Danube Business Talks 2022

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GREEN DEAL - GREEN DANUBE. The climate friendly transport axis.

New challenges for waterway management – Our path to energy self-sufficiency

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12 October 2022, Palais Kaufmännischer Verein, Linz

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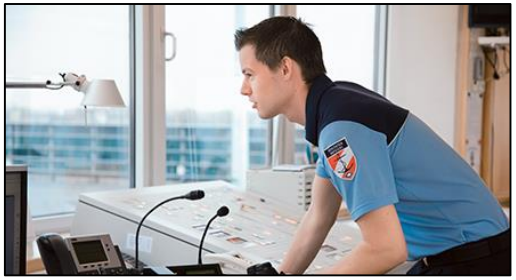
viadonau stands for modern waterway management


- Company owner BMK– Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology
- Founded in 2005 on the legal basis of the Austrian Waterway Act
- Responsible management, development and promotion of the Danube waterway
- National and international projects on infrastructure management, shipping and logistics, electronic information systems, flood control and hydraulic engineering

→ **Leading international waterway operator in the Danube region**

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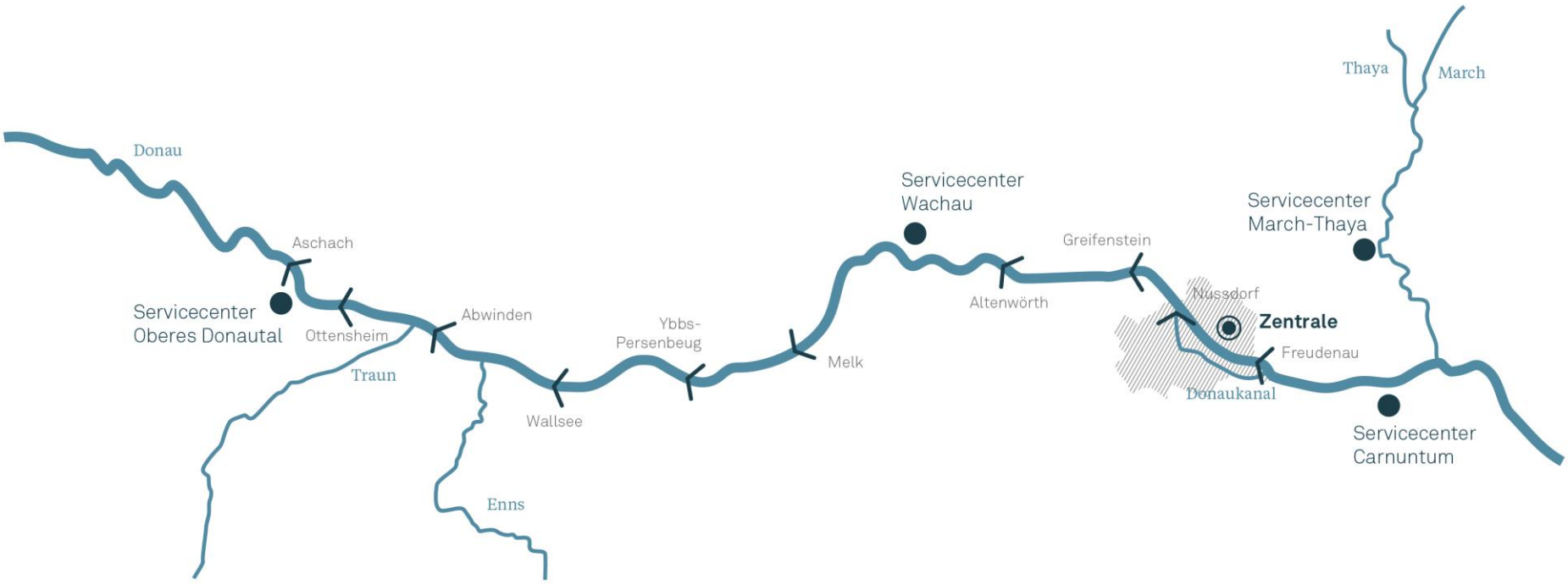
Available for you on 378 kilometres.



viadonau‘s corporate strategy by 2030

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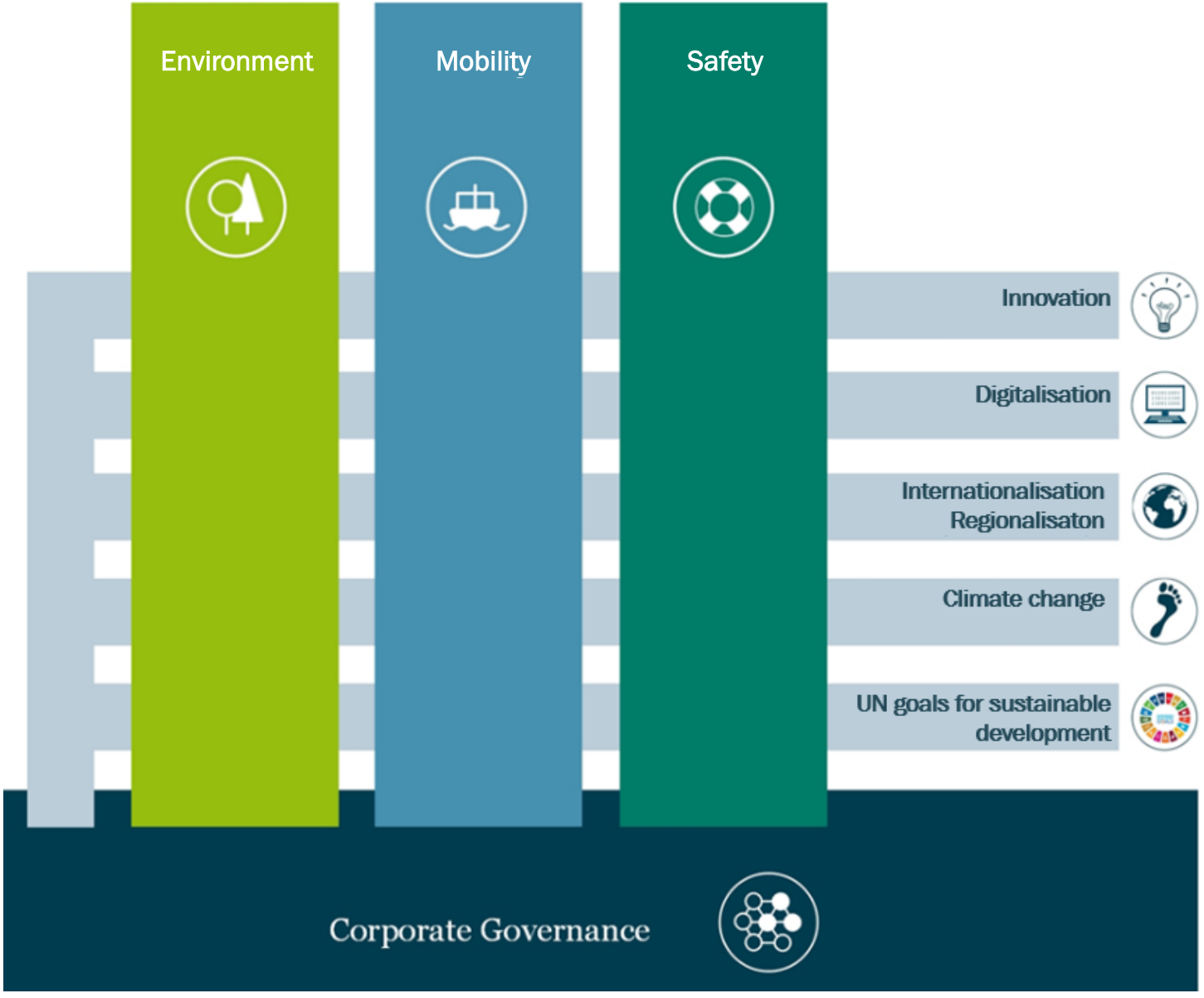

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viadonau‘s path to climate-neutrality

Infrastructure

Greening the fleet

viadonau‘s new HQ

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Waterway Infrastructure

Cycle of waterway maintenance

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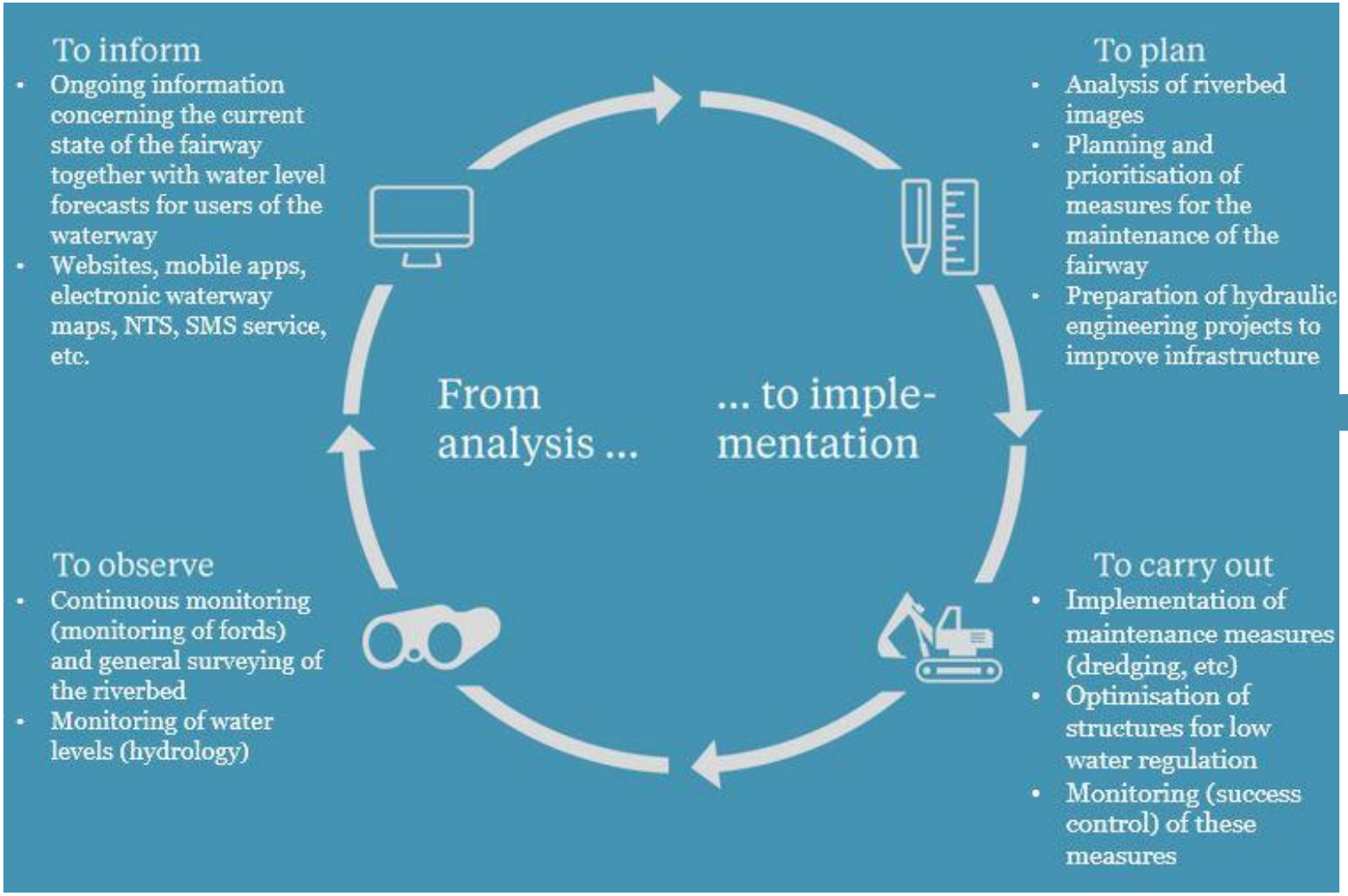

<u>Advantages for viadonau</u>

- Better predictability and planning of resoures
- Reduction of dredging works and ad hoc maintenance works
- Reduction of administrative effort

<u>Advantages für Danube users</u>

- Improved waterway conditions
- Better voyage planning
- Increased cargo volumes possible

Reduction of energy / fuel consumpton & costs

Innovative approach in waterway management

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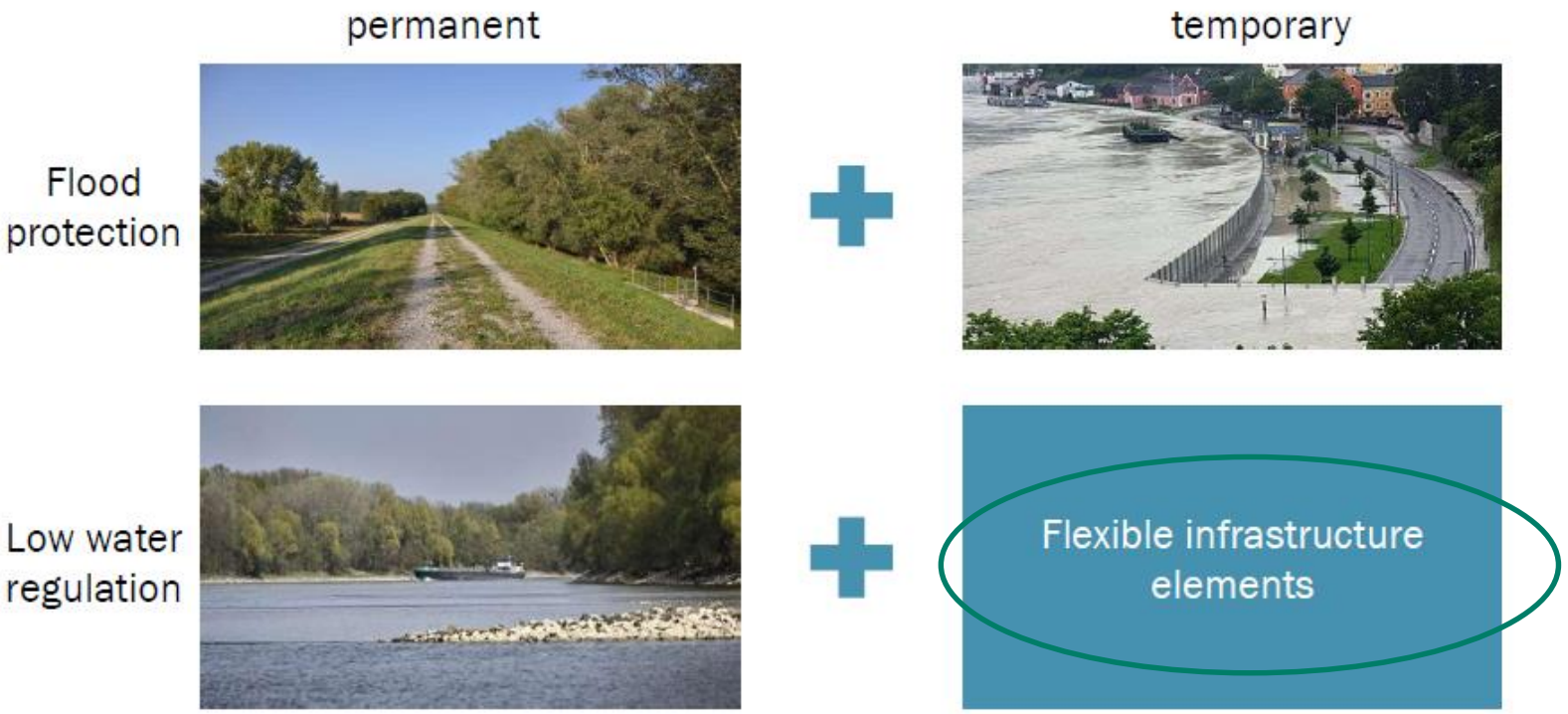
Temporary infrastructure elements for extreme low water periods in order to **increase resilience** (in analogy to mobile flood protection dams complementing the fixed dams)



Flexible infrastructure elements

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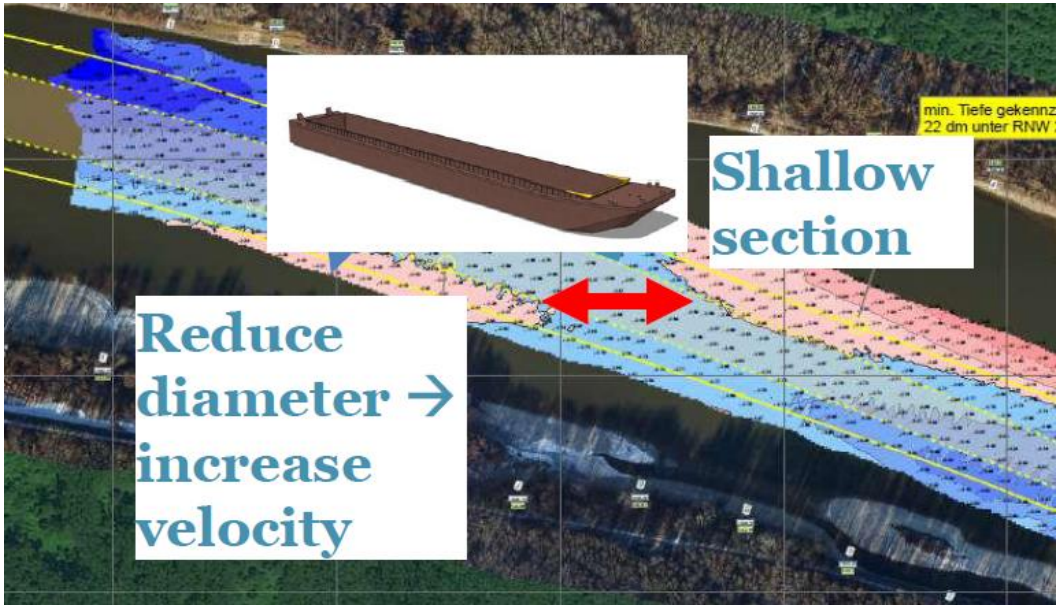

- Barges placed in shallow sections at low water levels
- No influence on water-level during floods (as barge is removed before)
- No influence on habitats

Green solution

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Shore-side infrastructure

Implementation of policy objectives regarding shore power

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Programmes of the federal government and the federal states

Regierungsprogramm 2020 – 2024

- Wenn technisch möglich, verpflichtende Landstromanschlüsse an den öffentlichen Anlegestellen am Bundeswasserstraßennetz sowie die Prüfung eines Maßnahmenpakets des Bundes zur Forcierung von Landstromanschlüssen an privaten Bootsanlegestellen an Seen und Flüssen

Abschnitt Klimaverträglicher Verkehr

- Wien wird die erste europäische Metropole, die eine Landstromversorgung für Flusskreuzfahrtschiffe errichtet, um Emissionen aus deren Dieselgeneratoren zu vermeiden. Wir setzen uns dafür ein, dass dies auch für andere Anlegestellen an der Donau realisiert wird.

Regierungsprogramm 2021–2027

Abschnitt Nachhaltige Mobilität

+ Errichtung von Landstromanlagen für Kreuzfahrtschiffe in Engelhartszell und Linz

Regierungsprogramm 2020-2025

Guideline planning: Shore power on the Austrian Danube (finalisation 2019)

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Coordination by viadonau on behalf of Federal Ministry for Climate Action (BMK)

- **Objective**

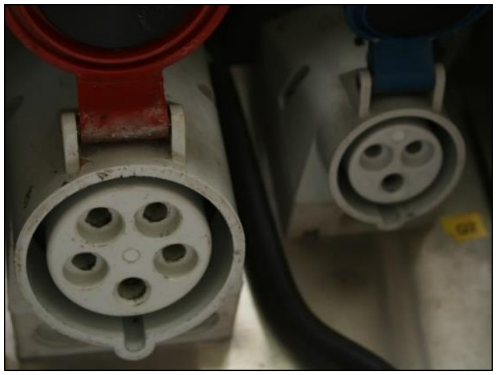
  Elaboration of a basic planning for the construction and operation of shore power facilities across all concerned federal states

- **Use cases**
  - cruise vessels at private berths
  - cruise vessels during winter stand in ports
  - cargo vessels at public berths

- **Working group members**

  grid operators, energy suppliers, berth and port operators, representatives of the federal states as well as stakeholders from Bavaria (DE)

© Avalon Waterways



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Guideline planning: Shore power on the Austrian Danube (finalisation 2019)

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- **Elements of the guideline planning**
  - technical specification of the shore power units
  - cost estimation and profitability prognosis
  - considerations regarding organisational concepts (incl. access and billing system)

- **Followed by: Due Diligence survey (2020/21)**
  - in-depth profitability analysis and elaboration of business models
  - provision for future shore power operators

→ **result:** subsidies are necessary to make shore power projects economically viable

Shore power at public berths (cargo ships)

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- **Pilot phase**
  - 3 locations in Linz, Wildungsmauer and Vienna
  - prohibition of the use of on-board devices for power generation (incl. monitoring provisions).
  - testing an operating scenario that is as low-threshold as possible
    → experience and knowledge for long-term operation resp. suitability for widespread use
  - duration of pilot phase: q1 2023 – q2 2025 (30 months)
- **Evaluation criteria**
  - technical and legal feasibility
  - costs and profitability
  - compliance/acceptance by sector
  - service quality, vulnerability to faults, frequency of use

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

FW works

Upgrade: Public mooring place Wildungsmauer

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FW works

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

Shore power at private berths (cruise ships)

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- coordination by viadonau, realisation by federal states Upper Austria, Lower Austria, Vienna (joint working group)
- regional and communal energy supply companies as shore power operators
- challenges: financing and estimation of economic viability, provision of required power outputs, supply for multiple rows, cityscape/landscape
  → many questions clarified in/since guideline planning
- currently preparation of projects in Engelhartszell, Linz, Melk, Krems and Vienna (technical plannings, profitability/financing concepts)
- CEF-funded project „Electrified Danube“: equipment of 17 berths in Upper Austria and Lower Austria with shore power by Linz AG and EVN
- further projects in ports of Linz, Enns, Vienna (winter stand)

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Greening the fleet:
Alternative fuels and propulsion technologies at viadonau

Environmentally friendly inland vessels (motors, fuels) – viadonau‘s path

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Current greening-initiatives viadonau

Short-term activities	Mid-term activities 2025-2030	Long-term activities
Testing of HVO in viadonau & BMK vessels in 2023	Application and adaption in own vessel fleet	Roll-out and continuous evaluation
Acquisition push boat /marking vessel (stage V, HVO compatible - hydrotreated vegetable oil)	Application and adaption	
Evaluation of hydrogen als altern. fuel in “H2 meets H2O“ project	Implementation of the “H2 meets H2O” project outcomes	
Participation at Horizon 2020-Projekt „Synergetics“; PLATINA 3: implementation of the NAIADES 3 action programme of the EC	Implementation of the “PLATINA 3” project outcomes	

viadonau supports Austrian inland navigation sector to its greening goal

2030: viadonau corporate goal: climate neutrality

2040: Climate neutrality of the Austrian transport system

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New company headquarter

Motivation energy self-sufficiency

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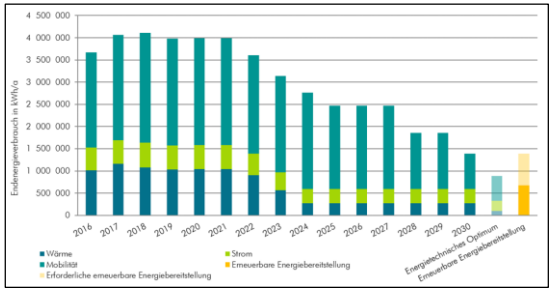
- **Primary objective**
  Based on the United Nations 2030 Agenda for Sustainable Development and the Austrian environmental and energy strategies, viadonau implements concrete measures.
- **Corporate objective by 2030**
  energy self-sufficiency = positive, annual energy balance (consumption < production)
- **Priority measures by 2030**
  - energy-efficiency concept
  - building construction and renovation
  - renewable heat
  - electro mobility
  - highly efficient devices & processes
  - energy supply by photovoltaic (PV)



timetable energy self-suffiency


5 e-cars


Servicecentre Oberes Donautal

Blackout safety

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- **Objective**
  Maintaining the operation and traffic safety of the waterway until vessels are safely moored

- **Measures**
  - energy self-suffiency for applications in the field by usage of PV and battery storage instead of grid connection
  - energy self-suffiency at offices through maximisation of PV-surfaces in combination with battery buffer storages
  - provision of an emergency generator for longer breakdowns (>1 day up to 7 days)
  - ensuring the continuity of critical core processes and central IT applications in a blackout-proof data centre (e.g. locks, gauging system, distance-surveillance of buoys or DoRIS)

New company headquarter

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- **Planning principles**
  - floating office building on the Danube in Vienna/Handelskai
  - innovative linkage ship technology and building construction
  - realisation in line with energy self-sufficiency and climate protection

- **Innovations in the fields of climate protection / energy consumption**
  - passive-house standard
  - plus-energy-house concept (= positive, annual energy balance)
  - pilot project: e-fuels for operational boats
  - research project „plusenergy-Flagship“:
    recycling wastewater and generating energy from organic matter as a demonstration for ship and building technology

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