

**11th Meeting of the EUSAIR TSG2, Belgrade, 19-20 November 2019**  
**Agenda Item no. 2 of the Energy Networks Sub-Group Meeting**

**IMPLEMENTATION AND MONITORING OF THE OPEN LIST OF  
EUSAIR-LABELLED PROJECTS FOR ENERGY NETWORKS**

**A. Premise**

1. An **Initial List of 10 EUSAIR-labelled projects and measures for energy networks** has been defined and agreed upon by the Sub-Group on Energy Networks during the 6th EUSAIR TSG2 Meeting held in Rome on 20-21 April 2017. These projects and measures were responding to the Priority Actions and Priority Sub-Actions as identified by the Sub-Group according to the EUSAIR Action Plan.

2. The Initial List is **open to contributions** that Sub-Group Members are proposing for the EUSAIR-labelling process. Contributions have been given on several occasions by all the Members with a few exceptions.

3. Now it appears that the Initial List of the EUSAIR-labelled projects and measures is in **need of review of expansion and updating, and some reformulation**. Three aspects should be considered in this respect.

First most if not all the projects and measures included in the Initial List are **clusters or groups of several individual projects and measures**

where each one has its own promoters, financial contribution, progress and timeline. Clusters have the merit to identify shared aims and strategic goals, while individual projects and measures should receive their own evidence.

Second, there are **changes in the energy policy framework** and European energy policy which cannot be ignored. In particular, the project EUSAIR Strategy for Sustainable Power 2030 appears rather limited with a view to changes which are happening in the gas system as well and in the electricity networks to cope with new challenges such as confronting climate change issue, progress in digitalisation, increasing reliance upon low-carbon energy technologies. A more comprehensive project such as “**EU-SAIR Master Plan on energy infrastructure needs and road-map**” would much better reflect the new realities.

Third, there are projects and measures included in the Initial List where **information is missing or rather scattered**. A further effort to collect information would be advisable while missing information is highlighted.

4. In conclusion, it might be appropriate to provide the Sub-Group on Energy Networks with a more clear picture for monitoring and evaluating the open list of the EUSAIR-labelled projects for energy networks. To the purpose, all information received from Members **has been regrouped** according to the title of the Initial List of projects and measures as in the text which follows. It can be seen how numerous are the individual projects and measures and which are the gaps to cover.

## **B. Suggested course of action**

The TSG2 Members of the Sub-Group on Energy Networks are invited to:

- a) consider the information which is presented in the following
- b) provide their advice on how to complement, expand and update the information
- c) suggest formats according to which the information can be best presented and delivered.

## **1. Transbalkan Electricity Corridor**

**Description:** The Transbalkan Electricity Corridor is a cluster of projects consisting in new electricity transmission lines, their reinforcements and links. Most of the projects are also listed under the PECO monitoring system.

**Key EUSAIR Countries involved:** Bosnia and Herzegovina (providing information on projects) Croatia, Montenegro (providing information on projects) Serbia (providing information on projects).

**TSG2 Priority Action:** Construction of new transmission capacities and smart grids to achieve a balanced, sustainable and timely development of an interconnected electricity system.

**TSG2 Priority Sub-Action:** Construction of new transmission capacities and smart grids to achieve a balanced, sustainable and timely development of an interconnected electricity system.

**Project proposals:** as in the attachments by Bosnia and Herzegovina, Montenegro, Serbia.

**COUNTRY:** BOSNIA AND HERZEGOVINA **DATE:** 9.11.2018

TITLE OF THE PROJECT/ MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/ COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
				PROVIDED FINANCIAL AMOUNT AND SOURCE OF FINANCEMENT	AMOUNT WHICH SHOULD BE PROVIDED AND POSSIBLE SOURCES OF FINANCEMENT	PROJECT DOCUMENTS	CONSTRUCTION WORKS	MAIN PROBLEMS
Project ID in TYNDP: 227 Project code in PECI: EL_01c PECI status	2x400kV OHL Visegrad (BA) – Bajina Basta (RS) – Pijevlja (ME) (part of trans Balkan corridor)	NOSBiH, Elektroprivreda BiH (BA), EMS (RS), CGES (ME)	Phase I: Visegrad – Bajina Basta 2023/2024 Phase II: Visegrad – Pijevlja 2027	-	9,8mil.EUR (BiH side) ; source of finances: grant and own finances	Status: Permitting phase Documents: Feasibility study is done and ToR for the technical documentation is under development		Financing
Project ID in TYNDP: 343 Project code in PECI: EL_03	400kV OHL Banja Luka (BA) – Lika (HR)	NOSBiH, Elektroprivreda BiH (BA), HOPS (HR)	2030	-	36mil.EUR (BiH side) ; source of finances: grant and own finances	Status: Consideration phase Documents: Feasibility study is in progress		Financing

Project ID in TYNDP: 241 Project code in PECI: EL_04, EL_05	Upgrading of existing 220kV OHLs to 400kV: TPP Tuzla (BA) – SS Gradacac (BA) - SS Djakovo (HR)	NOSBiH, Elektroprenos BiH (BA), HOPS (HR)	2032	-	44mil.EUR (BiH side) ; source of finances: grant and own finances	Status: Consideration phase	Financing
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DATE: 9.11.2018

COUNTRY: BOSNIA AND HERZEGOVINA

TITLE OF THE PROJECT/ MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/ COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
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Bosnia and Herzegovina - Croatia Interconnect or Interconnect ion Pipeline BiH HR (Zagvozd-Posusje-Travnik with a main branch to Mostar) PECl: Gas_03 PMI status	Project is to interconnect natural gas systems of BiH and Croatia. Main goal is to establish new supply route for BiH providing reliable and diversified natural gas supply increasing security of supply. Having in mind limited capacity and age of the existing supply route, in the near future this pipeline could become the only gas supply route for Federation of BiH. Project is included in Strategic Plan and Program of	BH-Gas d.o.o. Sarajevo	FS, ESIA, Preliminary Design 2018-2019;  Main Design 2019-2021;  Tendering and Construction 2021-2023;  Commissioning year 2023	0,400 Million EUR Grant WBIF in 2011, PFS issued 2013;  0,141 Million EUR Grant CONNECTA 2017, CBA final report expected in May 2018	<u>FS, ESIA, Preliminary Design:</u> Grant 0,25 Million EUR Expected from USAID; BH-Gas own fund 0,50 Million EUR  <u>Main Design:</u> 1,25 Million EUR BH-Gas own fund  <u>Construction:</u>	PFS Issued in Oct 2013;  CBA final Report expected in May 2018;  TOR for ESIA and Preliminary Design in preparation process		Financial support for the Project is needed, but there are certain difficulties in terms of access to EU funds for construction works from the position of BiH as non-EU country.



	<p>Development of Energy Sector of FBiH. Also, it is included in Comprehensive Energy Strategy of BiH till 2035 and Comprehensive Energy Strategy of FBiH 2035 which are in adoption process both. Project is on the PECI/PMI 2016 List and is included in ENTSG TYNDP. Government of FBiH in June 2017 has issued the Conclusion on Strategic importance for FBiH of South Interconnection project and on continuing and intensifying activities on its realization</p>				<p>80 Million EUR EBRD Credit (preliminary discussions are ongoing) / Possibility to get amount of 50% i.e. 40 Million EUR for construction works from EU funds is being investigated</p> <p>15 Million EUR BH-Gas should provide own fund</p>		
<p>West Interconnection BiH-HR Gas Pipeline Project Lička Jesenica (HR)- Trzacić (BiH)-</p>	<p>Project will connect BiH with Croatian gas transmission system and will enable gasification of part of Una-Sana Canton on the west side of BiH. Main goal is to enable development of natural gas market in the west part of BiH. Project is included in Strategic Plan</p>	<p>BH-Gas d.o.o. Sarajevo</p>	<p>FS, ESIA, Preliminary Design 2019; Main Design 2023; Tendering and Construction 2023-2026;</p>	<p>Pre-Feasibility Study 2008 financed by BH-Gas own fund</p>	<p>FS, ESIA, Preliminary Design: 0,50 Million EUR; Possibility to get grant from EU funds is being investigated; Main Design:</p>	<p>Pre-Feasibility Study 2008</p>	<p>Financial support for the Project is needed, but there are certain difficulties in terms of access to EU funds especially</p>





Bosanska Krupa with branches to Bihac and Velika Kladusa** PECI: Gas_02 PMI status	and Program of Development of Energy Sector of FBiH 2009. It is included in the Comprehensive Energy Strategy of BiH 2035 as well as Comprehensive Energy Strategy FBiH till 2035 which are in adoption process. Project is on the PECI/PMI 2016 List and is included in ENTSG TYNDP.		Commissioning year 2026		0,75 Million EUR BH-Gas own fund  Construction: 33 Million EUR IFI Credit / Possibility to get 50% of the total amount for construction works from EU funds is being investigated  BH-Gas should provide own fund for land acquisition and approvals	having in mind that BiH as Energy Community Member did not transpose legislation in line with the 3th Energy Package.
North Interconnection BiH-HR Gas Pipeline Project Slobodnica (HR)- Brod (BiH)- Zenica***	Project will integrate BiH with Croatian and other neighboring gas markets. Pipeline will be bidirectional and together with "South Interconnection BiH-HR" creates a part of EnC gas ring. Main goal is to diversify gas route and supply sources for BiH. Expected benefits are to directly increase (N-1) for BiH. Project is included in	BH-Gas d.o.o. Sarajevo	FS, ESIA, Preliminary Design 2017-2019;  Main Design 2019-2021;  Tendering and Construction 2021-2023;  Commissioning year 2023	WBIF Fund in Dec 2011 Approved 1 Million EUR grant for FS, ESIA, and CBA but this grant was withdrawn because of subsequent lack of support of the other BiH Entity Republic of Srpska to the project in that period.	FS, ESIA, Preliminary Design: 0,75 Million EUR; Possibility to get grant from EU funds is being investigated;  Main Design: 1,25 Million EUR BH-Gas own fund	Delay in implementation of this project encountered mainly because political obstruction by the other BH Entity Republic of Srpska. In this respect



	<p>Strategic Plan and Program of Development of Energy Sector of FBiH and in the Comprehensive Energy Strategy BiH till 2035 as well as Energy Strategies of the both Republika Srpska and Federation of BiH entities, which are all in adoption process. Project is included in ENTSGO TYNDP. This project is in preparation from the year 1988, and Project Documentation from this period exists.</p>				<p><u>Construction:</u> 85 Million EUR IFI Credit / Possibility to get 50% of the total amount for construction works from EU funds is being investigated</p> <p>BH-Gas should provide own fund for land acquisition and approvals</p>	<p>BH-Gas see positive movement in the last period.</p>
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\*Data given in the rows *TOTAL FINANCIAL AMOUNT OF THE PROJECT* and *STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION* are for the BiH side of the South Interconnection of BiH and Croatia Project i.e. for the route Posusje-N.Travnik with a branch to Mostar

\*\* Data given in the rows *TOTAL FINANCIAL AMOUNT OF THE PROJECT* and *STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION* are for the BiH side of the West Interconnection of BiH and Croatia Project i.e. for the route Trzac - Bosanska Krupa with branches to Bihac and Velika Kladusa

\*\*\*Data given in the rows *TOTAL FINANCIAL AMOUNT OF THE PROJECT* and *STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION* are for the BiH side of the North Interconnection of BiH and Croatia Project i.e. for the route Brod-Zenica



COUNTRY: Montenegro		DATE: April 2018						
TITLE OF THE PROJECT/ MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/ COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
				PROVIDED FINANCIAL AMOUNT AND SOURCE OF FINANCEMENT	AMOUNT WHICH SHOULD BE PROVIDED AND POSSIBLE SOURCES OF FINANCEMENT	PROJECT DOCUMENTS	CONSTRUCTION WORKS	MAIN PROBLEMS
Transbalkan Electricity Corridor- Grid Section in Montenegro	- Lot 1: Construction of SS 400/110/35 kV Lastva and extension of existing SS 400/220/110 kV Pljevlja;	Montenegrin Electric Transmission System - CGES	2008 – 2022	Total financial amount of the project is 127 million €.	17 million € (CGES)		- Lot 1: Final phase of civil and electrical installation works; - Lot 2: Civil and electrical installation works were carried out as a percentage of 66%; - Lot 3: About 27% of the planned works were realized.	Complex and long lasting expropriation procedure
	The Project is financed by the loan (EBRD- 60 million €, KfW - 25 million €), WBIF grant (25 million €) and CGES own funds.							
	- Lot 2: Construction of OHL 400 kV Lastva-Cevo: construction of the double circuit line 2 x 400 kV Lastva-Trebinje and Lastva-Pljevlja (section Lastva-Cevo) and the single circuit line 400 kV Lastva-Podgorica (section Lastva-Cevo);  - Lot 3: Construction of OHL Cevo-Pljevlja: construction of the 400 kV Lastva - Pljevlja line (section Cevo-Pljevlja) which is partly double circuit and construction of OHL 2x400 kV Pljevlja-Border with Serbia. The project includes also replacement of high-							

<p>voltage equipment in substations; reconstruction of protection system in transmission network and construction of SS 110/35 kV Brezna. Expected benefits are as follows: development of regional electricity market, increase of safety and reliability of operation of electricity transmission system facilities through its upgrade and reconstruction and elimination of bottlenecks for integration of renewable energy sources.</p>	
<p>Information source (project website): <a href="http://www.cgies.me/en/projects/trans-balkan-corridor">http://www.cgies.me/en/projects/trans-balkan-corridor</a></p>	

COUNTRY:		Serbia		DATE: 16-04-2018				
TITLE OF THE PROJECT/ MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/ COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
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Transbalk an Corridor I Phase	Transbalkan corridor I Phase represents a complex program of four overhead lines (OHL) projects (sections), the total length of which is 321 km:  • Section I - 68 km double circuit 400 kV OHL between SS Pancevo (Serbia) and	JSC EMS	The commissioning period for these four sections started in 2017 (Section I). Closing year will be defined (Section III and IV), as it	Section I: 26.4 MEUR, completely constructed from JSC EMS own funds  Section II: 29.6 MEUR (15 MEUR	Section III and IV: In November 2017, EMS applied for a grant of 26.6 MEUR (21.9 MEUR investment grant and 4.7	Section I: Construction works finished, the line was energized from SS Pancevo 2 to the border with Romania in December 2017.  Section II:		



	<p>SS Resita (Romania); the line was finished and energized from Serbian side in December 2017.</p> <ul style="list-style-type: none"> <li>• Section II - 60km 400 kV OHL SS Kragujevac 2 – SS Kraljevo 3, with voltage level upgrade in SS Kraljevo 3 to 400 kV. Construction work is in progress.</li> <li>• Section III - 109 km double circuit 400 kV OHL SS Obrenovac – SS Bajina Basta, reconstruction of existing SS Obrenovac and SS Bajina Basta.</li> <li>• Section IV - 84km double circuit 400 kV OHL interconnection between Serbia, Bosnia and Hercegovina and Montenegro.</li> </ul>		<p>essentially depends on EU financial support to the project. In other words, a grant from WBIF including the possible EC adequate co-financing is a prerequisite to proceed with the project.</p>	<p>KfW loan, WBIF grant 6.6 MEUR and EMS own funds 8.0 MEUR)</p> <p>Section III: Estimated costs 66.2 MEUR</p> <p>Section IV: Estimated costs 41.3 MEUR</p> <p>The required amount of EC financial support will be determined after CBA is done within a new system study.</p>	<p>MEUR TA) for these two sections. However, in the meanwhile, Montenegro Government, Italian TSO and Montenegro TSO agreed to proceed with the execution of the undersea cable project in stages (stage-by-stage project execution), with the first stage involving construction and commissioning of one wire of the cable in monopolar arrangement (up to 600 MW), and not as a single-stage project with 1.2 GW</p>	<p>Construction permit for the construction of a transmission line was obtained in February 2018.</p> <p>The construction permit was obtained for the upgrade of TS Kraljevo 3.</p> <p>Decision for work in OHL bay in TS Kragujevac 2 was obtained.</p> <p>The pre-qualification procedure for the selection of the Consultant has been completed.</p> <p>The tender for the qualification procedure for the selection of the Consultant for the realization of the project is in progress. The due date for submission the offers is 23 May 2018.</p> <p>Section III: Public interest has been enacted by the Law on the Transbalkan Corridor 2014 with a ten year tenure.</p> <p>Project is in the ENTSO-E TYNDP and ECS PEI list (2016).</p> <p>Feasibility Study, Preliminary Design and Environmental Impact Assessment Study, funded by WBIF, were completed in 2011. KfW grant in amount of €250,000 was received for adapting the conceptual design, feasibility study with the preliminary</p>	
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				<p>capacity. Previous feasibility study 400 kV interconnector in RS-ME-BA took into account the full capacity in all scenarios analyzed. Keeping in mind these circumstances, EMS determined the value of the grant. Due to this fact, JSC EMS has withdrawn the grant application. EMS JSC has to make a new regional system study with the economic and financial analyses that would deal with new circumstances.</p>	<p>design and Environmental Impact Study to the national legislation, and this work was done in December 2017. Initial meeting with the selected contractor was held and OHL route was proposed. Documentation preparation work is in progress. WBIF grant for technical assistance in the amount of €800,000 was approved for Design for construction permit and Design for construction. Negotiations were started for the elaboration of the ToR for the selection of a consultant. Spatial plan procedure started in 2017. After the adoption of the spatial plan of the special purpose area, the consultant will deliver the updated technical documentation and the preliminary design will then be submitted to the review of the audit committee.</p> <p>Section IV Public interest has been enacted by the Law on the Transbalkan Corridor 2014 with a ten year tenure Project is in the ENTSO-E TYNDP and ECS PEI list (2016).</p>	
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<b>Transbank an Corridor II Phase</b>	The project "North CSE Corridor" consists of the following investment projects: - the third interconnection line between Romania and Serbia; - TS 400/110 kV Belgrade west with connection lines;	JSC EMS	After 2030	Not available information	Project is in a development phase.	Prefeasibility study, Feasibility study, Preliminary design and ESIA have been completed. The Government of the Republic of Serbia has made a decision for making of spatial plan for special purpose area. The plan was made and was approved by the Ministry of construction, traffic and infrastructure. Plan was put on public consultation in May 2017 and was accepted with no objections at the public hearing. Finally, the plan was adopted by the Government of Republic of Serbia in November 2017. Currently, negotiation regarding drafting a ToR for a consultant selection is in progress. WBIF grant for technical assistance in the amount of €800,000 was approved for Design for construction permit and Design for construction.
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<p>- OHL 400 kV Switching Substation Chibuk – TS Belgrade west</p>	<p>This project is in the list of projects of the European Ten Year Network Development Plan 2018 (TYNDP 2018) and is currently being evaluated. In addition to enhancing the safety of electricity supply in Belgrade region (unloading the TS 220/110 kV Belgrade 5), the possibilities of increasing transit of electricity in the east-west direction, increasing the net transfer capacity at the Serbia-Romania border, this project will also enable electricity evacuation from the region of southern Banat. Additionally, the project will also enable the evacuation of electricity from the region of Eastern Serbia. (including new capacities TPP Kostolac B3 and WP Čibuk)</p>
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## **2. Undersea Power Link between Italy and Montenegro**

**Description:** Power link between Italy and Montenegro including construction and eventual reinforcement of power lines between Montenegro and Albania, Bosnia Herzegovina, Croatia and Serbia. A synergistic relation is envisioned with the Transbalkan Electricity Corridor.

**Key EUSAIR Countries involved:** Italy, Montenegro

**TSG2 Priority Action:** Construction and establishment of a well-connected power system and well-functioning electricity market.

**Tsg2 Priority Sub-Action:** Construction of new transmission capacities and smart grids to achieve a balanced, sustainable and timely development of an interconnected electricity system.

**Project in progress:** estimated investment 1 bn Euro; transmission capacity 500+500 MW.

**Project promoter:** TERNAL SpA; commissioning by the year 2021.



### **3. EUSAIR Power Exchange**

**Description:** Design and creation of an integrated wholesale power market for the EUSAIR according to a number of steps including harmonisation of electricity transmission tariffs and progressive market coupling.

**Key EUSAIR Countries involved:** all of them.

**Priority Action:** Construction and establishment of a well-connected power system and well-functioning electricity market.

**Priority Sub-Action:** Development of a regional efficient, integrated and transparent electricity market (including a coordinated auction office) with the aim to provide competitive and secure power supply through the Region.

**Project proposals:** a) Electricity transmission tariffs harmonisation; b) Removal of regulatory barriers (to electricity trade), c) Market coupling initiatives amongst two or more EUSAIR neighbouring Countries; d) Convergence of national electricity wholesale power markets.

**Project promoter:** possible consortium of EUSAIR Countries, regulators, transmission system operators, electricity market operators.

#### **4. EUSAIR Master Plan on Energy Infrastructure Needs and Road Map**

**Description:** The Master Plan on Energy Infrastructure Needs and Road Map would provide projects and measures for energy networks as they are being identified and developed by the Sub-Group on Energy Networks with a **coherent background and perspective**. It would allow to **prioritise projects and measures** which have been or are being identified while setting timelines and highlighting synergistic effects and complementarities or viceversa. Duplication of effort and redundancy might be avoided or contained. The Master Plan would help **detecting gaps and initiatives** for further projects and measures which are either needed or missing and propose a road-map for action.

**Key EUSAIR Countries involved:** all of them.

**TSG2 Priority Action (new):** A Master Plan should allow to understand **how coherent and harmonised** the plans or programmes as defined by the single EUSAIR Member States are with a view to EUSAIR energy market integration or the European energy strategy. It should also allow to understand how projects and measures which have been or are being identified by the Energy Networks Sub-Group are **aligned to general goals** such as greenhouse gas emissions reduction and commitments resulting from the Paris Agreement on climate change as well as progress on new low-carbon technologies and systems.

### **Project proposal:**

a) The Master Plan on energy infrastructure needs and road-map for the Region would cover **electricity and natural gas supply networks** their needs, and outlook. This choice could appear limiting though it has the advantage of being practical. Another option is to cover through Master Plan the **entire energy supply infrastructure** by including all power generation as well as gas infrastructure. The oil and coal supply chains would be excluded.

b) **Time horizon** for the Master Plan would be the **year 2030**. It should be noted however, that quite a few (perhaps all) projects and measures which have been or are being identified (and EUSAIR-labelled) by the Energy Networks Sub-Group might deploy their effects over a **much longer period of time**. This fact would invite to consider for the Master Plan a more distant time horizon such as the **year 2040** for instance, a year which would be coherent with the time horizon selected by the International Energy in its most recent annual World Energy Outlook.

c) On the other hand, the selection of longer term time horizons such as the year 2040 (or so, someone might even suggest the year 2050) would add uncertainties on **how the energy and economic future might come into shape**. As a consequence, it would make sense to consider the possibility of a Master Plan embracing different scenarios.

**Scenarios can be goal-oriented** where goals might be selected in accordance either the achievement of the general objectives of the European energy strategy or some other goals. Indeed goals might be EUSAIR –

specific and refer to the type of energy and economic integration which is proposed for the future of the EUSAIR.

d) Should there be funds available a competition can be envisaged amongst entities which can be called for **implementing the project**. Entities might be either public (international or multilateral organisations) or private. The availability of sources of financement and the eventual conduct of a call for tenders are all a points **deserving examination**, should the Energy Networks Sub-Group decide to move forward on the concept of a Master Plan.

## 5. Transbalkan Gas Ring

**Description:** The Transbalkan Gas Ring is a cluster of projects consisting of new gas pipelines, upgradings and counterflows through the Balkan region.

**Key EUSAIR Countries involved:** Bosnia and Herzegovina, Croatia, Serbia (providing project information), Slovenia (providing project information).

**TSG2 Priority Action:** Construction and establishment of an integrated natural gas infrastructure and well-functioning gas market.

**TSG2 Priority Sub-Actions:** a) Diversification of natural gas sources, infrastructures and routes to promote security of natural gas supply and competitiveness; b) Development of interconnections, counterflows and natural gas storage along a regional perspective.

**Project proposals:** as in the attachments by Serbia and Slovenia.



COUNTRY:

Serbia

DATE: 16-04-2018

TITLE OF THE PROJECT/ MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/ COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
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Gas Interconnector Serbia-Bulgaria	The realization of this project ensures diversification of directions and sources of supply, while improving the security of supply of both the Republic of Serbia and Bulgaria and the entire region. The northern part of the gas pipeline system is significantly relieved, which increases the security of supply of transit routes for Bosnia and Herzegovina, as well as the future supply of the Autonomous Province of Kosovo and Metohija, Macedonia and Montenegro. In addition to improving the security of supply of the Serbian	PE Srbijagas and Ministry of Mining and Energy	The start of the realization of the works is December 2021, and the start of the commissioning is May 2022	Total cost of the project is 85,526,550 EUR	IPA contribution is 49,600,000 EUR Indicative national contribution is 25,000,000 EUR, source: EIB loan	Land expropriation:  The work of field experts on the pipeline route has been completed and they have provided all the findings / estimates - for the part of the route that has not been changed, which is a total of 1928 cadastral parcels. In the territory of the municipality of Dimitrovgrad 110 parcels, Bela Palanka 446 plots, the city of Pirot 642 parcels, 730 plots. So far, a total of 69 agreements have been concluded with the owners of the real estate. Preparation of offers for damages for each owner of the real estate is in progress. Bids are continuously submitted to the competent municipal administrations		
				7,355,600 EUR for land acquisition from the budget of the Republic of Serbia 3,570,950 EUR (financing of the Spatial plan -source: Budget of RS				

	natural gas market and facilitating the further development of the distribution network of central, eastern and southern Serbia, the project enables the integration of existing and future storage capacities of natural gas into a unified energy system				and survey works, EIAS, design, issuing permits-source: PE Srbijagas's fund )	It is expected that the RS Government will adopt a Conclusion granting funds for the payment of compensation for 2018  PE SRBIJAGAS signed a contract with the Contractor for geotechnical works, and the beginning of the realization of the subject of the contract is expected in the coming days, within the deadlines that respond to the adopted dynamic plan of the project's rationalization	
Gas interconnector Serbia-Croatia							

COUNTRY: Slovenia

DATE: April 12, 2018

TITLE OF THE PROJECT/MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
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Upgrade of Rogatec interconnection between Slovenian and Croatian gas systems (M1A/1 Interconnection Rogatec)	<p>The upgrade of interconnection point between Slovenian and Croatian gas systems at Rogatec (Slovenia) is a part of the PCI:</p> <p>6.26.1 Cluster Croatia — Slovenia — Austria at Rogatec, including:</p> <ul style="list-style-type: none"> <li>• Interconnection Croatia — Slovenia (Lučko — Zabok — Rogatec)</li> <li>• Compressor station Kidričevo, 2nd phase of upgrade (SI)</li> </ul>	<ul style="list-style-type: none"> <li>• Plinovodi d.o.o. for the Slovenian gas projects;</li> <li>• Plinacro d.o.o. for the Croatian gas projects;</li> <li>• Gas Connect Austria GmbH for the Austrian gas projects</li> </ul>	2022			<ul style="list-style-type: none"> <li>• National spatial planning documentations</li> <li>• Analysis: Transmission gas pipeline M1 Ceršak – Rogatec and M1/1 Ceršak – Rogatec – Reverse flows enabling</li> </ul>		



- Compressor stations 2 and 3 at the Croatian gas transmission system
- GCA 2015/08: Entry/Exit Murfeld (AT)
- Upgrade of Murfeld/Ceršak interconnection (AT-SI)
- Upgrade of Rogatec interconnection

**Purpose:**  
Development of transmission systems of Slovenian and Croatian TSO, increasing the transmission capacity and enabling bidirectional operation.

**General criteria:**

- Removing bottle necks
- Improving N-1 for the Slovenian TSO
- Improving SoS for AT, SI, CRO
- Base for future LNG evacuation

## **6. Ionian-Adriatic Gas Pipeline (IAP)**

**Description:** The Ionian-Adriatic Gas Pipeline is a strategic gas supply infrastructure linking Albania, Bosnia and Herzegovina, Croatia and Montenegro to take advantage from the TAP as well as from other gas interconnectors as well as from the TAP.

**Key EUSAIR Countries involved:** Albania, Bosnia and Herzegovina, Croatia (providing project information), Montenegro (providing project information).

**TSG2 Priority Action:** Construction and establishment of an integrated natural gas infrastructure and a well-functioning gas market.

**TSG2 Priority Sub-Action:** a) Diversification of natural gas sources, infrastructure and routes to promote security of natural gas supply and competitiveness.

**Project proposals:** as in the attachments by Croatia and Montenegro.



**COUNTRY:** Croatia **DATE:** 29 October 2018

TITLE OF THE PROJECT/ MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/ COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALISATION		
				PROVIDED FINANCIAL AMOUNT AND SOURCE OF FINANCEMENT	AMOUNT WHICH SHOULD BE PROVIDED AND POSSIBLE SOURCES OF FINANCEMENT	PROJECT DOCUMENTS	CONSTRUCTION WORKS	MAIN PROBLEMS
Ionian-Adriatic Pipeline (IAP)	The IAP project has been based on the idea of connecting the existing gas transmission system of Croatia via Montenegro and Albania with the TAP gas transmission system (Trans Adriatic Pipeline). The total length of the gas pipeline from Split to Albanian Fieri is 511 km according to the accepted feasibility study.	Plinacro (HR), Montenegro Bonus (MNE) Albgaz (ALB)	2023		600 mil EUR	Feasibility Study –all ESIA, Basic Design, Location Permit and partially Main Design – HR Gas Master Plan – MNE and ALB, Preliminary Desing MNE and Alb – in progress		Financing

						<p>The initial capacity of 5 bcm/y has been planned for natural gas supply of Albania (1 bcm/y), Montenegro (0.5 bcm/y), the south of Bosnia and Herzegovina (1 bcm/y) and Croatia (2.5 bcm/y). The branch for Bosnia and Herzegovina will go through the interconnection Imotski-Zagvozd-Posušje-Travnik.</p>	
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TITLE OF THE PROJECT/ MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/ COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALISATION		
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Southern Interconnection - Croatia - Bosnia and Herzegovina (croatian part of the interconnection	South Interconnection of Croatia and B&H - the pipeline is a new supply route for Bosnia and Herzegovina that will enable the reliable and diversified natural gas supply. The pipeline will enable the flow of IAP to Bosnia and Herzegovina. In the case that southern interconnection will be built before the IAP project, a part of IAP project will be included in the financial amount of the Interconnection in order to connect the interconnection with the existing gas transmission system of Republic of Croatia.	Plinacro Ltd (Croatia) BH Gas (Bosnia and Herzegovina)	2023		For Croatia: 16 mil EUR + 48 mil EUR for the part of IAP project For BiH: 100 mil EUR	Jointly: Prefeasibility Study and CBA. For Croatia: ESIA, Basic Design and Location Permit. For BiH ESIA and Preliminary design in Progress		Financing



TITLE OF THE PROJECT/ MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/ COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
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Ionian- Adriatic Gas Pipeline (IAP)	The IAP project is based on the idea to connect the existing Croatian gas transmission system, via Montenegro and Albania with the TAP system (Trans Adriatic Pipeline) or a similar project. The total length of the gas pipeline from the Croatian town Split to Albanian town Fieri is 511 km. Its 5 bcm/y capacity provides the natural gas supply of Albania (1 bcm), Montenegro (0.5 bcm), the south of Bosnia and Herzegovina (1 bcm) and Croatia (2.5 bcm). The implementation of the entire Ionian Adriatic Pipeline project enables opening of the new energy corridor for the SEE region within the fourth EU transmission corridor, with the aim to establish a new natural gas	Plinacro d.o.o. Montenegro Bonus d.o.o. Albgaz BH GAS SOCAR	2009 – 2023	Total financial amount of the project for Montenegro is 118,7 million €. Financial support in the amount of 7,7 million € has been granted for: Feasibility Study, Gas Master Plan for MNE and ALB, Preliminary Design for MNE and ALB		Realized activities: - Consideration phase - Preparatory studies /prefeasibility studies - Technical feasibility study - Environmental impact assessment - Economic feasibility study / cost-benefit analysis		



<p>supply direction from the Middle East and Caspian region. The IAP will have a bidirectional gas flow possibility i.e., it will be able to provide natural gas supply of SEE from other sources, one of them the future LNG solution on the island of Krk. The comprehensive Feasibility Study financed by the WBIF has been completed in April 2014. The main benefits of IAP: gasification of Albania, Montenegro, southern part of Croatia and BiH; SoS and Diversification of Supply, Market integration, Competition</p>	<p>Information source (project website): <a href="http://www.plinacro.hr">www.plinacro.hr</a></p>
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## **7. Trans-Adriatic Gas Pipeline (TAP)**

**Description:** The TAP is a key supply diversification infrastructure carrying Azeri natural gas and potentially other natural gas from Central Asia into South-Eastern Europe. Pipeline can be considered as decided basing upon existing transport and delivery contracts. Branching to Bulgaria and Montenegro can be envisioned.

**Key EUSAIR Countries involved:** Albania, Greece, (providing project information), Italy.

**TSG2 Priority Action:** Construction and establishment of an integrated natural gas infrastructure and a well-functioning gas market.

**TSG2 Priority Sub-Actions:** Diversification of natural gas source, infrastructures and routes to promote security of natural gas supply and competitiveness.

**Project proposal:** as in the attachment by Greece.

COUNTRY: GREECE

DATE: 10 NOVEMBER 2018

TITLE OF THE PROJECT/MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
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<b>Trans-Adriatic Gas Pipeline (TAP)</b>	Connecting with the Trans Anatolian Pipeline (TANAP) at the Greek-Turkish border, TAP will cross Northern Greece, Albania and the Adriatic Sea before coming ashore in Southern Italy to connect to the Italian natural gas network. Once built, TAP (a PCI project) will offer a direct and cost-effective transportation route opening up the vital Southern Gas Corridor, a 3500-kilometre long gas value chain stretching from the Caspian Sea to Europe.	<b>TAP AG</b> (BP (20%), SOCAR (20%), Snam (20%), Fluxys (19%), Enagás (16%) και Axpo (5%))	<b>2016-2020/1 Q 2020</b>	-	-		80,7% of the construction has been completed	

## Interconnector Greece-Bulgaria

It consists of a pipeline that will link the Greek Natural gas system with the Bulgarian one in a cross-border context, with a 3-5 bcm/a capacity and a length of 182 km

**ICGB AG**  
(50% IGI  
POSEIDON – 50%  
BEH)

**1Q  
2019-  
2020  
4Q  
/4Q  
2020**

Obtained up to €45 m grant under the EEPR (European Energy Program for Recovery) sponsored by the EU. ICGB is applying for additional grant financing in the amount of EUR 39 mln from the European Structural and Investment Funds (ESIF) allocated to Bulgaria. The additional grant financing will ensure the bankability of the project. Also, IGB project is entitled to a state guarantee in the amount of EUR 110 mln in negotiation a loan financing. The guarantee is approved by the Councils of Ministers of Republic of Bulgaria and included in the State Budget Act for 2018. **State Aid** pre – notification in relation to the ESIF grant financing and the Sovereign

ICGB is seeking the obtainment of Regional Contribution through the Structural Funds of Greece and Bulgaria. Additional grant will support the bankability of the project €35-40m

- Joint Decision on the Exemption of IGB pipeline from the requirements under article 36 of the European Gas Directive 2009/73/EC has been adopted by the National Regulatory Authorities of Greece and Bulgaria
- Construction Permit – for Bulgarian territory obtained and entered into force on 04 October 2017; Installation Permit – for Greek territory to be obtained by the end of 2018
- Environmental Impact Assessment completed in both countries.
- Technical Development Activities (FEED, Routing and Technical Design) completed in both countries.
- Rights of Way in Bulgaria finalized for approx. 4000 plots.
- Land acquisition, including expropriation procedure in Bulgaria finalized – for all affected plots and owners
- Owner's Engineer & TPI Tender (Published).
- Pipelines Procurement Tender (In progress).
- Engineering, Procurement and Construction (EPC) Tender (Finalized and shortly will be published).



				Guarantee has been submitted to DG COMP and a positive decision has been issued last week			
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## **8. Eastern Mediterranean Gas Pipeline (East-Med)**

**Description:** East-Med is a gas pipeline from the South-Eastern Mediterranean Sea through the Crete Island, into Greece mainland including the interconnector Poseidon from Greece to Italy.

**Key EUSAIR Countries involved:** Greece (providing project information), Italy.

**TSG2 Priority Action:** Construction and establishment of an integrated natural gas infrastructure and a well-functioning gas market.

**TSG2 Priority Sub-Action:** Diversification of natural gas sources, infrastructures and routes to promote security of natural gas supply and competitiveness.

**Project proposal:** as in the attachment by Greece.

COUNTRY: GREECE

DATE: 10 NOVEMBER 2018

TITLE OF THE PROJECT/MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
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<b>The Eastern Mediterranean Pipeline (EastMed)</b>	The East Med pipeline connects the Levantine gas fields to the European gas system via Cyprus and Greece. The project is currently designed to transport 10 bcm/a up to the inlet point with Poseidon, plus 1 bcm that	<b>IGI POSEIDON</b> (50% DEPA – 50% EDISON)	<b>3Q 2021-4Q 2024/ 2024/ 1Q 2025</b>	Obtained a € 2 m grant under the CEF for the action entitled "Eastern Mediterranean Natural Gas Pipeline – Pre-FEED Studies" (11/05/2015-		<ul style="list-style-type: none"> <li>The PRE-FEED Phase, that included a Technical Feasibility Study, a Reconnaissance Marine Survey and a Competitiveness Analysis, confirmed the project as technically feasible, economically viable and</li> </ul>		

	will be delivered to Cyprus for its internal consumption.			31/03/2018). Another Grant Agreement was concluded between INEA and IGI Poseidon SA, regarding a € 34,5 m grant for the Action entitled "EastMed Pipeline Project – Development Phase", that will run from 02/05/2018 till 31/12/2021.		<p>commercially competitive.</p> <ul style="list-style-type: none"> <li>Reconnaissance Marine Survey (RMS) is completed</li> <li>The main tender process has started with the EU Notice launch of FEED Onshore, Feed Offshore, FEED facilities contracts; all the contracts, including also DMS activities, Permitting and Design Appraisal, are expected to be awarded within the 1H 2019.</li> <li>FID is currently targeted within 2021 with an expected COD in 2025.</li> </ul>	
<p><b>The Poseidon pipeline</b></p>	<p>The Poseidon pipeline consists of a multisource offshore pipeline that will connect the Greek and Italian natural gas systems and transport gas available at the Greek borders from, e.g. Caspian, East Mediterranean, and Middle East sources. It will be connected with the East Med pipeline and will also transport gas available at the Greek-Turkish borders.</p>	<p><b>IGI POSEIDON</b> (50% DEPA – 50% EDISON)</p>	<p><b>3Q 2019-3Q 2022/ 4Q 2022</b></p>	<p>The offshore pipeline was included in the list of projects to be funded by EEPR 2009. An amount of € 55 m had been allocated for the Project, mainly for technical development activities as Front-End-Engineering-Design and Design Appraisal and Certification.</p>		<ul style="list-style-type: none"> <li>Update of the FEED and the Permits for the capacity upgrade (In progress).</li> </ul>	



## **9. Infrastructure Development for LNG Logistics in the Adriatic and Ionian Sea**

**Description:** LNG supply and delivery, construction and operation of LNG storage facilities, LNG safety and logistics.

**Key EUSAIR Countries involved:** Albania, Croatia, Greece (providing project information), Italy, Montenegro, Slovenia, Serbia (for land use of small-scale LNG).

**TSG2 Priority Action:** Clean fuels for maritime transport and their logistics.

**TSG2 Priority Sub-Action:** a) Developing a master plan for the use of LNG and other clean fuels in the Adriatic and Ionian Sea with a view at an Environmentally Controlled Area; b) Establishing a few ports with infrastructure to allow fuel switching to LNG in shipping and wider LNG deployment.

**Project proposal:** as in the attachment by Greece.

COUNTRY: GREECE

DATE: 10 NOVEMBER 2018

TITLE OF THE PROJECT/MEASURE	SHORT DESCRIPTION OF THE PROJECT/MEASURE AND OF THE RELATED INFORMATION SOURCES	PROJECT PROMOTERS	PERIOD OF REALISATION/COMMISSIONING YEAR	TOTAL FINANCIAL AMOUNT OF THE PROJECT		STATUS OF THE PROJECT IN THE PROCESS OF THE REALIZATION		
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<b>LNG Infrastructure Development for Marine Transport in the Adriatic and Ionian Seas: POSEIDON MED II PROJECT</b>	Poseidon Med II (PMII) is an EU co-financed program that aims at promoting the adoption of LNG (Liquefied Natural Gas) as marine fuel in the Eastern Mediterranean Sea, while making Greece an international marine bunkering and distribution hub for LNG in South Eastern Europe. Poseidon Med II is a partnership between 3 Mediterranean countries (Cyprus, Greece and Italy), which involves 6 European ports (Piraeus, Patras, Igoumenitsa, Heraklion, Imacso, Venice) and 1	-DEPA S.A. -DESFA S.A. -Hellenic Lloyd's S.A. -OceanFinance Ltd. -Environmental Protection Engineering S.A. - NAP Engineering P.C. - Rogan Associates S.A. - Piraeus Port Authority S.A. - Heraklion Port Authority S.A. - Patras Port Authority S.A. - Igoumenitsa Port Authority S.A. - Cyprus Ports		Maximum EU contribution: €26,639,702.5 Percentage of EU support: 50% (CEF)	Estimated total cost of the action: €53,279,405	Grant Agreement between INEA (under the Connecting Europe Facility, Transport sector) and 26 project promoters	Construction works of critical infrastructure concerning LNG supply chain will be the next step of PMII project. PMII phase only concerns detailed studies and permits for the necessary infrastructure. The only construction work that will be tendered (May 2018) within the time-frame of PMII (but outside its scope), refers to the Revythoussa LNG	Main risk is represented by the delays of the competent authorities to approve designs, studies and tender documents.

<p>LNG Terminal (Revythoussa LNG terminal). 26 top business partners have joined forces, in order to promote small scale LNG services, knowledge and experience</p>	<p>Authority -North Adriatic Sea Port Authority - Rimorchiatori Riuniti Panfido &amp; C. SRL - Minoan Lines Shipping S.A. - Blue Star Ferries Maritime S.A. - Attica Ferries Maritime Company - Shipping Company of Crete S.A. - Neptune Lines Shipping &amp; Managing Enterprises S.A. - Hellenic Seaways Maritime S.A. - Arista Shipping Co. Ltd. - Lavar Shipping S.A. - Bunkernet Ltd. - Hellenic Shortsea Shipowners Association - Association of Passenger Shipping Companies – SEEN - Centre for Research and Technology Hellas</p>			<p>Truck loading station. In this follow-up all necessary requirements for detailed studies and final assessment will be fulfilled to a great extent, whereas at a later stage a submission will take place to apply for the core construction works. All critical studies and assessments for the Revythoussa terminal and the port of Piraeus will be ready by the end of 2018</p>	

## **10. LNG Use for Maritime Transport in the Adriatic and Ionian Sea**

**Description:** Use of LNG as the preferred fuel for marine transport in the Adriatic and Ionian Sea. Engine conversion, fleet management, standards harmonisation, sharing of experiences.

**Key EUSAIR Countries involved:** Albania, Croatia, Greece, Italy, Montenegro, Slovenia.

**TSG2 Priority Action:** Clean fuels for maritime transport and their logistic.

**TSG2 Priority Sub-Actions:** Converting ship engines to dual fuel use (by the year 2020; b) Harmonising safety norms and technical standards for LNG.

**Project proposals:** a) LNG use as a marine fuel; b) Marine engine design and conversion; c) Technology spin-offs and collaborations; d) Means for the coordination of efforts by shipping companies through the Adriatic-Ionian Sea and experience sharing.

**Project promoters:** Port authorities, shipping companies, LNG suppliers.