

The ENERGY BARGE modal shift platform and its transferability to other projects as a decision support tool

12.03.2020

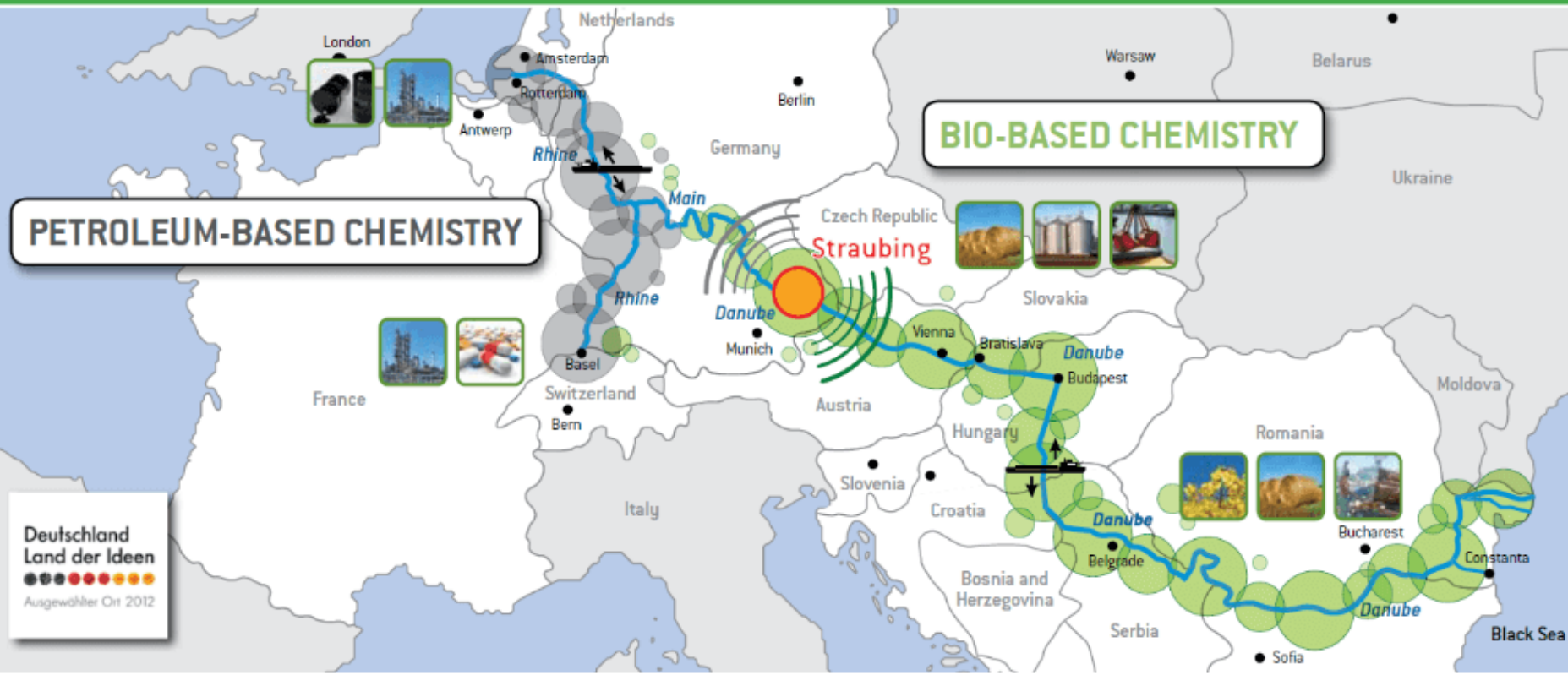
*Wolfgang Dorner, Anne Weinfurter
Technische Hochschule Deggendorf*



Green Chemistry Belt

YES, WE LINK

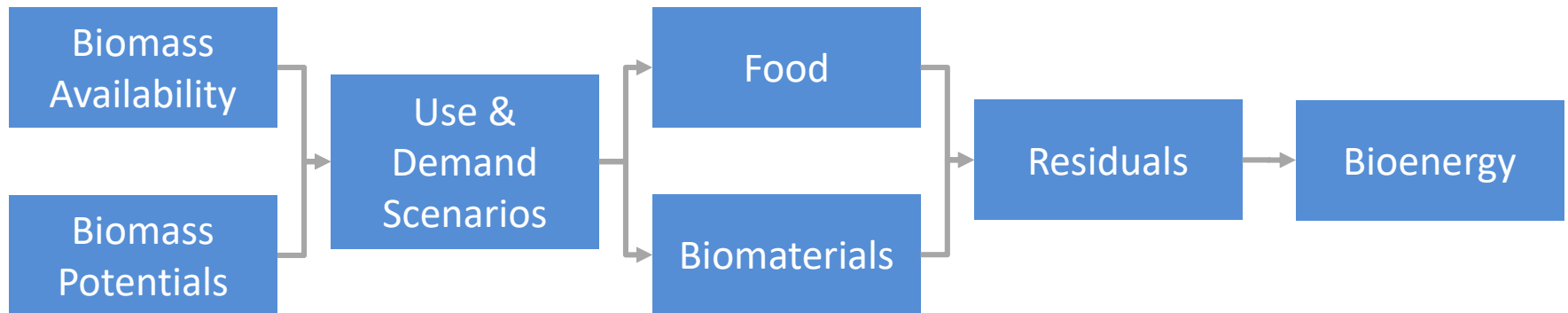
STRAUBING-
REGION
OF RENEWABLE
RAW MATERIALS



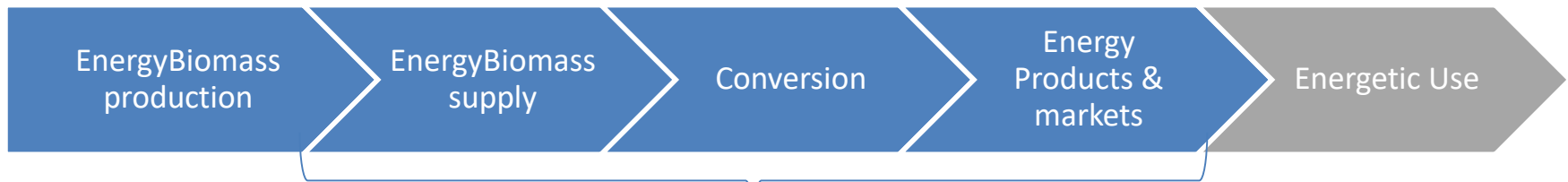
NEW FEED-STOCKS FOR THE CHEMICAL INDUSTRY · www.GREEN-CHEMISTRY-BELT.com



Initial Idea



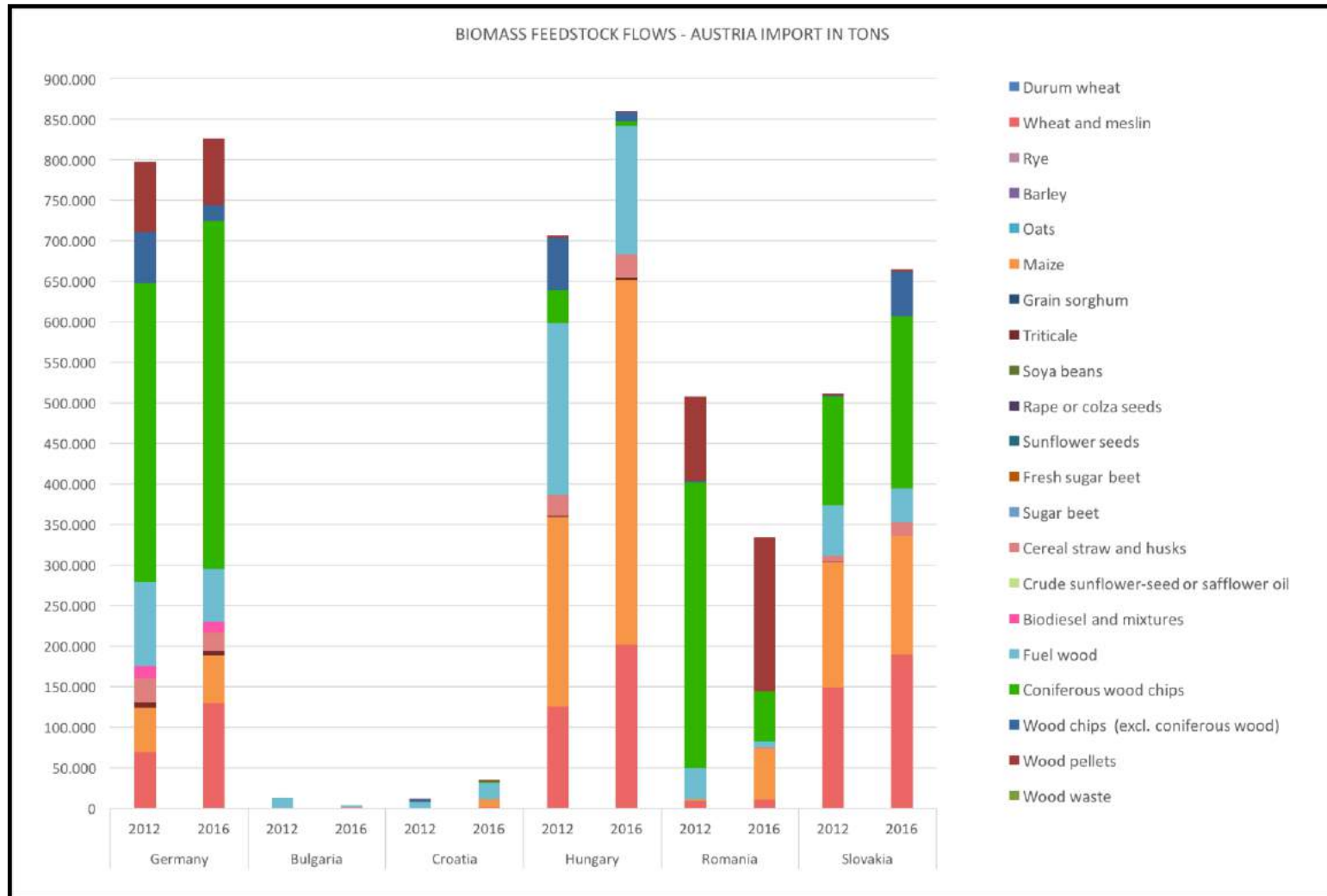
WP 3: Target Groups & Benefits



- Knowledge for actors from the public and private sector along the bioenergy value chain for increased market actor cooperation and tapping of potentials
- Knowledge for private actors from the bioenergy and the Danube logistics sectors for increased cooperation



D.3.1.2.: Catalogue and visualization of biomass feedstock flows



D.3.1.2.: Catalogue and visualization of biomass feedstock flows





Project objectives & instruments

- Building a **green energy and logistics belt** in the Danube region
 - Foster the sustainable use of biomass for **bioenergy** and material purposes
 - Analyse the role of **Danube logistics and ports** for the biobased economy
 - **Encourage a modal shift** with regards to transport of biomass (= all kinds of biobased feedstock, intermediates, and products)
 - **By...**
- **Mapping** the market actor landscape in a cross-sectoral and cross-border approach
 - **Facilitating information exchange** and learning within the sectors via online modal shift platform
 - **Informing actors** from the biomass/bioenergy and the Danube logistics value chains about the sectoral needs via B2B channels
 - **Equipping ports** for the biobased economy

Platform Objectives

- Establish integrated cross-sectoral and transnational info and **know-how exchange platform**
- **Provide practical** tools for public and private stakeholders along biomass, bioenergy & logistics value chains
- Encourage private actors to **actively register and use platform** for business development to depict Danube region bioenergy market landscape
- **Inform market actors** along the bioenergy value chain about inland waterway navigation & vice versa
- Intuitive usability, central element: **map view**

THE ENERGY BARGE PLATFORM AT A GLANCE



Join us

... and benefit from the bioenergy and modal shift platform - a place where info on the Danube region's biomass and bioenergy business and the Danube logistics meet.

Fully utilize the synergies between the bioenergy & biomass industry and the Danube logistics sector. [Register your company free of charge!](#)

The three ENERGY BARGE tools are:



Sign up

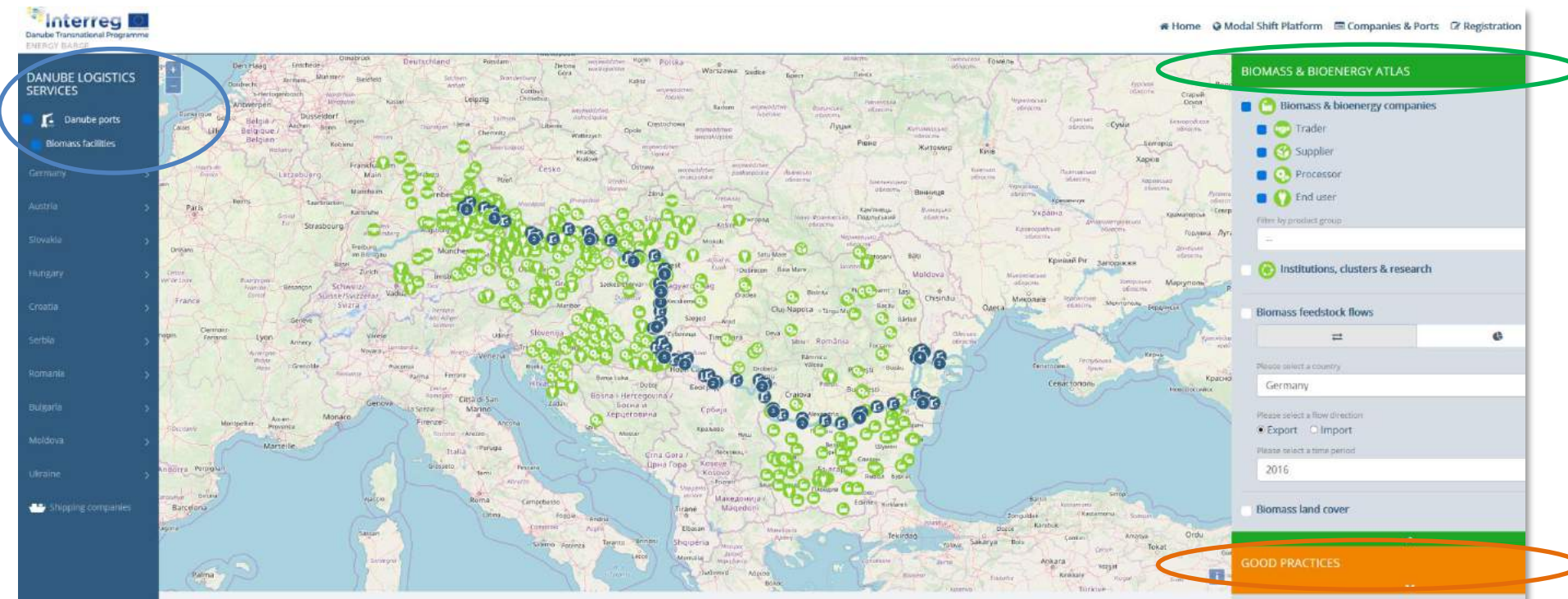
Become part of our platform supporting key actors and stakeholders from the bioenergy industry in gaining access to suitable Danube logistics services. The website promotes the building of new partnerships, improves cross-sectoral cooperation and provides information to support the development of innovative value and supply chains.

[Register company now for free](#)



Modal shift platform: Main map view

- Central element: map view → distances, location, spatial features
- Color-codes indicating tools and sectors
- Elements and tools of the modal shift platform:



DANUBE LOGISTICS SERVICES

- Danube ports
- Biomass facilities

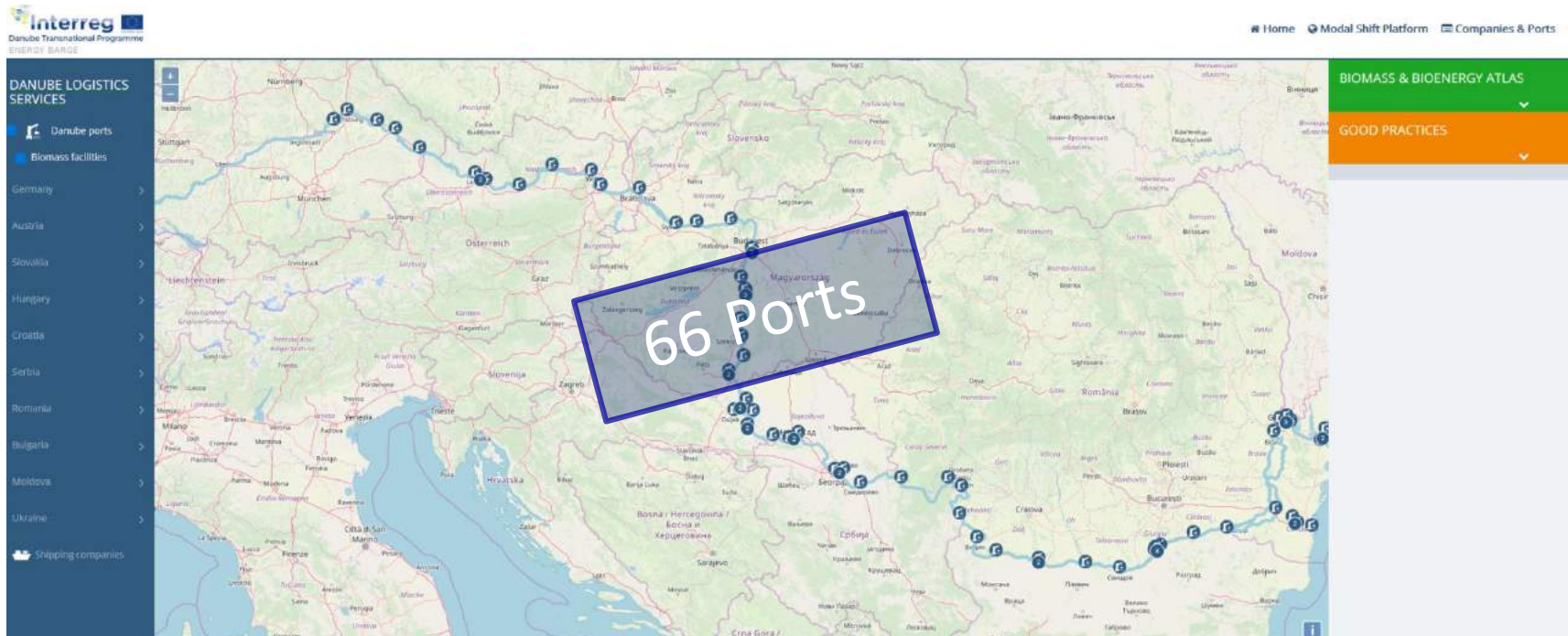
BIOMASS & BIOENERGY ATLAS

- Biomass & bioenergy companies
 - Trader
 - Supplier
 - Processor
 - End user
- Institutions, clusters & research
- Biomass feedstock flows
 - Please select a country: Germany
 - Please select a flow direction: Export, Import
 - Please select a time period: 2016
- Biomass land cover

GOOD PRACTICES

Danube Logistics Services

- Overview on Danube ports along the river
- Specific suitability for handling of biomass (equipment!)
- Port profiles
- Data base of shipping companies



Danube Logistics Services – Port Profile

Hungary >

Ferropport

Port of Adony

ISD Portolan Kft.

Dunavecse

Paks

Baja Public Port

Freeport of Budapest

MAHART Container Center

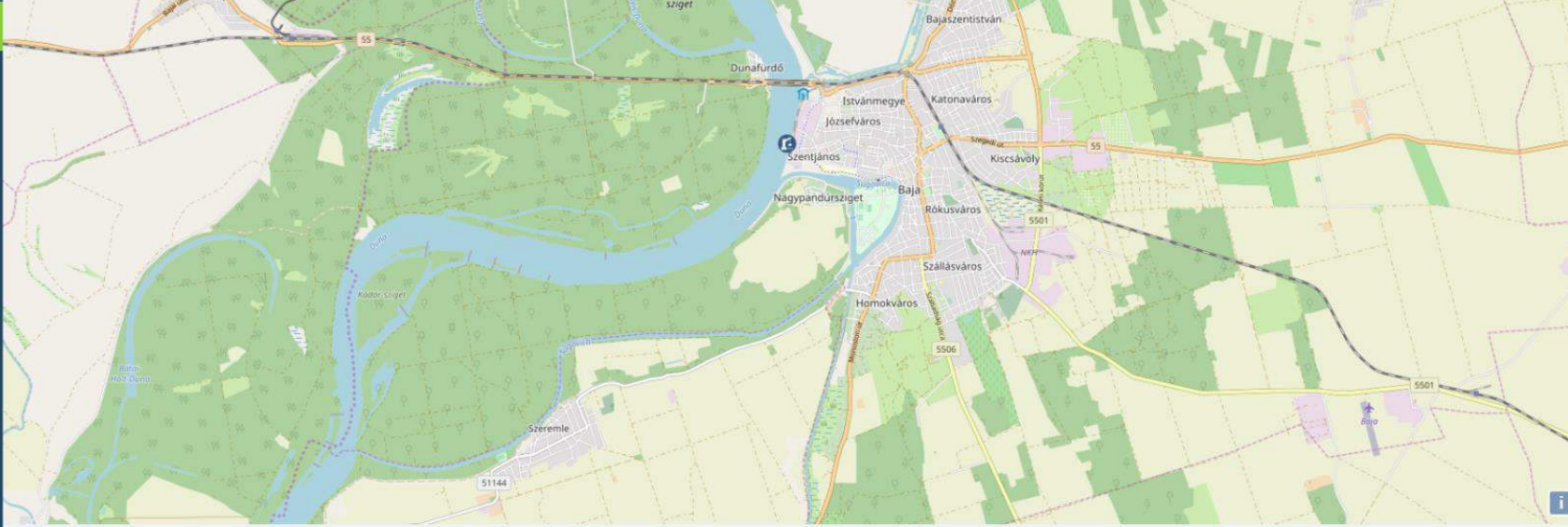
Centroport

Bogysizlo

Boly Zrt.

Margitta

Győr-Gönyü



DANUBE PORT PROFILE

Baja Public Port

Location: Baja (Hungary)

Port company: Nemzeti Közlekedési Hatóság (National Transport Authority)

Website: www.nfm.gov.hu

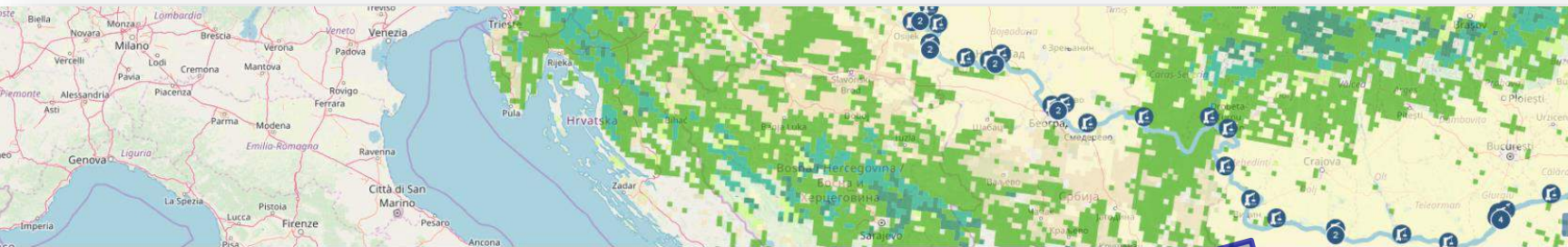
E-Mail: intcomm@mk.gov.hu

Port is suitable for biomass handling

Type of storage	
Open storage area	Covered storage area
✓	✓

Transshipment services for		
Dry bulk	Break bulk	Liquid bulk
✓	✓	✗

Danube Logistics Services - Companies



SHIPPING COMPANIES AND SHIP BROKERS

Shipping companies are commercial transport companies that professionally organise and implement the transport of goods on inland waterways by using their own vessels. In order to market their services shipping companies often cooperate with ship brokers. Brokers are the contract partner of the company placing the order for transport and rent cargo space from shipping companies. Both shipping companies and ship brokers act as experienced logistics service providers for the bioenergy and biomass industry.

54 Logistics Service Providers

Show entries

Search:

Name of company	Country	Website	Dry bulk services	Break bulk services	Liquid bulk services
BENSHIP Hungary Ltd.	Hungary	www.benship.hu	✓	✓	✗
CSIKLI Shipping and Forwarding Ltd.	Hungary	www.csikli.hu	✓	✗	✗
Fluvius Schifffahrts und Speditionen GmbH	Hungary	www.fluvius.hu	✓	✓	✗
ISD Portolan Ltd	Hungary	www.portolan.hu	✓	✓	✗
KISZL Shipping Ltd.	Hungary	www.hajozas.net	✓	✓	✗
Plimsoll Kft	Hungary	www.plimsoll.hu	✓	✓	✗

Showing 1 to 6 of 6 entries (filtered from 53 total entries)

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Danube Logistics Services - Info

- General information on inland waterway transport
- Information for potential customers: **Handbook** for a modal shift towards inland waterway transport incl. practice examples
- Inventory of logistics services on the Danube
- Logistics requirements of biomass cargo

>> Visit the Modal Shift Platform

Learn more about benefits and conditions of using the Danube for transporting biomass and bioenergy products and get insights into the the Danube logistics and ports landscape in our Modal Shift Platform.



The Danube region is not only characterized by its strong biomass potential. Connecting 10 riparian countries, the Danube functions as a high-performance logistics axis, offering a natural infrastructure for inland waterway transport with specific relevance for the transport of bulk cargo.

Already today, agricultural and forestry products account for around 25 % of the total volume of goods (approx. 40 Mio. tons/year) transported along the logistical axis of the Danube. Ports and transshipment sites along the river function as hubs for handling, storage and processing. With the bio-based economy gaining momentum all over Europe, another growth market opens up for both the Danube region's biomass industry as well as for the Danube logistics sector. Especially for bio-based raw materials with the majority being categorized as bulk cargo in transport terms, Danube logistics can offer a broad set of facilities and services.

Therefore, encouraging a modal shift of biomass raw materials and products of the bioeconomy towards inland waterway transport and establishing Danube ports as prime hubs for the energetic and chemical-material use and trade of biomass are major goals of the ENERGY BARGE project. Such a modal shift at the same time contributes to the goal to increase transport on inland waterways by 20 % until 2020 as stated in the EU's Strategy for the Danube Region (EUSDR). Therefore, on this modal shift platform, the ENERGY BARGE project provides practical and first-hand information about logistics service providers and Danube ports facilitating biomass transport and handling. The online service gives insight into the most relevant framework conditions for transport, handling and storage of bio-based cargo, and enables cargo owners to inform themselves about the available logistics services along the Danube.



Bioenergy meets Danube logistics - Handbook for a modal shift towards inland waterway transport

The ENERGY BARGE project aims to better tap both the biomass and the logistics potentials of the Danube region in a sustainable manner. To this end, the consortium developed a set of tools that inform private and public actors along the potential supply chains and across country borders, give them practical guidance for business development and bring them together. Eventually, the entire Danube region shall profit from the more widespread and sustainable utilization of its transnational, yet domestic biomass. This handbook is one of these tools. It is designed for actors along the biomass and bioenergy supply and value chains which would like to have a "first peak" into the world of Danube navigation and what it has to offer.

Danube logistics have relevance for all these actors, from biomass suppliers, processing entities such as saw mills, traders of bio-based raw materials and bioenergy products, as well as end users. Based on expert discussions with relevant shipping companies, port operators and logistics service providers from Germany, Austria, Hungary, Slovakia and Croatia, the following chapters provide practical information for cargo owners. The focus lies on technical and administrative framework conditions for waterway transport, handling and storage of different types of bio-based cargo.

ENERGY BARGE handbook



Inventory of Danube logistics services for transport, handling & storage of biomass

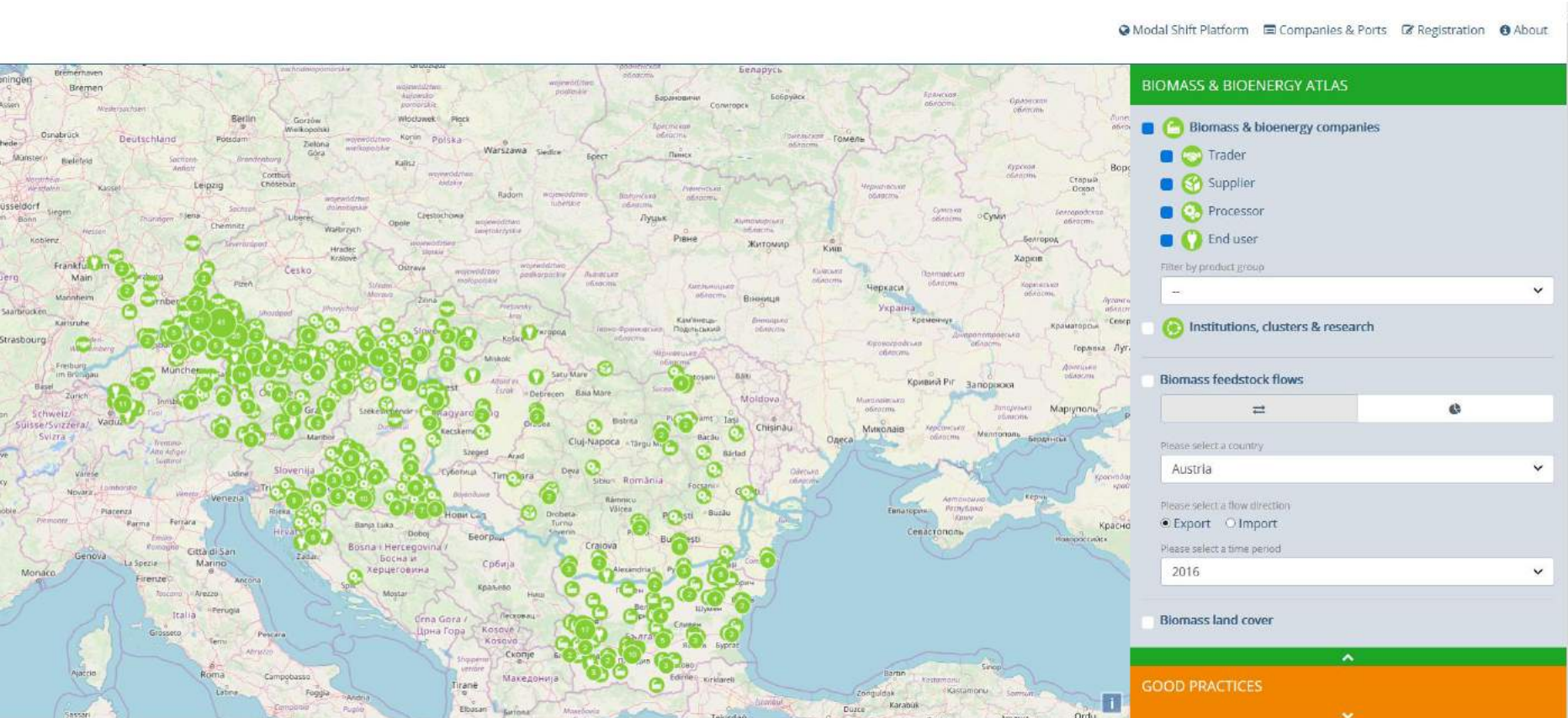
In order to be able to plan transports on the Danube, potential users from the biomass and bioenergy markets need reliable information about the services offered by Danube logistics actors. Therefore, ENERGY BARGE has filed a comprehensive inventory list of Danube logistics service providers that are specialised on logistics requirements of the biomass and bioenergy industry.

The overall objective of this list, which is a project deliverable, is to enable an easy access to information on appropriate port and terminal operators as well as on shipping companies and ship brokers. By providing the contact data of suitable service providers (website) the effort for potential customers of Danube logistics is kept on a minimum. The deliverable is available here:

ENERGY BARGE deliverables

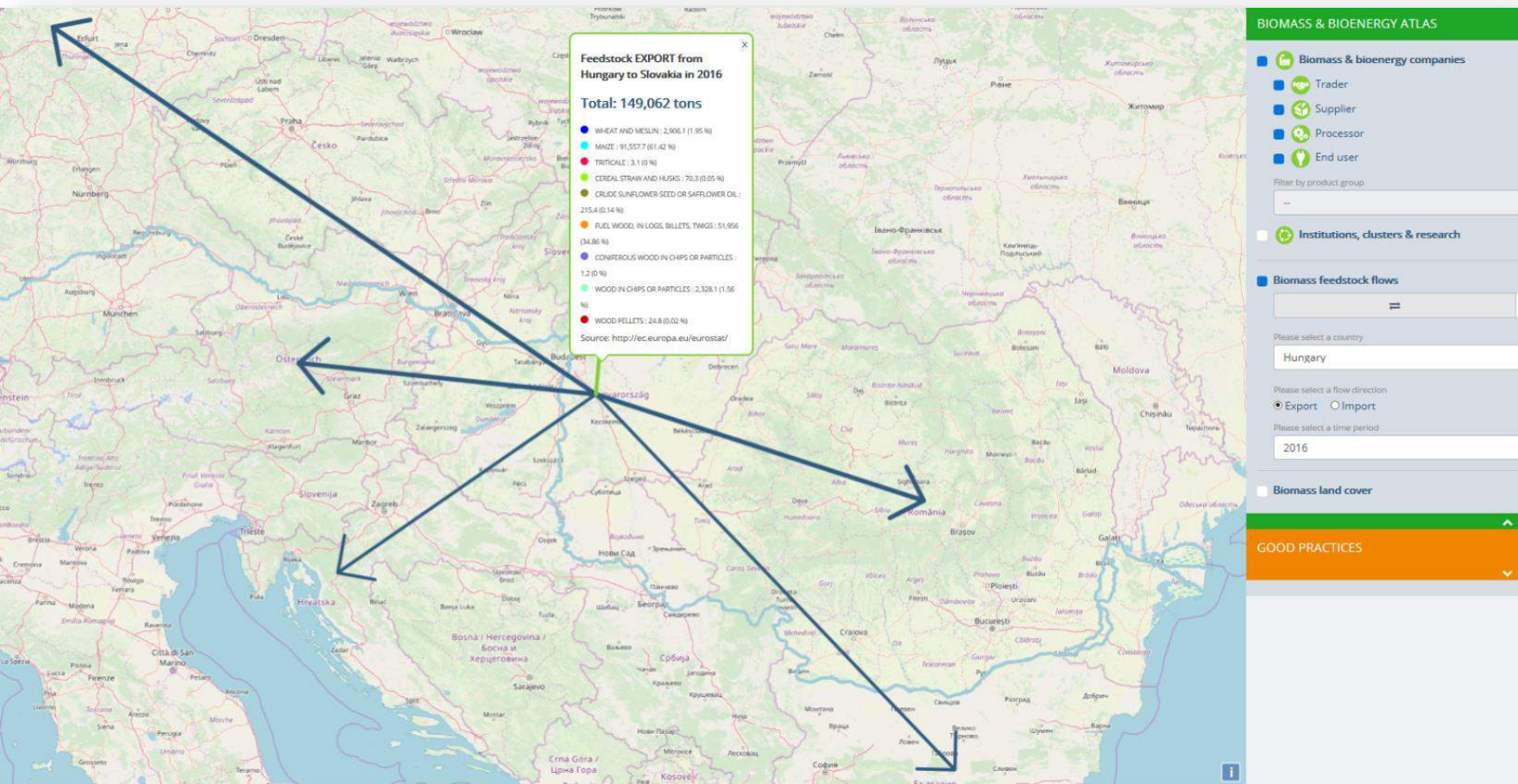
Biomass & Bioenergy Atlas

- Overview of market actors: suppliers, traders, processors & end users
- Dynamic zooming to location → association with port locations
- Filter: biomass feedstock types, bioenergy products, residue materials
- Additional info on clusters, associations, etc.



Biomass and Bioenergy Atlas

- Feedstock flows: depict trade of biobased materials from / to Danube countries
- View biomass land cover based on CORINE data



Biomass and Bioenergy Atlas

BIOMASS AND BIOENERGY COMPANIES

Numerous actors work in the biomass and bioenergy markets and along the relevant value chains. In this overview, you find a comprehensive - but by no means complete yet - landscape of companies active in the biomass and bioenergy sectors of the Danube-bordering countries. We would like to welcome you here! The categories listed are supplier, trader, processor and end user (excluding biogas plants). Most companies listed are classified as more than just one category. For example, most pellet processors are also active in trading. In case you don't find your company in this list, we would like to have you on board - [register here](#). If you want to update your company's information, please send an email to: webmaster@energy-barge.eu

Show entries

Search:

Name	Country	City	Company type
Agri-Pellet Kft.	Hungary	Törökbálint	Trader, Processor
Agrár-Béta Kft	Hungary	Dombóvár	Supplier & Trader
Bio-Fungi Ltd	Hungary	Aporka	Supplier, Processor & Trader
Biofilter Környezetvédelmi Zrt	Hungary	Törökbálint	Processor
Birtok Kft	Hungary	Balassagyarmat	End user
Bionova-Hungary Kft	Hungary	Bicske	Supplier & Trader
Bunge Zrt	Hungary	Martfű	Processor
DBM Dél-nyírségi Bioenergia Művek Energiatermelő Zrt.	Hungary	Szakoly	End User
Dunapart Bt.	Hungary	Győr	Trader, Processor
Fővárosi Hulladékhasznosító Mű	Hungary	Budapest	Processor & end user

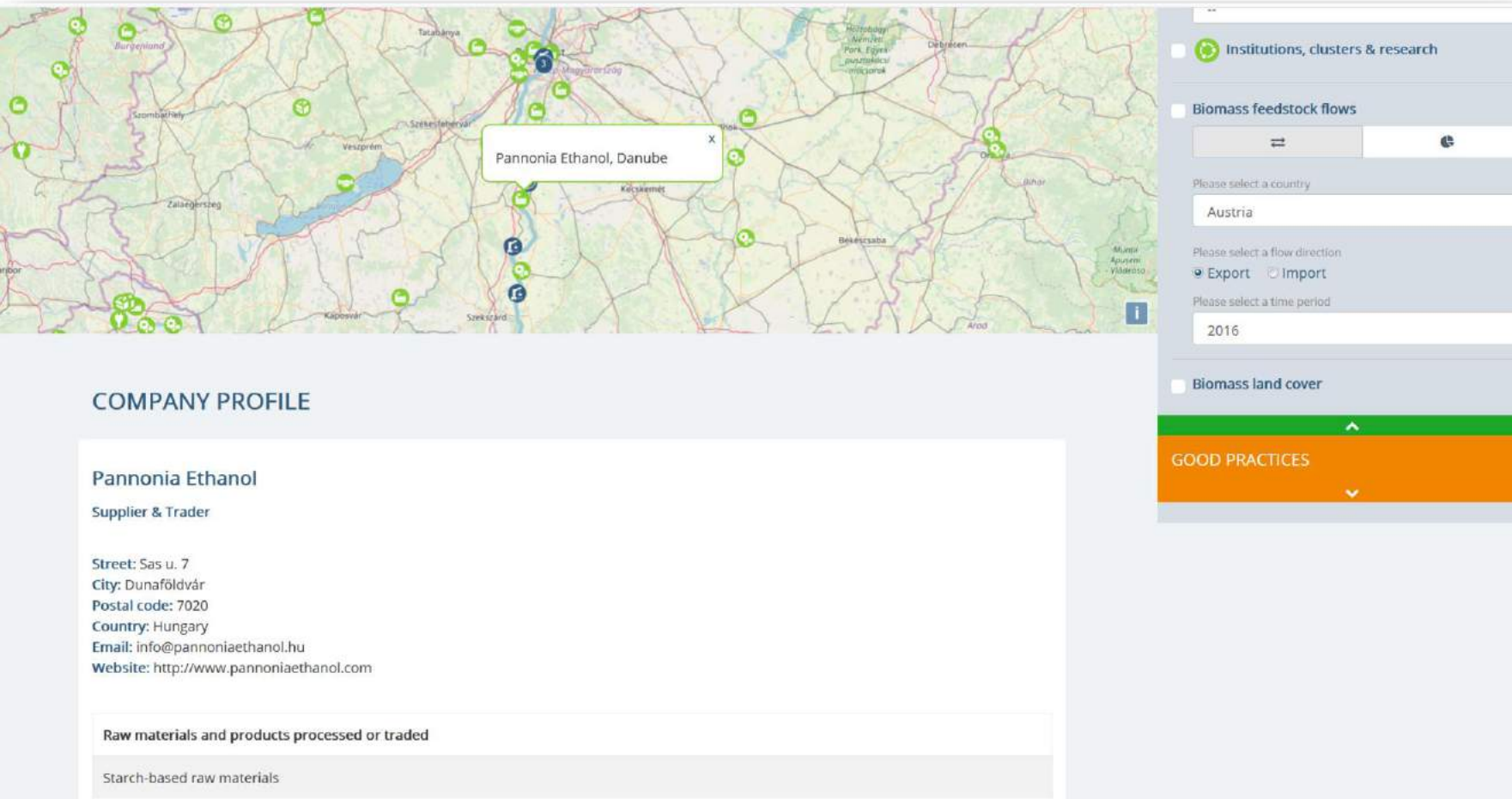
Showing 1 to 10 of 29 entries (filtered from 523 total entries)

Previous Next



Danube Logistics meets Bioenergy

- Screen landscape for potential customers:



The screenshot displays a web application interface for screening potential customers. The main map area shows a geographical region with various locations marked by green icons. A specific location, 'Pannonia Ethanol, Danube', is highlighted with a white box. To the right of the map, there is a sidebar with several filter options: 'Institutions, clusters & research', 'Biomass feedstock flows', and 'Biomass land cover'. The 'Biomass feedstock flows' section is active, showing a dropdown for 'Please select a country' with 'Austria' selected, and a dropdown for 'Please select a flow direction' with 'Export' selected. Below these, there is a dropdown for 'Please select a time period' with '2016' selected. At the bottom of the sidebar, there is a green bar with an upward arrow and an orange bar with a downward arrow, both labeled 'GOOD PRACTICES'. Below the map, there is a 'COMPANY PROFILE' section for 'Pannonia Ethanol', which is a 'Supplier & Trader'. The profile includes the following details: Street: Sas u. 7, City: Dunaföldvár, Postal code: 7020, Country: Hungary, Email: info@pannoniaethanol.hu, and Website: http://www.pannoniaethanol.com. At the bottom of the profile, there is a section for 'Raw materials and products processed or traded', which lists 'Starch-based raw materials'.

COMPANY PROFILE

Pannonia Ethanol
Supplier & Trader

Street: Sas u. 7
City: Dunaföldvár
Postal code: 7020
Country: Hungary
Email: info@pannoniaethanol.hu
Website: http://www.pannoniaethanol.com

Raw materials and products processed or traded

Starch-based raw materials

GOOD PRACTICES

Logistics or bioenergy actor: REGISTER!

- Easy registration with basic data
- Option to be present on a cross-sectoral, transnational thematically relevant platform free of charge
- Get easy access to actors from foreign, but useful sectors or regions: potential customers, service providers, experts!

REGISTRATION

Register your company free of charge now and join us to build up a bioenergy and logistics network along the Danube. This website contains comprehensive features for building new partnerships and improving cross-sectoral cooperation. It provides a new way of visualisation of biomass and bioenergy value chains as well as involved actors and an overview of relevant logistics services along the Danube. If you want to update your company's information, please send an email to: webmaster@energy-barge.eu

Please select the type of your company:

 Biomass & Bioenergy company	 Institution, cluster or research	 Danube Port	 Shipping company or ship broker
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REGISTRATION OF SHIPPING COMPANY OR SHIP BROKER

Register now your company for free and join us to build up a bioenergy and logistics network along the Danube. In a few weeks the biomass and bioenergy atlas will be published with comprehensive features for building new partnerships, improving cross-sectoral cooperation as well as a new way of visualisation of the biomass and bioenergy value chain.

*** required fields**

Please do not enter any personal data!

Name*

Company name

Please provide us with the full name of your company including legal status information

Country*

Choose your country...

Postal code*

e.g. 94070

Please insert the postal code of your city

City*

City

Please insert the city of your business

Street*

Street

Please provide the name of your street as well as number

Street number

e.g. 11

Email*

info@company.com

Please insert a office email address.

Website

http://yourcompany.com

Transport services for

- ☐ dry bulk
☐ break bulk
☐ liquid bulk

Company location

Please mark your company location on the map by clicking on the map or entering the coordinates

Longitude

14.123456

Latitude

48.123456

Apply entered coordinates on the map

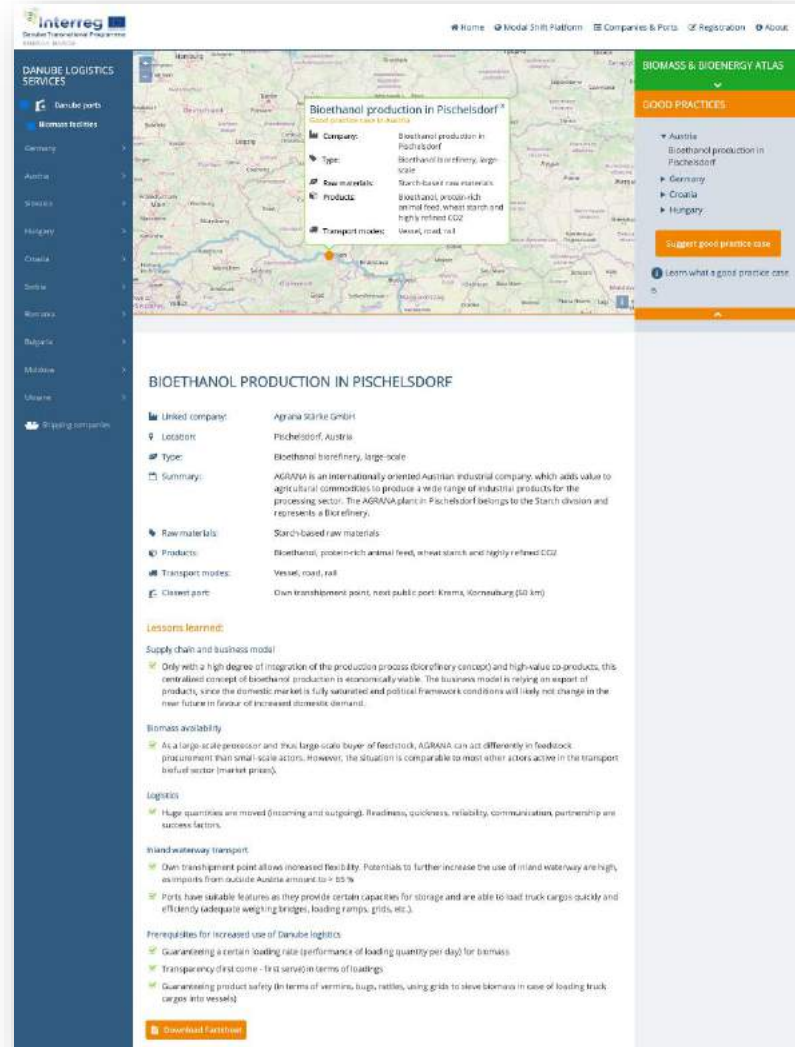
☐ I agree to the ENERGY BARGE Terms of Use and Service and its Privacy Statement. I also consent to the ENERGY BARGE online platform, saving, reviewing, processing, presenting online and transferring data relating to my company in connection with the processing activities described in the Terms. I also consent to the transfer of any such data outside of the country in which I live or where the data has been collected or processed, including specifically the countries of the consortium (Germany, Austria, Slovakia, Hungary, Croatia, Romania and Bulgaria), for the purposes described in the Terms. I understand that this consent is voluntary and can be revoked at any time.

Save

Cancel

Good Practice Tool

- Depict the ENERGY BARGE case study locations in more detail (8 cases in Germany, Austria, Hungary, Slovakia, Croatia, Romania, Bulgaria)
- Learn about supply chains, involvement of logistics modes, options to include inland waterway transport
- Provide lessons learnt
- Option to suggest new good practice site based on criteria



The screenshot displays the 'Good Practice Tool' interface. On the left, a sidebar lists 'DANUBE LOGISTICS SERVICES' and 'Biomass business' with a list of countries: Germany, Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria, Republic of Moldova, and Ukraine. The main area shows a map of Central Europe with a pop-up for 'Bioethanol production in Pischelsdorf'. The pop-up details include: Company (Agrana Starke GmbH), Location (Pischelsdorf, Austria), Type (Bioethanol refinery, large-scale), Raw materials (Starch-based raw materials: wheat, barley, rye, corn, and highly refined CO2), Products (Bioethanol, protein-rich animal feed, wheat starch and highly refined CO2), Transport modes (Vessel, road, rail), and Closest port (Danube transshipment point, next public port: Krems, 100 km).

Below the map, the page title is 'BIOETHANOL PRODUCTION IN PISCHELSDORF'. The 'Linked company' is 'Agrana Starke GmbH'. The 'Location' is 'Pischelsdorf, Austria'. The 'Type' is 'Bioethanol refinery, large-scale'. The 'Summary' states: 'AGRANA is an internationally oriented Austrian industrial company, which adds value to agricultural commodities to produce a wide range of industrial products for the processing sector. The AGRANA plant in Pischelsdorf belongs to the Starch division and represents a Bio refinery.' The 'Raw materials' are 'Starch-based raw materials'. The 'Products' are 'Bioethanol, protein-rich animal feed, wheat starch and highly refined CO2'. The 'Transport modes' are 'Vessel, road, rail'. The 'Closest port' is 'Danube transshipment point, next public port: Krems, 100 km'.

The 'Lessons learned' section includes: 'Supply chain and business model' (Only with a high degree of integration of the production process (bio-refinery concept) and high-value co-products, this centralized concept of bioethanol production is economically viable. The business model is relying on export of products, since the domestic market is fully saturated and political framework conditions will likely not change in the near future in favour of increased domestic demand.) 'Biomass availability' (As a large-scale processor and thus large-scale buyer of feedstock, AGRANA can act differently in feedstock procurement than small-scale actors. However, the situation is comparable to most other actors active in the transport feedstock sector (market prices).) 'Logistics' (Huge quantities are moved (incoming and outgoing). Readiness, quickness, reliability, communication, partnership are success factors.) 'Inland waterway transport' (Danube transshipment point allows increased flexibility. Potentials to further increase the use of inland waterway are high, as imports from outside Austria amount to ~ 55 %). Ports have suitable features as they provide certain capacities for storage and are able to load truck cargoes quickly and efficiently (adequate weighing bridges, loading ramps, grids, etc.).) 'Prerequisites for increased use of Danube logistics' (Guaranteeing a certain loading rate (performance of loading quantity per day) for biomass. Transparency of cost (costs in terms of loadings). Guaranteeing product safety (in terms of vermin, bugs, rotting, using grids to sieve biomass in case of loading truck cargoes into vessels).)

On the right, there is a 'BIOMASS & BIOENERGY ATLAS' section with a 'GOOD PRACTICES' list showing Austria, Bioethanol production in Pischelsdorf, Germany, Croatia, and Hungary. There is a 'Suggest good practice case' button and a 'Learn what a good practice case' link.

Good practice suggestion?

www.energy-barge.eu/goodpractice/register

- Provide information about your good practice by integrating biomass processing, bioenergy production and Inland waterway transport
- Biomass-Company has to be registered first
- Good practice cases will be reviewed before publishing

REGISTRATION OF A GOOD PRACTICE CASE

If you feel you have an example that fits with our good practice criteria, we would be happy if you fill out the fields below, submit your suggestion and join us to build up a strong bioenergy and logistics network along the Danube.

* required fields
Please do not enter any personal data!
Your submitted case will be reviewed and published soon.

*Title
Title

*Type
e.g. Company, Biomass plant, large scale

*Country
Choose your country...

*City
City

*Company
Select your company
If you don't register your company, please register first

*Summary
Brief summary of your case (max. 250 characters)

*Raw materials
Which raw material is processed in the case?

*Products
Biomass products and other products/services of the case

*Capacity
Production capacities per annum

*Closest port
Port or transshipment point used by the case. In case of no inland waterway use please submit the distance to the closest port and

*Transport modes
List modes of transport used as in- and outflows (rail, road, air, waterway)

Lessons learned

*Supply chains and business model

*Biomass availability

*Logistics

*Inland waterway transport

*Prerequisites for increased use of Danube logistics

Good practice case location

Map showing the location of the good practice case on the Danube river. The map includes labels for various cities and regions along the river, such as Vienna, Bratislava, Budapest, and Belgrade. The Danube river is highlighted in blue.

Please mark your Good practice location by clicking on the map or entering the coordinates.

Longitude
e.g. 14.729458

Latitude
e.g. 48.729458

Apply entered coordinates on the map

I agree to the ENERGY BARGE Terms of Use and Service and its Privacy Statement. I also consent to the ENERGY BARGE online platform, using, reviewing, processing, providing online and transferring data relating to the company in connection with the processing activities described in the Terms. I also consent to the transfer of any such data outside of the country in which I live or where the data has been collected or processed, including specifically the countries of the consortium (Germany, Austria, Slovakia, Hungary, Croatia, Romania and Bulgaria), for the purposes described in the Terms. I understand that this consent is voluntary and can be revoked at any time.

Save Cancel

- 1841 Visitors (15 months)
- 10 visitors/d (average)
- > 600 registered companies and institutions

Perspectives



- Fill the gaps
- Follow Up DanUp2Gas
- European Coverage
- Biomass potential
- Instruments to leverage network effects
- Energy -> Biomaterials -> Bioeconomy

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