DUSLO®

ENERGY OF YOUR GROWTH

Project: Močenok

Project Development Assistance for Regions

PROJECT PARTNERS

Under umbrella of Element Energy Ltd

elementenergy

Močenok Municipality

Močenok is a village and municipality in Šaľa District, in the south west Slovakia. Some activities will be located on Močenok's land.

Slovak National Hydrogen Association

NVAS is the National Hydrogen Association in Slovakia. Within the project, NVAS initiated the project and PDA and are the main project contact for internal and external stakeholders

DUSLO ENERGY OF YOUR GROWTH

Duslo is the chemical industry company in Slovakia, producing fertilizers and rubber chemicals. Duslo would like to reduce its CO_2 emissions from ammonia production and provide green hydrogen for the transport sector, both by implementation of a green hydrogen production hub.

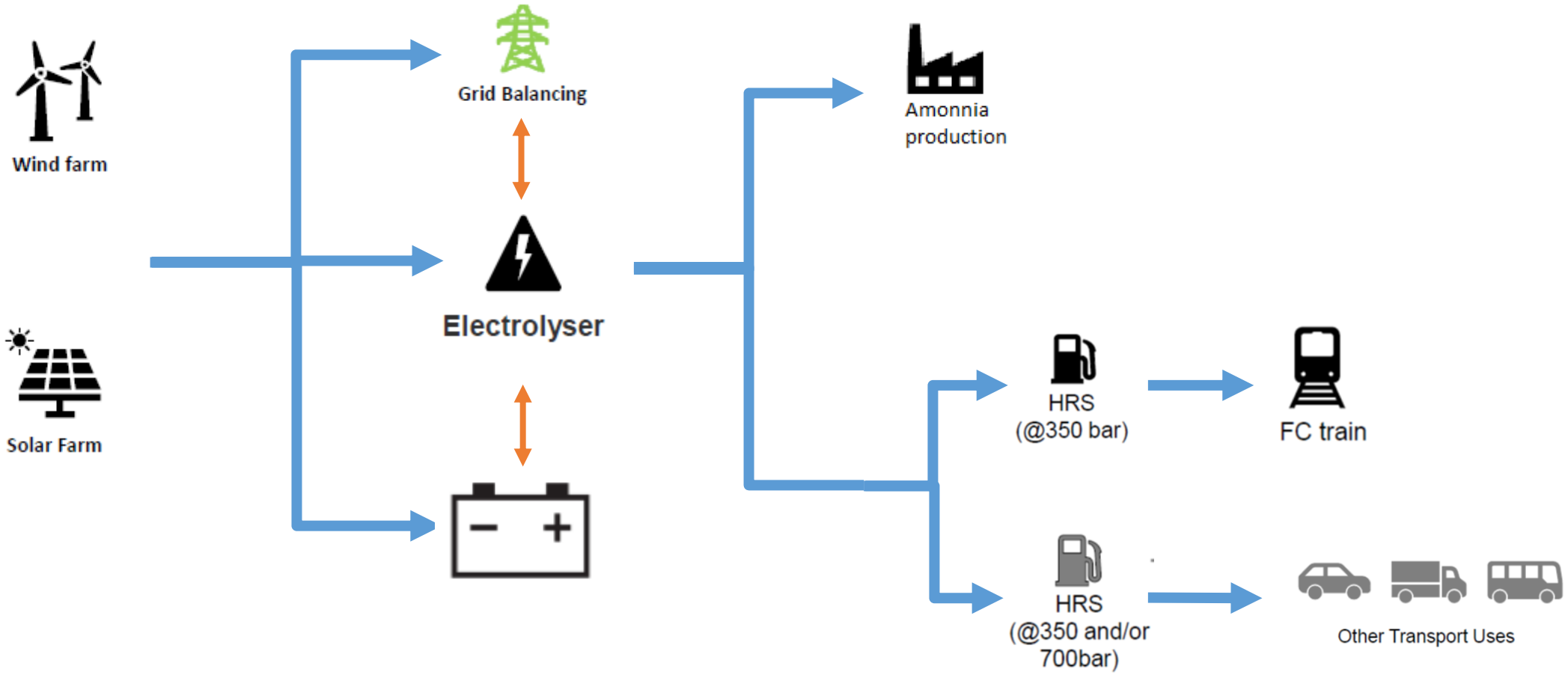
EUROWIND ENERGY A/S

Eurowind Energy is renewable energy developer and operator. EWE provide their expertise for the development of the renewable energy sources

ŽELEZNIČNÁ SPOLOČNOSŤ SLOVENSKO

ZSSK is a state owned passenger train company, operating railway routes across the country. Within the project, ZSSK will own and operate an initial 2 fuel cell trains on regional routes in South West Slovakia.

PROJECT VALUE CHAIN



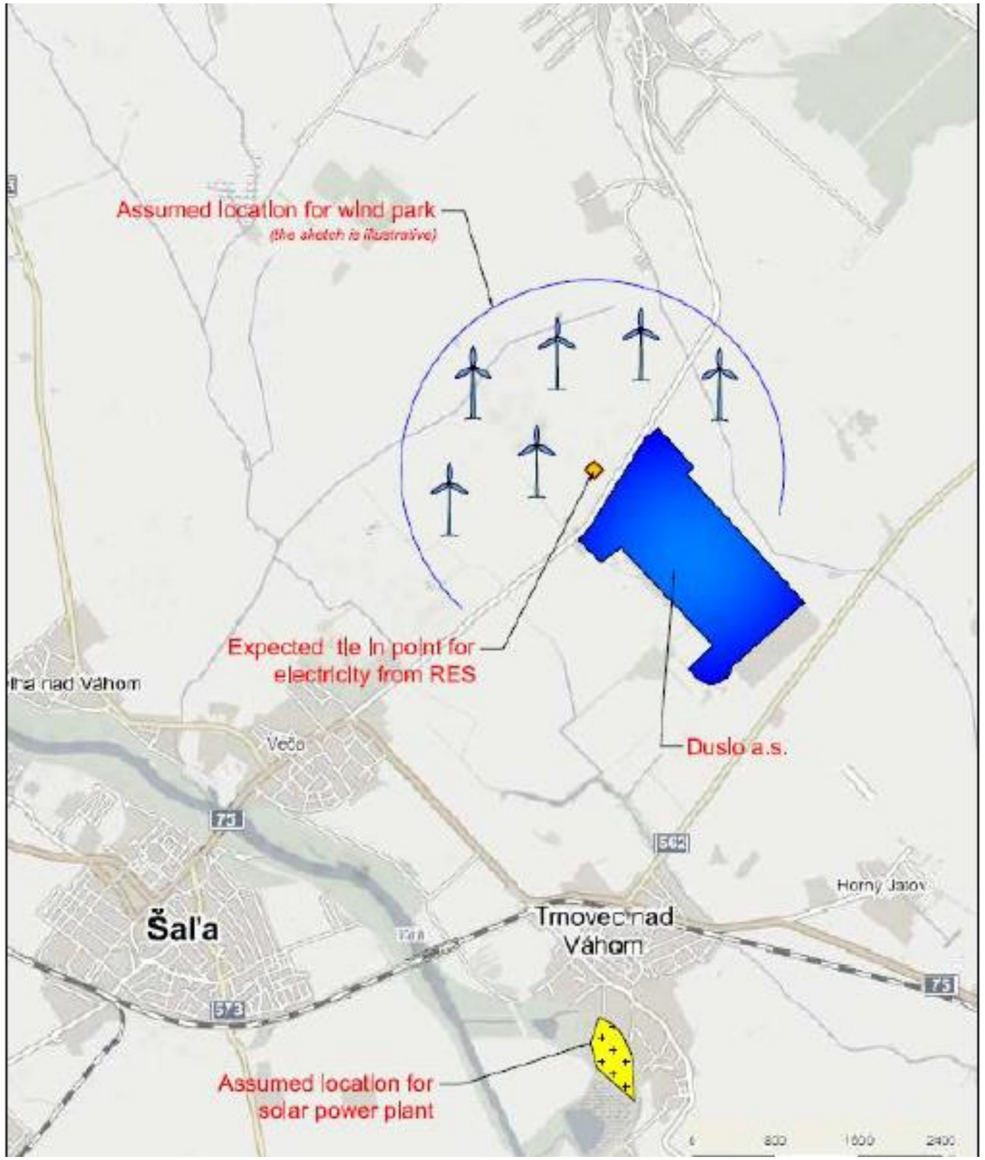
DUSLO
ENERGY OF YOUR GROWTH

PROJECT SPECIFICS

Renewable energy source	
Wind energy	36 MW
Photovoltaics	14 MW
Annual production	130 GWh/y

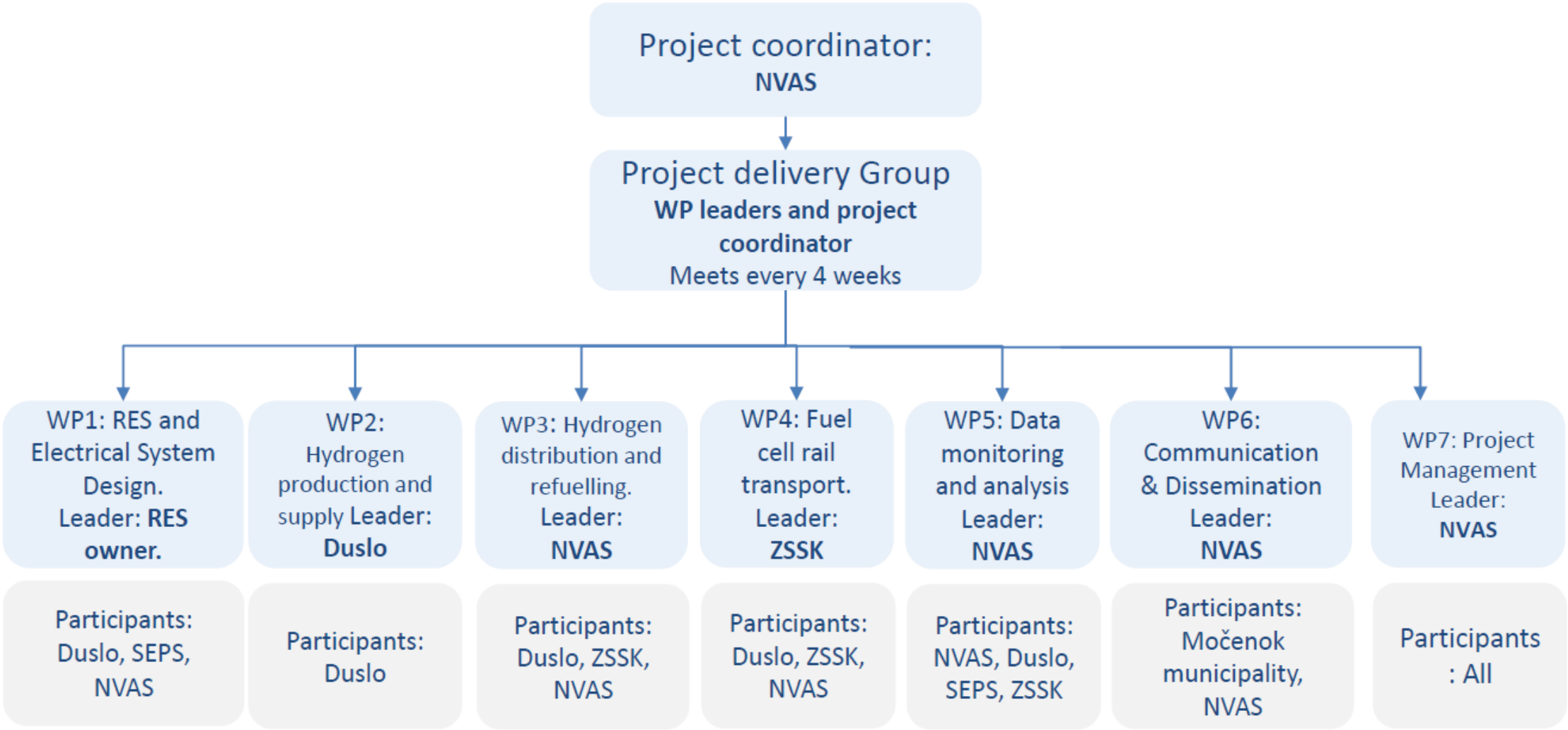
Green hydrogen production	
Electorlyzer type	PEM/Alkaline
Installed capacity	20 MW
Predicted full load hours	4,743 h/y
Green hydrogen production	2,096 t/y
Energy consumption	111 GWh/y
Expected start of operation	2025

PROJECT LOCATION



ENERGY OF YOUR GROWTH

PROJECT WORKING SCHEMES



DUSLO
ENERGY OF YOUR GROWTH

LOCAL SPECIFICS & CHALLENGES

land – locked country

- limited potential for renewable energy production – quite low workload of the unit, other limitations of the area
- very limited possibility for CCS

unclear future legal situation

- future conditions for utilization of nuclear electricity are unclear – would be beneficial
- unpredictable carbon prices, possible quotas for green hydrogen
- future support scheme in Slovakia is still unclear

existing infrastructure

+ long term tradition in hydrogen production
+ brown field for new production facilities is available
+ railway route to be decarbonized is nearby the H_2 production
+ intensive transport via lorries
- currently no hydrogen mobility at all

DUSLO
ENERGY OF YOUR GROWTH

CONCLUSIONS

decarbonization

- From the technical point of view, the project is feasible and can contribute to decarbonization of ammonia production as well as mobility

optimal scheme

- Thanks to broad partnership, several business schemes were investigated and optimal scheme was identified

minimized transport

- Local energy sources, local hydrogen use in both ammonia production and mobility

flexibility

- Utilization of green hydrogen does not depend on future hydrogen mobility development.

public transport decarbonization

- Using hydrogen in fuel cell unit trains is probably easiest way of decarbonization of considered train route
- Source of green hydrogen for the public transport in surrounding Cities
- Possible application of hydrogen powered lorries for the distribution of Duslo‘s products

DUSLO®
ENERGY OF YOUR GROWTH

big thank you to:

FCH JU for supporting the project

Element Energy for project administration, knowledge and advice

All project partners for great cooperation

DUSLO®
ENERGY OF YOUR GROWTH