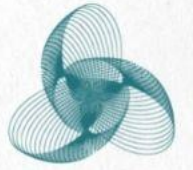


SEANERGY



SEANERGY

Perspectives from Danube Ports – Ennshafen as a demo port of SEANERGY project presents practical experience with the MASTER PLAN

SEANERGY-workshop for Inland Ports, Budapest 25th March 2025

Werner Auer, Managing Director Ennshafen OÖ GmbH



This project has received funding from the European Union's Horizon Europe research and innovation program under grant agreement number 101075710. This visual support reflects only the author's view; the Commission is not responsible for any use that may be made of the information it contains.

SEANERGY – Sustainability EducationAI programme for greenER fuels and enerGY on ports



SEANERGY Workshop for Danube Inland Ports

The purpose of the workshops is to **present some experience of Ennshafen port** during the **validation process** of the MASTER PLAN established within SEANERGY project.

21.9.2023: first SEANERGY workshop

- *presentation of SEANERGY project*
- *gathering information from the inland port sector*
- *discussion and feedbacks, gathering the insights of stakeholders and identify potential improvements or challenges related to policy implementation*
- *inputs for project work on master plan*



SEANERGY – Sustainability EducationAI programme for greenER fuels and enerGY on ports



WP1 – Understanding the current EU ports' situation and stakeholders

- Will develop the existing framework under which stakeholders operate at individual, collaborative and policy levels

WP2 – Gap analysis of the EU port clean energy transition

- Build up upon WP1's information by identifying what information, skills and resources are missing at industrial and governmental level

WP3 – Creation of the SEANERGY Master Plan

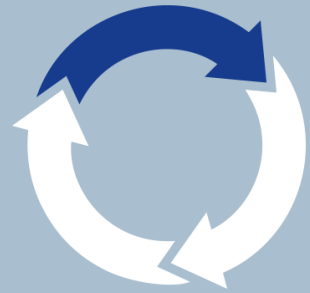
- Takes information obtained from the previous 2 workpackages to construct a suitable Master Plan, providing all necessary tools and content that will aid to choose the right path towards a greener E&F operation in ports

WP4 – **SEANERGY Master Plan Implementation**

- Will uptake the task of developing the Handbook that will act as a guiding and explicative hand of the Master Plan's – **validation by the project's demo ports**



Danube - Inland Waterway between North Sea & Black Sea



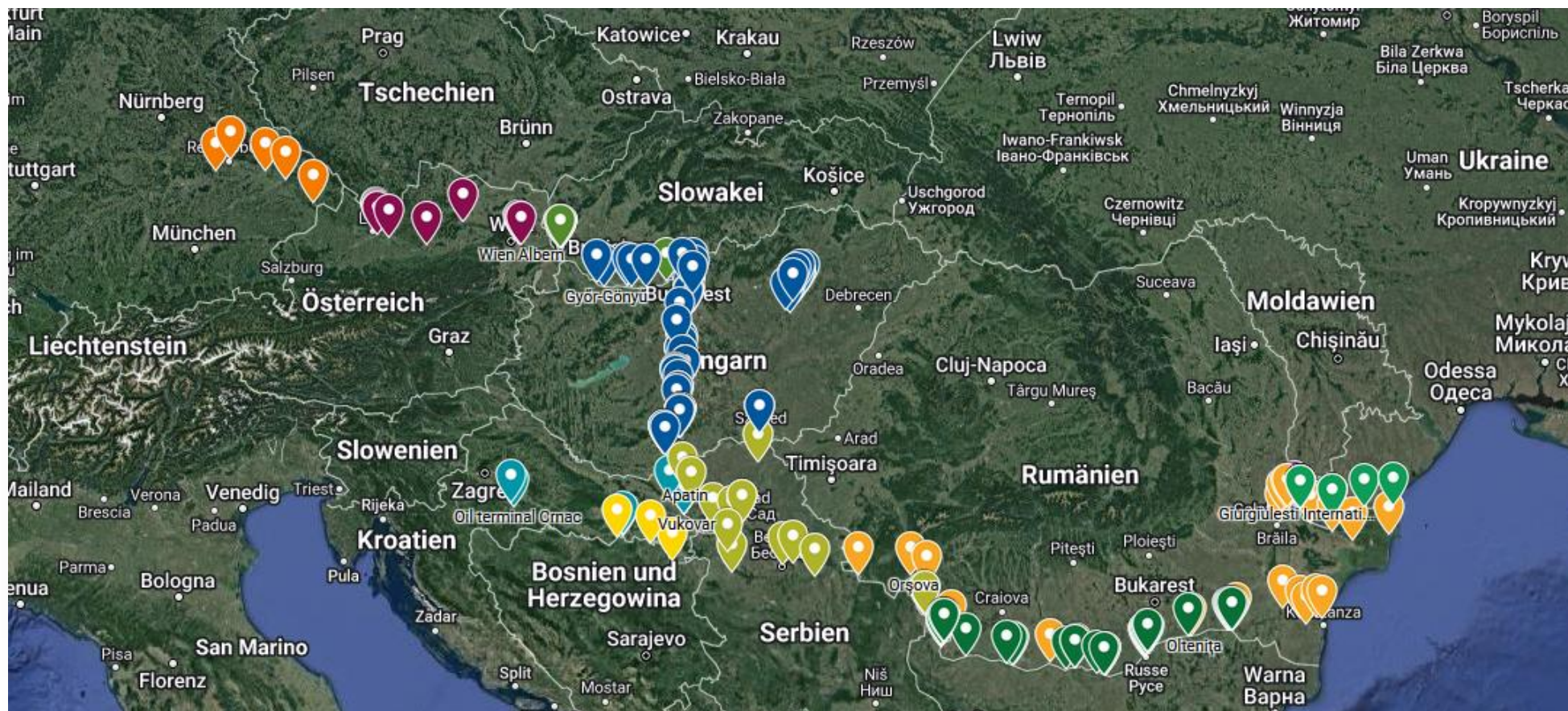
CONNECT
SUPPLY
UNITE



DANUBE Ports: appr. 75 Ports & 198 Terminals



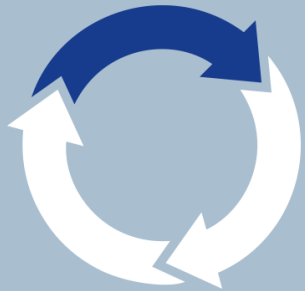
CONNECT
SUPPLY
UNITE



Source: Danube Commission

WATERWAY DANUBE

- second longest river of Europe – 2,845 km length
- 10 riparian countries – 18 locks
- Austrian sector: 351 km
- transport Volume in Austria: appr. 6 mio tonnes / year



CONNECT
SUPPLY
UNITE



Source: Viadonau



ENNSHAFEN port

- the newest public port in Austria including two business parks
- transport hub for goods and commodities in international logistics and for local businesses
- Public-Private-Partnership: Infrastructure for transshipping und manufacturing companies
- ENNSHAFEN port: three companies – one unit

Ennshafen OÖ GmbH
(Upper Austria)

Ennshafen NÖ GmbH
(Lower Austria)



EHG Ennshafen GmbH
(Marketing company)

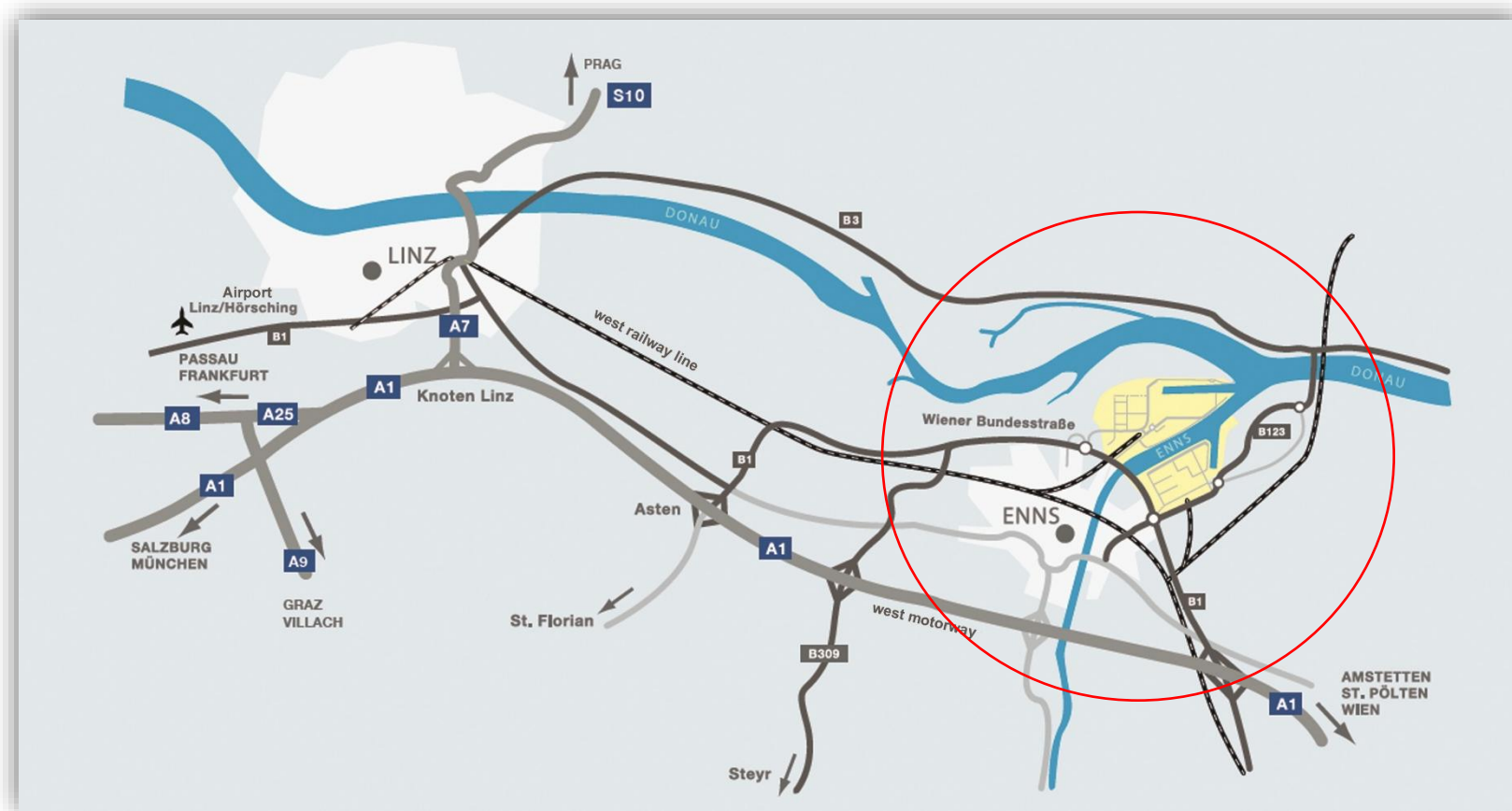
We connect the region to Europe.
We supply to people and businesses.
We unite expertise.



CONNECT
SUPPLY
UNITE

TRIMODAL LOGISTICS HUB

- logistics hub with trimodal cargo handling – including two business parks
- perfect location – Infrastructure is available for all transshipping and manufacturing companies
- direct access to motorways and main roads
- TEN-T core node of Rhine-Danube-Corridor, in the center of the strongest industrial region of Austria



CONNECT
SUPPLY
UNITE

ENNSHAFEN port SHORT FACTS



- perfect location in a strong economic area
- TEN-T core node in the Rhine-Danube-Corridor
- total area of 3,530,000 sqm
- quaylength of 2.5 km with direct access to the railway system
- feeder lines with 38 km track length
- full service for transshipment by the settled companies and other partners
- leading 3-modal container terminal of Austria
- roll-on/roll-off terminal
- about 60 companies with approx. 2,500 employees
- „public private partnership“ between the public sector and private enterprises
- logistics hub including two business parks



CONNECT
SUPPLY
UNITE

ENNSHAFEN – Previous Projects



CONNECT
SUPPLY
UNITE

DAPhNE



Danube Ports Network (2017-19)

Port development strategy in Danube Ports

- Port legislation and public funding
 - Improve and harmonize port legislation
 - Funding investments in ports
- Port administration and management
 - Improve/harmonize port administration processes
 - **Eco-improvements for Danube Ports**
- Port development
 - Port Community IT-system
- Danube Port Development Strategy & Network Formation
 - Danube Port Network

S-PARCS



Envisioning and Testing New Models of **Sustainable Energy Cooperation and Services** in Industrial Parks (2018-2021)

- Solution, Opportunities, Barriers of energy-cooperation in industrial parks
- Main achievements Ennshafen: 4 feasibility studies performed
 - Organized PV installations
 - Joint e-charging stations
 - Shore side electricity
 - Revamping of old cooling water sewer

ENNSHAFEN – Previous Projects



CONNECT
SUPPLY
UNITE

KLIEN – Project (national)



Awareness creation and know-how sharing with regard to onshore power supply

Objectives

- Analyse measures to create awareness of the stakeholders (shipping companies) to use **on shore power supply in ports** (were available), according to the guideline planning of viadonau on the Danube in Austria
- Promotion of the application along the whole Waterway Danube in the ports
- **Basic findings for reduction of CO₂ emissions and noise during the stops in the ports**

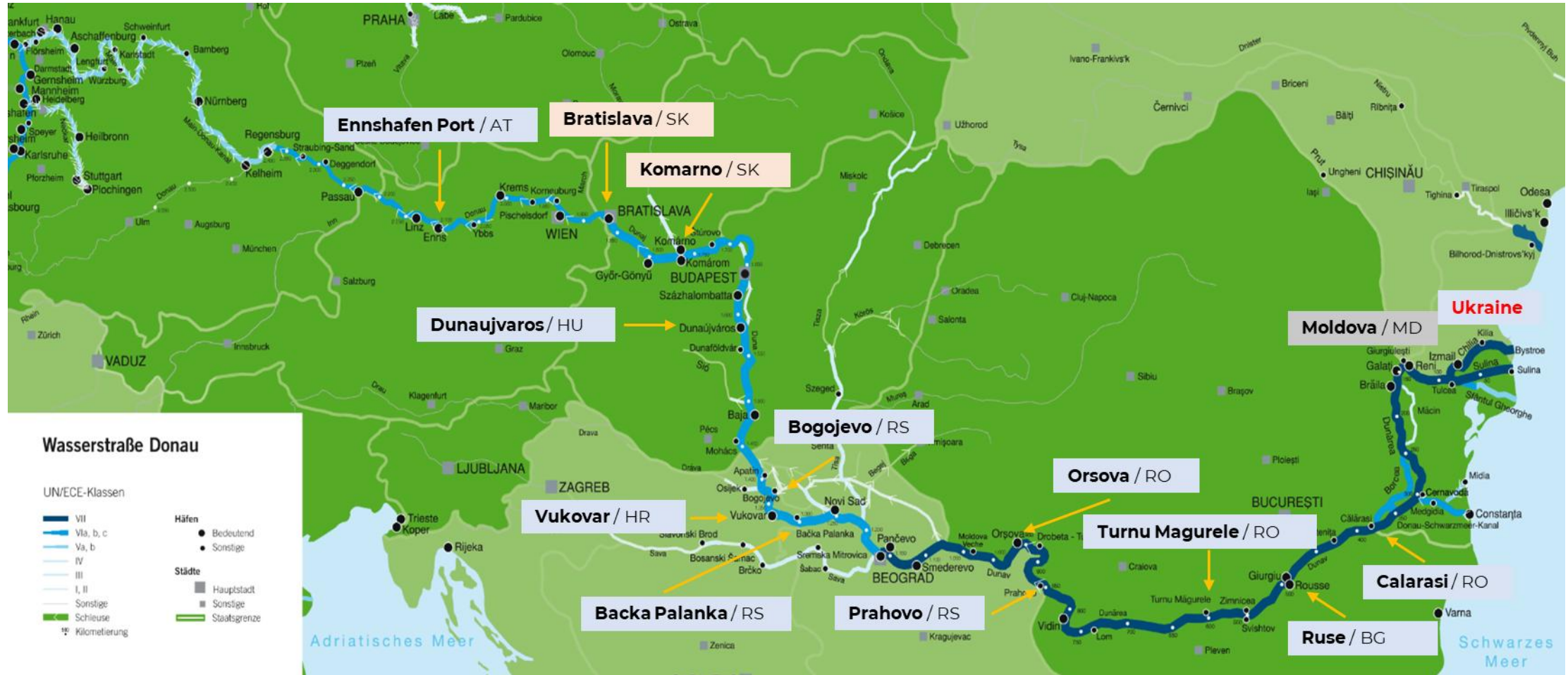
DIONYSUS



Integrating Danube Region into Smart & Sustainable Multi-modal & Intermodal Transport Chains

- Transport Corridors & IWT Markets
 - Case Study Container Liner Services (EHO0)
- Danube Inland & Sea Ports Analysis & Recommendations
 - Danube Port Digitization (Strategy & Action Plan) / EHO0
- Integrated Port Development
 - Project Capitalization through Danube Ports Network (DPN) / EHO0
- Pilot Cases - PDPs
 - **Port Development Plan Ennschafenen**
 - PDPs SK: Bratislava, Komarno
 - PDP HU: Dunaujvaros
 - PDPs RO: Calarasi, Turnu-Magurele, Orsova
 - PDP HR: Vukovar
 - PDP BG: Bulmarket Port Ruse
 - PDP RS: Prahovo, Backa-Palanca, Bogojevo
 - PDP MD: Moldova

Port Development Plans in the Danube Region



This project has received funding from the European Union's Horizon Europe research and innovation program under grant agreement number 101075710. This visual support reflects only the author's view; the Commission is not responsible for any use that may be made of the information it contains.

Port Development Plan Ennshafen

- Status quo of the port in its international context
- Status quo of the port in its national context
- Market analysis
- Assessment of identified actionfields of port & results of „ongoing investigations“
- Target group reflection
- Setup of a PDCA-cycle for future update of Port Development Plan

- 1) **Low Carbon Port** [ongoing / new measures]
- 2) **Cargo & Core Infrastructure** (increasing of transshipment, new cargo, core infrastructure parts of the port, truck-train-ship-shifting, containerisation of goods) [ongoing / new measures]
- 3) **Digitalization** [ongoing / new measures]
- 4) **General topics and basic infrastructure** (cross-sectional items and basic elements within the port areal) [ongoing / new measures]

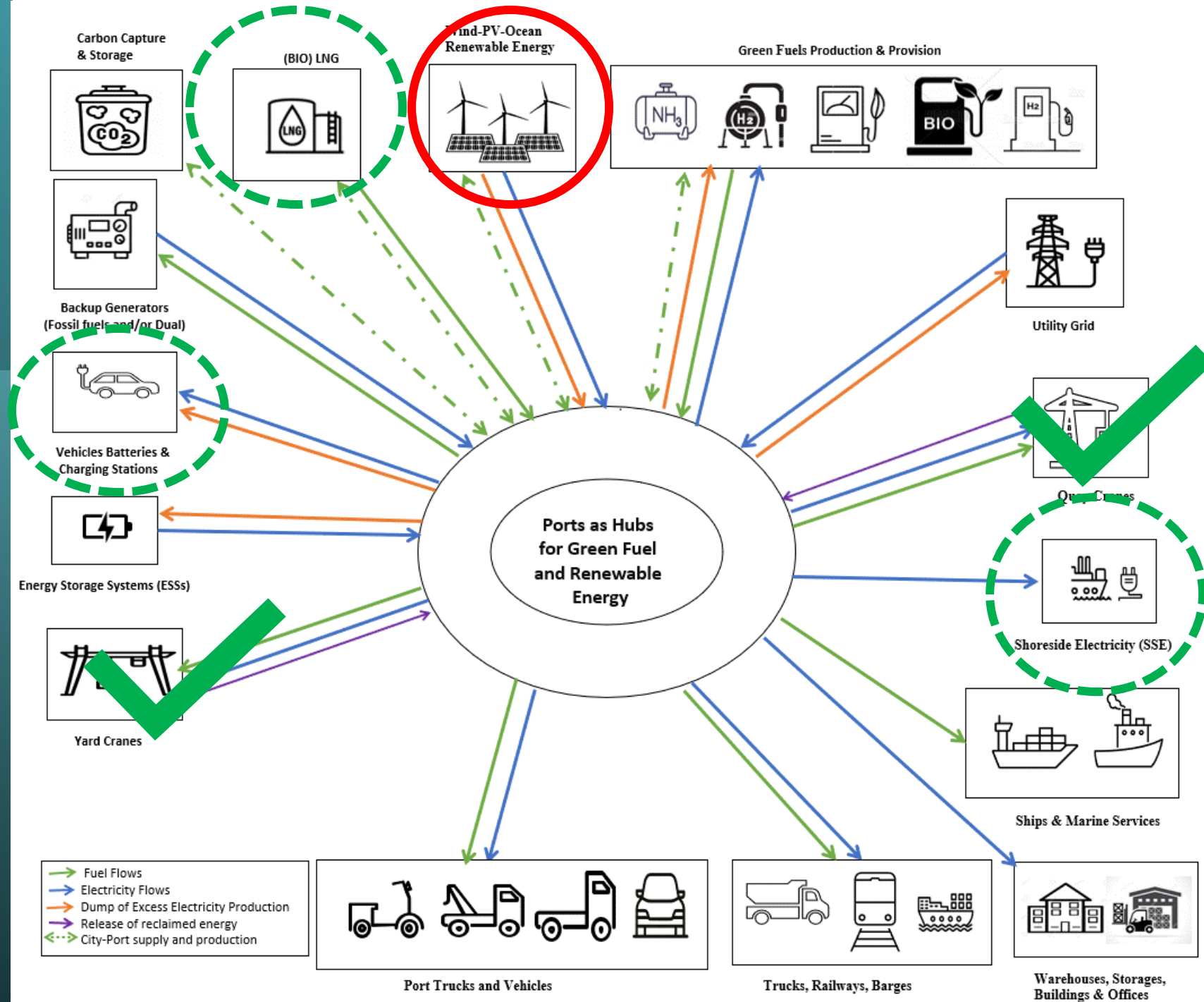


Port Development Plan Ennshafen Energy topics

- Development plan for clean fuels
- Onshore power supply
- LNG/CNG
- „Sustainable gas-hub“
- Infrastructure for efuels (for vessels)
- Photovoltaics
- Options in the fields of recycling and production of green energy within the port



Relevance for Danube Inland Ports



MASTERPLAN Approach – Executive Summary



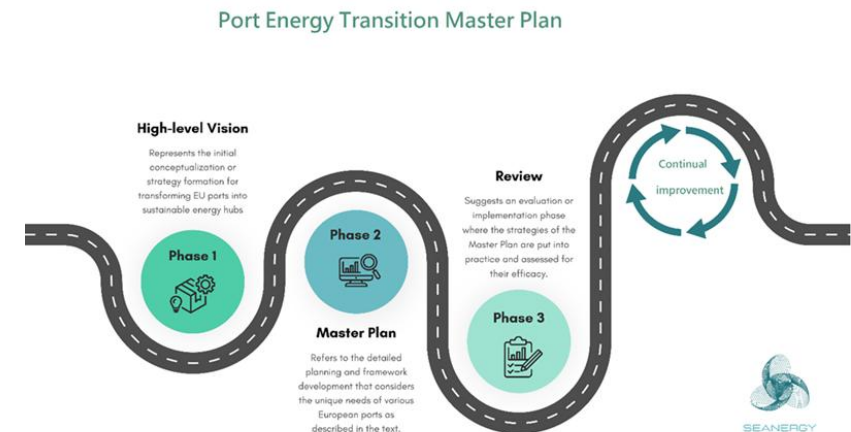
- Master Plan document outlines a strategy to support the European ports towards sustainability and green energy utilization
- “Port Energy Transition Master Plan” structured into three primary phases - each designed to progressively guide ports from initial vision setting and strategic planning to implementation and continuous improvement
- a comprehensive approach, incorporating customized solutions, acknowledging the characteristics and needs of various ports
- goal is to foster a sustainable transformation that not only aligns with environmental and technological advancements but also promotes enhanced stakeholder engagement and the standardization of best practices across European ports
- Master Plan stands as a guide to collaborative innovation, offering a roadmap for ports to become leaders in sustainability



MASTERPLAN Approach – Executive Summary



- **high-level vision:** strategic framework / vision, mission, objectives, key stakeholder identification, stakeholders' roles and responsibilities
- **masterplan:** articulates the detailed strategies and actions required for the transition to sustainable energy usage at ports; comprehensive assessments of current operations, outlines necessary interventions, and sets targets for sustainable practices; stakeholder coordination, financial planning, technology exploration; methods for evaluation and standardization of practices; clear roadmap for implementation.
- **review:** evaluating the effectiveness of the implementation strategies; methods for adjusting based on feedback, continuous improvement cycle for updating; ensures that the Port Energy Transition Master Plan remains relevant and effective in achieving its objectives.



Masterplan Validation / Ennshafen port

Part 1: High-Level Vision (1/2)



1 - Vision and mission articulation: clear sustainable vision & mission for the ports, establish boundaries that outline the scope, including technological, operational, and geographical limits

Validation result of Ennshafen: *Vision, mission statement, strategy, strategic focus and strategic goals have been formulated (since 2017); documents are updated annually (following a dedicated management review processes) and approved again by the shareholder board; currently, expanded to bring them in line with CSRD and EU-Taxonomy (work in progress)*

2 - Scope and boundaries definition: technological, operational, and geographical limits and opportunities > realistic, achievable, and tailored to each port's specific characteristics and needs; identify shareholders and stakeholders and their needs (port authorities, local government, investors, suppliers, community, ...)

Validation result of Ennshafen: *Scope is already available in the existing documents (defined in the integrated management handbook) > current revision (adaptation by CSRD/Taxonomy) expansion to a multi-layered matrix model*

3 - Stakeholder engagement: owners, port authorities, local governments, investors, suppliers, community (governance structure, including roles, responsibilities, decision-making processes, steering committee, ...)

Validation result of Ennshafen: *involvement of stakeholders since beginning of strategy documents; last comprehensive systematic stakeholder involvement was carried out in 2021-2022 as part of the creation of a 'Port Development Plan'*



Masterplan Validation / Ennshafen port

Part 1: High-Level Vision (2/2)



4 - Governance structure: roles, responsibilities, decision-making processes > steering committee(s)

Validation result of Ennshafen: clearly defined in the management handbook, as well as in a series of cooperation agreements; Ennshafen is a 'landlord port', the business model is PPP (public-private partnership - contractual basis)

5 - Objective setting: SMART (Specific, Measurable, Achievable, Relevant, Time-bound) objectives + feedback

Validation result of Ennshafen: strategic objectives deployed from the vision/mission/strategic focus since and provided with a financial perspective in the medium-term planning > target deployment process (annual budgeting / BSC) + PDCA

6 - Ongoing stakeholder engagement: communication strategies and feedback mechanisms to foster ownership and commitment among all stakeholders

Validation result of Ennshafen: Periodic integration is in place in several layers (owner: at least 4 x p.a.; partners at the location: 1 x p.a. or several times p.a. if required, newsletter (6 x p.a.); Ennshafen advisory board: 1 x p.a.; public/neighbourhood: usually once a year by means of a port journal by post or additionally on the spot)

7 - Responsibility allocation and documentation: documentation, ... ensure transparency and traceability

Validation result of Ennshafen: complex assignments due to the PPP structure of Ennshafen are in force; these partners are separate companies, each with their own areas of responsibility, Ennshafen matters are regulated in the own management manual, advisory board matters are regulated in the advisory board document ('voluntary agreement')



Masterplan Validation / Ennshafen port

Part 2: Master Plan (1/2)



1 - Assessment of normative and port energy-related policies: comply with regulations & benchmark aligning

Validation result of Ennshafen: already implemented by the strategy documents

2 - Baseline identification on port energy consumptions and needs: baseline of LCA, ESG, ...assessment

Validation result of Ennshafen: performed in the past and currently systematically updated (CSRD, Taxonomy)

3 - Strategy formulation and target setting: formulating a comprehensive strategy > quantifiable targets (KPIs)

Validation result of Ennshafen: already exists in the long-established strategy documents (currently being updated)

4 - Methodological framework establishment: structured frameworks (PDCA (Plan-Do-Check-Act))

Validation result of Ennshafen: set-up realized since many years, also provided with a financial perspective in the medium-term planning and then broken down in a target deployment process (annual budgeting) – written procedure

5 - Detailed plan development: resources, milestones, deliverables – deployment (written)

Validation result of Ennshafen: in place for many years and is carried out as part of institutionalized medium-term planning and budgeting as well as KPI-tracking – “Visible Control”



Masterplan Validation / Ennshafen port

Part 2: Master Plan (2/2)



6 - Stakeholder alignment and collaboration: workshops / consultations to align objectives, gather insights

Validation result of Ennshafen: since beginning of strategy documents, last comprehensive, systematic involvement 2021-2022

7 - Capacity building and training programs: aiming to equip with the necessary knowledge and skills

Validation result of Ennshafen: of limited importance due to the PPP structure (only a lead company with a small team)

8 - Financial planning: lays the groundwork for the transition, develop a financial model to support the plan

Validation result of Ennshafen: financial planning for many years using an integrated planning approach – most important !

9 - Risk assessment and mitigation: potential (unforeseen) challenges, developing strategies for mitigation

Validation result of Ennshafen: risk assessment carried out at project level, (longer-term) risk assessment is currently being developed in accordance with Taxonomy regulations (global view of climate change / adaptation to climate change)

10 - Technology and innovation exploration: look for cutting-edge solutions, forward-looking perspectives

Validation result of Ennshafen: involved in relevant projects for many years (Interreg, Horizon, CEF and national projects) and active in various national and international initiatives and organizations (IGÖD, viadonau, DC, EFIP, TEN-T working group, ...)



Masterplan Validation / Ennshafen port

Part 3: Review (1/2)



1 - Resource management and funding allocation: financial controls & reports > economically viable process

Validation result of Ennshafen: resource management and resource allocation runs to a high standard since many years

2 - Training program execution and skill enhancement: planned training modules and reskilling initiatives

Validation result of Ennshafen: training topics and retraining initiatives have low priority (PPP), on-the-job training for own staff

3 - Infrastructure development and site adaptation: infrastructure vs. technological & operational changes

Validation result of Ennshafen: development of the infrastructure and ongoing adaptation has been the core business in recent years and will remain so in the future due to its job in the PPP-model of Ennshafen port (decarbonization strategy)

4 - Progress tracking and performance management: monitoring plan to track progress, feedback systems for continuous improvement

Validation result of Ennshafen: management process with an integrated PDCA cycle has been in place for many years

5 - Governance structure implementation and stakeholder engagement: implement governance structures, ensuring all stakeholders are aware of their roles

Validation result of Ennshafen: governance structures have been established, stakeholder integration is realized > updated



MASTERPLAN Validation at Ennshafen port



SEANERGY VALIDATION WORKSHOP QUESTIONNAIRE (selected answers – 1/2)

Master Plan (MP) alignment with our port's long-term strategic goals ?

MP is a good supporting document which serves as a suitable checklist for the existing and continuously further development of the own strategic goals, a systematic approach in the sense of not to forget items

challenges in implementing a long-term energy transition strategy ?

the most severe challenges since years are

- economic profitability of changing processes or doing investments in that direction; enough support by funding to get a reliable business case with acceptable payback times ?*
- lack of available technologies which are really implemented as standard technologies on the market and ready for use in the daily business*

indicators to measure the long-term success of the MP ?

already in use are parameters in our port - before MP; mainly CO₂-emission data, energy related parameters (as part of the comprehensive ESG-dataset of CSRD), but definitely combined with economic parameters



MASTERPLAN Validation at Ennshafen port



SEANERGY VALIDATION WORKSHOP QUESTIONNAIRE (selected answers – 2/2)

emerging technologies could impact the execution of the MP ?

our credo is: the MP itself is not the core red line of our strategy and action plan – these are still running since years – the MP will serve as a supporting checklist for continuous improving the own ongoing process, so each emerging technology had been checked for relevance to insert it into the own roadmap in the past and will so in the future

strategies for maintaining flexibility in the implementation of the MP ?

MP is a support paper for the own process which already have enough flexibility – or with other words, flexibility is a basic element of our strategy work as you have to check permanently (PDCA, SWOT, BSC, ...) if the way selected is right or has to be adapted or changed. MP alone would be a stand-alone document of the company; the contents of the MP has to be analyzed / checked and integrated into the existing papers of the company, if they are not included (financial planning documents, CBAs, ... of the company, otherwise wishful thinking but not the business strategy)

existing necessary technical infrastructure to implement the recommendations of the MP?

our inland port has enough technical infrastructure to implement the taylor-made and demanded (by market) measures regarding environmental issues; so far no new input of the MP; even if the MP addresses new items (e.g. Hydrogen), these are not ready for practical implementation to daily business in short-term range, these are currently on the R&D stage and nobody can give a reliable estimation, when and if they will be ready for economically viable business integration



ENNSHAFEN – New Projects



CEF – Connecting Europe Facility



Co-funded by
the European Union

CEF-1 **Ennshafen prepares smart & sustainable mobility investments**

> (2021 – 2024)

> study project: railway debottlenecking, LNG, onshore power supply, digitalization

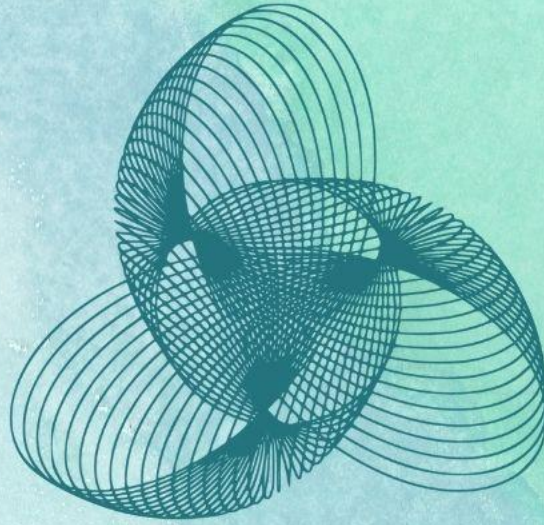
CEF-2 **Electrified Danube_Close the Gaps at Ennshafen, Austria**

> 2024 – 2027

> works: onshore power supply investment according to currently needs (400 A)



This project has received funding from the European Union's Horizon Europe research and innovation program under grant agreement number 101075710. This visual support reflects only the author's view; the Commission is not responsible for any use that may be made of the information it contains.



SEANERGY

**THANK YOU
FOR YOUR ATTENTION**



This project has received funding from the European Union's Horizon Europe research and innovation program under grant agreement number 101075710. This visual support reflects only the author's view; the Commission is not responsible for any use that may be made of the information it contains.