of the European Fisheries Fund (EFF) specifically excludes financial support to operations which increase fishing effort. According to the Guidelines for the Examination of State Aid to Fisheries and Aquaculture, aid must “serve to promote the rationalisation and efficiency of the production” while “improving the recipient's income is, as operating aid, incompatible with the common market”. This illustrates the lack of policy coherence within the EU between maintaining fuel subsidies and aiming at reducing fishing pressure to sustainable yield.

4.1.2 The “De Minimis” aid

While the *de minimis* Regulation is intended to reduce bureaucracy, it allows EU fishing enterprises to receive significant and potentially harmful subsidies. This aid could be used to finance operating costs of fishing vessel.

On 14 November the European Commission published a draft regulation on *de minimis* aid in the fisheries sector (2006/C 276/07). The Commission defines *de minimis* aid as ‘state aid deemed not to distort competition’. Under the new Regulation, a fishing enterprise could receive up to € 30.000 of state aid every three years without the payments being notified to the European Commission. The new Regulation, which would apply only to the fisheries sector, would therefore increase the *de minimis* aid ceiling ten fold from €3,000 to €30,000 per three-year period, per beneficiary. The French case study presented below shows this aid amounting to €10,000 per year would represent 14% of the operational costs of a French trawler less than 12 metres, whereas the same amount would reach 24% of a Polish trawler's operating costs.

The total amount of such aid must represent less than 2.5 per cent of the annual national fisheries output. Furthermore, this aid may not be used to purchase, construct or modernise vessels or to enhance existing fleet capacity. The two conditions are contradictory as most subsidies, and almost certainly those to be granted under state aid, increase operator incomes and/or reduce costs, and hence increase fishing capacity and/or effort. While Member States would not have to notify the Commission about their intentions to allocate such state aid, they would be required to demonstrate that these conditions have been respected. This is therefore likely not to reduce bureaucracy in substituting a notification to another.

Even if the conditions set by the Commission to not distort competition are met, the industry in the northern Member States, including the UK, can be expected to object to the increase as their governments are unlikely to increase national financial support for the industry. Southern and new Member States, however, might increase national support, which will only serve to distort competition. Such an aid could therefore increase the political gap regarding national fisheries management as some Member States try to achieve a sustainable fisheries sector, while other go on subsidising their fisheries in order to artificially maintain their excessive fishing activity.

The *de minimis* aid is likely to open the back door to fuel subsidies, and add to the “bad subsidies” total amount. If implemented, this hidden subsidy that could be used for reducing operational costs will undoubtedly lead to the environmental and socioeconomic consequences described in chapter 3.2: increased fishing pressure on overfished fish stocks; increased bycatch and disrupt ecosystems; increased carbon dioxide emission and marine pollution; loss in revenue and negative resource rent of fishing firm in the medium and long term; distortion of competition and delay of restructuring of the European fishing fleet.

4.2 Fuel subsidies policy at a national level

4.2.1 Cost-reducing transfers in the European Union

Fuel subsidies are part of the cost-reducing transfers that participates to an increase in fishing effort. OECD (2006) has studied such transfers with regard to the other categories of transfers. It is hard to compare the amount of fuel subsidies compared to other categories of subsidies and the OECD is the only one to our knowledge that provides information about that. Rather than illustrating the level of fuel subsidisation in the Member States this part is showing the commitment of Member States in funding “bad subsidies”. Figure 2 hence illustrates the expenditures of each European country and the breakdown of expenditures between the three categories. In order to compare the proportion of cost-reducing transfers (that include fuel subsidies) among Member States within the EU, figure 3 is a 100% stacked columns graph that allows comparing each percentage of transfers across Member States. Both those graphs are from 2003 OECD data.

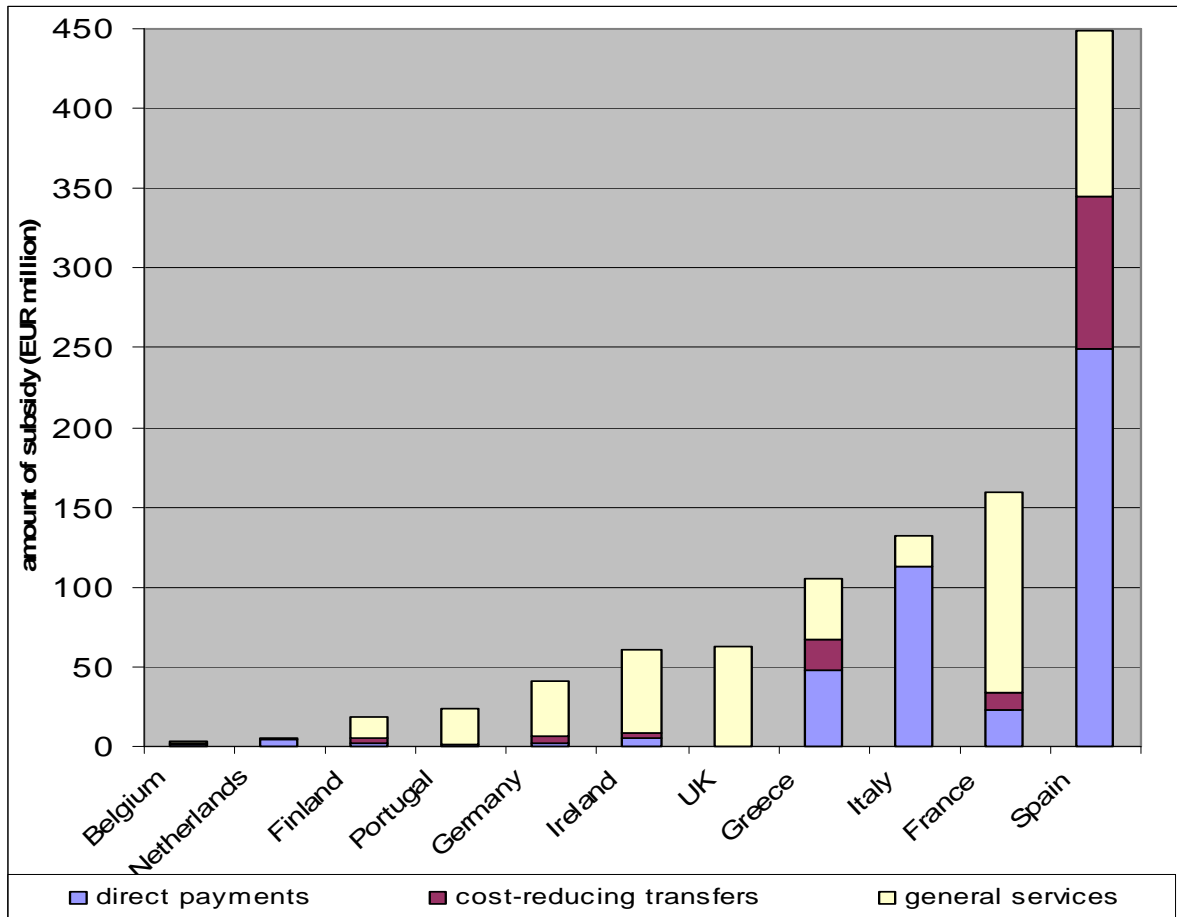


Figure 2: Financial transfers' amounts and breakdown in the EU in 2003

Source: OECD (2006)

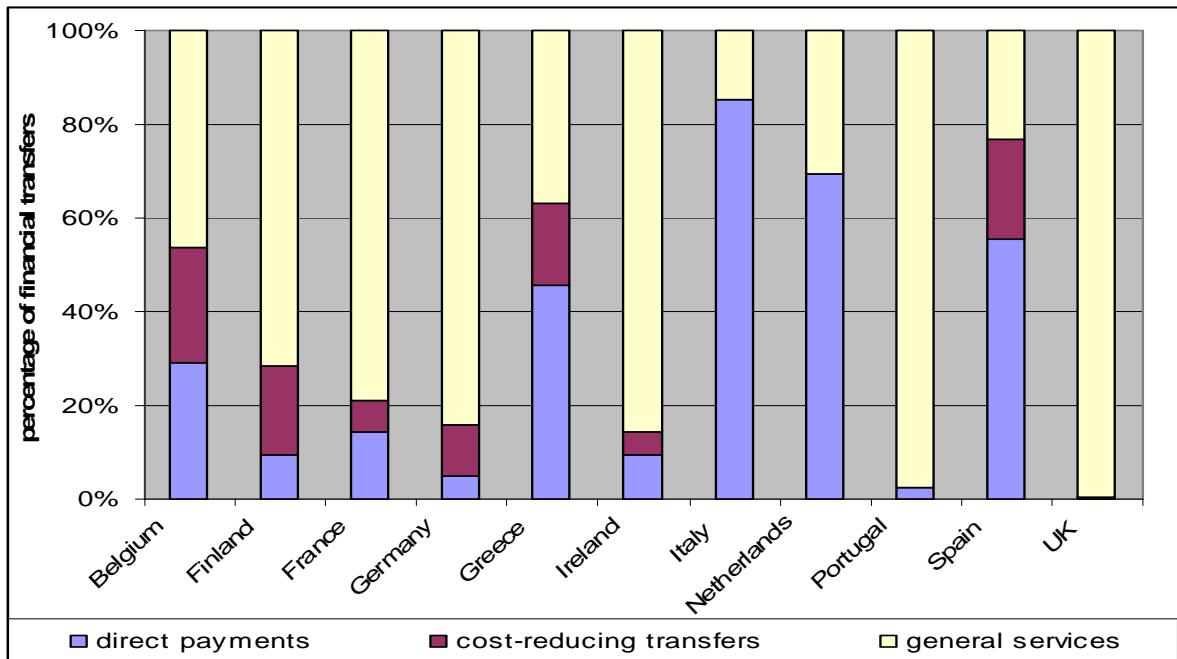


Figure 3: Proportion of financial transfers in the EU in 2003

Source: OECD (2006)

Some conclusions can be portrayed from those two figures:

- The subsidies expenditures are much contrasted among Member States, from Belgium to Spain, 4 to 450 million Euros.
- The breakdown of expenditures also shows huge contrasts in the way subsidies are distributed.
- Most of the Member States provide cost-reducing transfers to fishers.
- Except for Italy, Spain, Greece and the Netherlands, general services expenditures constitute the major part of the subsidies.
- Cost-reducing transfers can reach up to 20% of the total expenditures (e.g. Belgium, Finland, Greece and Spain).

4.2.2 Fuel subsidies expenditures in Europe

The study by Sumaila *et al.* (2006) is the only published study which provides information of the level of global fuel subsidies in the fisheries sector. In Europe it is very difficult to estimate the value of the fuel tax exemption. The main challenge lies in the fact that the financial support in the form of tax revenue is foregone and this will vary according to the world oil price. In addition, the tax exemptions to the fishing industry distort fuel use patterns in fishing operations and so it is difficult to estimate what the pattern of fuel use and fishing would have been in the event that the full cost of fuel had been paid.

The table 2 gives an overview of fuel subsidies in Europe next to the fuel tax exemption estimated by Sumaila *et al.* (2006), as well as for some other countries outside Europe. Those fuel subsidies include all forms of subsidies that directly affect fuel costs for fishers, in addition to fuel tax exemptions. They have been compiled into a price differential, if any, enjoyed by fishers relative to other non-subsidised economic sectors.

Country	Subsidies provided	\$/Litre (US\$) Brackets=estimated
EU and relatives		
Belgium	N (2)	
Denmark	N (2)	
France	Y	0.14
Germany	N (2)	
Greece	Y	0.2
Iceland	Y	(0.18)
Italy	N (2)	
Malta	N (1)	
Netherlands	N (2)	
Norway	Y	(0.18)
Poland	Y	(0.18)
Portugal	N (2)	
Spain	Y	0.1
Sweden	N (2)	
Turkey	Y	0.09
United Kingdom	N	

Country	Subsidies provided	\$/Litre (US\$) Brackets=estimated
Other countries		
Canada	Y	0.18
Japan	Y	0.25
New Zealand	N	
Russian Federation	Y	0.18
Senegal	Y	0.22
Thailand	Y	0.13
USA	Y	0.06

(1) Likely no subsidies due to limited fuel supplies for fishing fleet or high fuel cost with no reported subsidies.

(2) No fuel subsidies listed under government transfers in OECD fisheries review (2005).

Table 2: Details of fuel subsidies in Europe and in other countries in 2000

Source: Sumaila et al. (2006)

From table 2, we are able to draw some tendencies in the use of fuel subsidies:

- Countries from Europe adopt different policies regarding fuel subsidies, no subsidy or range from 0.09 to 0.2 implying that within the EU, fishers are not equally helped by their Member State.
- Fuel subsidies are used worldwide. Countries outside Europe have also subsidies, sometimes very high (e.g. 0.25\$/L for Japan).
- Biggest producers in the EU and over the World (i.e. Spain and France, Japan, USA, Canada) provide fuel subsidies to their fleets.

4.2.3 Case study of fuel costs and subsidies in France

Fuel costs are subsidised in France. Fishers benefit from a fuel tax exemption program plus other schemes that aims at diminishing their variable costs (in 2000, fuel subsidy amounted 0.14 \$/litre). Figure 4 highlights that, even when fuel has been subsidised and exempted from tax, fuel costs has increased from over time. In fact, fuel doubled in price in 2006 as compared to 2003 with constant subsidisation. It has then taken a large part of operational costs for the activity of fishing vessels, no matter the fishing technique used (Figure 5).

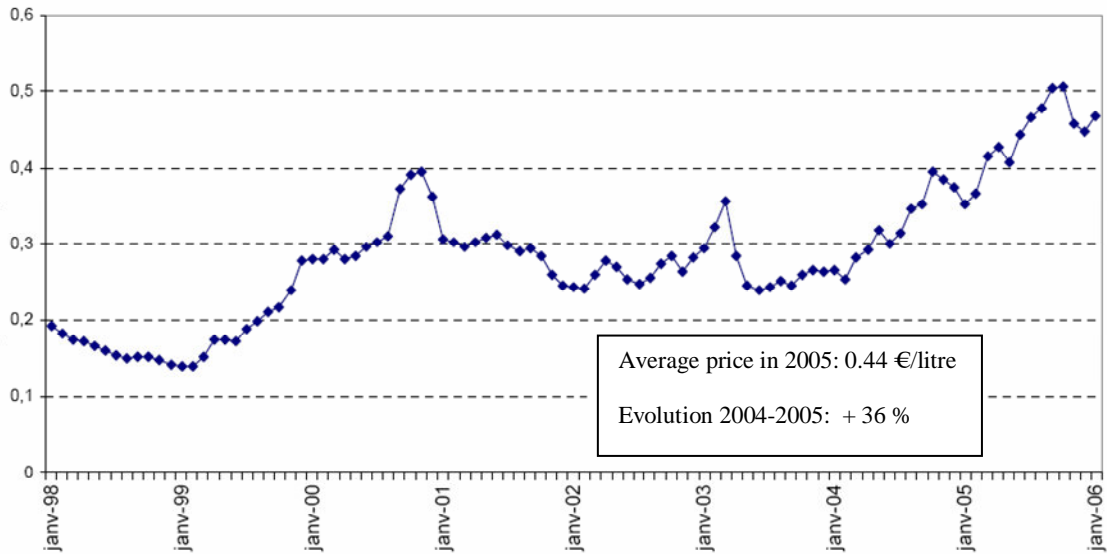


Figure 4: Monthly evolution of price of subsidised oil in France (in current €)

Source: Data from French Ministry of Economy, Finances and Industry (n.d.)

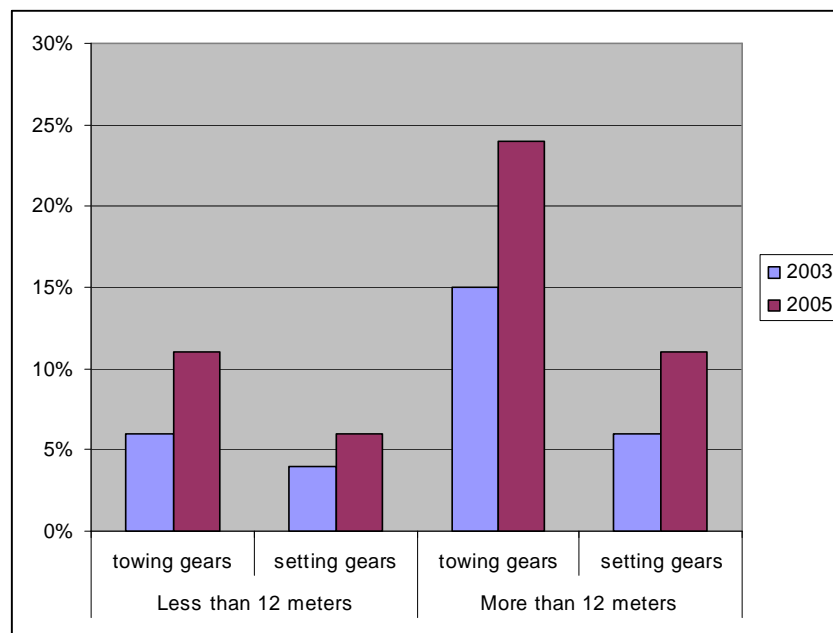


Figure 5: Evolution of percentage of fuel costs in the total turnover between 2003 and 2005 for different fleets operating in the Atlantic

Source: IFREMER – SIH (2003 & 2005)

Some fishers reported that they are confronted to a paradoxical situation:

- The fishing fleet is for a large part constituted with boats that need high quantities of fuel to operate (i.e. off-shore bottom and pelagic trawlers). This is partly explained by former subsidies for modernisation or renewal of vessels available before 2004 that have led to an overcapitalization of the fleet and investments in higher capacity vessels with fewer crews onboard.

- Even subsidised, an average price of 0.44€/litre is very high when seen from the perspective of ensuring the profitability of firms. Fuel costs that have doubled have had great financial consequences for vessels more than 12 metres, reaching almost 25% of the turnover.

This situation has forced a large part of fishing industry owners to reconsider their number of days at sea and resulted in reduced fishing activity when fuel prices are high.

A comparison between the turnover and fuel costs of vessels using set gears and vessels using towed gears highlight their benefits and losses during the period of fuel price rise (see Table 3). Set gears vessels dedicate 4.2% of their turnover to fuel costs, no matter the vessel length. Comparatively, towing gears are obviously the most fuel-consuming technique taking from 5.7 to 12.6% of the total turnover depending on the vessel length. They are subsequently extremely dependant on the fuel price for their operations and are the fleet segment most threatened by a fuel price rise.

	Less than 12 meters		More than 12 meters	
	Towing gears	Setting gears	Towing gears	Setting gears
Number of boats	434	629	411	79
Ifremer sampling size	86	110	50	12
Average data by vessel				
Vessel length (m)	9,45	7,95	19,74	14,3
Power (kW)	105	79	367	201
Total number of engine hours (h)	1686	1495	4287	3338
Total turnover – production value in €	111 936	83 130	599 238	404 831
<u>Percentage of selected operational costs within the turnover</u>				
Fuel	5,7	4,2	12,6	4,2
Landing costs	3,6	2,9	5,3	4,0
Fishing gears	5,9	5,1	4,6	5,4
Percentage of labour costs within the turnover	46,4	49,0	38,6	41,0
Percentage of proposed <i>de minimis</i> aid in the operational costs (10.000 euros for a year)	13.6%	18.4%	2.5%	4.2%

Table 3: fuel costs in different fisheries in France in 2003

Source: Data from IFREMER – SIH (2003)

This case study highlights some important issues:

- Fuel costs, even subsidised have dramatically increased for the last few years.
- To put the numbers into context: the prices remain far below fuel prices for transport.

- “Bad subsidies” for renewal and modernisation of the fleet have led to less labour intensive fishing techniques, thereby increasing the sensitivity of fishing firms to fuel price and their dependency towards fuel subsidies.
- Fishing types and vessel length play a substantial role in fuel expenses.

Note that expectations are that fuel prices will not drop to the prices seen in the 1990s and there is a need for the industry to face the transition towards expensive fuel. The fuel subsidies have buffered the industry to some extent. They are also not the most appropriate tool to support the viability of the industry. A systematic change is needed towards more fuel efficient fishing, based on a no fuel subsidy regime.

5 FACING THE NEED FOR SUSTAINABLE FISHERIES IN EUROPE: THE FUTURE OF FUEL SUBSIDIES

5.1 The need to eliminate harmful subsidies

In relation to fuel subsidies there is a key problem of policy incoherence at the EU level between the provision of fuel subsidies and the need for reducing fishing effort and therefore insuring a sustainable use of marine resources. There is also a conflict between the use of this tool and the ambitions to tackle climate change and ambitions for energy security and ambitions for efficiency and innovation under Lisbon. Within the above chapters, this report has highlighted the fact that the EU has implemented conflicting policies, which has led to a paradoxical situation: cost-reducing transfers including fuel subsidies (tax exemptions and state aid under the *de minimis* aid) and the fishing effort reduction objectives within the EFF.

Sumaila et al. (2006) concluded that theoretically an increase in fuel costs (decrease in fuel subsidy or increase in fuel price) should have a conservation value. Empirically, it seems like a good way to adjust the industry by selecting competitive firms. This would therefore reduce the pressure on the resources and contribute to a move towards a sustainable level of catch. However, without alternative measures it is likely to be difficult for firms to innovate and adapt to the new situation. It will also create some redundancy within the coastal communities. OECD (2006) has highlighted the fact that reducing financial support to the industry, if accompanied by appropriate management changes and transition measures, can increase the profitability of the industry and the resilience of communities over the medium and long term. But the adjustment of fisheries subsidies (including fuel subsidies) must be part of a broader package of management changes designed to set in train structural changes that put the sector on a more sustainable footing from an economic, environmental and social perspective. There is generally a strong need for powerful management tools such as strong access rights.

As an illustration of this, OECD (2006) gave case studies about Norway, New Zealand, Iceland and Australia that reduced financial support to industry and noted that ineffective firms disappeared, improving the balance between the available resources and the fishing fleet, assisted by improved management regimes which helped to internalise the dynamic process of fleet capacity management. While there were adjustment costs in the short term, the benefits over the medium to long term were sufficiently clear to the countries to convince them to embark on the reforms. Transition measures were put in place to ease adjustment, but these were temporary and so avoided the trap of becoming entrenched.

Although the Commission is committed to reduce the range and extent of the reduced duty levels on offer, there remain doubts that the revision of the 2003 Directive in 2008 will go very far to change the situation. Under the current Treaty at least, taxation measures require unanimity in the Council of Ministers. As a result, these measures have always been extremely difficult to get through the legislative process, or if so have always been severely watered-down. There is therefore likely to be no change in the next years concerning the fuel tax exemptions, which can lead to a

business-as-usual situation, when there is a real need for a switch in the subsidies regime.

The future of European policies offers further opportunities to deal with fuel subsidies and reduce their impacts. The 6th Environmental Action Programme has a broader perspective of the environmental challenges and provides a strategic framework for the Commission's environmental policy up to 2012 and could provide opportunities to address the use of harmful subsidies. The EU and its Member States have signed up to the 2010 biodiversity targets and there is now an impetus to avoid the use of environmentally-harmful subsidies (EHS) towards achieving sustainable fisheries. Moreover, a Roadmap for the Reform of Environmentally-harmful Subsidies in 2008 is being developed at DG Environment and harmful subsidy reform is a priority action (PA) within the EU's Environmental Technologies Action Plan (ETAP)⁴ and should feature in national ETAP road maps. The reform is a key issue for the EU in relation to addressing climate change, supporting energy security, advancing sustainable development and maintaining the EU's international competitiveness. There is a real commitment in order to actively reform those subsidies. Fuel subsidies as part of those EHS will have to be assessed through this roadmap first and then reformed.

De minimis aid, as mentioned in chapter 4, opens the back door to further fisheries subsidies. This is likely to provide hidden subsidies to fishers and avoiding any transparency in funding. However, there is a need for greater transparency on the level of subsidies at the Member State level and this should be reported to the Commission. This would allow for accountability and expose hidden subsidies which are harmful in terms of environmental and socio-economic impacts and lead to distortion in competitiveness between Member States. Also, the lack of transparency runs against the principles of better regulation, a core objective of this Commission.

5.2 Conclusions and recommendations

The WTO is currently engaged in negotiations on fisheries subsidies as part of its Doha trade round. Those talks are part of a specific trade negotiation. WTO negotiators are tasked with strengthening the international trade rules on subsidies to the fishing sector, including through the prohibition of subsidies that contribute to overcapacity and overfishing. The results of the WTO negotiations could have a significant impact on the long-term sustainability of the world's fisheries.

The debate on the use of fisheries subsidies in the EU has a long history against the background of an overcapitalised fleet and overfished stocks. The specific role of fuel subsidies in EU fisheries is a controversial subject. This study stresses the overall negative effects of fuel subsidies from various perspectives: environmental, economic or social. There is a general consensus among policy-maker that there is a need to reduce fishing effort and the impacts of bad subsidies. This report argues that the

⁴ The Environmental Technology Action Plan (ETAP) which was launched in 2004 and remains the EU's main initiative for promoting environmental technologies. ETAP represents one of the key implementing actions under the EU Sustainable Development Strategy (SDS) (2001 and 2006) and the Lisbon agenda (2000 and 2005).

provision of fuel subsidies will contradict other policy objectives towards this ultimate goal and has the potential to undermine the fish stocks and the fishing industry in the long terms. The lack of transparency about the extent of fuel subsidies to the EU makes it difficult to estimate the economic impacts, but studies elsewhere in the world have been cited in support of the reduction of these subsidies in favour of more environmentally-friendly fishing practices.

Any single Member State can retain a veto over legislation on fuel or vehicle taxes. As experience with the EU mineral oils Directives demonstrate (92/81, 92/82 and 2006/96), where there is the potential for adoption of EU fiscal measures, any progress is likely to be very slow. Prospects may be slightly better for measures seeking to extend existing provisions to additional sectors, in line with calls for greater harmonisation of taxation, particularly on fuel.

The EFF provides a key opportunity for the EU, Member States and the fishing sector to take actions to reduce fishing effort. Further debates on the use of *de minimis* aid provide specific opportunities to exclude aid to operational costs. Specific recommendations include:

In the short term:

- There is a need for greater transparency on the level of subsidy at the Member State level and this should be reported to the Commission and subject to public scrutiny. This would allow for accountability and expose hidden subsidies which could be harmful in terms of environmental and socio-economic impacts and lead to distortion in competitiveness between Member States. The *de minimis* aid in principle is a form of non-transparent aid and the framework for the use of this aid has to be more clearly defined and transparency in the process accrued.
- There is greater need for public communication on the level of fuel dependency of fishing – the use of carbon footprints or fuel intensity footprints could be useful tools. This could be done on a case by case basis first to highlight the issue and then extended more widely to facilitate benchmarking and more rigorous analysis. To put it simply, people knowing that it takes 9litres of fuel for 1kg of lobster would have an impact. There is increasing interest in footprints and increasing series of initiatives to make them ever more rigorous so the timing would be appropriate to build on these initiatives.
- Fuel subsidies should only be provided as 'one off' for alleviating an immediate fisheries crisis. Subsidies are a very effective tool to reduce trade-offs when implementing a reform for instance, but subsidies have to remain transitional. Yet, fuel subsidies are already used permanently under fuel tax exemptions. There needs to be a commitment to the objective of no subsidies in the long term. There is scope to use the revision of the tax regulation and also the Environmental Action plan to foster progress.
- In order to reduce fuel subsidies, it is crucial to increase resilience of the coastal communities that depends on the fishing industry. Primarily in order to implement

a cut in subsidies on capital and variable costs, it is important to develop a set of aids aiming at diversifying the economy in those regions (retraining programs, alternative industries development, etc.) to ensure that the socio-economic impacts of phasing out fuel subsidies and other effort increasing subsidies is softened. Putting in place other socioeconomic measures including retraining and retirement programmes would increase the resilience of the community and decrease the dependency on subsidies. If used wisely by Member States the European Fisheries Fund (in particular Axis 4) could play a crucial role in that respect.

- Promote the harmonisation of exemptions at the Member State level during the review of Directive 2003/96 avoid any distortion amongst Member States.
- The establishment of minimum requirements for fuel taxation (in the form of minimum tax levels) by adopting an EU-wide taxation levels could effectively contribute to lowering the negative impacts of fuel subsidies.
- As subsidies to the fisheries sector is common practice in many countries internationally, there is a need for international cooperation to help ensure progress more widely than in Europe to avoid competitiveness concerns slowing potential EU progress. The current WTO negotiations play a significant role in this respect.
- There is also need for further analysis as to local community dependency on aid and who actually benefits from the subsidies. The ‘local community argument’ is often one put forward and hidden behind by the bigger fishing industry who are hardly part of the ‘local community’. This will help clarify who actually needs subsidies.

In the longer term:

- Fuel subsidies should be banished. In the long term, fuel subsidies do not offer any positive aspects. Therefore, the reform of EHS needs to address fuel subsidies as a priority. This issue has also to be addressed through the 6th Environmental Action Programme that takes a broad look at the environmental challenges and provides a strategic framework for the Commission's environmental policy up to 2012.
- In order to reduce fuel subsidies, it is crucial to increase resilience of the coastal communities that depends on the fishing industry. Primarily in order to implement a cut in subsidies on capital and variable costs, it is important to develop a set of aids aiming at diversifying the economy in those regions (retraining programs, alternative industries development, etc.) to ensure that the socio-economic impacts of phasing out fuel subsidies and other effort increasing subsidies is softened.
- There is a need for environmental/ecological fiscal reform (ETR/EFR) to get the market signals working for sustainable development. A shift from taxing labour to taxing fuels is a key to this and would support the needs of the fishing industry where there is some substitutability between the labour and fuel inputs to production. There is a new momentum for ETR/EFR and there is scope for

launching action in the short term in a step wise fashion to ensure that the prices are more right in the longer term.

- Greenhouse gas emissions from fuels used in the fishing sector should be adequately addressed through either emission standards or inclusion in a market based instrument, such as the European Emissions Trading Scheme (ETS).
- There is a need for a more inclusive economic analysis – taking into account the losses of stock and its value into the economic equation for the fisheries sector, as well as doing analysis of what makes economic senses at the level of a country/society. The former will help show that it is in the fishing industry's long term interest to not have subsidies and the later will help show that it is not in the nation's interest either.
- There is a need for an ecosystem-based approach to fisheries management that take into account the other impacts of fuel subsidies. The losses in other areas will also be valuable for the more inclusive economic analysis. In some cases it will demonstrate that even on economic grounds certain activates should not be supported, let alone subsidised. This could also be done in the context of the Maritime Green Paper.

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