



# PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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## PART I: PROJECT INFORMATION

Project Title:	Green Shipping Programme for Russia		
Country(ies):	Russian Federation	GEF Project ID: <sup>1</sup>	
GEF Agency(ies):	EBRD (select) (select)	GEF Agency Project ID:	
Other Executing Partner(s):		Submission Date:	2013-08-13; resubmitted 29/08/2013
GEF Focal Area (s):	Climate Change	Project Duration (Months)	48
Name of parent program (if applicable):		Project Agency Fee (\$):	950,000
<ul style="list-style-type: none"> <li>• For SFM/REDD+ <input type="checkbox"/></li> <li>• For SGP <input type="checkbox"/></li> <li>• For PPP <input type="checkbox"/></li> </ul>			

### A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK<sup>2</sup>:

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
CCM-1 (select)	GEFTF	2,000,000	2,408,000
CCM-4 (select)	GEFTF	8,000,000	101,632,000
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
Total Project Cost		10,000,000	104,040,000

### B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To reduce GHG emissions through the transformation of the Russian shipping industry by supporting commercial investments in the sector.						
Project Component	Grant Type <sup>3</sup>	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
1. Technology platform	TA	Technology platform supports the adoption of best practices	1.1 Technology platform established and operational 1.2 Access to processed information increased 1.3 Capacity to adopt best practices improved	GEFTF	500,000	500,000
2. Investment environment	TA	Improved investment environment supports demonstration and replication	2.1 Targeted pre-investment and investment cycle support provided 2.2 Investment	GEFTF	1,500,000	1,500,000

<sup>1</sup> Project ID number will be assigned by GEFSEC.

<sup>2</sup> Refer to the reference attached on the [Focal Area Results Framework and LDCF/SCCF Framework](#) when completing Table A.

<sup>3</sup> TA includes capacity building, and research and development.

			opportunities created through market and pipeline developments			
3. Green Shipping Structured Finance	Inv	Potential borrowers are able to access commercial financing	3.1 Investments into vessels and/or infrastructure mobilized 3.2 Viability of commercial investments demonstrated	GEFTF	8,000,000	100,000,000
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
		Subtotal			10,000,000	102,000,000
		Project Management Cost (PMC) <sup>4</sup>		(select)		2,040,000
		Total Project Cost			10,000,000	104,040,000

**C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)**

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
GEF Agency	EBRD	Hard Loan	100,000,000
GEF Agency	EBRD	In-kind	2,040,000
GEF Agency	EBRD (TC donors grant)	Cash	2,000,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
<b>Total Cofinancing</b>			104,040,000

**D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (\$ (a)	Agency Fee (\$ (b) <sup>2</sup>	Total (\$) c=a+b
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
<b>Total Grant Resources</b>				0	0	0

<sup>1</sup> In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

<sup>2</sup> Indicate fees related to this project.

**E. PROJECT PREPARATION GRANT (PPG)<sup>5</sup>**

<sup>4</sup> To be calculated as percent of subtotal.

<sup>5</sup> On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant:

	<u>Amount Requested (\$)</u>	<u>Agency Fee for PPG (\$) <sup>6</sup></u>
• No PPG required.	-- 0--	--0--
• (upto) \$50k for projects up to & including \$1 million	_____	_____
• (upto)\$100k for projects up to & including \$3 million	_____	_____
• (upto)\$150k for projects up to & including \$6 million	_____	_____
• (upto)\$200k for projects up to & including \$10 million	200,000	19,000
• (upto)\$300k for projects above \$10 million	_____	_____

**PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY**

Trust Fund	GEF Agency	Focal Area	Country Name/ Global	(in \$)		
				PPG (a)	Agency Fee (b)	Total c = a + b
GEF TF	EBRD	Climate Change	Russian Federation	200,000	19,000	219,000
(select)	(select)	(select)				0
(select)	(select)	(select)				0
<b>Total PPG Amount</b>				<b>200,000</b>	<b>19,000</b>	<b>219,000</b>

MFA: Multi-focal area projects; MTF: Multi-Trust Fund projects.

<sup>6</sup> PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

## PART II: PROJECT JUSTIFICATION<sup>7</sup>

### A. PROJECT OVERVIEW

A.1. Project Description. Briefly describe the project, including ; 1) the global environmental problems, root causes and barriers that need to be addressed; 2) the baseline scenario and any associated baseline projects, 3) the proposed alternative scenario, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline , the GEFTF, LDCF/SCCF and co-financing; 5) global environmental benefits (GEFTF, NPIF) and/or adaptation benefits (LDCF/SCCF); 6) innovativeness, sustainability and potential for scaling up

1) The global environmental problem, root causes and barriers that need to be addressed

1. The sheer volume and rapid growth of maritime shipping make it a major consumer of energy and source of carbon emissions – accounting globally for approximately 11% of transportation GHG emissions (1 gigaton CO<sub>2</sub>/Year), and making it the second largest global contributor to transport emissions after passenger and commercial vehicles . While shipping activity temporarily decreased during the 2008–2010 downturn, the International Maritime Organization (IMO) estimates that CO<sub>2</sub> emissions will increase by 250–350% from 2007 to 2050 .

2. There are two principal characteristics of GHG emissions from maritime freight shipping:

- Inefficient in-use vessels – ships built over the course of the last decades have generally been designed with limited attention to energy efficiency and GHG emissions both in terms of efficiency and operational practices; and
- Slow turnover of fleet – new technologies and requirements (such as the IMO’s Energy Efficiency Design Index) will only gradually impact upon GHG emissions from shipping, as existing vessels are in service for an average of 10-15 years.

3. These two issues are particularly pronounced in the Russian fishing fleet, which has an average age of over 18 years, compared to 9 years for Japanese vessels, 12 years for South Korean vessels and 12.7 years for Taiwanese ships. Significantly, the Russian Federation is one of the main global players in the commodities market and over 60% of the country’s trade is carried out through maritime transport, which ranks the Russian Federation fifth in Europe and within the global top ten in terms of maritime trade. Liquid cargo and dry cargo are mainly exported (in particular coal, oil products, ores and cereals), while all other cargo types are imported. In line with the global growth in trade, maritime shipping has been steadily increasing in recent years – from 407 million tons in 2005 to an expected 647 million tons by 2015.

4. Given significant sunk capital investments, the optimal near-term GHG reduction opportunity is to increase the efficiency of in-use merchant vessels and port infrastructure. Globally, the ICCT estimates that until 2020, GHG emissions could be reduced by more than 400 million metric tonnes via shipping efficiency measures that each cost less than \$75 per tonne and that, on average, deliver a net benefit. This is particularly the case given that there are a wide range of highly cost-effective technologies and maintenance routines that have emerged over recent years for the retrofitting of in-use vessels. For instance, according to the International Council on Clean Transportation (ICCT) , propeller polishing (a 4.0% efficiency gain), water flow optimization (a 2.8% efficiency gain), and hull cleaning (a 4.8% efficiency gain) are mature measures that each have energy savings that far outweigh their upfront costs.

5. While energy efficient measures are both mature and cost-effective, the pace of increases in energy efficiency in Russian commercial shipping is low, despite the high potential

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<sup>7</sup> Part II should not be longer than 5 pages.

for energy savings and GHG reductions. There are a number of barriers facing vessel owners and shipping companies, which hold back the transformation of the Russian shipping industry:

- Split economic incentives – affects the propensity for long-term strategic investment: it is customary in the shipping industry that ship owners charter out their vessels to third parties who pay charter rates to the ship owner as well as the entire fuel bill – it is therefore the case that the benefits of the investment do not accrue to the legal entity who owns the vessel, who therefore has no incentive to invest.
- Limited in-house business expertise – affects ability to propose high quality investment projects to financial institutions: there is typically a lack of dedicated in-house energy management expertise, which means that there is uncertainty and lack of information about available options and their financial reward, and lack of data on internal resource use and operational parameters of systems and processes.
- Informational overload – affects ability to choose suitable energy efficiency options: the market for vessel retrofitting solutions is vast and it is not easy to navigate the large menu of options for retrofit – e.g. related to hull and superstructure, propeller and rudder, main and auxiliary engine, supporting systems, consumer and capacity enhancement.
- Uncertain investment performance – affects ability to identify viable investments: estimating the actual cost-effectiveness of shipping energy efficiency measures is challenging. While the technical costs of the new equipment can usually be quantified quite easily, the actual techno-economic potential for individual vessels is challenging because of their bespoke characteristics (including for example age, state of repair, loss of charter, vessels and transfer and dry docking costs).
- Unfavourable domestic FI lending – affects ability to lever sufficient investment capital for energy efficiency measures: while state subsidies for the shipping industry (in particular shipbuilding) have consistently fallen over the last two decades, interest rates offered by domestic banks have been high and lending terms too short compared to foreign banks, e.g. about 3-5 years, compared to 7-9 years.

## 2) The baseline scenario and any associated baseline projects

6. For the Russian Federation, maritime transport is an essential part of the economy, in particular for the regions of the Russian Far North and Far East. Significantly, according to some estimates the opening of Northern Sea Route could account for a quarter of Asia-Europe trade by 2030, resulting in a massive increase in shipping activity in Russian Federation. To ensure the industry's competitiveness there is a need for modernization as well as renewal and expansion of the ageing Russian fleet, given parallel trends of rising costs for energy (in the form of bunker oil), which are already the largest part of the total life cycle cost of operating vessels, together with other challenges (containerization, integration into World Trade Organization, etc.). Strategically the Russian Government is exploring plans to convert the fleet to LNG, and it currently exploring financing approaches to make the necessary investments.

7. While there are state controls requiring certain technical conditions regarding the seaworthiness of vessels and equipment for marine safety, the most significant environmental initiative has been the IMO's Energy Efficiency Design Index (EEDI), which is mandatory under multi-lateral agreements for new ships as of 1 January 2013 through the adoption of amendments to MARPOL Annex VI (the International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes). The EEDI for new ships aims at promoting the use of more energy efficient equipment and engines, requiring a minimum energy efficiency level per capacity mile (e.g. tonne mile) for different ship type and size segments. However, the EEDI will reduce GHG emissions from shipping

only gradually over several decades as the entire fleet turns over and becomes EEDI compliant. Beyond the EEDI, discussions by regional authorities (such as the EU) on market-based measures for marine emission reduction, e.g. emission Trading System, emission taxation, a GHG-Fund coupled with a bunker surcharge, etc., have not progressed significantly to date.

8. Despite the fact that the Russian shipping industry suffers from increasing bunker costs and competition, retrofit measures to vessels and ports penetrate the fleet only very slowly because of the slow turnover of the fleet. Some Russian Government budgetary commitments have been made to the naval fleet, however the commercial shipping sector is not able to access either public or private finance domestically. The update to the Rules for granting subsidies to the Russian transport and shipping companies has only affected loan agreements for newbuild construction under certain limited conditions.

9. Nonetheless, there is a large untapped potential for GHG reductions in the commercial sector – the total number of Russian fleet carriers, to date, is about 1900 ships (with a total dwt (deadweight ton) of about 19 million), and there are more than 50 commercial ports, which, between them, span the very different geo-political climates of Europe, Asia, the Far East and the Far North. The country is home to a number of shipping firms, with diversified operations such as Sovcomflot, FESCO and the Murmansk Shipping Company, and it is also integrated into the activities of other global operators (Maersk, Evergreen, Cosco, etc.):

- The leading player is Sovcomflot, also known as SCF Group. The firm, with a fleet of 161 vessels totalling 12.36 m dwt, is specialised in the transportation of crude oil, petroleum products and liquefied natural gas (LNG), in addition to offering a wide range of marine services for offshore upstream oil & gas projects.

- The second operator, FESCO Transportation Group, is Russia's largest intermodal transport group: it boasts a fleet of 32 vessels operating in the container, dry bulk, ro-ro and ice breaking sectors. Other companies have a regional focus: Murmansk Shipping Company (MSC) operates a fleet of over 30 vessels, including dry bulk vessels, tankers, passenger ships and one ice-breaker in the Northern Sea Route (NSR), which accounts for about 80% of its cargo. Nakhodka-based Primorsk Shipping Corporation (PRISCO) was founded to supply the Far East of Russia with oil; a role it continues to play today with 13 tankers.

10. As well as shipping companies seeking investment finance for the expansion and modernization of their fleets, Rosmorport (Federal State Unitary Enterprise for marine transport infrastructure) has stated its intention to enact a set of measures aimed at modernization of navigational equipment for 2011-2015, which will require investment from various sources of financing. Rosmorport, in addition to be the port authority is also one of the biggest vessels operator (261 vessels) and is in this quality an important consumer of bunkering oil.

11. However, in the baseline, commercial financing and investments achieved in the sector are likely to remain small and initiatives to improve the situation piecemeal. The EEDI would affect new ships, however shipbuilding rates are relatively low and turnover slow. In addition, while Rosmorport has announced intentions to enact several modernization measures, there are currently no concrete prospects for financing these. Avoiding suboptimal outcomes and transforming commercial shipping will hinge upon the rate at which the industry can move to embrace best technical and operational practices to increase shipping efficiency, and leverage finance from investors who are willing to assume the risk of prime movers in the area of shipping efficiency.

3) The proposed alternative scenario, with a brief description of expected outcomes and components of the project

12. The Green Shipping Programme for the Russian Federation consists of three components - Technology Platform (Component 1), Investment environment (Component 2) and Green Shipping Structured Finance (Component 3). The proposed approach of the project

is to contribute to establishing the conditions that will make commercial investment into the sector attractive: GEF technical assistance funds of USD 2 million will be used to setup a “Technology Platform” that will improve access to high quality processed information and facilitate best practice in investment planning, as well as for providing targeted pre-investment and investment cycle support. A larger portion of GEF funds (USD 8 million) will be used as a non-Grant instrument (as defined in GEF/C.33/12), potentially in the form of performance incentives to cover first-mover and pilot costs, and demonstrate market potential and best practice to local financial institutions. Financing options will be considered during project preparation, and the most cost-effective proposed, taking into account national, regional and local needs as well as the on the ground realities. To prepare and implement the project the EBRD will explore a variety of options to ensure that the project strategy is responsive to local needs while remaining consistent with the EBRD's mandate.

13. The objective of the proposed project is to reduce greenhouse gas emissions in the Russian Federation through the transformation of the Russian shipping industry by supporting commercial investments in the sector. The shipping sector under this project is broadly construed to encompass a range of stakeholders (see also Section A.2), including shipping companies, vessel owners, operators and shipyards, relevant public agencies, such as Rossudostroyeniye (Russian Shipbuilding Agency) and Rosmorport (responsible for Russian sea ports infrastructure), and environmental and efficient technology and services providers; as well other stakeholders that potentially affect developments in the sector – such as Russian Financial Institutions, the federal and regional governments and relevant multilateral agencies, such as the International Maritime Organization (IMO).

14. The Expected Outcomes of the proposed project are the following:

- Outcome 1: Technology platform supports the adoption of best practices
- Outcome 2: Improved investment environment supports demonstration and replication
- Outcome 3: Potential borrowers are able to access commercial financing

15. The outcomes will be achieved through three components and their associated Outputs, as follows:

#### Component 1 - Technology platform

16. To achieve Outcome 1 (Technology platform supports the adoption of best practices) Component 1 uses GEF technical assistance funds to ensure that the proposed project has a systemic impact beyond the specific investment projects carried out under Component 3. The “Technology Platform” will be set up to promote the adoption of best practices in shipping by supporting targeted multi-stakeholder dialogue around focused and practical topics. These could include, for instance:

- Practicalities of implementing environmental (IMO and other, e.g. ISO) standards and regulations;
- The development of voluntary set of industry guidelines and standards concerning specific technologies and practices not covered by MARPOL, e.g. regarding cold ironing;
- Developments in technology subfields;
- Advances in business planning in the shipping industry (e.g. leveraging experiences and lessons learnt from the work carried out under Component 2 and 3); and
- Information on financing options.

17. The precise format of the Technology platform and activities that it will enable will be further developed during the project preparation phase. Merits of different formats will be assessed based on their likely effectiveness in promoting best practices, including the extent to which they:

- improve access to high quality processed information concerning available

technologies;

- affect industry stakeholders' ability to identify suitable technology options;
- strengthen potential borrowers' capacity to develop high quality long-term investment strategies and projects;
- bridge the information gap between shipping companies and technology suppliers;
- promote networking in the industry and foster trust and exchange, in particular between shipping companies, shore management and the charter party.

18. The respective merits and effectiveness of several formats will be considered, including (but not limited to): the creation of a technology database (which would provide reviews of the in-use performance of individual technologies), virtual discussion forums (potentially facilitated by experts), webinars, and other forms of networking, such as meetings and workshops on specific topics.

19. Expected Outputs of Component 1 include:

- 1.1 Technology platform established and operational
- 1.2 Access to processed information increased
- 1.3 Capacity to adopt best practices improved

#### Component 2 – Investment environment

20. To achieve Outcome 2 (Improved investment environment supports demonstration and replication), Component 2 will use GEF technical assistance funds to address barriers in identifying and preparing investments for infrastructure projects. The intention is to cover the first-mover costs of pre-investment and investment cycle processes for a number of investment projects (at least some which will be financed under Component 3).

21. A key task of pre-investment support will be the preparation and tailoring of a package of contractual documents, including for example:

- Technology supply contracts;
- Contracts for subcontracting engineering and implementation works to third-party contractors;
- Due diligence;
- The establishment of public private partnerships;
- The development of technical specifications and assessment of the market for private contractors.

22. Reflecting its institutional mandate and its experience in the promotion of energy efficiency solutions in other industries, the EBRD through the Green Shipping Programme will explore the potential of innovative financing models (e.g. public-private partnerships, ESCO models or vendor financing) as have been used by the Bank in the Russian industry and (both public and residential) buildings sectors. For instance, technical assistance funds under Component 2 may be used to develop a viable business concept for retrofitting both port and vessels for 'cold ironing' – which would eliminate the burning of fuel while ships are at berth through shoreside electrical power provision. Synergies with the Russian Government strategy to convert the fleet to LNG will be explored.

23. Expected Outputs of Component 2 include:

- 2.1 Targeted pre-investment and investment cycle support provided
- 2.2 Investment opportunities created through market and pipeline developments

#### Component 3 - Green Shipping Structured Finance



24. To achieve Outcome 3 (Potential borrowers are able to access commercial financing) Component 3 will provide access to commercial project finance at favourable terms and rates by taking into account the features of the Russian shipping industry. The technical assistance funding under Components 1 and 2 will be complemented by USD 8 million investment funding from the GEF and USD 100 million by the EBRD.

25. The non-grant instrument is intended to support first-mover and pilot costs, and demonstrate market potential and best practice to local financial institutions, thus overcoming the lack of access to finance facing prospective borrowers in the shipping industry. GEF funds will be used as a non-Grant instrument (as defined in GEF/C.33/12), potentially in the form of performance incentives to cover first-mover and pilot costs. Financing options to be considered during project preparation will include, among others, direct lending, on-lending and third party financing, such as through public-private partnerships, ESCO models or vendor financing – the most cost-effective option will be proposed, taking into account national, regional and local needs as well as the on the ground realities.

26. The types of technologies and measures that will be considered for financing – to be thoroughly scoped out in terms of their GHG impact and technical suitability – may include any shipping fleet and port infrastructure modernization, replacement, retrofitting and expansion, and environmental and maintenance services, as follows:

- Fuel switch from bunker to LPG / LNG;
- Low friction painting
- Remotely operated hull cleaning systems;
- Cold ironing;
- Hull and superstructure (Bow optimization, Appendages and hull openings, Hull coating, Air lubrication)
- Propeller and rudder (Pre Swirl, Ducts, Post swirl fins – Propeller boss cap fins, Wheels – Grim vane wheel, Bulbs – Costa bulb, Twisted rudder, Propeller optimization, etc.)
- Main and auxiliary engine (Main engine derating, Fuel injection slide valves, Turbocharger cut-out, etc.)
- Capacity Enhancement (Larger vessels, Fixed ballast)
- Supporting systems (Speed control of pumps and fans, Waste heat recovery)

27. Expected Outputs of Component 3 include:

- 3.1 Investments into vessels and/or infrastructure mobilized
- 3.2 Viability of commercial investments demonstrated

4) Incremental/additional cost reasoning and the expected contributions from the baseline, the GEFTF, LDCF/SCCF and co-financing

28. The proposed project is entirely incremental: proposed activities would not take place without GEF support and the barriers to the transformation of the Russian freight shipping industry would remain largely intact.

29. Baseline developments will involve the continued and acute need in the Russian shipping industry for access to investment products that are tailored to the market (see Section A.1-2). However, commercial financing and investments achieved in the sector are likely to remain small and initiatives to improve the situation piecemeal. The EEDI will affect new ships, however shipbuilding rates are relatively low and turnover slow. In addition, while Rosmorport has announced intentions to enact several modernization measures, there are currently no concrete prospects for financing these. There is no indication of a major shift

taking place – e.g. related to the emergence of innovative business concepts and best practices – without targeted intervention in the sector.

30. GEF support for the Green Shipping Programme for the Russian Federation will stimulate a maritime service industry in Russia. It will provide potential borrowers with access to commercial financing (Component 3), foster demonstration and replication through support to the development of a supportive investment environment (Component 2) and promote the adoption of best practices (Component 1).

31. Co-financing contributions are the most strongly felt in the USD 100 million of programmatic investment finance contributed by the EBRD to Component 3, which is unparalleled in the Russian shipping industry. Cofinancing for Components 1 and 2 leverages the EBRD's experienced staff in the country office and headquarters, as well as donor finance from the EBRD's TC fund for the Russian Federation. It should be noted that, beyond cofinancing in investment, cash and in-kind, the proposed project significantly benefits from the EBRD's reputation and influence in the region, as well as its strong network of existing contacts in the industry.

5) Global environmental benefits (GEFTF, NPIF) and/or adaptation benefits (LDCF/SCCF)

32. The global environmental benefits expected from the project will come from reductions in fuel use by boats and portuary infrastructure. Efficiency gains through advanced technologies and smart operational practices in shipping can be substantial, e.g. propeller polishing (4%), hull cleaning (4.8%), water flow optimization (1.8%) – see Figure 1 (Annex A.) for the ICCT's (International Council on Clean Transportation) recent estimates of different measures' marginal abatement cost (USD/tCO<sub>2</sub>).

33. Reductions in bunker fuel usage are estimated in a manner similar to other industrial processes, i.e. using the impact of efficiency gains on fuel usage per unit of time. During project preparation, more sophisticated estimates will be produced based on better knowledge of the likely investment mix - technologies, vessel types (including type, model and age); potentially also including estimates for fleet turnover rates. For the present purpose, the provisional figures stated immediately below derive from a preliminary and conservative analysis based on typical fuel savings which can be achieved by introducing energy efficiency measures in vessels and on the basis of USD 100 million investments:

- Reduction of bunker fuel: > 50,000 toe
- GHG savings: > 150 kton CO<sub>2</sub>

34. It should be noted that in addition to direct savings made through investments carried out under Component 3, it is likely that the proposed project will have considerable indirect global environmental benefits through the Technology Platform and the demonstration effect of the Green Shipping Programme as a whole, allowing technology transfer to neighbour countries.

Figure 1 Marginal CO<sub>2</sub> abatement costs of selected ship efficiency options in 2020 (ICCT (2013) Long-term potential for increased shipping efficiency through the adoption of industry-leading practices) - SEE ANNEX A

6) Innovativeness, sustainability and potential for scaling up

35. The innovativeness of the Green Shipping Programme for the Russian Federation derives from its ambition to unlock investment opportunities and accelerate a range of transformations affecting shipping fleets and sea port infrastructure. In the Russian shipping industry and beyond, it is the first initiative of its kind in terms of the technologies and business

models it proposes to demonstrate (e.g. public-private partnerships, ESCO models or vendor financing), the large scale of structured investment finance that is made available through the Programme, and the role of a Technology Platform in enhancing information and networking for best practices in the industry.

36. There is great potential for sustainability and replicability because the Programme will demonstrate the in-use efficiency gains of mature technologies, which is likely to attract additional investors into the sector; thereby enhancing potential borrowers access to commercial financing. Furthermore, the programme will promote development of the entire supply chain by promoting both the upstream (supply and service sector) and downstream market activities. The Technology Platform is designed to outlive the duration of the proposed Project through the involvement of interested stakeholders in the sector. If it achieves its purpose of supporting the adoption of best practices it may serve as a blueprint for other national (and potential international) shipping industry initiatives. Avenues for promoting sustainability will be further considered during project preparation and in particular during project implementation.

A.2. Stakeholders. Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

37. EBRD will consider the most efficient ways of consulting stakeholders so as to develop a project strategy that is responsive to local needs and consistent with the EBRD's opportunities and constraints. Key stakeholders that will be consulted during project preparation include but are not limited to:

- Federal government (in particular the Ministries of Natural Resources and Environment, of Transportation and of Economic Development);
- Regional governments, where relevant (in the case of major ports and portuary infrastructure);
- Relevant multilateral agencies, such as the International Maritime Organization (IMO);
- Shipping companies, vessel owners, operators and shipyards;
- Relevant public agencies, such as Rossudostroyeniye (Russian Shipbuilding Agency) and Rosmorport (responsible for Russian sea ports infrastructure);
- Environmental and efficient technology and services providers; and
- Russian Financial Institutions.

A.3 Risk. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable):

Risks - Level - How the risk will be addressed

Technical risk related to achieving stipulated energy savings - Low - This risk will be mitigated through detailed project scoping carried out by consultants with the aim of selecting projects with a sound payback period and low technical risk. An experienced project engineer may be funded out of the EBRD loan proceeds to oversee the monitoring of energy savings.

Implementation Risk - Low - The EBRD has significant experience in energy efficiency in the Russian Federation and has successfully piloted a range of energy efficiency financing models in neighbouring countries. A thorough stakeholder consultation will be conducted during the project preparation phase to ensure buy-in to the project approach.

Market risk - Low-moderate - It seems clear that the drivers for transforming the Russian shipping industry exist (bunkering costs, ageing vessels, vessel capacity shortages, economic multiplication effects etc.) and intensive on the ground work with stakeholders will be carried out during project preparation and implementation ensuring that will ensure the work is firmly

grounded in the market realities of the Russian shipping industry.

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

38. The proposed project will seek coordination and complementarity with the IMO in the development of the Green Shipping Programme for the Russian Federation, with a particular focus on cooperation on environmental matters, including the IMO's expertise concerning the Energy Efficiency Design Index (EEDI), which became mandatory in January 2013, when considering establishing benchmarks and lending criteria under the Programme.

39. In addition, further cooperation will be sought on technical and other matters as appropriate, based on extensive scoping work to be carried out during the project preparation phase.

## **B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

B.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAs, NAPs, NBSAPs, national communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.:

40. As the Russian Federation's Fifth National Communication to the UNFCCC emphasizes, energy efficiency is one of the top political priorities in the Russian Federation, the fourth-largest energy consumer (and the fifth-largest CO<sub>2</sub> emitter) in the world. In 2008, ambitious targets – to reduce the energy intensity of the Russian economy by 40% (by 2020 with 2007 as the base year) – were announced (Decree No. 889 “Concerning some measures for improving the energy and ecological efficiency of the Russian economy”, June 4, 2008), and followed up by the Government of the Russian Federation's “Energy Strategy of the Russian Federation up to the year 2030” (November 13, 2009) and a new national program “On Energy Conservation and Improving Energy Efficiency up to 2020” (Decree No. 2446-p; December 27, 2010).

41. The modernization of the Russian freight shipping fleet, reducing the average age of vessels controlled by the Russian shipping companies, and the construction of new vessels that meet international standards are key long-term objectives articulated in the Maritime Doctrine of the Russian Federation 2020 (Pr-1387; approved by the President of the Russian Federation in July 2001). The Doctrine is based on the Concept of Shipping Policy of the Russian Federation (2000) and forms the basis of the more recent Russian Maritime Operations Strategy until the year 2030 (December 2010).

42. The main objectives of Russian National Marine Policy in the field of maritime transport are the maintenance and expansion of the fleet and the coastal port infrastructure at a level that guarantees economic independence and national security. This is to be achieved through a combination of short and long term objectives, including the following that are of specific relevance to the proposed project: the modernization of the fleet and construction of new vessels that meet international standards, support for energy saving and energy efficient technologies in the maritime sector and the creation of conditions that increase the competitiveness of the Russian fleet, ports and industries related to their operation; including through attracting extra-budgetary sources of financing from abroad by improving the regulatory framework and targeted state support for investment projects.

43. Further, as a member of the managing body of the International Maritime Organization (IMO) since December 1958, the Russian Federation fully supports the IMO's activities aimed at the development of standards and rules intended to ensure maritime environmental protection, such as the Energy Efficiency Design Index (EEDI), which was made mandatory for new ships as of 1 January 2013 through the adoption of amendments to MARPOL Annex VI (see Section A.1. 2) The baseline scenario and any associated baseline

projects).

#### B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

44. The Russian Federation is eligible to receive GEF Trust Fund support. Since 1992, the GEF has funded 20 projects in the Climate Change focal area in the Russian Federation (including two projects of regional and global scope), totalling over USD 118 million of funding and USD 1.5 billion in cofinancing.

45. The aim of reducing GHG emissions through the transformation of the Russian freight shipping fleet is in line with the GEF Climate Change Focal Area Strategy (2010). The proposed project contributes specifically to the Climate Change Mitigation Objective 1 (CCM-1) as it will a) demonstrate and deploy high impact GHG emission reduction technologies “that are commercially available but have not been adopted in their particular markets”, b) develop a Technology Platform mechanism supporting the transfer of these technologies, and c) reduce GHG emissions through actual investments in the modernization of the commercial shipping fleet. The proposed project also contributes to the Climate Change Mitigation Objective 2 (CCM-4) as it will provide incentives and increase financing to support energy efficiency improvement of the fleet, the adoption of energy efficiency technologies and measures, and through financing and the Technology Platform mechanism support the large scale transformation of the shipping technology market in the Russian Federation; thereby avoiding GHG emissions.

#### B.3 The GEF Agency’s comparative advantage for implementing this project:

46. In accordance with its mandate – to nurture a new private sector in a democratic environment through environmentally sound and sustainable project financing – the EBRD is making significant investments supporting the transition to more sustainable energy in terms of efficiency, renewables, transport and urban systems in its Region of Operation. In the Russian Federation, the Bank has sought to deliver high energy efficiency transition impact throughout the economy. Impact has been achieved in the energy-intensive industry, power, and municipal and environmental infrastructures sectors, including through several GEF projects that the EBRD currently implements.


47. As stated in GEF/C.31/5 (May 2007, Comparative Advantages of the GEF Agencies), the EBRD has considerable experience and a track record of success in market creation and transformation and ensuring sustainability through private sector involvement. The EBRD’s extensive network of relationships with industrial clients, as well as its in-depth knowledge of the social, economic and political conditions within the country put the EBRD in an influential position to integrate global environmental issues into the Russian shipping industry. In Russia, the EBRD has a wide experience in the fleet modernization: the Bank has financed more than 250 million EUR in 12 projects since 1994 with all the main players, and new opportunities are now under preparation, as summarized in Annex B, below. Its wide experience and relations with the key stakeholders in the industry position the Bank in the best place to facilitate the implementation of a Green Shipping Programme in Russia.

**PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mr. Nuritdin R. INAMOV	Director, Department of International Cooperation	<b>MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT</b>	

**B. GEF AGENCY(IES) CERTIFICATION**

<b>This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.</b>					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
EBRD		08/13/2013	Gianpiero Nacci		NacciG@ebrd.com

**Annex A. Figure 1 Marginal CO2 abatement costs of selected ship efficiency options in 2020**

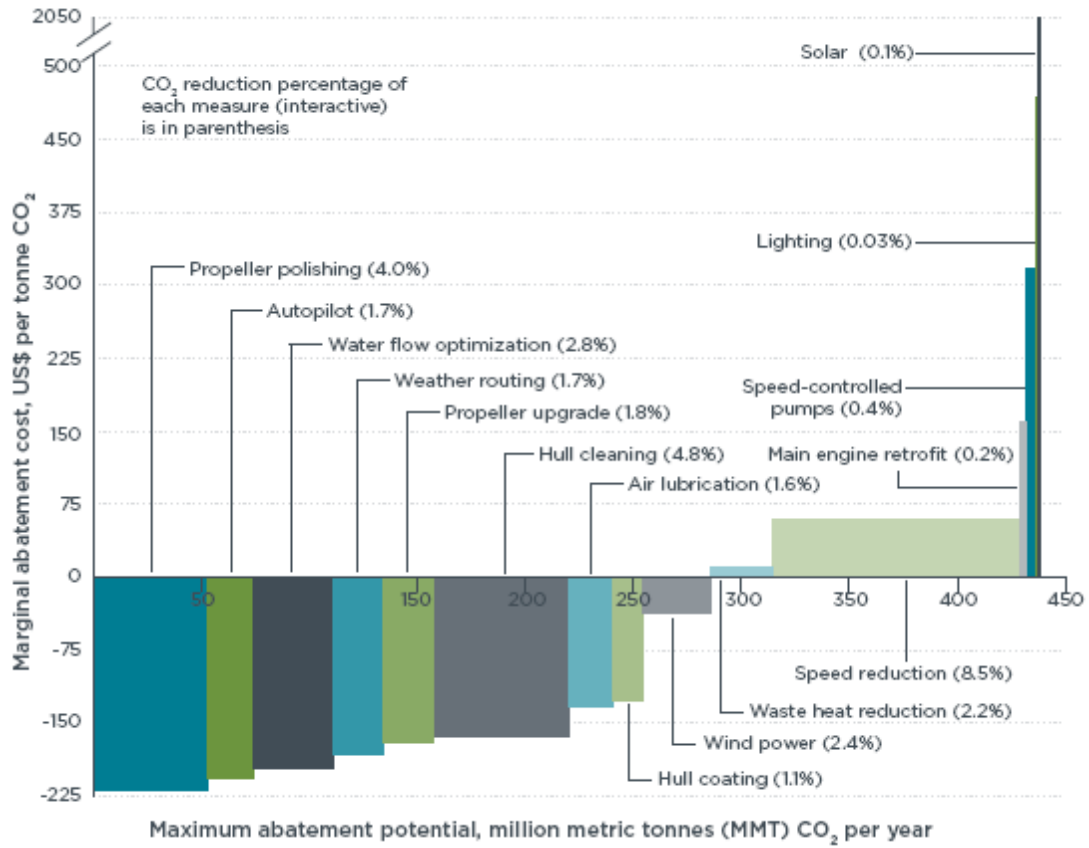


Figure 1 Marginal CO2 abatement costs of selected ship efficiency options in 2020 (ICCT (2013) Long-term potential for increased shipping efficiency through the adoption of industry-leading practices)

## **Annex B. Overview of relevant EBRD investments in the Russian shipping sector**

		Project Description	EBRD Fin.	Project Cost	Link with Programme
26-Jan-12	Shipping	<b>SVL Group</b> - Acquisition of Three new-built double-hull sea-river tankers. therefore, single-hull vessels will be replaced by double-hull vessels to improve their environmental safety. The project vessels will comply with IMO regulations, and the SVL Group will also implement various measures to enhance the safety and environmental standards of its shipping operations	20	50	Modernization of the fleet with enhanced vessels. Company will also improve environmental, safety and energy management standards
22-Dec-11	Port	<b>GlobalPorts (f.Kornilov)</b> - Equity investment. Use of proceeds will be for expansion of port terminal capacity, contributing o elimination of significant bottlenecks in the transportation, and supported developing standards for corporate governance in the area of energy efficiency.	70	-	Implementation of EE technologies in the port sector. Demonstration of best practices and transfer of skills
21-Oct-11	Shipping	<b>Sea Brothers</b> - Acquisition of two to three second hand bulk carriers to support the completion of the logistics chain for its sea-rail multimodal freight operations	21	30	Modernization of the fleet and development of intermodal operators. Adoption of energy performance monitoring
13-Nov-09	Shipping	<b>Russia: Fesco II</b> - Restructuring of its corporate balance sheet	100	465	-
16-Oct-09	Shipping	<b>Volga-Balt Transport Holding Ltd</b> - Acquisition costs of ten dry cargo newbuildings of 5,200 dwt each. The Project Vessels will operate in the dry cargo segment of the European-Russian short-sea trades which include the Baltic Sea, North Sea, the Continent and the Black Sea, Sea of Azov toports of the Mediterranean/North Africa and the Continent	80	130	Besides the fleet renewal, the Client will adopt measures to improve its environmental and safety standards, including implementation of ISO 14000 environmental certification as well as the introduction of a Greenhouse Gas accounting and reporting system
07-Aug-08	Port	<b>FESCO (Far Eastern Shipping Company)</b> - Equity investment. The proceeds of the Bank's investment will be used for the priority investments in the transportation network managed by the Company, thus supporting actively the key strategic development objectives of the first Russian large scale intermodal and logistic operator	120	-	Bank's participation in the shareholding structure of FESCO will result in improvements to the environmental procedures (including health and safety procedures)
01-Feb-07	Shipping	<b>Rosmorport</b> - Upgrading of auxiliary fleet	96	150	An audit was undertaken to identify potential environmental issues associated with Rosmorport's activities, which might include impacts associated with dredging activities, disposal of ballast water, oil spill response plans and compliance with international maritime environmental and safety standards
22-Nov-05	Shipping	<b>Maritime Navigation Safety Project</b> - The proposed project is intended to finance the construction of three radio towers and other supporting structures in Temryuk (Azov Sea), Kaliningrad (Baltic Sea) and Murmansk (Barents Sea) to carry radars and radio communication	7	19	-



		equipment for the location and identification of ships and equipment for the transmission of information between ships and the shore.			
23-Jul-04	Shipping	<b>OOO ARK SHIPPING LTD</b> - Acquisition, mobilisation and upgrading costs of 24 new and second-hand tugs and barges, to be employed in the Caspian in support of the oil field development activity in the region, as well as in the Russian River System, North and Mediterranean Seas on project work.	12	18.5	Modernization of the fleet
20-Sep-02	Shipping	<b>Regional Navigation Safety System in the Gulf of Finland</b> - Phase 2 of the development of Regional Navigation Safety System in the Gulf of Finland, and involves the proposed construction of 3 radio towers on the islands of Gogland, Seskar and Sommers. These towers are to carry radars and radio communication equipment, equipment for the location and identification of ships and equipment for the transmission of information between ships and the shore	5.4	8.7	-

### Forthcoming projects (under preparation)

2013	A Programme of energy efficiency investments at all the terminals of a leading port operator	80	200	Introduction of EE technologies in the port environment.
2013	Financing of the acquisition of 4 icebreakers for the renewal of the ageing icebreaker fleet	200	450	Modernization of the shipping fleet. Possible application of EE technologies on the cutting edge under discussion. Possible application of funds from this Programme
2014	Modernization of Port in the northern Route			On-going dialogue about the introduction of new EE technologies.
2014	Future IPO and fleet renewal needs			On-going dialogue about the introduction of new EE technologies as part of a long term collaboration programme. Possible application for funds from this programme.
2014				The approval of the GEF-Fund would allow EBRD to launch contacts with other shipping operators.