INTERGREEN TRAININGS

A. Deliverable D.T1.3.2	B. 06 2022

Index

1. Training Topics

The training focused on identifying those results which are considered most compelling for other regions and Operators to create interest and stimulate the development of action plans, alternative fuels for the last mile logistics, and for spatial planning considering renewable energies.

With this objective in mind, three training topics were identified, corresponding to specific deliverable results and to showcase the experiences of one of the pilot sites. In this way, the audience are interduced to the main content that is required for decisions as well as the experiences of those who have applied these concepts.

Topic		Description	Target Audience
Assessing Alternative Fuel Concepts	3.1.3	Present the assessment criteria, the results of the assessment between Battery Electric Vehicles vs. Fuel Cell Electric Vehicles	Regions and Operators interested in converting fleets to alternative fuels
Developing Action Plans for Smooth Green Nodes Development	1.1.4 1.2.2	Present the steps for reaching the action plan stage & then sample action plans completed by cities	Regions Assessing the Need for Green Nodes (External to Project, perhaps in adjoining regions?)
Regional Motivations for Implementing Green Solutions	2.1-2.1.3 Toolbox development	Present the four driving motivations behind green solutions: spatial planning, transport infrastructure, renewable energies, development concepts and strategies, spatial needs	Regions Assessing the Need for Green Nodes (External to Project, perhaps in adjoining regions?)

Figure 1. Training Topics and Reference Deliverables

2. Training Logistics

The three trainings were held between April and May 2022, via Zoom (with recordings). Invitations were extended across the partnership networks and reasonable participation was obtained for all events, considering the niche area of representation. All information was distributed also to the participants, as well as the survey on the events. Few questions were issued by the participants although good discussion ensued across the panel participants on the topics.

3. Training Details

A description of the training topics, speakers and the dates of the events are included in the following figure.

Topic	Introduction		Training on Results	Training on Experiences	Duration	Date
Assessing Alternative Fuel Concepts	Backstory on the motivations for alternative fuels (5 minutes)		Overview of the assessment criteria and results of the analysis for alternative fuels (15 minutes)	Summary of considerations and motivations of Electrical Vehicles – challenges & motivations	40 minutes with 10-15 minutes of Q&A	6th of April 14:00
	Francesca Forestieri, Eurosportello	Filip Michalich TFwildau	Filip Michalich TFwildau	Leon Tietz, BEHALA		
Developing Action Plans for Smooth Green Nodes Development	Backstory on Action Plans 5 minutes)		Overview of guidelines (15 minutes	LNG investments in the Venice port system	40-minute presentation with 10-15 minutes of Q/A	26th of April 14:30
	Francesca Forestieri, Eurosportello	Eleonora De Maria e Lucio Rubini Eurosportello	Eleonora De Maria e Lucio Rubini Eurosportello	James Orlandi, Port of Venice		
Regional Motivations for Implementing Green Solutions	Backstory on Regional Motivations (5 minutes)		Spatial Issues of Greening nodes & Overview of motivations, trends across sites (20 minutes)	Outlook of a toolbox as supporting tool	45 mins presentation with 10-15 minutes of Q/A	9th of May 14:00
	Francesca Forestieri, Eurosportello	Ulrike Schuetz Joint Spatial Planning Department Berlin & Brandenburg	Ulrike Schuetz Joint Spatial Planning Berlin & Brandenburg	Sven Friedrich, INFRASTRUKTUR & UMWELT		

Figure 2: Training Details with Speakers and Dates

4. Conclusion

The trainings proved to be an effective way to communicate technical information to help stimulate discussion and pick-up beyond the project partners. The participation of additional actors and stakeholders would have been desirable and further opportunities to share these materials will be supported by the dissemination of the materials and the availability of the partners to answer any specific questions.

5. Annex: Training 6 April 2022

INTERGREEN NODES

Development of Green, Intermodal Last Mile Freight Transport in Urban Areas of Central Europe

PARTNERSHIP

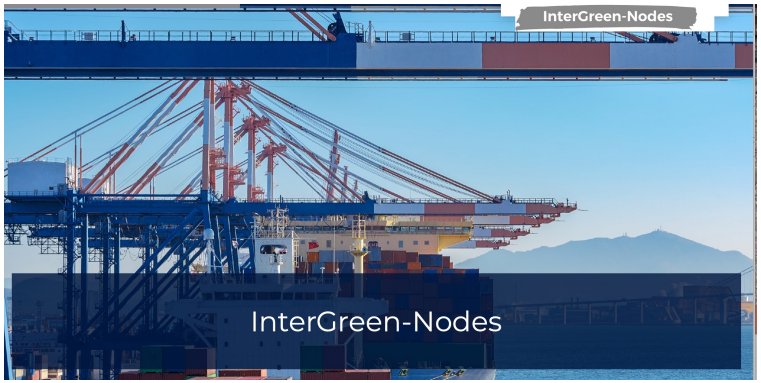
- German
  - Technical University of Applied Sciences Wildau
  - Joint Spatial Planning Department Berlin Brandenburg
  - Berlin Port and Warehouse Company
  - Rostock Port GmbH
  - Ministry of Energy, Infrastructure and Digitalization Mecklenburg-Vorpommern
- Italian
  - REGIONAL ASSOCIATION OF THE CHAMBERS OF COMMERCE INDUSTRY, HANDCRAFT AND AGRICOLTURE OF VENETO
  - Port of Venice (North Adriatic Sea Port Authority)
  - Freight Village Bologna
  - Institute for Transport and Logistics Foundation
- Hungary
  - Freeport of Budapest Logistics Ltd.
  - Pannon Business Network Association
  - KTI - Institute for Transport Sciences
- Slovenia
  - Luka Koper, port and logistic system, PLC

ASSOCIATED PARTNERS

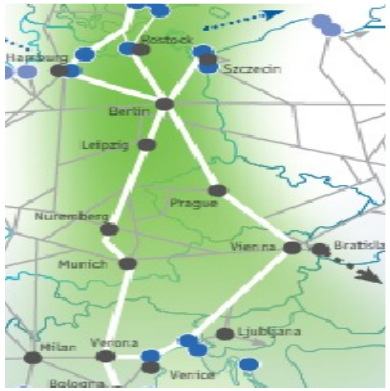
- German Federal Ministry of Transport and Digital Infrastructure
- RAM S.p.a - Inhouse Company of the Italian Ministry of Infrastructure and Transport
- Timbercoast
- ABO Wind
- e.dis

Central Europe Program

- Began in 04/2019
- Ends 06/2022



SAMPLE KEY RESULTS



Regional Action Plan for Western Transdanubia (pdf 2.0 MB)
Transnational Strategy on greening nodes (pdf 0.8 MB)
Analysis of regional preconditions of greening nodes (pdf 0.4 MB)
Regional Action Plans for greening Nodes (pdf 2.1 MB)
Transnational summary report regional needs implementing green solutions (pdf 2.7 MB)
Fact sheet for Regional Action Plan. (pdf 0.3 MB)
Fact Sheet Transnational Strategy (pdf0.3 MB)

Regional Action Plans for Budapest (ENG) (pdf 0.6 MB)
Regional Action Plans for Koper (ENG) (pdf 0.6 MB)
Regional Action Plans for Emilia Romagna (ENG) (pdf 0.4 MB)
Regional Action Plans for Berlin (ENG) (pdf 0.6 MB)

Find the documents here.

https://www.interreg-central.eu/Content.Node/InterGreen-Nodes.html

TODAY'S TRAINING FOCUS

Assessing Alternative Fuel Concepts

INTERGREEN-NODES
Online Training

INTERMODAL GREEN ALLIANCE - FOSTERING NODE

Online Access Data

06/04/2022 | 14:00 CET

Present the assessment criteria, the results of the assessment between on different alternative fuel concepts within INTERGREEN

Target Audience: Regions and Operators interested in converting fleets to alternative fuels

AGENDA

Training Session Moderator: Francesca Forestieri		
Time		
14:00	Project motivations for analysing alternative fuels	Philip Michalk University of Wildau
14:05	Overview of the assessment criteria and results of the analysis	Philip Michalk University of Wildau
14:20	Summary of considerations and motivations of behind the defined performance criteria	Leon Tietz, BEHALA
14:30	Q&A	
14:45	Finish	

TODAY'S SPEAKERS

Philip Michalck

Technische Hochschule Wildau
Technical University of Applied Sciences
WILDAU

Since 2001, TH Wildau has been among the strongest research universities in Germany. Academics are working in over 40 research groups dealing with the latest topics in applied and fundamental research. This has given the university its reputation as a centre of excellence in key scientific disciplines. The university specialises in the research fields of applied biosciences, information technology/telematics, optical technologies/photonics, production and materials, transport and logistics as well as management and law.

Leon Tiez

BEHALA is the operator of the trimodal freight hub located right in the heart of Berlin – WE ARE PORTS! We ensure that the goods flowing into Berlin find their way safe and sound to every citizen and, at the same time, are a partner to industry for all matters concerning transport solutions the world over.

A Few Reminders

COME JOIN US FOR OUR UPCOMING EVENTS

Developing Action Plans for Smooth Green Nodes Development

- 26/04/2022
- Present the steps for reaching the action plan stage & the completion of action plans in INTERGREEN
- Target Audience: Regions and Operators interested in converting fleets to alternative fuels

Regional Motivations for Implementing Green Solutions

- 9/5/22
- Present the four driving motivations behind green solutions: spatial planning, transport infrastructure, renewable energies, development concepts and strategies, spatial needs
- Target Audience: Regions and Operators interested in converting fleets to alternative fuels
- Contact
  Unioncamere Veneto
- Roberta Lazzari |
  roberta.lazzari@eurosportelloveneto.it

Final Conference

- 5th of May 2022
  10:00 - 13:00 (MEZ)
- If you are interested, please send a short message with the keyword: INTERGREEN to hartmann@th-wildau.de by 01.05.2022.

Interreg
CENTRAL EUROPE
European Union
European Regional Development Fund
InterGreen-Nodes

Clean Fuel Solutions for Port Operations - Alternative Fuel Vehicles Assessment Criteria and Results

MOTIVATION

- EU commissions 2030 Climate Target Plan: reducing greenhouse gas emissions to 55% below 1990 levels

- Other countries even more ambitious goals: Carbon neutral by 2030 (e.g. NO or regions in FI)

⇒ Pressure to implement climate friendly solutions will only rise.

INTRODUCTION

What you will have learned after todays session:

- Overview of Demonstrators in InterGreen-Nodes.
- Where to find information and Lessons Learned on these demonstrators.
- How to integrate electric vehicles into your fleet.
- Use a KPI scoreboard for decision making

Geralt - Pxabay licence original:
https://pixabay.com/de/illustrations/lernen-schule-usb-stecker-2099928/

THE DEMONSTRATORS

Rattakarn- pixabay licence - original: https://pixabay.com/de/photos/hafen-kran-port-industrie-versand-4875325/

OVERVIEW DEMONSTRATORS

Interreg CENTRAL EUROPE
InterGreen-Nodes

Cargobike Hub

Full-Electric Terminal

Electric Ship

BREEAM und LEED ratings

Solar Energy

LNG Infrastructure

H2 Energy Storage systems

WPT3

Cargobike Hub

Cargobike Hub

Where:
Berlin (Westhafen port)

What:
Developing and operating an innercity-cargobike hub on the port premise.

Potential Impact:
Shifting freight from truck to cargobike on the last mile, with the potential to use rail for the main run (using the ports rail-road transshipment facilities).

WPT3

Full-Electric Terminal

Full-Electric Terminal

Where:
Berlin (Westhafen port)

What:
Changing port operation processes from conventional (diesel) fuel driven processes to electric drives (e.g. trucks, internal terminal freight transport, general purpose cars, utility vans, rail shunting vehicles).

Potential Impact:
CO_2 reduction (exact numbers still pending).

WPT3
Electric Ship

Electric Ship

Where:
Berlin (Westhafen port)

What:
Using an electric ship (with battery electric and hydrogen energy storages) instead of diesel driven ships for transport on inland waterways.

Potential Impact:
Significant CO_2 reduction (exact numbers still pending).

WPT3

BREEAM and LEED

BREEAM und LEED ratings

Marcinjozwiak - pixabay licence - original: https://pixabay.com/de/photos/produktion-einrichtung-logistik-4408573/

Where:
Port of Budapest

What:
Using BREEAM and LEED ratings to make the effects of environmental friendly building measurable.

Potential Impact:
Environmental friendly building in the areas in energy, land use, materials, pollution, transport, waste and water.

WPT3

Solar Energy

PublicDomainPictures – pixabay licence – original: https://pixabay.com/de/photos/alternative-blau-zelle-sauber-%c3%b6ko-21581/

Where:
Berlin (Westhafen port) and Port of Koper

What:
Using solar energy to complement the energy mix used by a port.

Potential Impact:
CO_2 reduction (exact numbers still pending).

WPT3

LNG Infrastructure

LNG Infrastructure

IADE-Michoko - pixabay licence - original: https://pixabay.com/de/photos/treibstoff-pumpe-energie-zapfs%c3%a4ule-1596622/

Where:
Freight Village Bologna

What:
Developing and operating an LNG gas station for trucks, to be used by customers of the freight village.

Potential Impact:
CO_2 reduction (exact numbers still pending).

WPT3

Energy storage

United States Department of Energy - public domain-original:https://commons.wikimedia.org/wiki/File:Hydrogen_cascade_storage_system.jpg

Where:
various

What:
Using hydrogen fuel cells to store electric energy during high availability times and use them when high energy demand arises.

Potential Impact:
Flattening usage peaks and storing energy from clean energy production, making clean energy use economically more viable.

KPI-SCOREBOARD

Demonstrators

Cargobike Hub

Full-Electric Terminal

Electric Ship

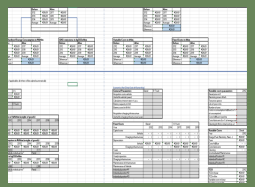
BREEAM und LEED ratings

Solar Energy

LNG Infrastructure

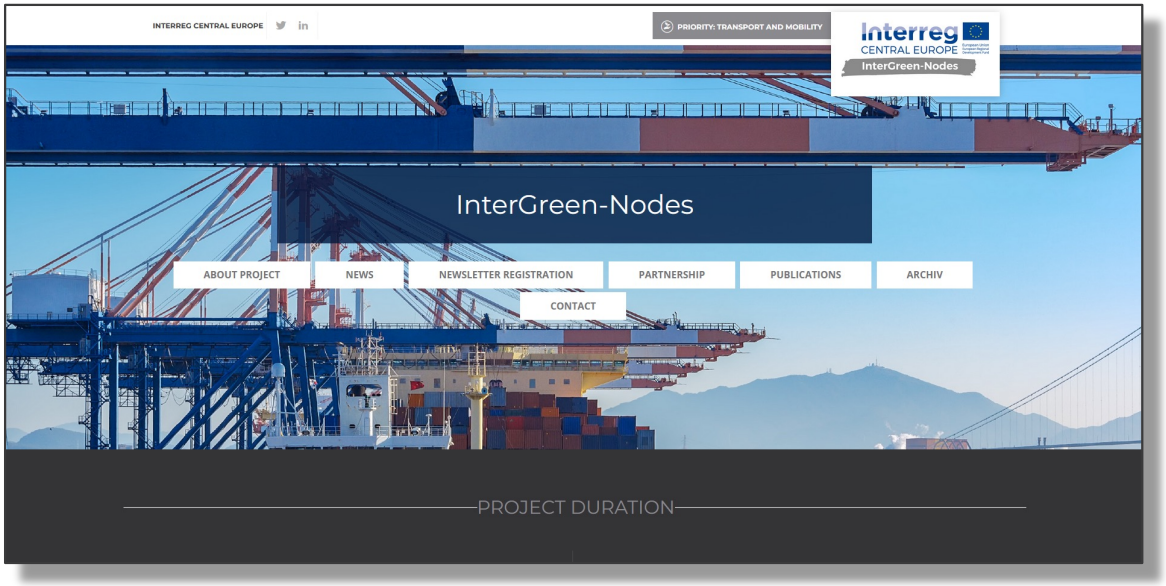
H2 Energy Storage systems

KPI Scoreboard for decision making



WHERE TO FIND MORE INFORMATION

All reports and lessons learned can be found on the project website from June on:



www.interreg-central.eu/Content.Node/InterGreen-Nodes.html

ASSESSING AND IMPLEMENTING ELECTRIC VEHICLE OPERATIONS

STEP BY STEP PROCEDURE – E-VEHICLES

Step 1:
Define your objective

Define your goal:

- Do you want to save CO_2 emissions?
- Do you want to replace your complete fleet, or do you only want to introduce a few electric vehicles into your fleet?
- What is your time frame? Do you want to change your fleet on a long term or are you looking for a short-term effect?

STEP BY STEP PROCEDURE – E-VEHICLES

Step 2:
Estimate the necessary range and annual mileage

First decide if:

a. You want to substitute your complete fleet by electric vehicles.
b. You want to substitute a certain conventional vehicle by an electric vehicle.
c. You want to substitute part of your fleet by electric vehicles.

Use your vehicle logbooks and analyse the vehicle trips.

STEP BY STEP PROCEDURE – E-VEHICLES

Step 3:
Decide on Gross-Mass and Payload

Use the gross-mass of your current fleet as an indicator and choose a gross-mass as large as the one of the vehicle(s) you wish to replace.

Research a vehicle that has the right gross mass. You will need this value for the next step.

STEP BY STEP PROCEDURE – E-VEHICLES

Step 4:
Estimate the necessary battery capacity

Battery-Capacity [kWh] =
(max. Range [km] * 0,3413 + Vehicle-Gross-Mass [t] * 1,3579 + 28,57) * 1,2

STEP BY STEP PROCEDURE – E-VEHICLES

Step 5:
Estimate your costs

Purchasing price [€] = Vehicle-Gross-Mass [t] * 2810 + Battery-Capacity [kWh] * 920 + 2262

Consumption (kWh/km) = Battery-Capacity [kWh] / max. Range [km]

STEP BY STEP PROCEDURE – E-VEHICLES

Step 6: Estimate CO_2-savings

In order to estimate your current CO_2 emission, determine the average fuel consumption per km of the vehicles you wish to substitute and multiply this number with the mileage you wish to substitute. Than multiply the result with

- In case of a Diesel-vehicle: 3.16
- In case of a Gasoline-vehicle: 2.88

The results are your current CO_2 emissions in kg, for the vehicles/tours you wish to substitute.

In order to estimate the CO_2 emissions for your planned electric vehicle(s), first ask you energy supplier for the CO2-factor per kWh. Than multiply this CO_2 -factor with the total consumption, you calculated in Step 5.

STEP BY STEP PROCEDURE – E-VEHICLES

Step 7:
Choose the proper vehicle and contact the vendor

Use the data you collected and calculated and contact your vendor.

STEP BY STEP PROCEDURE – E-VEHICLES

Step 8:
Talk to your vendor about charging infrastructure and maintenance

Clarify:

Will you need your own charging stations or are there public charging stations you could use?

- ☑ What would a quick-charging station cost and how much faster would a quick-charging station charge?
- ☑ Is it possible to install the necessary charging station on your own electric house-connection/property-connection/company connection/municipal connection.
- ☑ Will the available electric-power be sufficient (especially when charging several vehicles)

STEP BY STEP PROCEDURE – E-VEHICLES

Step 8:
Talk to your vendor about charging infrastructure and maintenance

- ☑ When using a quick charging system: Will you need a load management system?
- ☑ Can/shall the charging station-status be diagnosed via the internet for maintenance purposes?
- ☑ What services are offered within the maintenance contract for your charging station?
- ☑ Where are the next maintenance service stations for your electric vehicle?
- ☑ Does the vendor offer a maintenance contract for the vehicle?
- ☑ What services are offered within the maintenance contract for the vehicle?

STEP BY STEP PROCEDURE – E-VEHICLES

Step 8:
Talk to your vendor about charging infrastructure and maintenance

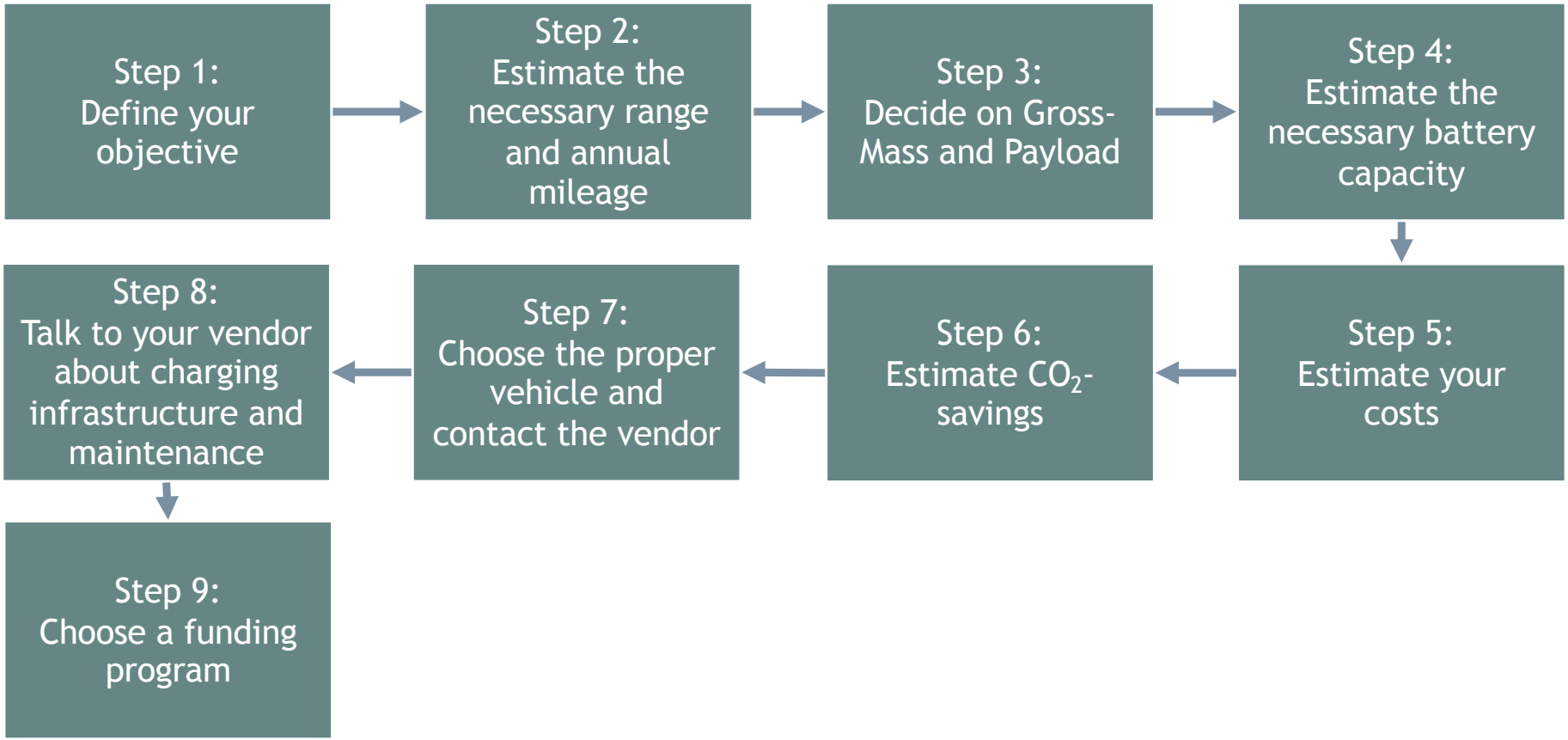
- ☑ Does the vendor offer you a guarantee on battery-life?
- ☑ Does the vendor offer you a battery exchange after a certain mileage?

STEP BY STEP PROCEDURE – E-VEHICLES

Step 9:
Choose a funding program

Contact your local chamber of commerce or economic development board and inquire about the possibility of receiving a funding for the purchase and/or operation of an electric vehicle.

STEP BY STEP PROCEDURE – E-VEHICLES SUMMARY

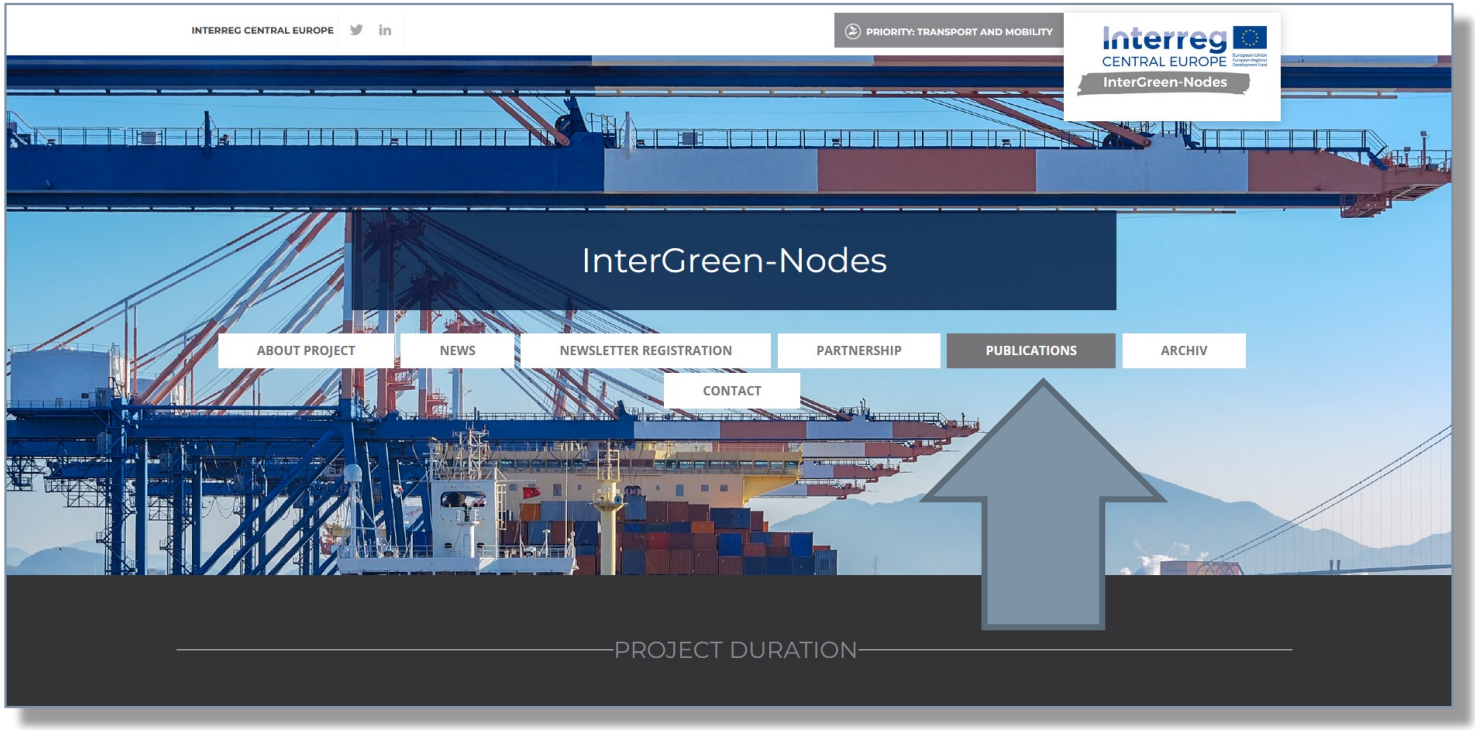


KPI SCOREBOARD

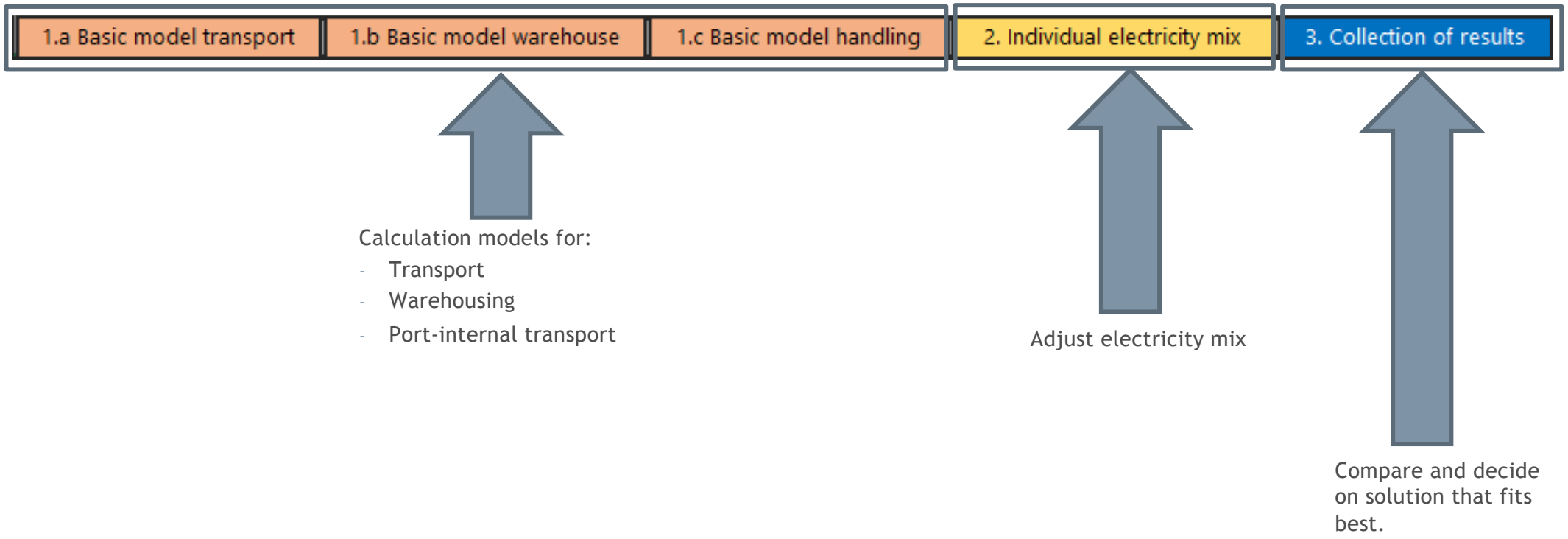
Mohamed_hassan- pixabay licence - original: https://pixabay.com/de/illustrations/kpi-indikatoren-leistung-analyse-4266500/

THE SCOREBOARD

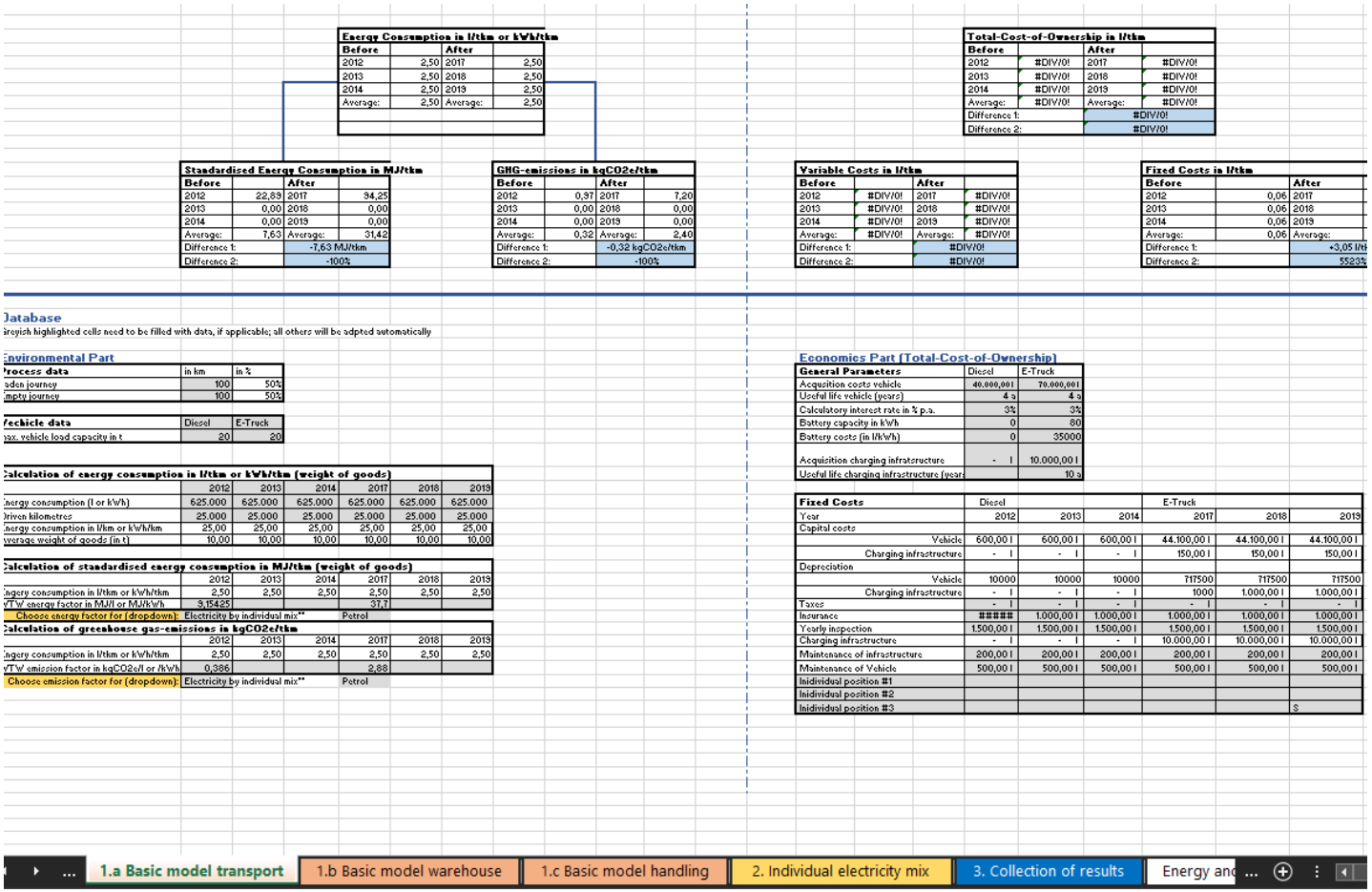
An xls-table and step by step process to decide between different climate friendly solutions.



THE SCOREBOARD



THE SCOREBOARD



Energy Consumption in l/tkm or kWh/tkm

Before		After	
2012	2,50	2017	2,50
2013	2,50	2018	2,50
2014	2,50	2019	2,50
Average:	2,50	Average:	2,50

Total-Cost-of-Ownership in l/tkm

Before		After	
2012	#DIV/0!	2017	#DIV/0!
2013	#DIV/0!	2018	#DIV/0!
2014	#DIV/0!	2019	#DIV/0!
Average:	#DIV/0!	Average:	#DIV/0!
Difference 1:		#DIV/0!	
Difference 2:		#DIV/0!	

Standardised Energy Consumption in MJ/tkm

Before		After	
2012	22,89	2017	34,25
2013	0,00	2018	0,00
2014	0,00	2019	0,00
Average:	7,63	Average:	31,42
Difference 1:		-7,63 MJ/tkm	
Difference 2:		-100%	

GHG-emissions in kgCO2e/tkm

Before		After	
2012	0,37	2017	7,20
2013	0,00	2018	0,00
2014	0,00	2019	0,00
Average:	0,32	Average:	2,40
Difference 1:		-0,32 kgCO2e/tkm	
Difference 2:		-100%	

Variable Costs in l/tkm

Before		After	
2012	#DIV/0!	2017	#DIV/0!
2013	#DIV/0!	2018	#DIV/0!
2014	#DIV/0!	2019	#DIV/0!
Average:	#DIV/0!	Average:	#DIV/0!
Difference 1:		#DIV/0!	
Difference 2:		#DIV/0!	

Fixed Costs in l/tkm

Before		After
2012	0,06	2017
2013	0,06	2018
2014	0,06	2019
Average:	0,06	Average:
Difference 1:		+3,05 l/t
Difference 2:		5523%

Database

Greyish highlighted cells need to be filled with data, if applicable; all others will be adpted automatically

Environmental Part

Process data	in km	in %
Laden journey	100	50%
Empty journey	100	50%

Vechicle data	Diesel	E-Truck
Max. vehicle load capacity in t	20	20

Calculation of energy consumption in l/tkm or kWh/tkm (weight of goods)

	2012	2013	2014	2017	2018	2019
Energy consumption (l or kWh)	625.000	625.000	625.000	625.000	625.000	625.000
Driven kilometres	25.000	25.000	25.000	25.000	25.000	25.000
Energy consumption in l/km or kWh/km	25,00	25,00	25,00	25,00	25,00	25,00
Average weight of goods (in t)	10,00	10,00	10,00	10,00	10,00	10,00

Calculation of standardised energy consumption in MJ/tkm (weight of goods)

	2012	2013	2014	2017	2018	2019
Energy consumption in l/tkm or kWh/tkm	2,50	2,50	2,50	2,50	2,50	2,50
WTW energy factor in MJ/l or MJ/kWh	3,15425			37,7		
Choose energy factor for (dropdown):	Electricity by individual mix**			Petrol		

Calculation of greenhouse gas-emissions in kgCO2e/tkm

	2012	2013	2014	2017	2018	2019
Energy consumption in l/tkm or kWh/tkm	2,50	2,50	2,50	2,50	2,50	2,50
WTW emission factor in kgCO2e/l or /kWh	0,386			2,88		
Choose emission factor for (dropdown):	Electricity by individual mix**			Petrol		

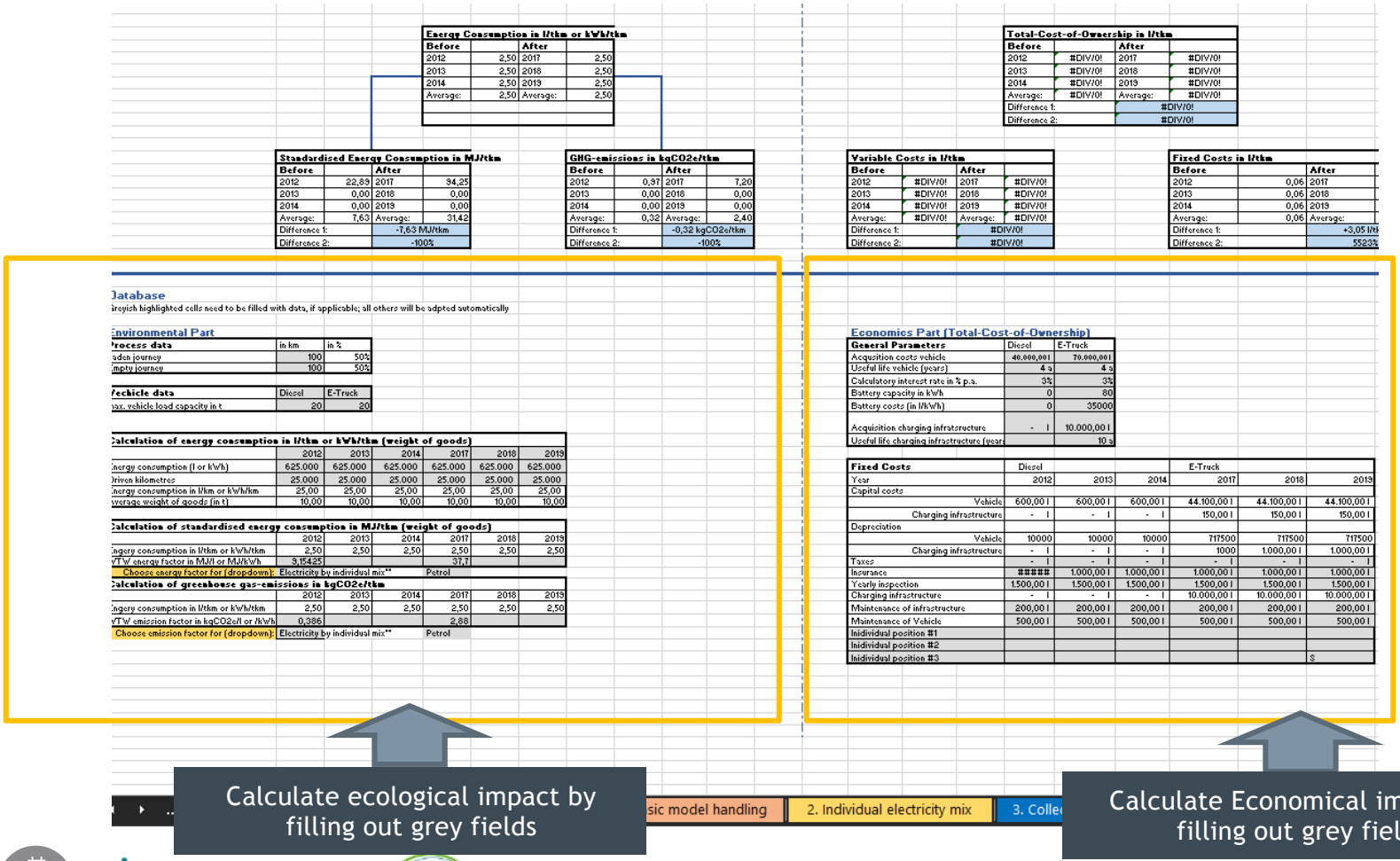
Economics Part (Total-Cost-of-Ownership)

General Parameters	Diesel	E-Truck
Acquisition costs vehicle	40.000,00 l	70.000,00 l
Useful life vehicle (years)	4 a	4 a
Calculatory interest rate in % p.a.	3%	3%
Battery capacity in kWh	0	80
Battery costs (in l/kWh)	0	35000
Acquisition charging infrastructure	- l	10.000,00 l
Useful life charging infrastructure (years		10 a

Fixed Costs	Diesel			E-Truck		
Year	2012	2013	2014	2017	2018	2019
Capital costs						
Vehicle	600,00 l	600,00 l	600,00 l	44.100,00 l	44.100,00 l	44.100,00 l
Charging infrastructure	- l	- l	- l	150,00 l	150,00 l	150,00 l
Depreciation						
Vehicle	10000	10000	10000	717500	717500	717500
Charging infrastructure	- l	- l	- l	1000	1.000,00 l	1.000,00 l
Taxes	- l	- l	- l	- l	- l	- l
Insurance	#####	1.000,00 l	1.000,00 l	1.000,00 l	1.000,00 l	1.000,00 l
Yearly inspection	1.500,00 l	1.500,00 l	1.500,00 l	1.500,00 l	1.500,00 l	1.500,00 l
Charging infrastructure	- l	- l	- l	10.000,00 l	10.000,00 l	10.000,00 l
Maintenance of infrastructure	200,00 l	200,00 l	200,00 l	200,00 l	200,00 l	200,00 l
Maintenance of Vehicle	500,00 l	500,00 l	500,00 l	500,00 l	500,00 l	500,00 l
Individual position #1						
Individual position #2						
Individual position #3						$

1.a Basic model transport | 1.b Basic model warehouse | 1.c Basic model handling | 2. Individual electricity mix | 3. Collection of results | Energy and ...

THE SCOREBOARD



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Difference 2:		#DIV/0!	

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Difference 1:		+3,05 l/t	
Difference 2:		5523%	

Database

Greyish highlighted cells need to be filled with data, if applicable; all others will be adpted automatically

Environmental Part

Process data	in km	in %
Laden journey	100	50%
Empty journey	100	50%

Vechicle data	Diesel	E-Truck
Max. vehicle load capacity in t	20	20

Calculation of energy consumption in l/tkm or kWh/tkm (weight of goods)

	2012	2013	2014	2017	2018	2019
Energy consumption (l or kWh)	625.000	625.000	625.000	625.000	625.000	625.000
Driven kilometres	25.000	25.000	25.000	25.000	25.000	25.000
Energy consumption in l/km or kWh/km	25,00	25,00	25,00	25,00	25,00	25,00
Average weight of goods (in t)	10,00	10,00	10,00	10,00	10,00	10,00

Calculation of standardised energy consumption in MJ/tkm (weight of goods)

	2012	2013	2014	2017	2018	2019
Energy consumption in l/tkm or kWh/tkm	2,50	2,50	2,50	2,50	2,50	2,50
WTW energy factor in MJ/l or MJ/kWh	3,1542			31,7		
Choose energy factor for (dropdown):	Electricity by individual mix**			Petrol		

Calculation of greenhouse gas-emissions in kgCO2e/tkm

	2012	2013	2014	2017	2018	2019
Energy consumption in l/tkm or kWh/tkm	2,50	2,50	2,50	2,50	2,50	2,50
WTW emission factor in kgCO2e/l or /kWh	0,386			2,88		
Choose emission factor for (dropdown):	Electricity by individual mix**			Petrol		

Economics Part (Total-Cost-of-Ownership)

General Parameters	Diesel	E-Truck
Acquisition costs vehicle	40.000,00 l	70.000,00 l
Useful life vehicle (years)	4 a	4 a
Calculatory interest rate in % p.a.	3%	3%
Battery capacity in kWh	0	80
Battery costs (in l/kWh)	0	35000
Acquisition charging infrastructure	- l	10.000,00 l
Useful life charging infrastructure (years		10 a

Fixed Costs	Diesel			E-Truck		
Year	2012	2013	2014	2017	2018	2019
Capital costs						
Vehicle	600,00 l	600,00 l	600,00 l	44.100,00 l	44.100,00 l	44.100,00 l
Charging infrastructure	- l	- l	- l	150,00 l	150,00 l	150,00 l
Depreciation						
Vehicle	10000	10000	10000	717500	717500	717500
Charging infrastructure	- l	- l	- l	1000	1.000,00 l	1.000,00 l
Taxes	- l	- l	- l	- l	- l	- l
Insurance	#####	1.000,00 l	1.000,00 l	1.000,00 l	1.000,00 l	1.000,00 l
Yearly inspection	1.500,00 l	1.500,00 l	1.500,00 l	1.500,00 l	1.500,00 l	1.500,00 l
Charging infrastructure	- l	- l	- l	10.000,00 l	10.000,00 l	10.000,00 l
Maintenance of infrastructure	200,00 l	200,00 l	200,00 l	200,00 l	200,00 l	200,00 l
Maintenance of Vehicle	500,00 l	500,00 l	500,00 l	500,00 l	500,00 l	500,00 l
Individual position #1						
Individual position #2						
Individual position #3						$

sic model handling | 2. Individual electricity mix | 3. Colle

Calculate ecological impact by filling out grey fields

Calculate Economical impact by filling out grey fields

THE SCOREBOARD

Please insert values in greyish highlighted cells:

	Proportion of energy source on electricity mix in %		
Nuclear power	0,9%		
Coal	22,6%		
Natural gas	22,1%		
Renewables	52,9%		
Oil and other fossil fuels	1,5%	Sum:	100,0%
Individual energy factor	9,154 MJ/kWh		
Individual emission factor	0,386 kgCO2e/kWh		

Calculation with:

	Energy factor WTW (MJ/kWh)	Emission factor WTW (gCO2e/kWh)
Nuclear power	11,7	28
Coal	9,95	1070
Natural gas	7,8	454
Renewables	9,3	55,57
Oil and other fossil fuels	10,45	976,5

Source: BMVI 2014 - Berechnung des Energieverbrauchs und der Treibhausgasemissionen des ÖPNV; p. 30ff.

... | 1.a Basic model transport | 1.b Basic model warehouse | 1.c Basic model handling | 2. Individual electricity mix | 3. Colle

Adjust energy mix in order to adjust emission factor

THE SCOREBOARD

Possible Decision Criteria:

"The solution with the biggest reduction of GHG-emissions compared to the current technology in absolute numbers will be chosen." --> Consult the green column

"The solution with the biggest reduction of GHG-emissions compared to the current technology in percent will be chosen." --> Consult the yellow column

"The cheapest solution that is still providing at least a minimal reduction of GHG-emissions will be chosen." --> Consult the blue column and check the other two to see if there is a reduction

Solution	Absolute reduction of GHG-emissions (GHG-emissions;Difference 1)	Relative reduction of GHG-emissions (GHG-emissions;Difference 2)	TCO/reference unit
Solution 1			
Solution 2			
Solution 3			
Solution 4			
Solution 5			
Solution 6			
Solution 7			
Solution 8			
Solution 9			
Solution 10			

1.a Basic model transport | 1.b Basic model warehouse | 1.c Basic model handling | 2. Individual electricity mix | 3. Collection of results | Energy and ...

Collect results here and sort by preferred decision factor

Berliner Hafen- und Lagerhausgesellschaft mbH

What´ s our business?

WIR SIND HAFEN!

Operator of two trimodal ports in the capital of Germany

- Railway company
- Container terminal
- Transhipment of bulk cargo, general cargo and heavy cargo
- Storage in outdoor storage areas, halls and silos
- Approx. 150.000 TEU / year and 4.500.000 t cargo handling / year

Electric vehicles at BEHALA

WIR SIND HAFEN!

BEHALA
HAUPTSTADT.LOGISTIK

Electric vehicles at BEHALA

WIR SIND HAFEN!

Total fleet: 18 vehicles street legal (11x fully electric; 3x CNG; 2x Hybrid; 2x Diesel)

Multipurpose and favourite car:

Nissan NV-200
22.000 € net
250 km real range
Different equipment possible

BEHALA HAUPTSTADT.LOGISTIK

What is not possible?

WIR SIND HAFEN!

Heavy diesel powered handling equipment

excavator, wheel loader, reachstacker, heavy forklifter (Container), locomotive

(not enough energy density for all day use + not affordable)



Transporter for craftsman with on call duty

not enough range + not affordable

BEHALA
HAUPTSTADT.LOGISTIK

Disadvantages?

WIR SIND HAFEN!

It´ s better not getting cold

massive restriction in possible uses in winter (due battery capacity and heating)

If it´ s empty, it´ s empty

compared to refueling, charging needs a lot of time

Lifespan of batterys

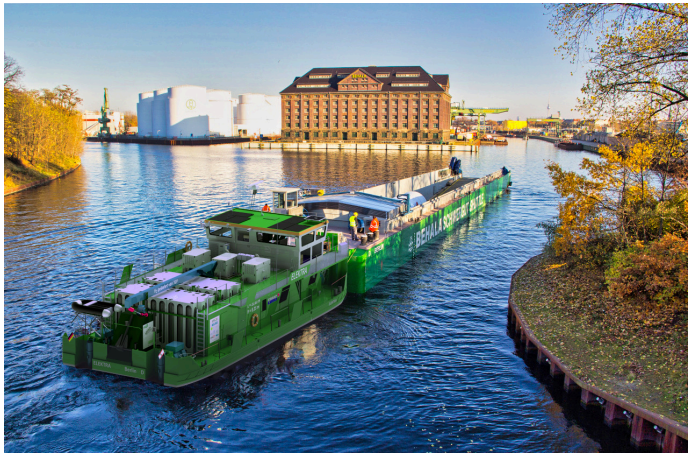
until now it´ s not clear, how long the different batterysystems will last

Conclusion?

WIR SIND HAFEN!

The Usecase decides the choice

(There are more possibilities in renewable „fuels“)



BEHALA
HAUPTSTADT.LOGISTIK

Questions?

WIR SIND HAFEN!

M.Sc. Leon Tietz

Stv. Leiter Logistik
E-Mail: l.tietz@behala.de
Mobil: 0173 / 6290842

BEHALA
HAUPTSTADT.LOGISTIK

SURVEY

Please take the time to provide us feedback on this training – we would love to know what you liked best and if you would like more information:

https://form.unioncamereveneto.it/967361

6. Annex: Training 26 April 2022

INTERGREEN NODES

Development of Green, Intermodal Last Mile Freight Transport in Urban Areas of Central Europe

PARTNERSHIP

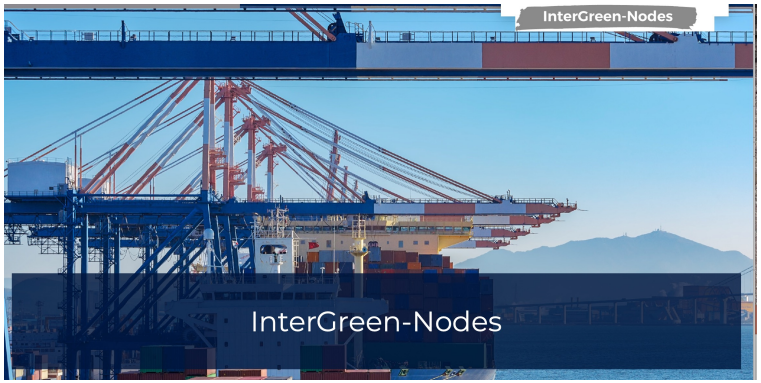
- German
  - Technical University of Applied Sciences Wildau
  - Joint Spatial Planning Department Berlin Brandenburg
  - Berlin Port and Warehouse Company
  - Rostock Port GmbH
  - Ministry of Energy, Infrastructure and Digitalization Mecklenburg-Vorpommern
- Italian
  - REGIONAL ASSOCIATION OF THE CHAMBERS OF COMMERCE INDUSTRY, HANDCRAFT AND AGRICOLTURE OF VENETO
  - Port of Venice (North Adriatic Sea Port Authority)
  - Freight Village Bologna
  - Institute for Transport and Logistics Foundation
- Hungary
  - Freeport of Budapest Logistics Ltd.
  - Pannon Business Network Association
  - KTI - Institute for Transport Sciences
- Slovenia
  - Luka Koper, port and logistic system, PLC

ASSOCIATED PARTNERS

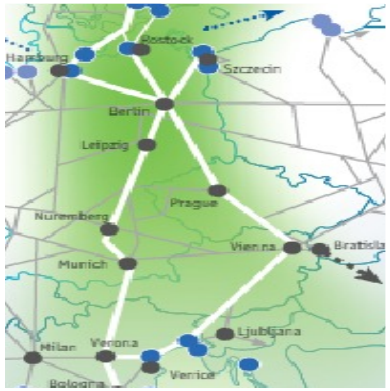
- German Federal Ministry of Transport and Digital Infrastructure
- RAM S.p.a - Inhouse Company of the Italian Ministry of Infrastructure and Transport
- Timbercoast
- ABO Wind
- e.dis

Central Europe Program

- Began in 04/2019
- Ends 06/2022



SAMPLE KEY RESULTS



Regional Action Plan for Western Transdanubia (pdf 2.0 MB)
Transnational Strategy on greening nodes (pdf 0.8 MB)
Analysis of regional preconditions of greening nodes (pdf 0.4 MB)
Regional Action Plans for greening Nodes (pdf 2.1 MB)
Transnational summary report regional needs implementing green solutions (pdf 2.7 MB)
Fact sheet for Regional Action Plan. (pdf 0.3 MB)
Fact Sheet Transnational Strategy (pdf0.3 MB)

Regional Action Plans for Budapest (ENG) (pdf 0.6 MB)
Regional Action Plans for Koper (ENG) (pdf 0.6 MB)
Regional Action Plans for Emilia Romagna (ENG) (pdf 0.4 MB)
Regional Action Plans for Berlin (ENG) (pdf 0.6 MB)

Find the documents here.

https://www.interreg-central.eu/Content.Node/InterGreen-Nodes.html

TODAY'S TRAINING FOCUS

Developing Action Plans for Smooth Green Nodes Development

INTERGREEN-NODES
Online Training

INTERMODAL GREEN ALLIANCE - FOSTERING NODES

Online Access Data
26/04/2022 | 14:30 CET

Present the steps for reaching the action plan stage & the completion of action plans in INTERGREEN

Target Audience: Regions and Operators interested in converting fleets to alternative fuels

AGENDA

Training Session Moderator: Francesca Forestieri		
Time		
14:30	Project motivations for developing action plans	Eleonora De Maria e Lucio Rubini Eurosportello
14:05	Overview of the guidelines for the action plans	Eleonora De Maria e Lucio Rubini Eurosportello
14:20	Presentation of a completed action plan, demonstrating their experiences, the pros and cons captured by the guidelines and major challenges	James Orlandi Port of Venezia
14:40	Q&A	
14:45	Finish	

DEVELOPING ACTION PLANS FOR SMOOTH GREEN NODES DEVELOPMENT

Eleonora Di Maria - Lucio Rubini

MOTIVATIONS

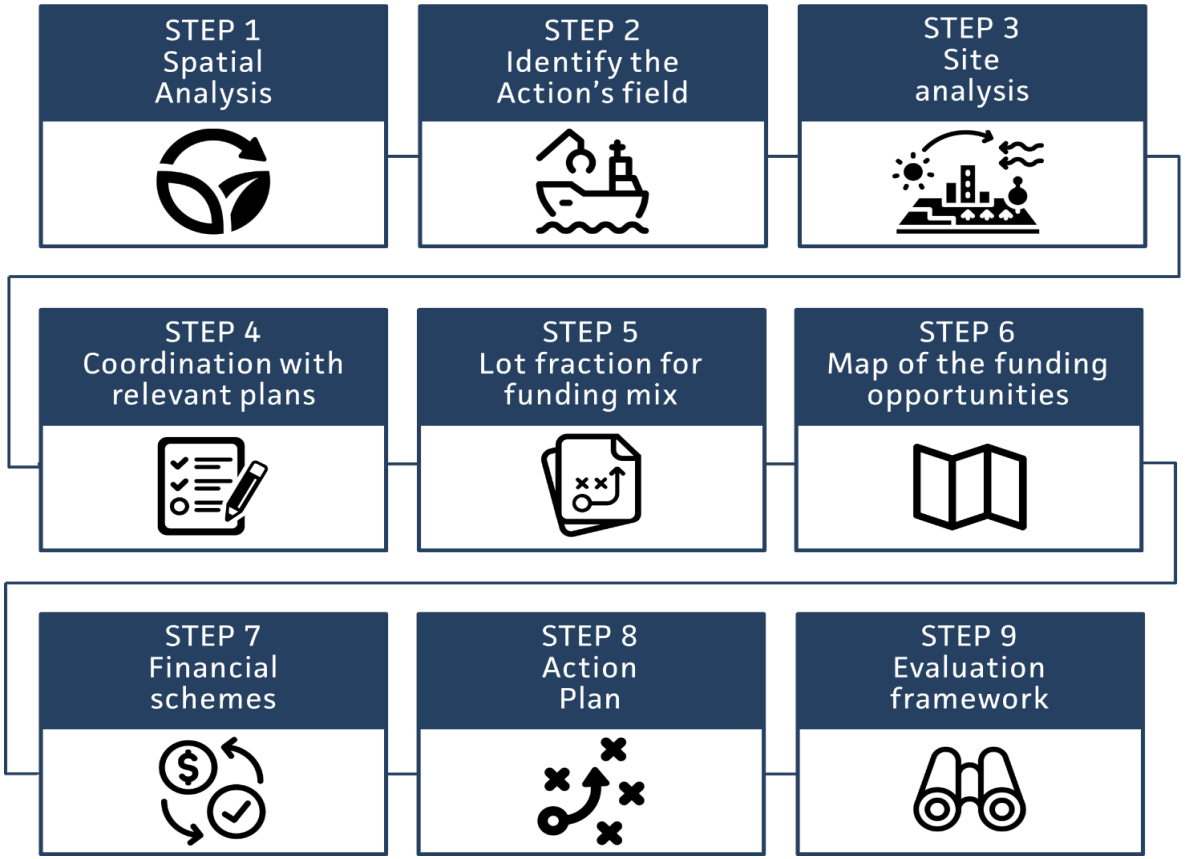
- Reducing the environmental impacts of last mile transport both in relation to citizen movement and freight delivery services
- Multiple trade-offs to manage (demand concentration, infrastructure development and management, value chain riconfiguration)
- Green New Deal and Circular economy action plan at the EU level asks for attention on resource-saving strategies and environmental orientation of procurement practices

INTRODUCTION

What you will have learned after todays session:

- Guidelines for smooth green nodes development: inputs from InterGreen-Nodes
- How to build an action plan: check-list
- Development of a real action plan (learning from the Venice case study)

GUIDELINES FOR SMOOTH GREEN NODES DEVELOPMENT



STEP 1 Spatial Analysis	GOAL & IMPLEMENTATION • identify the main objective, the location, and the correlation (links) with the other existing infrastructures. OUTPUT • To set the project's limits to identify the correct field of action and the preliminary project framework.

STEP 2 Identify the Action fields	GOAL & IMPLEMENTATION • To define the actions' scope for the further investigation of funding opportunities and legal frameworks. • The suggestion is to think "*out of the box*" to identify creatively all the possible large-scale impacts of the investment. OUTPUT • Outline of the Action Plan's impacts on social, environment, employment aspects.

GOAL & IMPLEMENTATION

- Analysis of project location must be conducted in the relation to: (1) main corridors, such as comprehensive or (2) core network. Other analysis has to be conducted in relation with further territorial layers and programs, i.e. SIC areas, Natura 2000, waterways, urban nodes, rural development areas, etc.

OUTPUT

- Map of site's peculiarities to be matched further to the specific funding programs.

STEP 4
Coordination with relevant plans

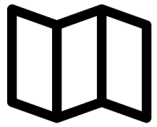
GOAL & IMPLEMENTATION

- The planning coherence must be verified through the analysis of planning framework, masterplans, urban rules.

OUTPUT

- Checklist of coherence with overall strategies at various territorial levels (local – e.g. SUMPs, regional, national, EU) and interdependent sectors (e.g. SEAPs, SECAPs, etc).

STEP 5 **Lot fraction for funding mix** 	**GOAL & IMPLEMENTATION** • A project can often been split in lots/parts according to a set of criteria-, such as geographical, physical, thematical features, as well as for administrative or regulatory aspects. • To split as much as possible the initiative can multiply the funding opportunities consistently with the goal and the territorial level considered. • Attention should be paid also on the operational activities after the project implementation, such as all the needs for the correct maintenance and management. This topic is particularly relevant for specific finance schemes with private investors. **OUTPUT** • Scheme of lot/part fractions to be matched to funding opportunities. Studies such as demand analyses or environmental impact analysis can easily funded by interregional or cooperation projects, while design or construction phases can be funded by European or local initiates (see Deliverable 1.1.2)

STEP 6 **Map of the funding opportunities** 	**GOAL & IMPLEMENTATION** • Based on the features identified in the previous steps, the proper funding opportunity can be identified. The process can be iterative for each lot of the project (please refer to the Deliverable T.1.1.2, which can effectively help to select all the opportunities). **OUTPUT** • Map / Database of funding opportunities with main key features: type of funds, topics, eligibility, type of finance coverage, co-financing, period of application, rules for application

STEP 7 **Financial schemes** 	**GOAL & IMPLEMENTATION** • Increase the interaction among private and public subjects. As reference the project deliverable T.1.1.3 can be an effective help to go thought some European best practices development with different funding and administrative /financial schemes. **OUTPUT** • Financial schemes for the development, building and management phase.

STEP 8 Action Plan 	**GOAL & IMPLEMENTATION** • Link the outputs of all the previous steps with the scheme of the implementation lots, accompanied by financial opportunities for each lot and fields of action. **OUTPUT** • A table reporting in row a short description for each lot and in column the estimated costs, funding opportunities and preliminary time schedule. The final row, as a sum of all the lots, reports the selected financial/administrative schemes that has been chosen for project building and management

STEP 9 Evaluation framework

GOAL & IMPLEMENTATION

- An evaluation framework is developed and discussed to holistically address and identify the sustainability targets and indicators of the proposed actions since the beginning. It should be emphasized that assessment relates to strategic planning and addresses measures of different types and levels of maturity. The Framework would follow a before/after ("as is" vs "to be" scenarios) assessment approach.

OUTPUT

- Evaluation Plan for elaborating financial, socio-economic and environmental assessment using selected indicators

SUPPORT ACTION PLAN DEVELOPMENT

How to support **transferability and scalability of pilot actions or projects at the territorial level (i.e. in ports)?**

Relevant variables to consider

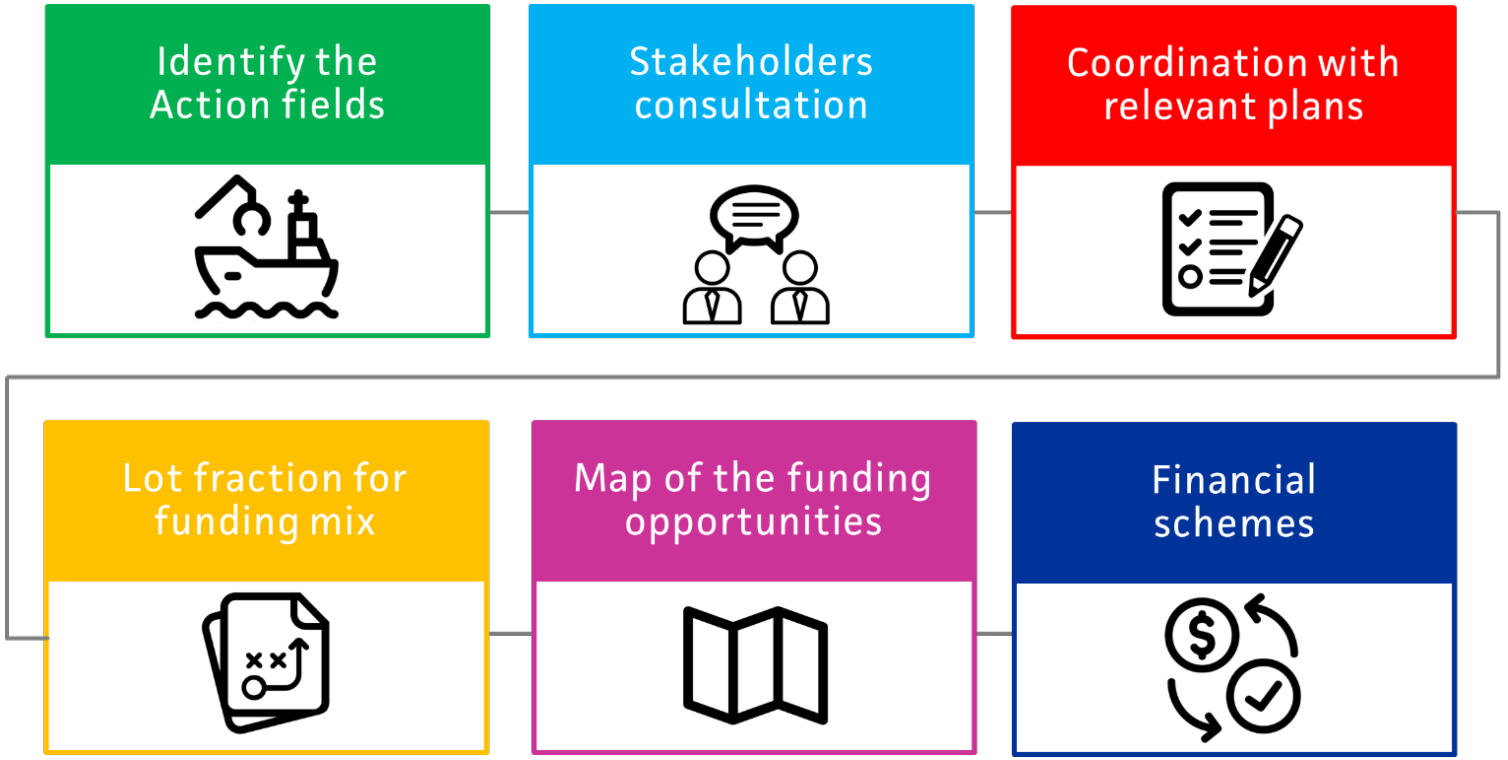
(1) Stakeholders consultation

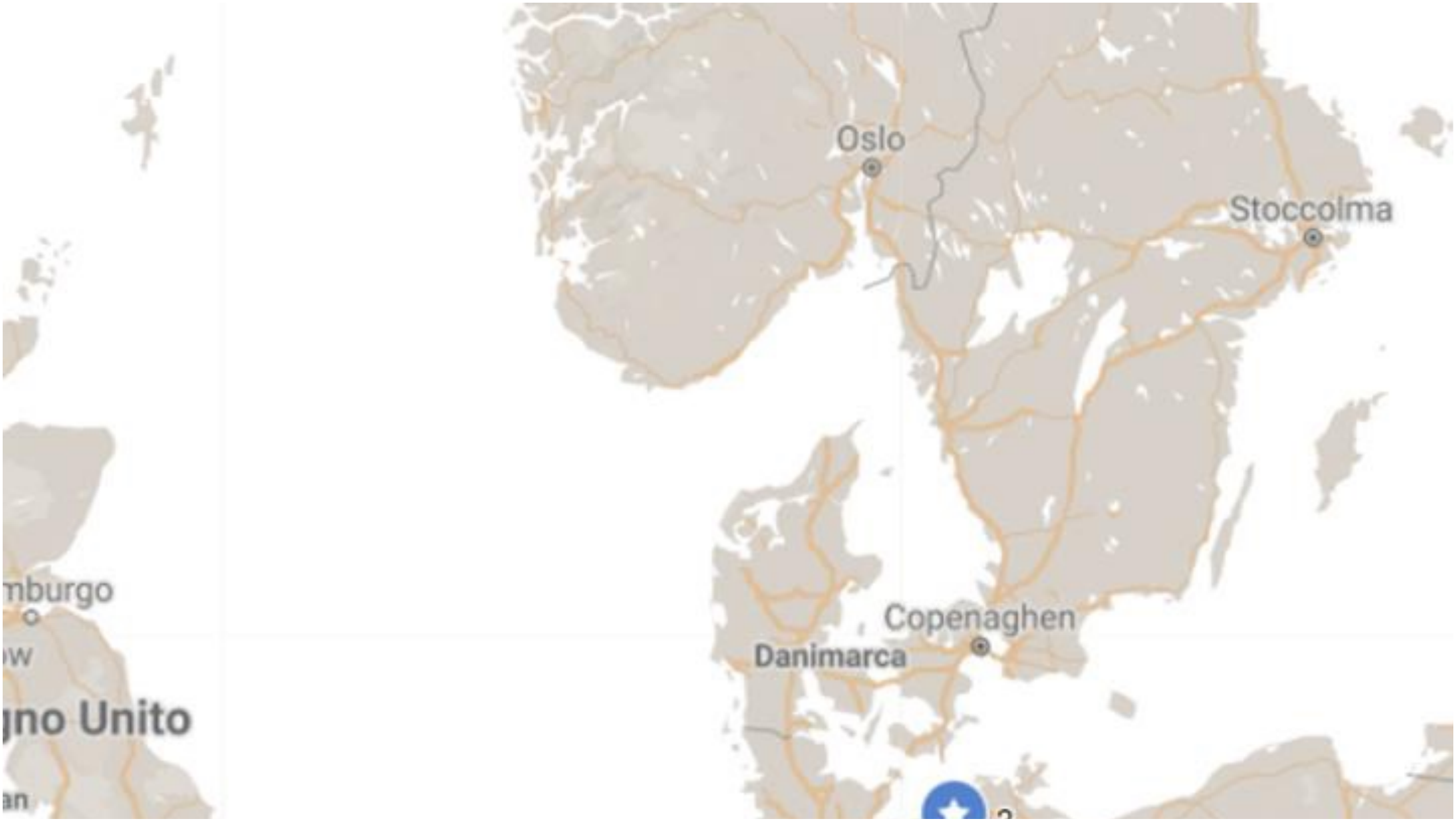
(2) Coordination with relevant Plans

(3) Funding mix

(4) Financial scheme

GUIDELINES FOR ACTION PLANS




Oslo
Stoccolma
Copenaghen
Danimarca
mburgo
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an

INPUTS FROM BEST PRACTICES

- Implementation of **public-private co-operations**

-> crucial for the success:

  - to build effective forms of cooperation among public institutions and private partners (firms with different specializations and role within the last mile logistics solutions developed)
  - PPP for Decision-making process
  - Cooperation since the beginning of the project

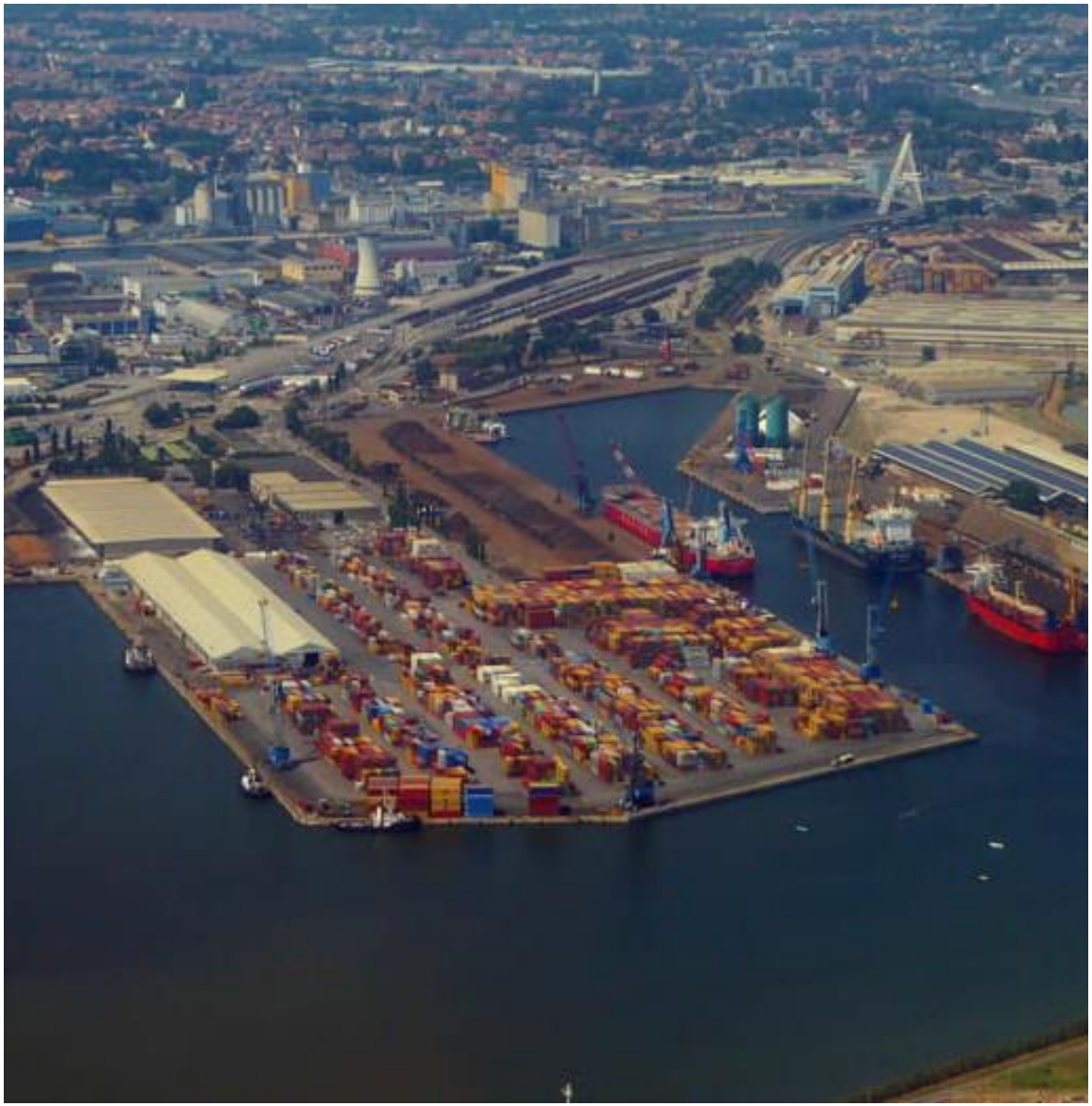
- European scheme as a reference point, in particular for standard definition and benchmarking
- Mix of funding solutions (where public funds can be relevant also in case of fully private last mile solutions)

North Adriatic Sea Port Authority
Ports of Venice and Chioggia

LNG invetsments in the Venice port system

26 April 2022

PORT OF VENICE
WHERE THE EARTH REVOLVES AROUND THE SEA

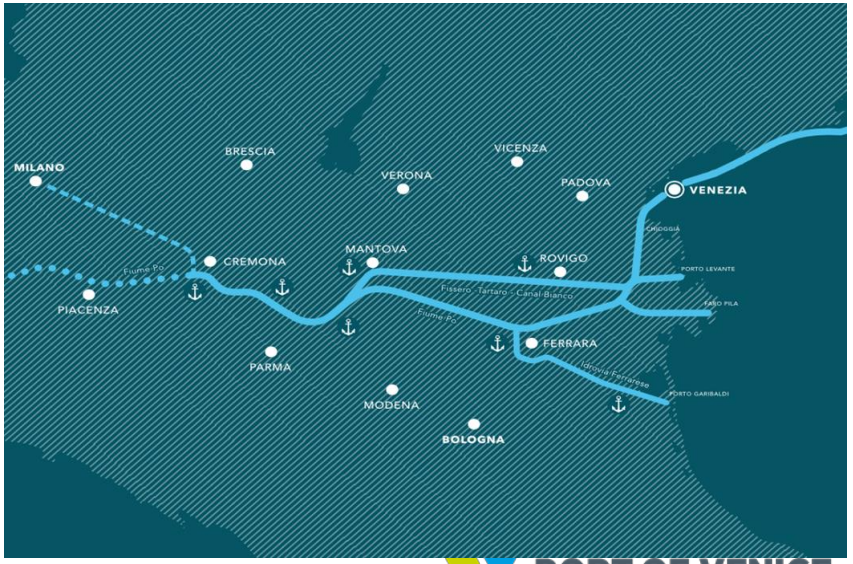


NORTH ADRIATIC SEA PORT AUTHORITY

Port of Venezia (Core)
Port of Chioggia (Comprehensive)

Unique port in Italy combining all transport modes:

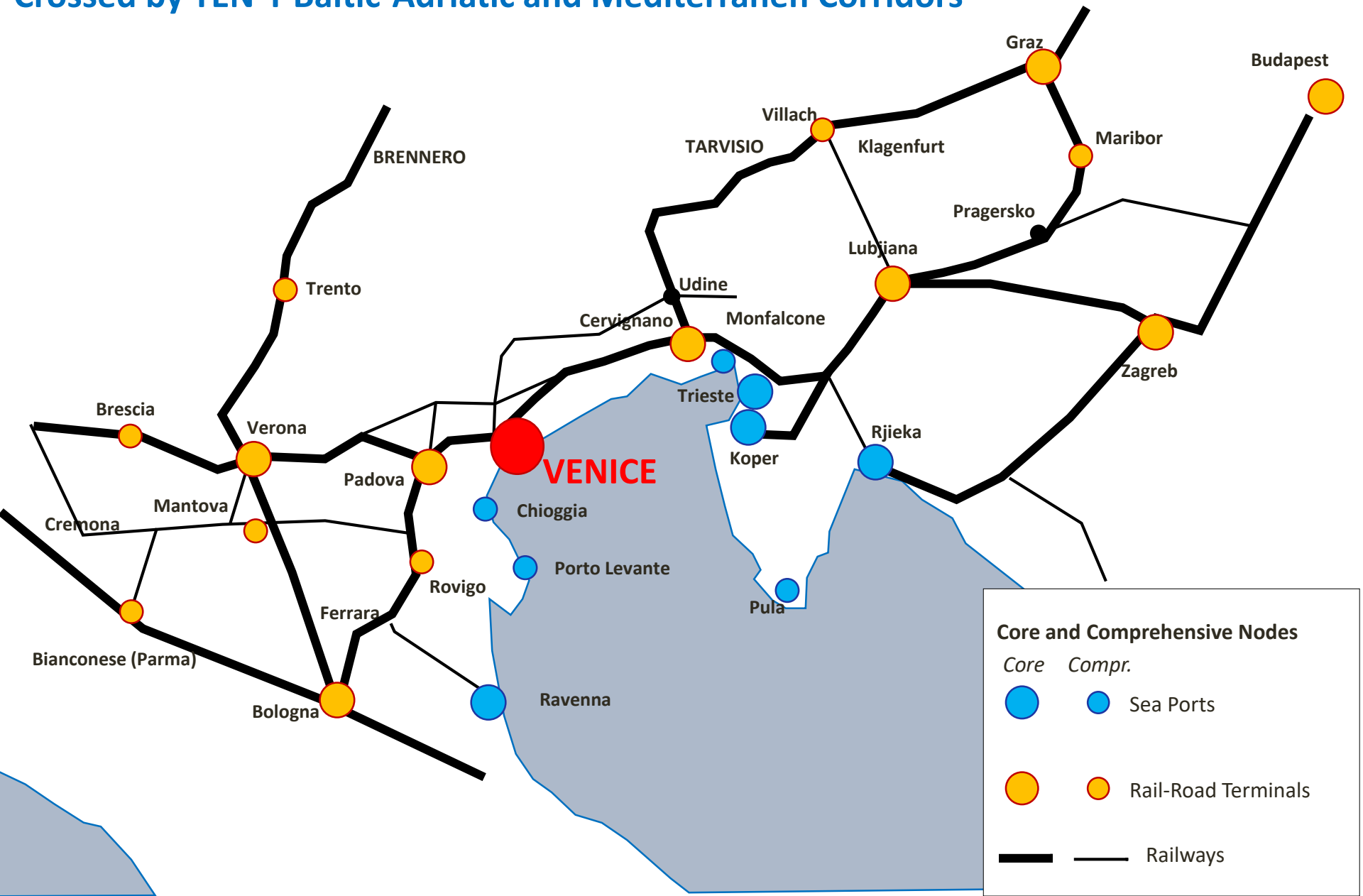
- Maritime
- Railways
- Road
- IWW



PORT OF VENICE
WHERE THE EARTH REVOLVES AROUND THE SEA

NORTH ADRIATIC LOGISTICS CLUSTER

Crossed by TEN-T Baltic-Adriatic and Mediterranen Corridors



ITALIAN LNG STRATEGY: GAINN IT INITIATIVE

The «**Italian Alternative Fuels infrastructure Network**» coordinated by the Italian Ministry of Infrastructure and Transport (MIT) according to the **D.Lgs n. 257 of 16.12.2016** adopting the EU Directive 2014/94/UE

ITALIAN POLICY FRAMEWORK
3 NATIONAL LNG GRIDS

- **Thyrrenian-Ligurian**: Genova, La Spezia and Livorno
- **South-Italy**: Augusta, Messina
- **Adriatic-Ionian:** Venice, Ravenna and Ancona

VENICE

LNG Terminal 30.000 m3 by 2024
Lng bunkering barge «mobile infrastructure» for the Adriatic-Ionian grid

Co-financed by the European Union
Connecting Europe Facility

A NEW LNG FACILITY

The new **LNG storage** will be located within the area of **Decal** terminal in Porto Marghera

North Adriatic Sea Port Authority
Ports of Venice and Chioggia

PORT OF VENICE
WHERE THE EARTH REVOLVES AROUND THE SEA

LNG TERMINAL (2)

- Full maritime, rail and road accessibility.
- Connections to North Adriatic ports and IWW of North Italy
- **18.5 M €** co-financed by CEF Programme (2017 Blending call)
- Permitting phase closing in **December 2020** (EIA national)
- Works completed by the **end of 2024**

North Adriatic Sea Port Authority
Ports of Venice and Chioggia

PORT OF VENICE
WHERE THE EARTH REVOLVES AROUND THE SEA

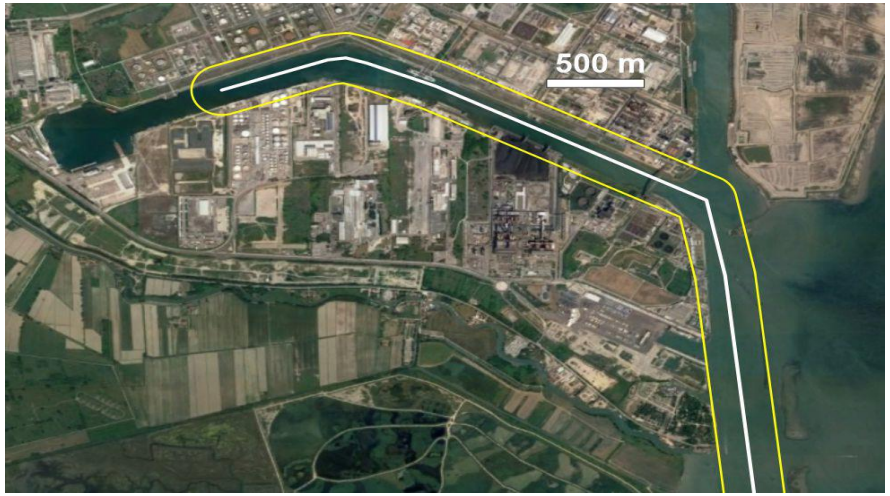
PORT NAVIGATION RISK ANALYSIS

Risk analysis to support local authority to discipline LNG ships navigation in the port.

- **co-presence of other port activities**
- **Interference of traffic of other ships**.

Both geometrical constraints and operative constraints have been considered.

Minor mitigation measures to be adopted.



LNG BUNKERING VESSEL

Prototype of «bunkering barge» for LNG transport and refuelling

- Ability to carry large volume of LNG (4.000 m3);
- Dual fuel propulsion system (diesel/Lng);
- **First solution in the Adriatic sea**, able to serve North Adriatic ports and Italian Inland waterways system (“wider benefits”).
- **Total investment: 36 M. €**
- **9.5 M €** co-financed by CEF Programme **(Poseidon Med II project)**

North Adriatic Sea Port Authority
Ports of Venice and Chioggia

Co-financed by the Connecting Europe Facility of the European Union

POSEIDON MED II LNG BUNKERING PROJECT

PORT OF VENICE
WHERE THE EARTH REVOLVES AROUND THE SEA

LNG SUPPLY CHAIN

INTERNATIONAL PROJECT

- Project Designer: SENER – Spain
- LNG System and Tanks: TGE Marine – Germany
- Propulsion: Voith - Germany
- Main Engine: Niigata – Japan
- Tug & Barge Coupling: Intercon – USA
- Italian Shipyard: Rosetti Marino

ROSETTI MARINO

CMV Panfido

North Adriatic Sea Port Authority
Ports of Venice and Chioggia

Co-financed by the Connecting Europe Facility of the European Union

PORT OF VENICE
WHERE THE EARTH REVOLVES AROUND THE SEA

TRAINING: TRUCK TO SHIP BUNKERING OPERATIONS

The assessment of other ports procedures and regulation related to bunkering operations.

As an example a **technical visit** to the port of Valencia organized in December 2018.

A delegation from Venice (Port Authority, Coast Guards, Fire brigades, Regional Environmental Agency), attended to bunkering operations in Valencia.

The scope of visit is to discuss the procedures and to share best practises with experts of the Port Authority and Balearia shipping line experts

North Adriatic Sea Port Authority
Ports of Venice and Chioggia

PORT OF VENICE
WHERE THE EARTH REVOLVES AROUND THE SEA

ALTERNATIVE FUELS: WEAKNESSES

1. **Financial gap**. The use of alternative fuels requires high investments: deep feasibility assessments are required to evaluate the expected return on investment.

2. **Permitting**. Different levels of laws and guidelines can rule out the private interest for port investments (e.g. several years for final authorization)

3. **Technological and digital gap** for the production and utilization of alternative fuels.

4. Action plans in this sector are influenced by geopolitical factors and scenarios.

North Adriatic Sea Port Authority
Ports of Venice and Chioggia

North Adriatic Sea Port Authority

Strategic Planning and Development Department

Thank you for your attention

PORT OF VENICE
WHERE THE EARTH REVOLVES AROUND THE SEA

Last Reminders

COME JOIN US FOR OUR UPCOMING EVENTS

Regional Motivations for Implementing Green Solutions

- 9/5/22
- Present the four driving motivations behind green solutions: spatial planning, transport infrastructure, renewable energies, development concepts and strategies, spatial needs
- Target Audience: Regions and Operators interested in converting fleets to alternative fuels
- Contact
  Unioncamere Veneto
- Roberta Lazzari | roberta.lazzari@eurosportelloveneto.it

Final Conference

- 5th of May 2022
  10:00 - 13:00 (MEZ)
- If you are interested, please send a short message with the keyword: INTERGREEN to hartmann@th-wildau.de by 01.05.2022.

Agenda

INTERGREEN-NODES Final Conference

INTERMODAL GREEN ALLIANCE - FOSTERING NODES

https://meet.goto.com/774390709

05.05.2022 | 10:00 - 13:00

Project Session

10:00	InterGreen-Nodes - A short Overview
10:05	Review of the funding period 2014-2020: Interreg CE transport projects results **Claudia Pamperl**, Project and IT Monitoring System Manager
10:15	Project results on policy Level **Roberta Lazzari**, Work package leader for Fostering impact by policy involvement
10:35	Project results on spatial Level **Ulrike Schütz**, Work package leader for Spatial issues of Nodes
10:55	Project results on technical Level **Philip Michalk**, Project Manager & Work package leader for technical and processual solutions for terminals and last mile transport
11:15	Break

Expert Session

11:30	ELEKTRA - The push boat with a whole new energy system **Jan-Erik Spereiter**, Research associate Technical University Berlin
11:50	Hyke - the future of urban mobility **Jason Mc Farlane**, CTO Hyke
12:10	Port Szczecin - Action plan for a green Terminal future **Dorota Dybkowska-Stefek**, Chief of Odra Waterway Bureau
12:30	BSR Access - Political View on Urban Nodes **Ulrike Schütz**, European Spatial Development Unit
13:00	End of the Final Conference

SURVEY

Please take the time to provide us feedback on this training – we would love to know what you liked best and if you would like more information:

https://form.unioncamereveneto.it/967361

Annex: Training 9 May 2022

INTERGREEN NODES

Development of Green, Intermodal Last Mile Freight Transport in Urban Areas of Central Europe

PARTNERSHIP

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  - Technical University of Applied Sciences Wildau
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  - Port of Venice (North Adriatic Sea Port Authority)
  - Freight Village Bologna
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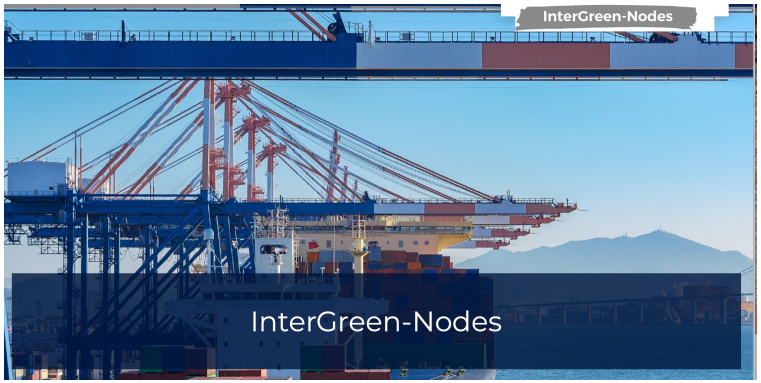
- Hungary
  - Freeport of Budapest Logistics Ltd.
  - Pannon Business Network Association
  - KTI - Institute for Transport Sciences
- Slovenia
  - Luka Koper, port and logistic system, PLC

ASSOCIATED PARTNERS

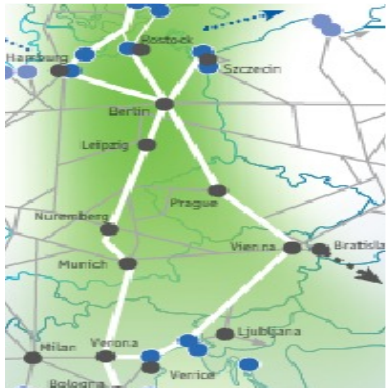
- German Federal Ministry of Transport and Digital Infrastructure
- RAM S.p.a - Inhouse Company of the Italian Ministry of Infrastructure and Transport
- Timbercoast
- ABO Wind
- e.dis

Central Europe Program

- Began in 04/2019
- Ends 06/2022



SAMPLE KEY RESULTS



Regional Action Plan for Western Transdanubia (pdf 2.0 MB)
Transnational Strategy on greening nodes (pdf 0.8 MB)
Analysis of regional preconditions of greening nodes (pdf 0.4 MB)
Regional Action Plans for greening Nodes (pdf 2.1 MB)
Transnational summary report regional needs implementing green solutions (pdf 2.7 MB)
Fact sheet for Regional Action Plan. (pdf 0.3 MB)
Fact Sheet Transnational Strategy (pdf0.3 MB)

Regional Action Plans for Budapest (ENG) (pdf 0.6 MB)
Regional Action Plans for Koper (ENG) (pdf 0.6 MB)
Regional Action Plans for Emilia Romagna (ENG) (pdf 0.4 MB)
Regional Action Plans for Berlin (ENG) (pdf 0.6 MB)

Find the documents here.

https://www.interreg-central.eu/Content.Node/InterGreen-Nodes.html

TODAY'S TRAINING FOCUS

Regional Motivations for Implementing Green Solutions

INTERGREEN-NODES
Online Training

INTERMODAL GREEN ALLIANCE - FOSTERING NODES

Online Access Data
09/5/2022 | 14:00 CET

Present the four driving motivations behind green solutions: spatial planning, transport infrastructure, renewable energies, development concepts and strategies, spatial needs

Target Audience: Regions and Operators interested in converting fleets to alternative fuels

AGENDA

Training Session Moderator: Francesca Forestieri		
Time		
14:00	Project motivations for developing action plans	Ulrike Schuetz Joint Spatial Planning Department Berlin & Brandenburg (JSPD)
14:05	Overview of the guidelines for the action plans	Ulrike Schuetz JSPD
14:20	Summary of most pressing contexts in determining the need for green solutions Outlook of a toolbox as supporting tool	Ulrike Schuetz JSPD Sven Friedrich INFRASTRUKTUR & UMWELT
14:40	Q&A	
14:45	Finish	

Ulrike Schuetz, BBG

SPATIAL ISSUES OF GREENING NODES

PROJECT MOTIVATIONS INTEGRATING THE SPATIAL LEVEL

regional preconditions, elaboration of spatial needs and challenges of greening nodes – basis for integrated thinking

Basic information

- Law, regulations and framework conditions in spatial planning, renewable energy infrastructure, node concepts etc.
- Basic strategies and concepts
- Funding opportunities

Deeper knowledge

- Main characteristics of the node incl. cargo, transport links, production EE
- Spatial development like focus, concept, needs, needs in ha, land use and conflicts
- Needs and challenges
- Best practices
- Organization of stakeholder involvement

GUIDANCE

Transnational summary of spatial needs in greening nodes

- diversity of planning
- significant differences on issues as the competence of planning authorities, their tools and the degree of coordination between short- and long-term planning measures
- all countries display a shift in tools and planning decisions towards a more sustainable, greener development
- under the light of new green agendas policy fields are more interconnected
- It contains: regional preconditions, transport and energy infrastructure, renewable energy, concepts and strategies and the spatial needs

REGIONAL ACTION PLANS

Nodes and Regions

- 24 action sheets of 8 regions and nodes :
- examples the content:
  - land use to install renewable energy solution
  - shifting traffic to environmentally-friendly transport modi
  - communication, but also coordination
  - clean fueling stations and clean vehicle
  - green industrial areas
  - water protection and sustainable planning
  - costs

Berlin – Brandenburg
Berlin Port
Mecklenburg-Vorpommern
Rostock Port

Western Transdanubia
Freeport Budapest

Venice Port
Interporto Bologna

REGIONAL ACTION PLANS

Nodes and Regions

Main results summarized:

- 16 action could be realized in short time
- 14 actions will reach reach a high or very hig regional added value
- more than a half of the actions will generate a high rank in CO2 saving
- 13 of the action are incl. cost estimations and funding options
- 11 alternative fuels, 5 actions on infrastructure an land use, 3 on digitalisition, 5 on other issue like coordination, communication or water protection

Field of action	☐ spatial planning/ land-use planning ☐ alternative drives ☐ regenerative energy supply ☐ alternative fuels ☐ overarching action fields, communication and public relations ☐ other:
Priority	☐ very high ☐ high ☐ medium ☐ low
Time horizon	☐ short-term: 0-3 years ☐ medium-term: 3-7 years ☐ long-term: > 7 years
CO_2 savings *(Please evaluate, if possible)*	☐ high ☐ medium ☐ low
Regional added value *(Please evaluate, if possible)*	☐ very high: 75-100% ☐ high: 50-75% ☐ medium: 25-50% ☐ low: 0-25%

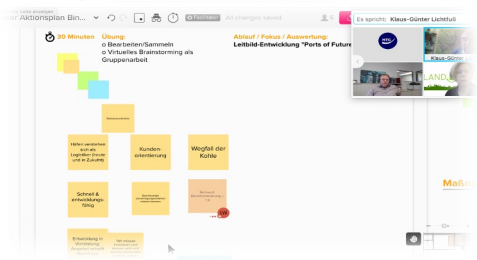
REGIONAL ACTION PLAN BERLIN-BRANDENBURG

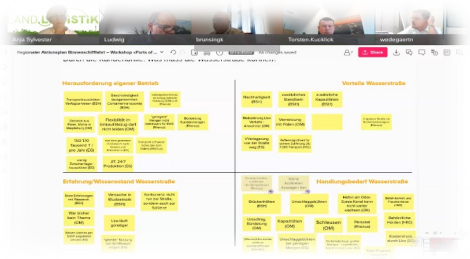
Process

REGIONAL ACTION PLAN BERLIN-BRANDENBURG

Process

- DESK RESEARCH
- ON-SITE INSPECTION
- STRATEGY WORKSHOPS WITH PORTS
- WORKSHOP WITH PORTS, AUTHORITIES, EXISTING AND POTENTIAL NEW CUSTOMERS
- DEVELOPMENT OF THE ACTION PLAN





Process support:

before starting the process permanet installation of a internal working group of the relevant authorities of both federal states

REGIONAL ACTION PLAN BERLIN-BRANDENBURG
Results

Interreg CENTRAL EUROPE
InterGreen-Nodes

FIELD OF ACTION

Networking
- Communication
- Interfaces between modes
- Digitization

Transparency
- Economic advantages
- Offer
- Responsibilities

Performance
- Transportation & Transshipment
- Innovations
- Business Models & Products

Future variabilty
- Job profile & young talent
- Image/ external impact
- Science & Research

MEASURES

short term / medium term / long term

- M1
- M2
- M3
- M4
- M..

- Brief description
- Participants/ Responsibility
- Further need for investigation
- Evaluation: effort, effect, feasibility, time horizon

INITIATIVE

Summary of measures from different fields of action that are directly related to each other, build on each other or complement each other in a meaningful way.

REGIONAL ACTION PLAN BERLIN-BRANDENBURG
Results

NETWORK

- M1: Marketing initiative under the joint label "Ports of Capital Region"
- M2: Round-Table of Berlin-Brandenburg Ports - Establish an active role for the ports as part of the logistics chain
- M3: Development of a regular exchange format for actors in the inland navigation ecosystem
- M4: Club of innovators - benefit from the experiences of others
- M5: Project marketplace - learn from existing initiatives and advance them together
- M6: Force matchmaking with other process participants
- M7: Sales platform - develop offers for the capital region
- M8: Use potential funding programs at all levels
- M9: Looking for partnerships with the local start-up scene

REGIONAL ACTION PLAN BERLIN-BRANDENBURG

Results

TRANSPARENCY

- M10: Enable cost comparison for road vs. multimodal chain
- M11: Overview of characteristic values - "Inland Shipping Showcase"
- M12: Digital berth register
- M13: New customer roadmap "My way to the inland waterway"
- M14: convening of a waterway coordinator

EFFICIENCY

- M15: Waterway - prioritize bottlenecks and gradually eliminate them
- M16: Port areas - increase space efficiency, secure expansion options
- M17: Thinking about new types of ships
- M18: Thinking about new logistics concepts involving the ports
- M19: Try out new containers
- M20: Further strengthen added value and processing in the ports
- M21: Develop new business models

REGIONAL ACTION PLAN BERLIN-BRANDENBURG
Results

FUTURE VIABILITY

- M22: Create new working time models
- M23: Sponsorship: Strengthening exchange with schools / universities
- M24: Create entry-level programs for (non) academic junior staff and career changers
- M25: Campaign Marketing: Spotlight on the Waterway!
- M26: Present new use cases
- M27: Promote partnerships with startups and new industries
- M28: Create an innovation center at the university
- M29: Promote cross-location cooperation
- M30: Strengthening, networking and further developing existing initiatives

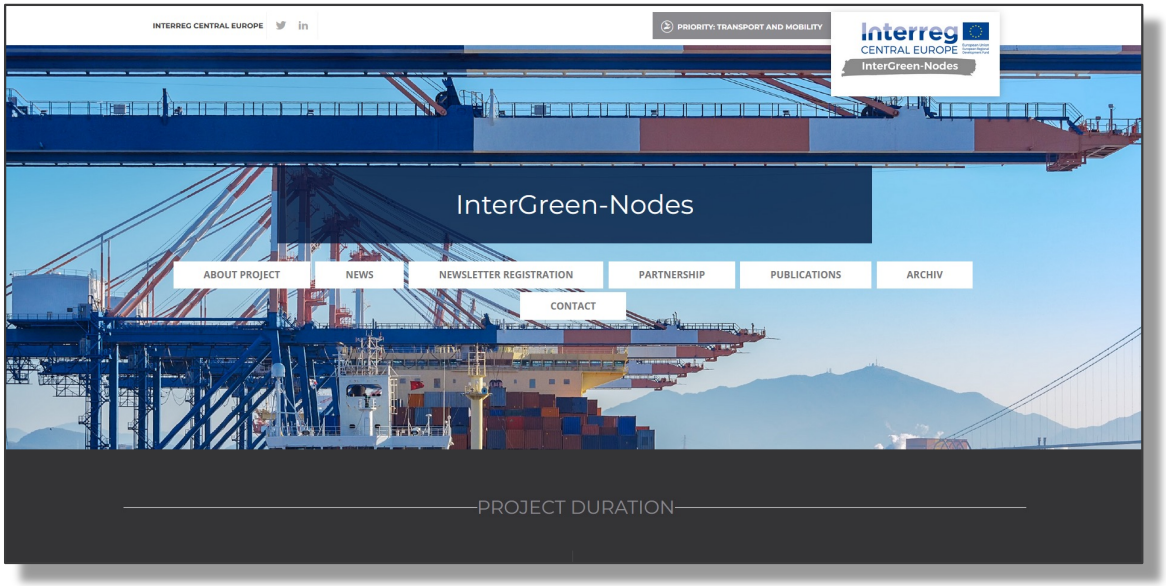
REGIONAL ACTION PLAN BERLIN-BRANDENBURG

Impact and implementation

- Setting the topic – grateful stakeholders
- Show the importance of collaboration between the different levels of stakeholders
- Find common goals beside the daily competition
- Promoting the developed measures
- Permanent communication by using existing dialogue formats
- Integration in the implementation of exiting strategies
- New integration in new strategies and concepts
- Interdisciplinary!

WHERE TO FIND MORE INFORMATION

All reports and lessons learned can be found on the project website from June on:



www.interreg-central.eu/Content.Node/InterGreen-Nodes.html

THANK YOU!

Ulrike Schütz
Joint Spatial Planning Department Berlin-Brandenburg
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0049 331 866 8721

Regional Motivations for Implementing Green Solutions
Online Meeting | 9/5/2022

Outlook of a toolbox as supporting tool

InterGreen-Nodes | INFRASTRUKTUR & UMWELT Prof. Böhm und Partner | Sven Friedrich

The InterGreen-Nodes Spatial Planning Toolbox

Target Groups:

- Transport, urban and regional planners
- Policy makers at all levels
- Port development managers

The InterGreen-Nodes Spatial Planning Toolbox

Technical Implementation:

- Interactive digital tool (PDF) providing information on:
  - major challenges identified
  - relevant regulations and instruments at European level
  - innovative and transferable solutions identified

OUTLOOK OF A TOOLBOX AS SUPPORTING TOOL

Structure

Action fields

- Green energy production & operations
- Decarbonizing first and last mile access
- Spatial planning & development
- Governance and collaboration

Challenges

Instruments

Solutions

Solutions

- 16 solutions out of the project identified
- Further solutions expected as result of survey

OUTLOOK OF A TOOLBOX AS SUPPORTING TOOL

Action Fields

Action field	Challenges	Instruments / Textbox
Greening port / terminal operations	▪ Infrastructure investments ▪ Finding synergies with for other purposes than ports operations or related logistics	▪ CEF (Transport) / Horizon Europe
Decarbonizing first and last mile access	▪ Greening vehicle fleets / refuelling infrastructure ▪ zero-emission last-mile delivery services	▪ CEF (Transport) / Horizon Europe
Spatial Development	▪ Conflicts with urban neighbourhood ▪ Spatial needs of clean fuel infrastructure	▪ SUMP / SULP (requirement TEN-T) ▪ CEF (Urban nodes)
Governance and Collaboration	▪ Involvement of relevant decision makers as well as the affected public into more complex planning processes	▪ INTERREG CENTRAL

OUTLOOK OF A TOOLBOX AS SUPPORTING TOOL

Solutions

Node / potential best practice solution	Production & operations	First and last mile	Spatial Development	Governance
Freeport of Budapest				
Renewable energy production (solar / LNG)	■			
Heat barge	■			
e-cargo mobility service		■		
LNG-terminal		■		
regular stakeholder forum				■
Port of Koper				
solar panels + charging infrastructure	■			
Port of Tallinn			■	
Port of Trelleborg	■	■	■	
Port of Szczecin-Swinoujscie	■	■	■	
bayernhafen	■	■	■	■
SBO Sächsische Binnenhäfen Oberelbe		■	■	
Ennshafen Linz	■		■	■

Solutions: Selection Criteria

- Innovativeness
- Relevance for decarbonizing processes in / related to nodes
- Transferability

OUTLOOK OF A TOOLBOX AS SUPPORTING TOOL

Thank you, for listening!

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Please Remember the Survey!