

Pilot project **H2-Aspen**

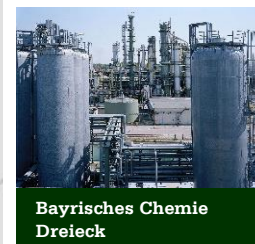
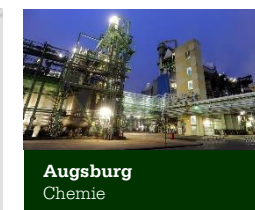
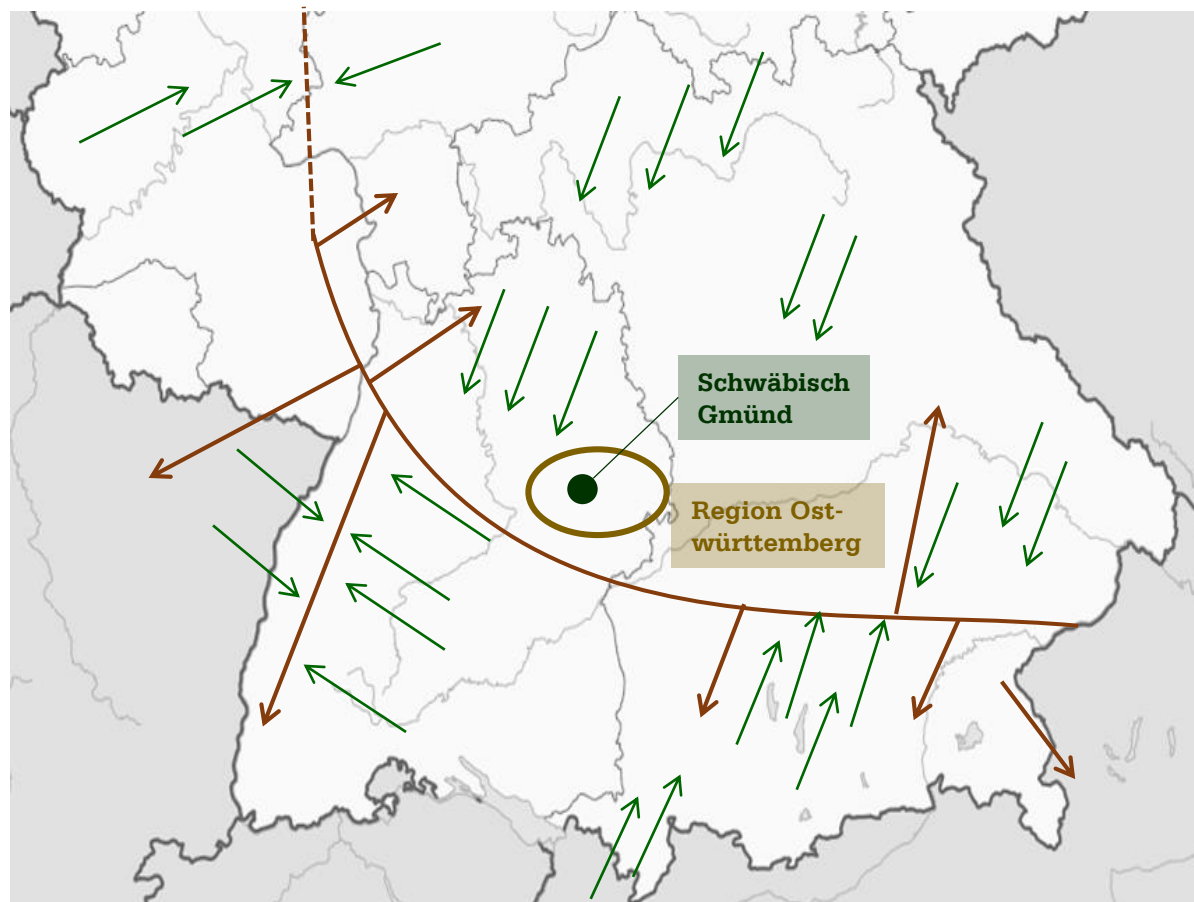
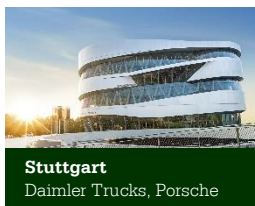
Sustainable industrial area of the future in the model region
Green Hydrogen Baden-Württemberg

Schwäbisch Gmünd | Ostalbkreis | Region Ostwürttemberg

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01 LOCATION SCHWÄBISCH GMÜND



→ industrial use of hydrogen

→ renewable energies

01 LOCATION SCHWÄBISCH GMÜND



Distance to Stuttgart airport: ~ 60 km | 50 minutes

Distance to container port Stuttgart: ~ 50 km | 45 minutes

02 LOCATION OF THE SUSTAINABLE TECHNOLOGY SITE ASPEN



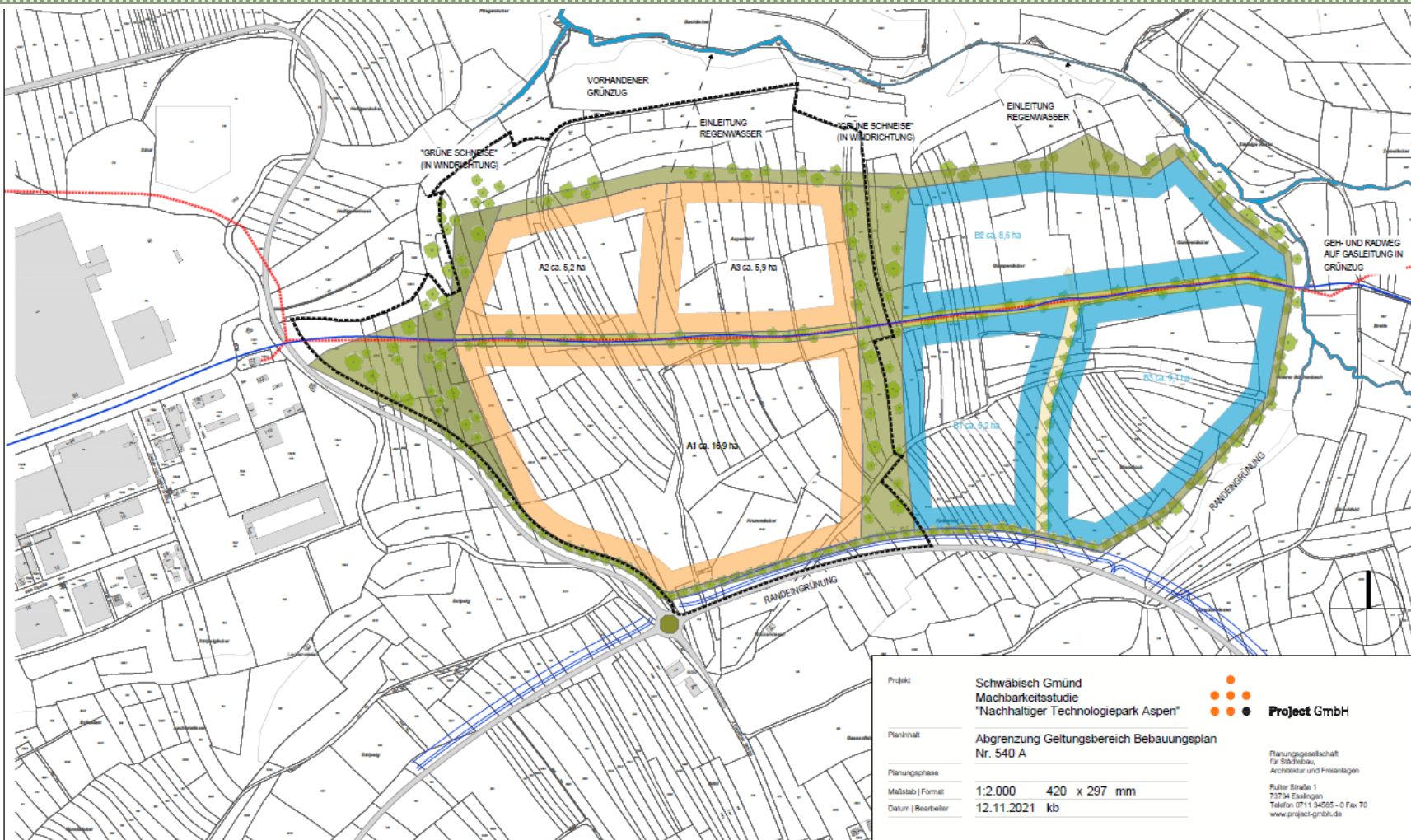
Companies located in the Gügling industrial area:

voestalpine **LEICHT**
EINEN SCHRITT VORAUS.

MAGNA STEYR **BOSCH**

ANDRITZ **WELEDA** **PRÜFTECHNIK**
Seit 1921

02 LOCATION OF THE SUSTAINABLE TECHNOLOGY SITE ASPEN



03 ECONOMIC STRUCTURE AND KEY DATA

Industrial area Gügling

~ 122 ha

~ 60 companies | about 4.000 employees

Industrial site in transition:

High proportion of manufacturing industry

(9 % above national average; national average: 38 %)

High proportion of young people

(6 % above national average)

Automotive subcontractors:

voestalpine
EINEN SCHRITT VORAUS.

 **BOSCH**

 **MAGNA STEYR**


PRÜFTECHNIK

4F: Firmen, Flächen, Fachkräfte, Fördermittel

firms, greenfields, professionals, funding

high potential for transformation

04 FUNDING PROGRAMMES

a) European Regional Development Fund (EFRE) – model region green hydrogen Baden-Württemberg

Leuchtturm 1: H₂-Factory – green hydrogen for consumers green hydrogen based on hydropower

Region: Ulm

Status in 2021: Planning phase

Project realisation: 2023 – 2024

Leuchtturm 3: H₂-Aspen – hydrogen-technology site in Schwäbisch Gmünd

new industrial area in Schwäbisch Gmünd with approx. 650.000 sqm.

Designed around an 8.5 MW PEM water electrolysis system

Completion: Gradually from 2024



Leuchtturm 2: H₂-ToGo – Hydrogen for truck fuel cell drives in logistics

Hydrogen for use in mobility

Region: Ulm

Use in the field of trucks, municipal vehicles, public transport

Status in 2021: Planning. Truck not available until 2024

Project realisation: 2024 – 2029 Truck, (public) transportation

Leuchtturm 4: H₂-Grid – Networking of decentralized hydrogen production and consumption

Decentralized hydrogen plants - in communities, neighborhoods, industry, households.

Region: Tübingen/Reutlingen

Status in 2021: Planning phase

Project realisation: first hydrogen production in 2023

04 FUNDING PROGRAMMES

a) European Regional Development Fund (EFRE) – model region green hydrogen Baden-Württemberg

- ✓ Construction of an 8.5 MW PEM electrolyzer
- ✓ Connection to the nationwide gas line of Terranets
- ✓ Construction of a hydrogen filling station
- ✓ Construction of a pressure accumulator

~ 10 million € funding
(~ 50 % *Funding rate*)



04 FUNDING PROGRAMMES

b) Federal funding program HyExperts – Hydrogen regions in Germany

- ✓ Creating regional hydrogen concepts ready for implementation
- ✓ Networking
- ✓ Commissioning of necessary consulting-, planning- and other services



~ 400.000 € funding

05 INFRASTRUCTURAL FRAMEWORK CONDITIONS



OSTALBKREIS



a) Possible container station

Train Station Böbingen

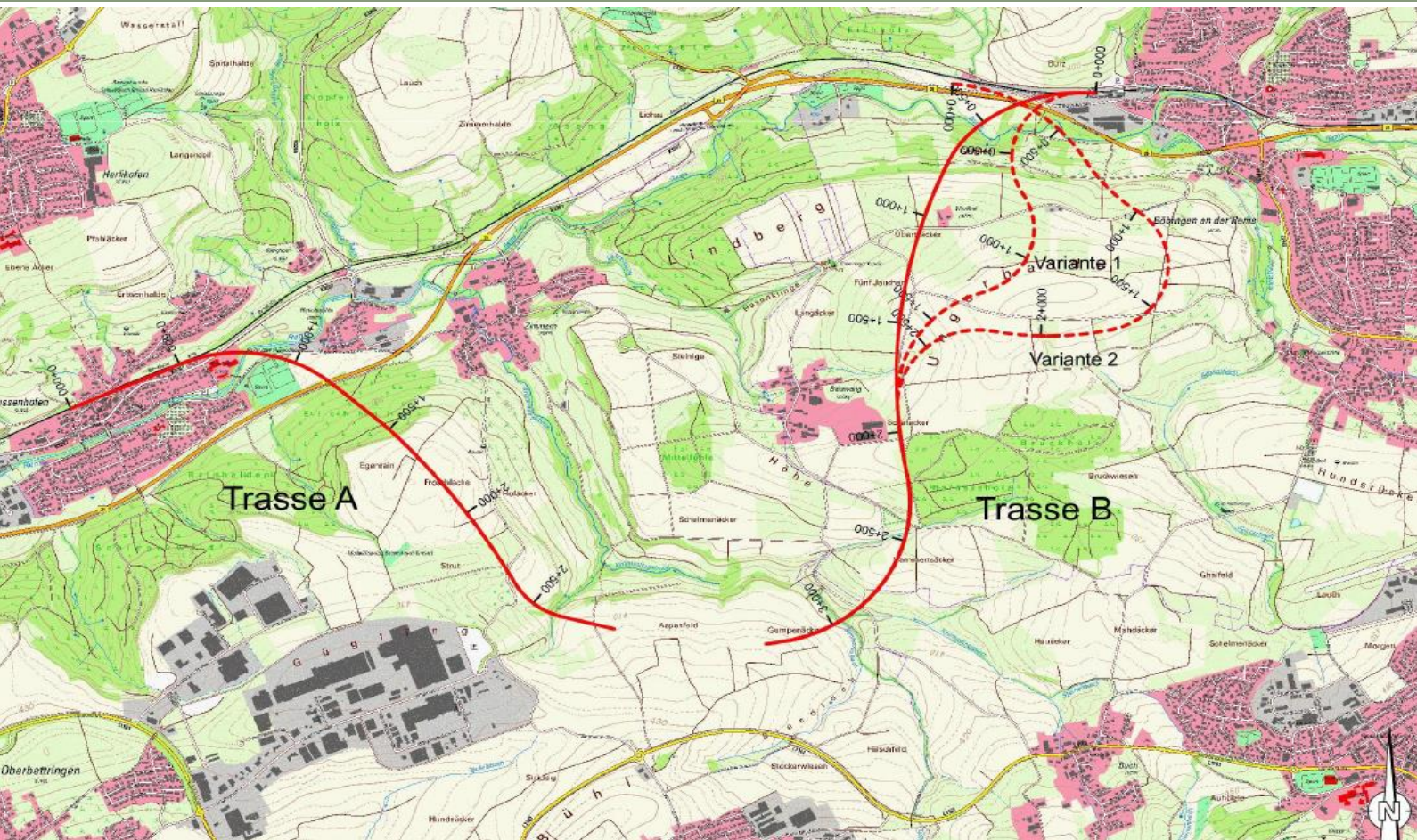
3 tracks | max. useful length: 750 m

Area for Container-Terminal

Length: 350 m | Wide: 30 m | Area: 13.000 sqm

*Investigations commissioned by the Baden-Württemberg
Ministry of Transport*

05 INFRASTRUCTURAL FRAMEWORK CONDITIONS



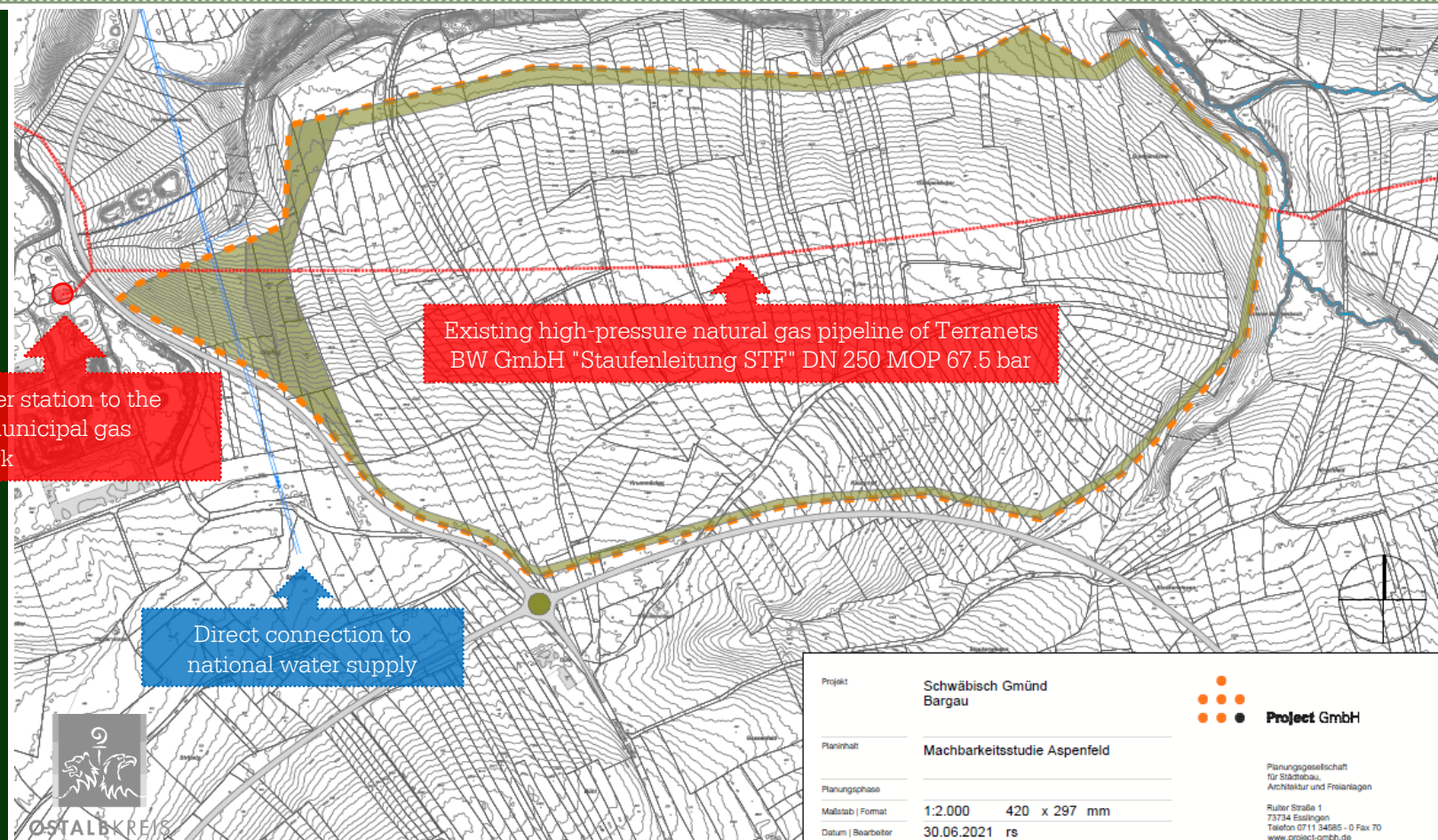
b) Possible railroad connection

Connecting the technology site Aspen

*Investigations commissioned by the Baden-Württemberg
Ministry of Transport*

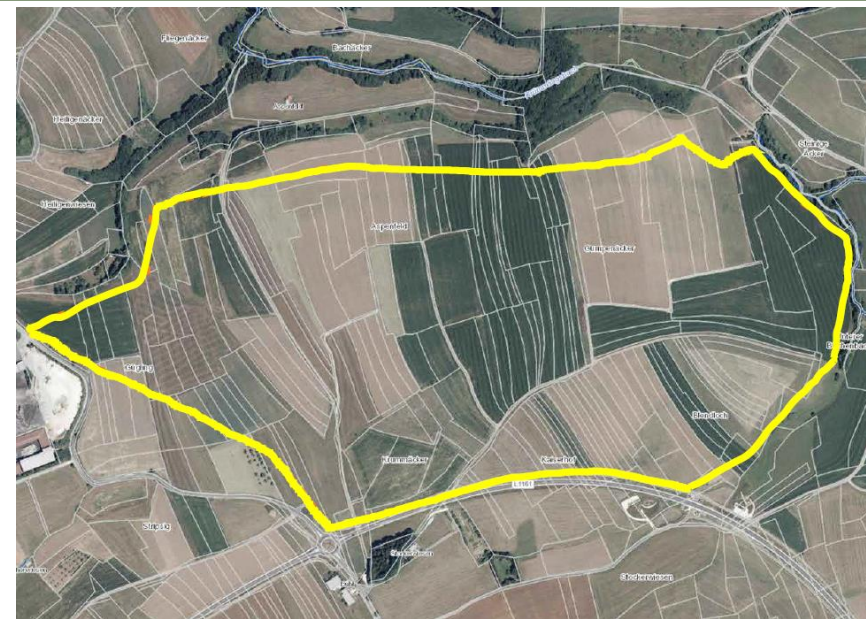
05 INFRASTRUCTURAL FRAMEWORK CONDITIONS

c) Infrastructure natural gas and water



05 INFRASTRUCTURAL FRAMEWORK CONDITIONS

d) Renewable energies



05 INFRASTRUCTURAL FRAMEWORK CONDITIONS

d) Renewable energies

Solar potential on greenfields and roofs –
EnBW

Max. potential: ~ 185 MW

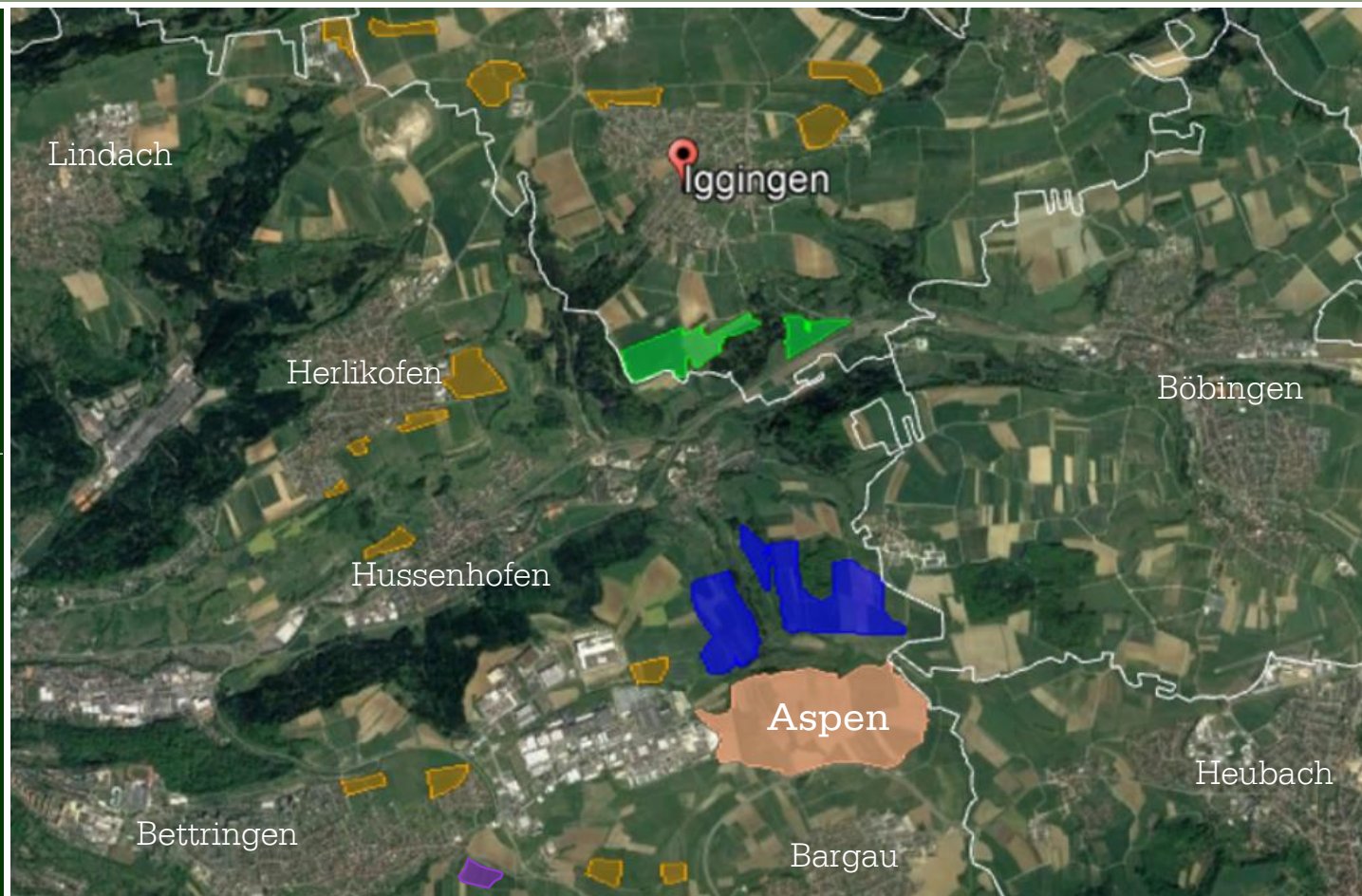
Area (pink): Aspen | ~ 45 MW (Dachflächen)

Area (green): Iggingen | ~ 20 MW

Area (yellow): Areas from the regional plan 2035 | ~ 70 MW

Area (blue): Schwäbisch Gmünd | ~ 50 MW

Area (violett): Project local energy supplier | ~ 2-3 MW



05 INFRASTRUCTURAL FRAMEWORK CONDITIONS

d) Renewable energies

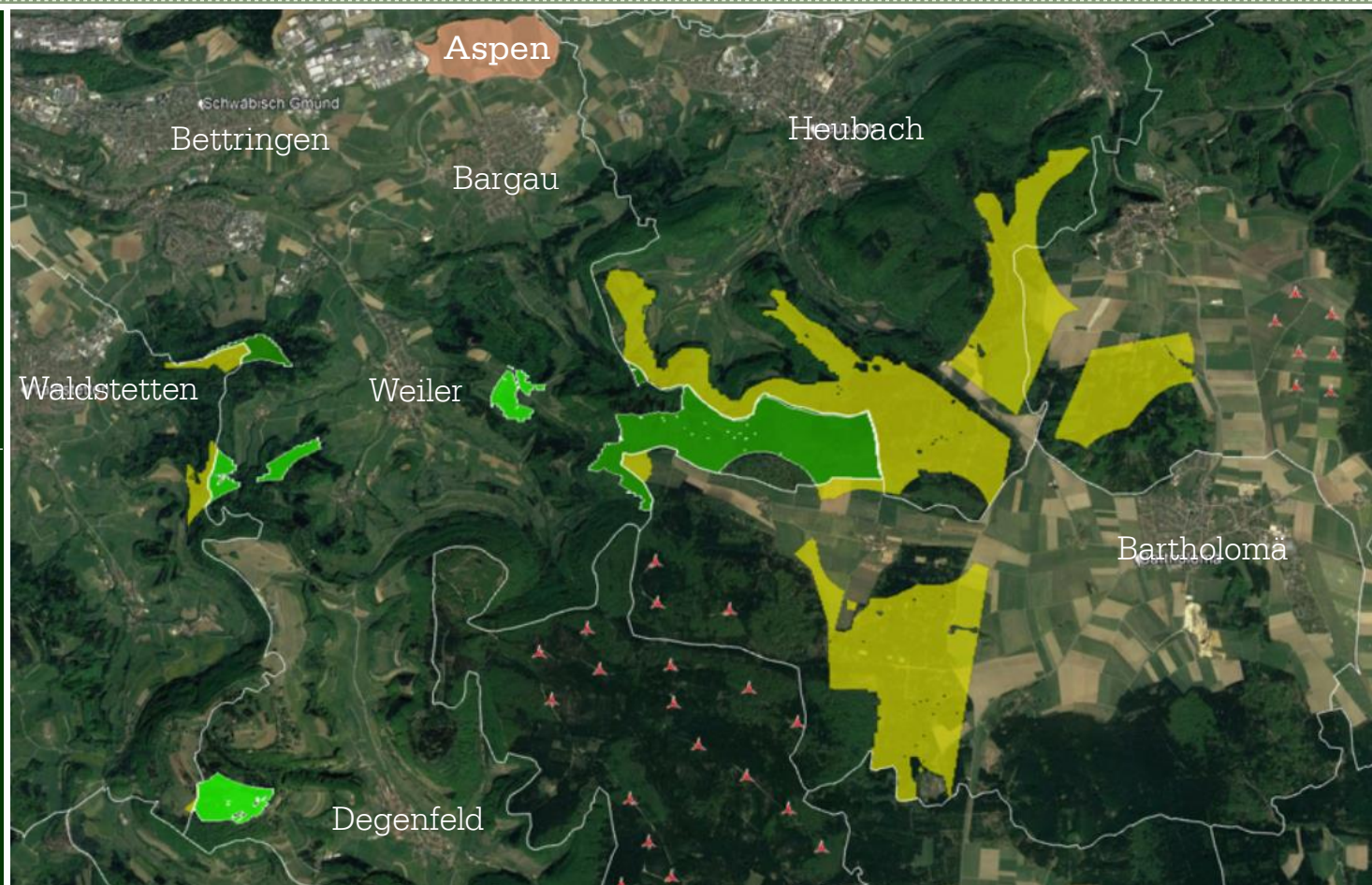
Wind power potential
- EnBW

Max. potential: ~ 192 MW

Area (pink): Aspen

Area (green): Schwäbisch Gmünd | ~ 60 MW

Area (yellow): external districts | ~ 132 MW



06 TIMELINE

Fundamental decision of the municipal council	16.12.2020
Securing land acquisition for the required areas	Completed
Expert reports <i>For example: Species protection, traffic effects, Geology, Biotope, Water conservation, agriculture, ...</i>	Currently running
Investigations from Siemens for the supply of the area with green hydrogen	Available
Local planning law and layout decision in the municipal council	22.12.2021
Processing building permission	Fall 2023
Building permission	Fall 2023
Construction site: Ground leveling and supply lines	Fall 2023 - 2024
possible start of construction for companies	First Quarter in 2024

07 HOUSING DEVELOPMENTS IN PROGRESS

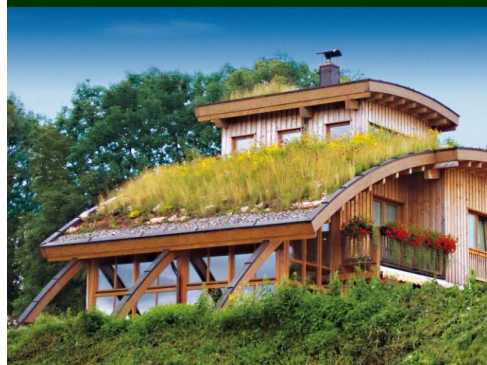
1 Gügling



2 Hardt



3 Bargau



7 Stadtmauer



8 Nord-West



4 Oststadt



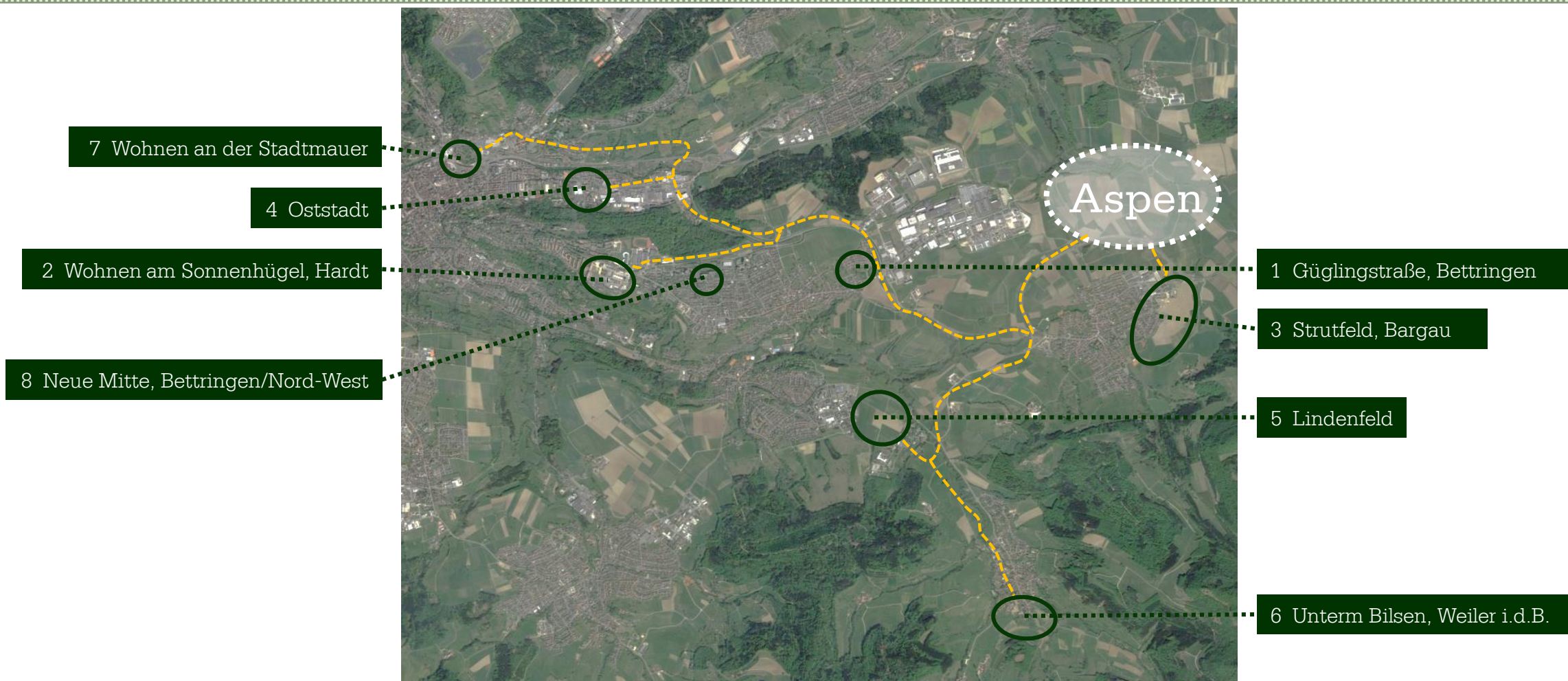
5 Lindenfeld



6 Weiler i.d.B.



07 HOUSING DEVELOPMENTS IN PROGRESS



08 OUR OFFER – WHAT WE ALREADY CAN PROVIDE

Location profile

- The city of Schwäbisch Gmünd has designated Aspen as a sustainable green technology site to provide development opportunities for companies in the hydrogen industry.
- Developing the site for greenfield construction
- The first section is designated with a gross area of 420.000 sqm and a net building land area of 280.000 sqm
- The area is currently designated as an industrial area (GI) as part of the development plan process

Description

Total area:	first section: building area: 280.000 sqm second section building area 239.000 sqm
Topography:	slightly decreasing from south to north (~ 2,8%)
Expansion:	W-E: ~ 580m; N-S: ~ 590m (first section)
Height of building:	10 – 30 m possible
Land-use plan:	first step completed (out of 3)
Type of use:	industrial area (GI)
Operating hours:	24/7
Labour market:	Local specialists available due to transforming processes

industrial area in neighbourhood: „Gügling“ with 1.220.000 sqm with approx. 4.000 employees

Education and research

- University of Stuttgart | ~ 50 km
- University of Applied Science Aalen (polytechnic) | ~ 20 km, 6.000 students
- University of Design Schw. Gmünd | ~ 4 km, 680 students
- University of Education Schw. Gmünd | ~ 3 km, 3.000 students
- fem Schw. Gmünd (research on noble metals and sealing technologies) | ~ 3 km

Contact information

Stadtverwaltung Schwäbisch Gmünd
Marktplatz 1 | 73525 Schwäbisch Gmünd

Wirtschaftsförderung

E-Mail: wirtschaftsfoerderung@schwaebisch-gmuend.de

Tel: 07171 603-1023

08 OUR OFFER – WHAT WE ALREADY CAN PROVIDE

Infrastructure

Next highway:	A 7: ~ 25 km B 29: ~ 3 km
Next airport:	Stuttgart ~ 60 km
Public transport:	main station Schwäbisch Gmünd
Container terminal:	Stuttgart, ~ 50 km next to Aspen site in progress
Railway connection to Aspen site:	in progress

Infrastructural framework conditions

Renewable energies:	potential area for solar power ~ 185 MW potential area for wind power ~ 192 MW
Green hydrogen:	Electrolyzer promoted via Green Hydrogen model region. Production from 2025: 1,1 Mio. kg/p.a.
Natural gas:	High-pressure natural gas pipeline DN 250 MOP 67,5 bar
Water:	DN 400; 126 m ³ available through public utilities. ~ 396 m ² /h with upstream water network
Internet:	Fibreglass with at least 2 x 20 Gb/s

08 CONTACT

Municipality of Schwäbisch Gmünd

Marktplatz 1
73525 Schwäbisch Gmünd

Lord Mayor

Richard Arnold

E-Mail: Richard.Arnold@schwaebisch-gmuend.de

Tel: 07171 603-1000

Department for economic development

Alexander Groll

E-Mail: Alexander.Groll@schwaebisch-gmuend.de

Tel: 07171 603-1020

Department for economic development

Richard Neiszer

E-Mail: Richard.Neiszer@schwaebisch-gmuend.de

Tel: 07171 603-1023