

## Including maritime transport emissions in the EU's greenhouse gas reduction commitment

Addressing the reduction of greenhouse gas emission from global shipping should take place through the International Maritime Organisation (IMO) and this will always be the ultimate goal of the EU. While energy efficiency requirements for certain categories of new ships have been set by the IMO through the energy efficiency design index (EEDI), no international regulation aiming to reduce GHG emissions from existing ships has been adopted to date.

According to Directive 2009/29/EC (the revised EU ETS Directive) and Decision No 406/2009/EC (the Effort Sharing Decision), the EU should include the GHG emissions of the maritime sector in its 20% overall GHG reduction commitment in the event that no agreement including these emissions in reduction commitments has been reached at the international level by 31 December 2011. In order to decide how to proceed in developing such a proposal in 2012 and to have a clear understanding on the impact of these possible proposals, the European Commission wishes to supplement the input which it has received through 3 stakeholder meetings in the framework of the [European Climate Change Programme](#) and through the [High Level Group on Shipping Emissions](#) through this internet consultation.

The Commission is analysing the impact of policy options for a possible EU action. These policy options have been derived from the [second IMO greenhouse gas study 2009](#) and the [2009 report on the technical support for European action to reducing greenhouse gas emissions from international maritime transport led by CE Delft](#). These policy options also take into account the progress made within the IMO, especially regarding the adoption of the EEDI.

As presented during the third stakeholder meeting of the European Climate Change Program, the following policy options are considered for the purpose of the impact

assessment:

- a compensation fund
- an emission trading system (ETS)
- a tax on fuel or on emissions
- a mandatory emission reduction per ship

This consultation has been prepared by the Commission services for consultation purposes. It is addressed to stakeholders and experts in the field of shipping and climate change with a view to getting additional information on the shape of a possible Commission proposal. It does not in any way prejudge, or constitute the announcement of, any position on the part of the Commission on the issues covered.

## General Information

Are you answering as an individual or on behalf of an organisation or institution?

\* (compulsory)  
(at most 1 answer)

- I am answering as an individual
- I am answering on behalf of an organisation or institution (company, NGO, public authority, ...)

Please enter your name.

\* (compulsory)  
(between 1 and 100 characters)

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Please indicate which country are you from. (optional)

(at most 1 answer)

- EU Member state, EU candidate country or EEA country
- Other European country
- Non European country

Please select the option which is the best description of your organisation (1 choice only).

\* (compulsory)

(at most 1 answer)

- company / professional association
- trade union
- law firm / public affairs consultancy
- non-governmental organisation / association of NGOs
- think-tank / research institution
- academic organisation / association of academic organisations

- public authority / public administration
- representative of religions, churches and communities of conviction
- political party
- other type of organisation

Please enter the name of your organisation. Please briefly describe which stakeholders (or members) you represent.

\* (compulsory)  
(between 1 and 1000 characters)

If you are registered in the [Transparency register](#) please indicate your identification number. Please note it is the policy of the Commission to treat submissions from organisations that choose not to register as individual contributions ([see exceptions](#)). Please check the validity of your entry via the [search function](#) of the *Transparency register* – invalid entries will by default be considered as not being registered.

(optional)  
(between 1 and 20 characters)

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Please enter an email address for contact purposes (to be used in case of clarification questions only):

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## General context

According to the Second IMO greenhouse gas study 2009, a range of technical and operational measures can already be implemented by the maritime sector to reduce their greenhouse gas emissions. Indeed, according to the IMO, the range of the maximum abatement potential of measures at negative cost, i.e. measures which are profitable even when CO<sub>2</sub> emissions have no price, is 135 to 365Mt of CO<sub>2</sub>.

It has also to be recalled that the [Council of the EU called for the global maritime sector to reduce emissions by 20% by 2020 compared to 2005](#) through global action and that the Commission considers that the [GHG emissions from the EU shipping sector are to be reduced by 40% \(50% if feasible\) by 2050 compared to 2005](#).

Moreover, based on the work carried out by CE Delft for the Commission in 2009, it can be assumed that the CO<sub>2</sub> emissions of shipping can be reduced by 27 to 47% by 2030 relative to a frozen technology scenario by implementing technical and operational measures. A major share of these emissions reductions, 23 to 45 percentage points, can be achieved at negative marginal abatement costs.

The EU has reduced its greenhouse gas emissions by 380 MtCO<sub>2</sub>eq between 1990 and 2007 [1]. During the same period, global CO<sub>2</sub> emission increased by 10GtCO<sub>2</sub>eq [2] and the CO<sub>2</sub> emissions from international shipping have increased by 402Mt CO<sub>2</sub>eq [3]. For the international shipping sector, the baseline business-as-usual scenarios indicate projected CO<sub>2</sub> emission growth in the range of 220-310% for the period 2007-2050[4].

Do you consider that the maritime sector should contribute to European emission reduction efforts as other sectors?

(optional)

(at most 1 answer)

Yes

No

Please substantiate your answer.

(optional)

(maximum 1000 characters)

In accordance with article 191 paragraph 2 of the Treaty, any EU policy shall be based on the "polluter pays" principle.

Heavily dependent on the scope of a possible system, potential revenues based on a regional tax at a carbon price at 16.5 euro, or an emission trading system without free allocation, 5.1 billion euro per year (considering traffic to and from EU ports, 310.6 MtCO<sub>2</sub>) [1]. These figures can be compared to the figures raised in 2010 Report of the UN Secretary-General's High-level Advisory Group on Climate Change Financing. Contribution of international maritime transportation to global climate financing could be US\$4-9 billion [2] (€4.2 - €6.3 billion) at a carbon price at US\$25 (€17.5), which correspond to the medium price scenarios (relating to intra-OECD traffic, routes to and from non-Annex-I countries not being included).

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[1] The CO<sub>2</sub> emissions figures cover all traffic in 2006, also traffic that is not likely to be covered by a possible regional proposal. If a regional system is pursued, it would not necessarily cover all maritime emissions/ships and it could take a phased approach. The estimates therefore provide a maximum, very rough EU-27 estimate of potential revenues.

[2] The key input variables for the calculation are as follows:

- Total emissions from international maritime activities: between 925 Mt and 1,058 Mt in 2020 (from the International Maritime Organization, based on the Intergovernmental Panel on Climate Change Special Report on Emissions Scenarios);
- Share of revenues excluded due to incidence on developing countries: 30 per cent of total based on value share of worldwide imports;
- Share of revenues raised used for international climate finance: between 25 and 50 per cent of total revenues.



Do you consider that revenues should primarily be used to support investments to reduce emissions in the maritime sector?

(optional)

(at most 1 answer)

Yes

No

Do you consider that revenues should primarily be used for international climate change finance?

(optional)

(at most 1 answer)

Yes

No

Do you consider that revenues should be use for other purposes?

(optional)

(at most 1 answer)

Yes

No

Please substantiate your answer.

(optional)

(maximum 1000 characters)

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## Definition of the scope

## Routes covered

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According to Climate and Energy Package, the primary issue to be addressed is including international maritime emissions in the EU's reduction commitment. The Commission would consider covering the emissions of ships from their last port of call before calling to an in-scope port (i.e. all incoming routes) and those to the next port of call after an in-scope (i.e. all departing routes). The compliance with EU regulation will be set as a condition of entry to in-scope ports (possibly also including ports in the EU overseas territories). For all of the possible policy options included in the short-list (except for the taxation option based on fuel), the Commission would consider setting the coverage of routes as follows:

- For all vessels **arriving** at an in-scope port, all CO<sub>2</sub> emissions for the journey starting from the last port of call outside the scope of the measure to the first port called at within the EU would be included.
- For all vessels **departing** from an in-scope port, all CO<sub>2</sub> emissions for the journey starting from the departure port within the EU to the first port called at outside the scope of the measure would be included.

- All CO2 emissions from intra-EU journeys would be included in the scope of policy coverage.

Do you think that routes related to search and rescue, fire fighting or humanitarian operations authorised by the appropriate competent authority should be excluded from the scope ?

(optional)

(at most 1 answer)

Yes

No

Do you think that routes performed exclusively for the purpose of scientific research or for the purpose of checking, testing or certifying vessels or equipment should be excluded from the scope ?

(optional)

(at most 1 answer)

Yes

No

Do you think that routes performed in the framework of public service obligations in accordance Council Regulation (EEC) N°3577/92 of 7 December 1992 applying the principle of freedom to provide services to maritime transport within Member States (maritime cabotage) should be excluded from the scope ?

(optional)

(at most 1 answer)

Yes

No

Do you think that routes performed from or to a [Least Developed Country](#) as defined by the United Nations should be excluded from the scope ?

(optional)

(at most 1 answer)

Yes

No

Do you consider that any other routes should be considered for exclusion ?

(optional)

(at most 1 answer)

Yes

No

Please substantiate your answer.

(optional)

(between 1 and 1000 characters)

Do you have any other remarks on the routes covered? (optional)

(at most 1 answer)

Yes

No

Please substantiate your answer.

(optional)

(between 1 and 1000 characters)

Type of ships covered

—

European policy action for controlling CO<sub>2</sub> emissions from maritime transport could be applied to all types of vessels or only some types of vessels, such as general cargo, tankers, containers, bulk carriers, refrigerated ships, passenger ships, ferries, fishing ships and military, customs or police ships.

Do you see reasons for excluding any particular ship category?

(optional)

(at most 1 answer)

Yes

No

If yes, which one(s). Please substantiate your answer.

(optional)

(maximum 1000 characters)

Are there other categories than those mentioned above which should be included ?

(optional)

(at most 1 answer)

Yes

No

Please substantiate your answer.

(optional)

(maximum 1000 characters)

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## Reliance on shipping

Do you consider that the reliance on shipping at a local or regional level should be taken into account?

(optional)

(at most 1 answer)

Yes

No

If yes, how should this be taken into account?

(optional)

(maximum 1500 characters)

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## Evasion / avoidance

The environmental effectiveness of any measure depends heavily on the level of compliance and limiting the possibility for evasion. Compliance can be ensured with a robust monitoring, reporting and verification system and clear enforcement policies with deterrent and appropriate sanctions/penalties in the case of non-compliance. However, for some policy options, such measures could also lead to a change of traffic patterns.

Two cases of evasion/avoidance can be identified:

1. an additional port call is added to the route for the sole purpose of minimizing the distance from the last port of call before arriving at an in-scope port or minimizing the distance to the next port of call after leaving an in-scope port;
2. a ship could call at an out-scope port situated close to an in-scope port, and discharge its cargo there. The cargo could then be transported by another mode of transport. The whole journey would then fall outside of the scope of the policy action. Theoretically, a similar approach could be applied for cargo exported.

Please provide us specific examples, analysis, data, etc. on this potential issue. Please note that any



additional study, example, analysis, etc. can be uploaded or sent to

[clima-eccp-ships@ec.europa.eu](mailto:clima-eccp-ships@ec.europa.eu) (optional)

(maximum 1500 characters)

## Policy options

As presented during the third stakeholder meeting of the [European Climate Change Program](#), the following policy options are considered for the purpose of the impact assessment:

- a compensation fund
- a mandatory emission reduction per ship
- an emission trading system (ETS)
- a tax on fuel or on emissions.

## Compensation fund

An entity, called compensation fund, would take the responsibility of the emissions of vessels which have contributed to this fund. The only obligation of a ship calling into

an in-scope port would be to produce a certificate mentioning its belonging to the compensation fund approved by a public authority. If not, it will have to pay a penalty. It can be recalled that any possible Commission proposal will be flag-neutral.

Ship owners and operators contribute to the compensation fund as provided for in the funds internal rules. A regional compensation fund could be established which could serve as a precursor for a global measure of the same nature.

There are a number of ways to manage a compensation fund.

Who should manage a compensation fund? Please substantiate your answer.

(optional)  
(maximum 1000 characters)

In order to give flexibility to the maritime sector and to build on existing partnerships or cooperation, several compensation funds could be set up. On the other hand, implementing several compensation funds might increase the administrative burden for the public authorities who will be required to check compliance and reduce the benefit of mutualisation among all actors.

Do you think that several compensation funds could be feasible?

(optional)

(at most 1 answer)

Yes

No

Please substantiate your answer.

(optional)

(maximum 1000 characters)

Option 1 : Contribution-based approach

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Under this option, a contribution has to be paid for each ton of CO<sub>2</sub> emitted falling under the responsibility of the compensation fund. The level of the contribution is driving the level of reduction. No ex-ante emission reduction target is set as such.

In order to be recognised by the EU, the compensation fund should set fees in

accordance with minimum levels. As the management entity of the compensation fund would entirely be responsible of revenues collected, the public authorities would have no control on the earmarking of these revenues. Therefore, in the event that revenues are needed for international climate finance, a mandatory contribution to international climate finance from the collected funds should be set as a criterion for approval the compensation fund.

In order to limit its immediate impact and despite that all sectors should in principle contribute to European emission reductions, the contribution may be required in respect of only a proportion of the emissions only.

Do you consider that contributions to a compensation fund should, in the initial years of a system, be limited? (optional)  
(at most 1 answer)

- Yes
- No

If you consider that contributions to a compensation fund should, in the initial years of a system, be limited, should this contribution be initially reduced by reference to contributing a percentage of a certain carbon price?

(optional)  
(at most 1 answer)

- Yes
- No

If you consider that contributions to a compensation fund should, in the initial years of a system, be limited, should this contribution be initially reduced by pre-set levels of contribution in financial terms?

(optional)

(at most 1 answer)

Yes

No

In the event that revenues are needed for international climate finance, how long should a transition take to full contribution (please specify a year)? (optional)

#### Option 2 : Target-based approach

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An overall target based on historical transport performance or emissions would be set and divided between individual compensation funds according to the emissions of the ships they cover. Each compensation fund is free to reach its target in the most cost effective way. Under this proposal, the emissions from the covered shipping entities up to the level of the target are effectively grandfathered to those entities if no additional contribution to international climate finance is foreseen. The polluter pays principle should therefore be duly analysed under this proposal.

Each year, the achievement of the target will be assessed.

How can compliance be ensured?

(optional)

(maximum 1000 characters)

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Evaluation of option 1 and option 2

	Fully agree	Partially agree	Partially disagree	Disagree
Do you consider that option 1 could achieve the emission reduction required effectively and efficiently? <small>optional</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you consider that option 2 could achieve the emission reduction required effectively and efficiently ? <small>optional</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Mandatory emission reductions per ship

A target corresponding to a mandatory emission reduction compared to historical transport performance or emissions can be set for each ship calling into in-scope ports. The mandatory emission reduction target can be set:

- as percentage of an historical baseline (option 1);
- in comparison with an index, such as the EEDI (option 2).

### Evaluation of option 1 and option 2

	Fully agree	Partially agree	Partially disagree	Disagree
Do you consider that option 1 could achieve the emission reduction required effectively and efficiently ? <small>optional</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you consider that option 2 could achieve the emission reduction required effectively and efficiently?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

optional				
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Please substantiate your answer.

(optional)  
(maximum 1000 characters)

Do you consider that the target can be set on an other basis?

(optional)  
(at most 1 answer)

- Yes
- No

Please substantiate your answer. (optional)  
(maximum 1000 characters)

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A mandatory emission reduction per ship ensure that a certain level of emissions reduction. However, in such scheme, early movers can not be rewarded for their efforts. Moreover, there is no incentive to go beyond this target.

Do you consider that a mechanism that rewards early movers should be explored [\(optional\)](#)  
[\(at most 1 answer\)](#)

- Yes
- No
- No opinion

If yes, what kind of mechanism could be implemented? [\(optional\)](#)  
[\(maximum 1500 characters\)](#)

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Do you consider that a mechanism that creates incentives to go beyond the mandatory emission reduction should be explored? (optional)

(at most 1 answer)

- Yes
- No
- No opinion

If yes, what kind of mechanism could be implemented? (optional)

(maximum 1500 characters)

## Emission trading system

The EU has an emissions trading system in operation since 2005, which covers around 50% of European carbon dioxide emissions. Under an emissions trading system, the environmental outcome is guaranteed, and the price of emission allowances is determined by the market based on the level of efforts needed to make the necessary reductions.

Ships would have to surrender emission allowances corresponding to their actual in-scope emissions. Regarding the different options of monitoring and reporting, the ship can either surrender the allowances once it has reported its emissions related to a port call or surrender the allowances once a year according to the annual emissions declared.

In order to limit its immediate economic impact, free allocation of allowances may be given during a transitional period. If such free allocation were to be pursued, it may be required that compliance is ensured through a third party, to avoid any consideration related to the ownership of a vessel. Free allowances are valuable for the ships, as they can be monetised.

Do you consider that financial support (either directly as free allowances or some of the revenue generated from allowances) should be given during a transitional period?

(optional)

(at most 1 answer)

Yes

No

If yes, and in the event that revenues are needed for international climate finance, how long should a transition take?

(optional)

The 2009 IMO Second GHG study mentioned that the shipping sector can implement measures with significant negative abatement costs. Therefore, on the one hand, by linking a maritime ETS with other sectors, the shipping sector could have a net benefit of selling emission allowances to other sectors. On the other hand, in case measures with positive abatement costs would have to be implemented in the shipping sector, it may be more cost-effective for the shipping sector to buy emission allowances from other sectors.

Should shipping be able to acquire emission reductions from other sectors? (optional)  
(at most 1 answer)

Yes

No

Should shipping be able to sell emission reductions to other sectors?

(optional)  
(at most 1 answer)

Yes

No

Please substantiate your answers (optional)  
(maximum 1000 characters)

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Do you consider that an ETS could achieve the emission reduction required effectively and efficiently?

(optional)

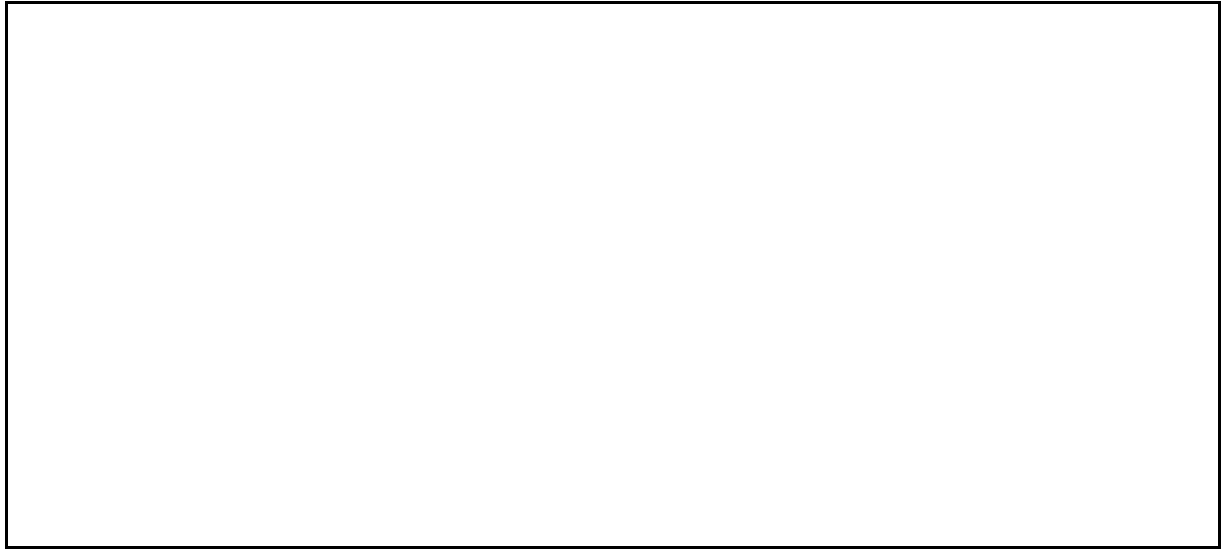
(at most 1 answer)

- Fully agree
- Partially agree
- Partially disagree
- Disagree

Please substantiate your answer (optional)

(maximum 1000 characters)

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## Tax

### Tax on fuel

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A tax would be levied when the fuel sold in the EU leaves the fuel supplier for consumption. The level of the tax will trigger the emission reduction. The fuel exported as cargo (including the fuel for offshore bunkering) would be exempted.

On one hand, the implementation of this option may be relatively simpler than other options as it does not require monitoring of actual emissions. On the other hand, applying a tax purely on bunker fuel sold in the EU could lead to a significant risk of evasion and, may, as a result, undermine the environmental effectiveness and economic efficiency of the fuel tax.

Do you consider that the evasion risk can be avoided when setting a tax on bunker fuel?

(optional)

(at most 1 answer)

Yes

No

If yes, what specific measures could be developed to avoid/reduce the risk of evasion? (optional)  
(maximum 1500 characters)

Do you consider that a tax on fuel could achieve the emission reduction required effectively and efficiently?

(optional)  
(at most 1 answer)

Fully agree

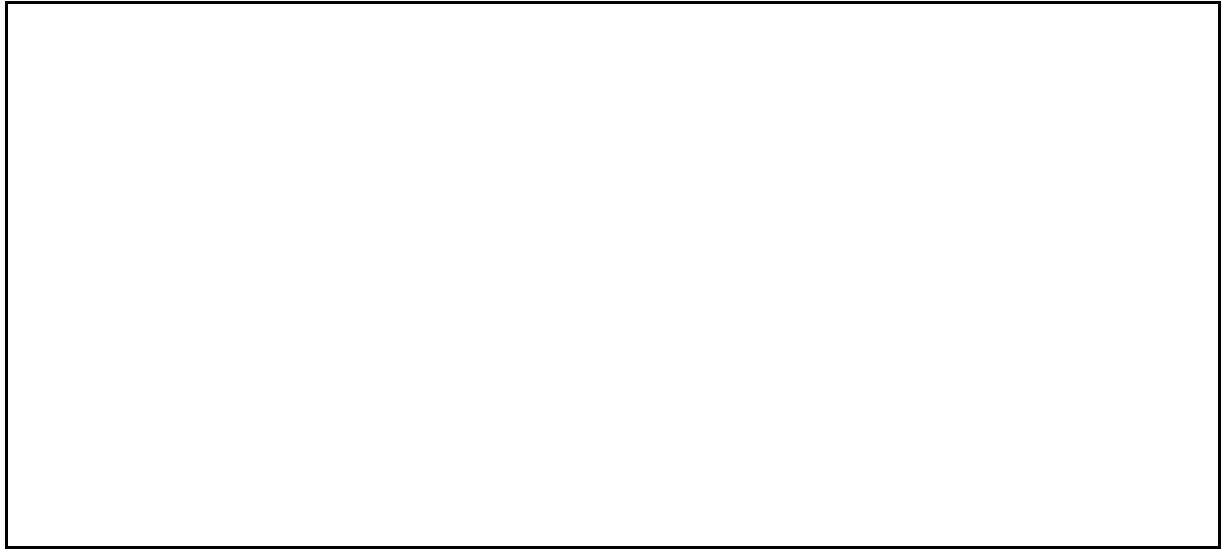
Partially agree

Partially disagree

Disagree

Please substantiate your answer. (optional)  
(maximum 1000 characters)

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## Tax on emissions



A tax could be set on emissions monitored and reported. Regarding the different options for monitoring and reporting, the ship can either pay the tax once it has reported its emissions related to a port call or pay the tax once a year according to the annual emissions declared.

Do you consider that a tax on emissions could achieve the emission reduction required effectively and efficiently?

(optional)  
(at most 1 answer)

- Fully agree
- Partially agree
- Partially disagree
- Disagree

Please substantiate your answer (optional)



(maximum 1000 characters)

### Choice of policy options

Which of these options for an EU proposal could be better to promote progress at the IMO (rank from 1 (preferred) to 3) ?

	1	2	3	No opinion
Compensation fund* <small>compulsory</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mandatory emission reduction per ship* <small>compulsory</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emission trading system* <small>compulsory</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tax* <small>compulsory</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The Commission has identified criteria that could be taken into account for the evaluation of possible EU measures. In order to help us assess the appropriateness of this evaluation



monitoring, reporting and verification while keeping administrative burden to the minimum)* <small>compulsory</small>						
Consistency with the related EU policies)* <small>compulsory</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vulnerability: Exposure to/Risk of evasion)* <small>compulsory</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timeliness (Consistency with timing of application of measures and interaction with policy progress in international fora)* <small>compulsory</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Should other criteria be used? (optional)

(at most 1 answer)

Yes

No

No opinion

Please substantiate your answer. (optional)

(maximum 1000 characters)

Regardless of the option proposed, should the maritime sector be in principle authorized to use international credits (e.g. from the Clean Development Mechanism) for its compliance ?

(optional)

(at most 1 answer)

Yes

No

Should the maritime sector be authorized to use international credits subject to quantitative and qualitative limits, along the same lines as for other sectors?

(optional)

(at most 1 answer)

Yes

No

What kind of restriction (quantitative and qualitative) should apply on these international credits?

(optional)

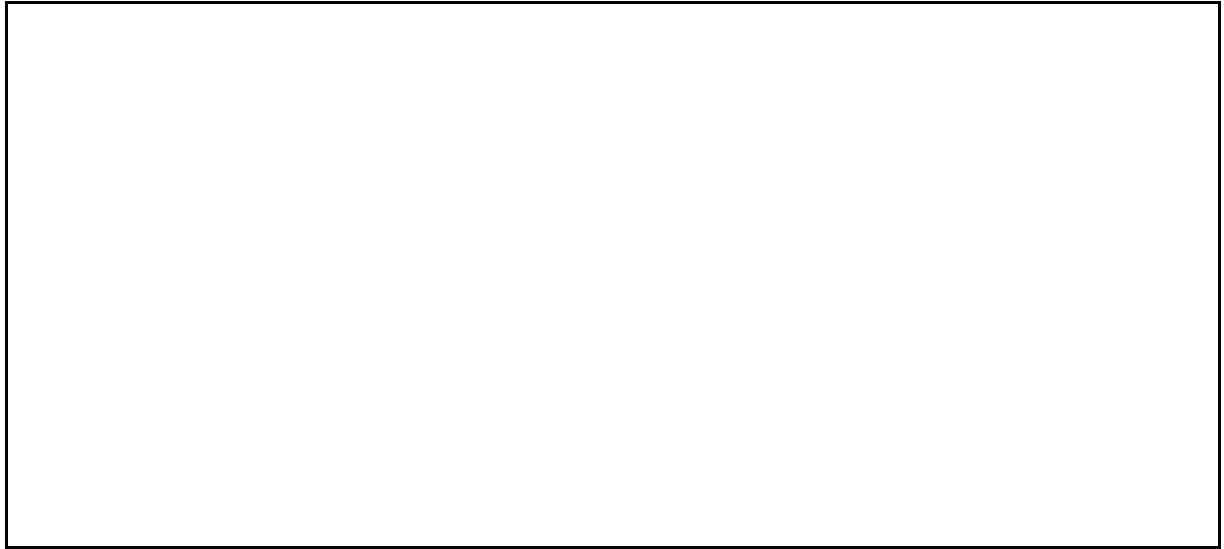
(maximum 1000 characters)

What are the reasons to authorize any type international credits?

(optional)

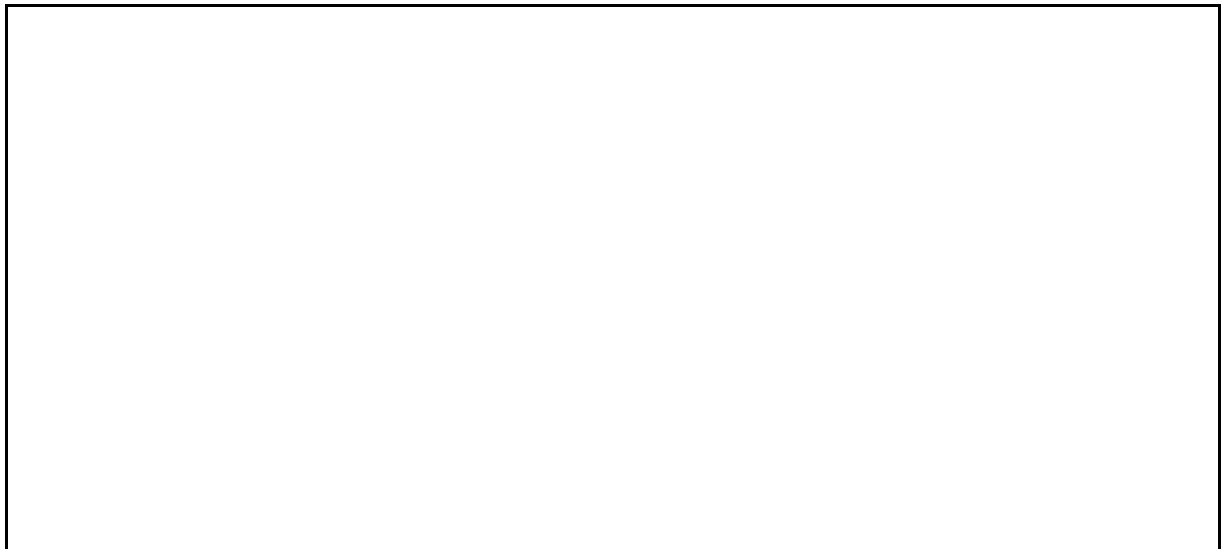
(maximum 1000 characters)

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## General comments

Please feel free to give any additional comments. (optional)  
(maximum 2000 characters)



## Useful links

IMO: <http://www.imo.org/>

DG CLIMA: [http://ec.europa.eu/clima/policies/transport/shipping/index\\_en.htm](http://ec.europa.eu/clima/policies/transport/shipping/index_en.htm)