



Uued lähenemised elukeskkonna, põllumajanduse ja tööstuse ühendamisel.

Nele Rogenbaum

SA Ida-Viru Investeeringute Agentuur

Arendusjuht

12.10.2022

Miks IVIA?

- **Miks töötab IVIA innovaatiliste arendusprojektidega, kui Ida-Viru tugevus on traditsiooniline tööstus?**
 - Majanduse mitmekesistamine
 - Põlevkivisektorist sõltuvuse vähendamine
 - (Välis)investorite huvi elukeskkonna parandamise vastu
 - Kirg ja visioon
- **Miks tööstusalade arendaja räägib agro-innovatsioonist?**
 - Vaatame ja analüüsime ressursse nii maakonnas kui laiemalt



Orchid City



ORCHID
CITY

EXCEPT

INTEGRATED SUSTAINABILITY

Uut tüüpi elumudel – Orchid City



*Orchid City is a blueprint for a **fully self-sustaining** city, where all social, environmental, financial, and material needs are met. It's an **open community**, full of interaction with the rest of the world and an inspiring place that offers a new perspective to a healthy, exciting, affordable, and livable future. While Orchid City functions fundamentally different from anywhere else, Orchid City is a place we can build and realize today.*

100% ENERGY
SELF-SUFFICIENT



CLIMATE
ADAPTIVE &
FLOOD PROOF



GENERATION
PROOF &
AFFORDABLE
LIVING



ALL DAILY
SERVICES &
ACTIVITIES



100% HEALTHY
FOOD PRODUCED



REGENERATIVE
NATURE

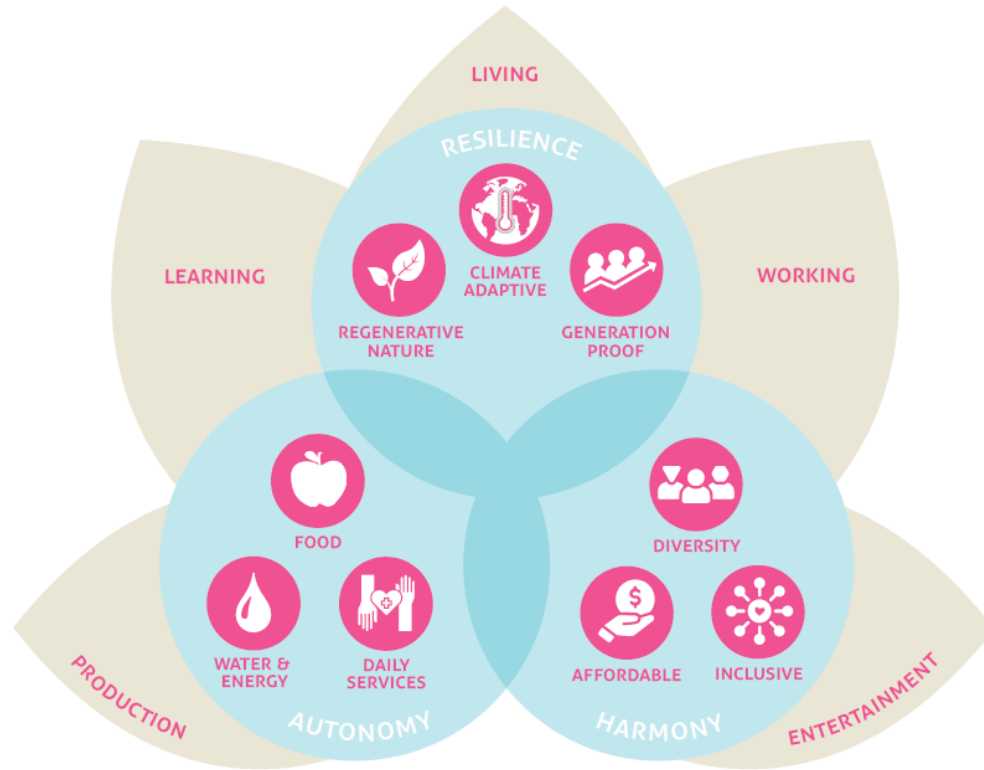


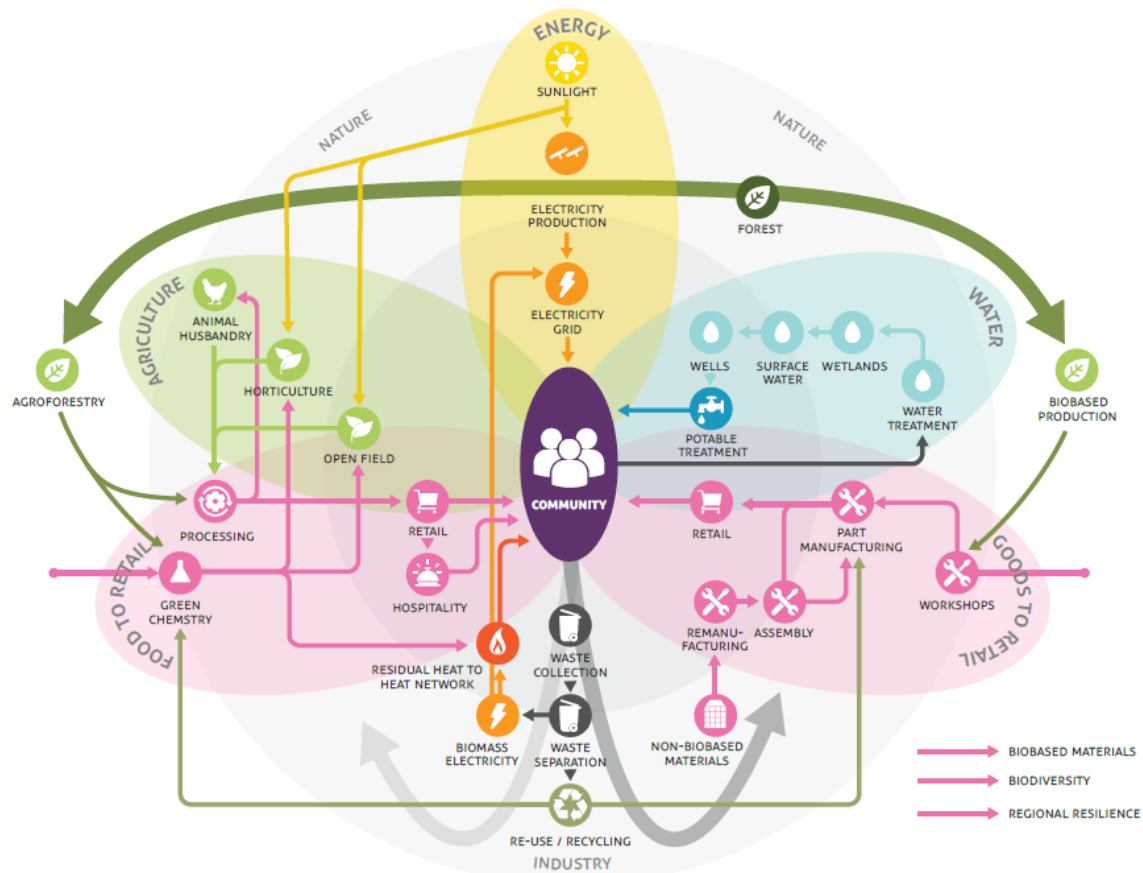
WATER & WASTE
MANAGEMENT



CAR FREE &
SHARED
VEHICLES







Erineva suurusega kogukonnad



500 inhabitants

Total land area: 175 ha
Built up area: 4.1 ha
Centers & satellites: 1
Self-sufficiency: 75%
Development costs: € 125 million



5,000 inhabitants

Total area: 1,840 ha
Built up area: 49 ha
Centers & satellites: 3-5
Self-sufficiency: 90%+
Development costs: € 1.400 million



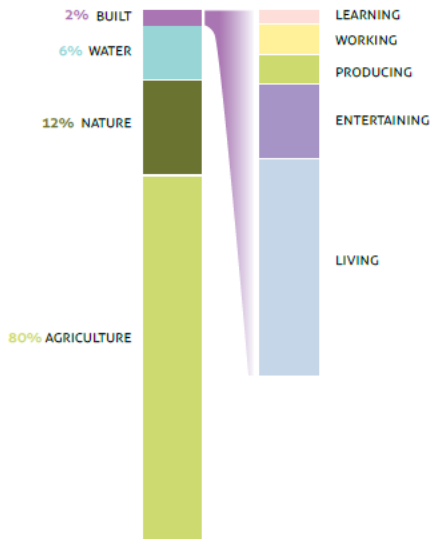
15,000 inhabitants

Total area: 5,570 ha
Built up area: 140 ha
Centers & satellites: 5-8
Self-sufficiency: 95%+
Development costs: € 4.200 million

PROGRAM OVERVIEW

Example for an Orchid City of 5,000 people.

LAND USE



PROGRAM		TOTAL (HA)
LIVING		
Housing		13.9 ha
Detached		3.1 ha
Villas		0.5 ha
Semi-detached		3.5 ha
Rowhouse		4.7 ha
Two Bedroom Ap.		0.5 ha
Studio Apartment		0.3 ha
Elderly Homes		0.4 ha
Student Housing		0.1 ha
Social Housing		0.8 ha
Care & Health		0.5 ha
Emergency Services		0.3 ha
Infrastructure		17.0 ha
TOTAL		31.7 ha
LEARNING		
Schools		1.8 ha
Daycare		0.1 ha
Primary Schools		0.9 ha
High School		0.7 ha
Craft School		0.1 ha
TOTAL		1.8 ha
ENTERTAINING		
Hospitality		1.7 ha
Hotel		0.6 ha
Resort		0.5 ha
Restaurants		0.5 ha
Bars / Cafes		0.1 ha

Leisure		3.6 ha
Spa & Relaxation		0.2 ha
Community Centers		0.6 ha
Entertainment		0.5 ha
Culture		0.3 ha
Sport Facilities		0.6 ha
Services		6.0 ha
TOTAL		10.5 ha
PRODUCING & NATURE		
Industry & production workshops		6.7 ha
Urban Green		2 ha
Agriculture		1,462 ha
Open Field		309 ha
Husbandry		1,034 ha
Orchard		96 ha
Greenhouse		23 ha
Nature & Water		332 ha
TOTAL		1,800 ha
WORKING		
Offices		1.1 ha
Co-working		0.3 ha
Retail		0.2 ha
Market		0.6 ha
Conference Center		1.0 ha
TOTAL		3.2 ha
TOTAL ORCHID CITY NL		1,846 ha

CIRCULAR FOOD

- › Professionally managed food production at scale
- › No pesticide / artificial fertilizer use
- › Innovative growing systems;
 - Agroforestry
 - Polycultures
 - Advanced Greenhouses
 - Aquaculture
 - Silviculture
- › Community participation on voluntary basis
- › Extremely short farm to plate
- › Profitable business model;
 - Better for the farmer
 - More affordable for the community
 - Cost savings



- Toidutootmine
- Töökohad
- Haridus
- Kogukonna kaasamine

CONTEXT SENSITIVE ADAPTATION

The Orchid City blueprint adapts to local climate, culture, and contexts - each project is tailored to specific local needs and societal challenges.

We utilized three global locations as pilots for Orchid City to help showcase how it can be used to address a vast range of problematic but inherently different environmental and cultural scenarios.

Orchid City Brazil, The Valley
Inland hills climate

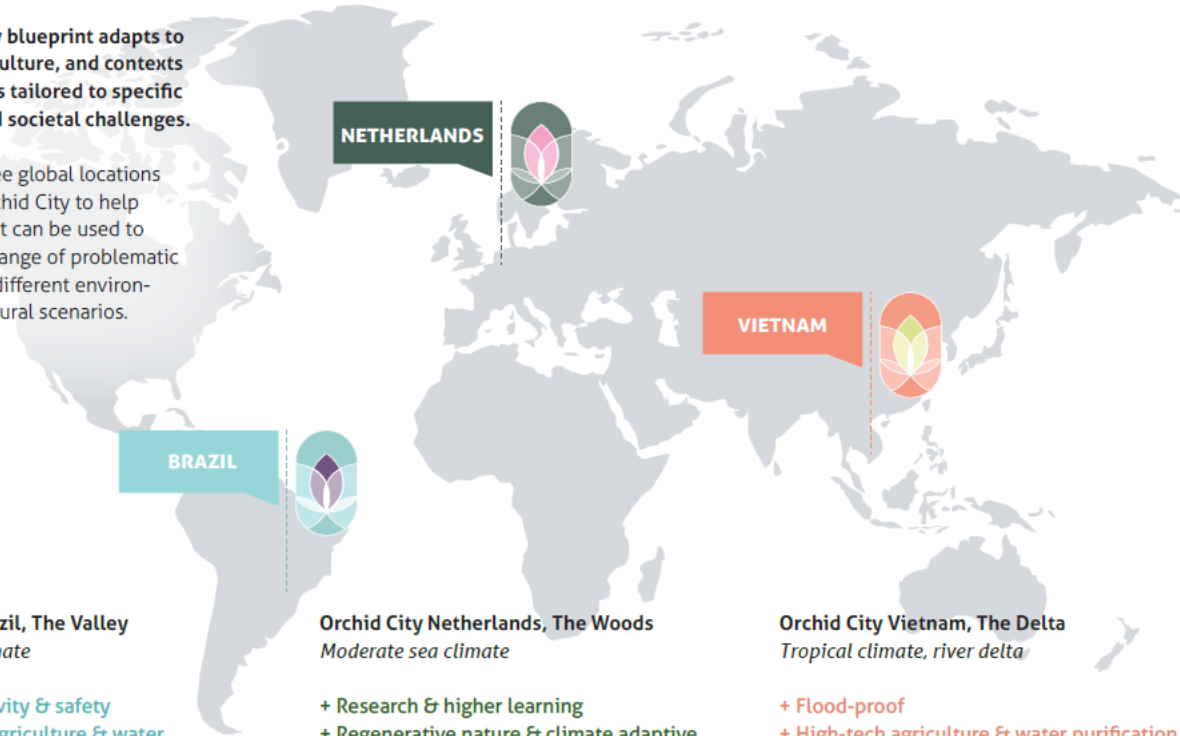
- + Social inclusivity & safety
- + Sustainable agriculture & water
- + Regenerative nature

Orchid City Netherlands, The Woods
Moderate sea climate

- + Research & higher learning
- + Regenerative nature & climate adaptive
- + Generational inclusivity & senior care

Orchid City Vietnam, The Delta
Tropical climate, river delta

- + Flood-proof
- + High-tech agriculture & water purification
- + Rural job creation & balance urbanization





Tööstussümbioos

Tööstussümbioos

<https://ringmajandus.envir.ee/et/>

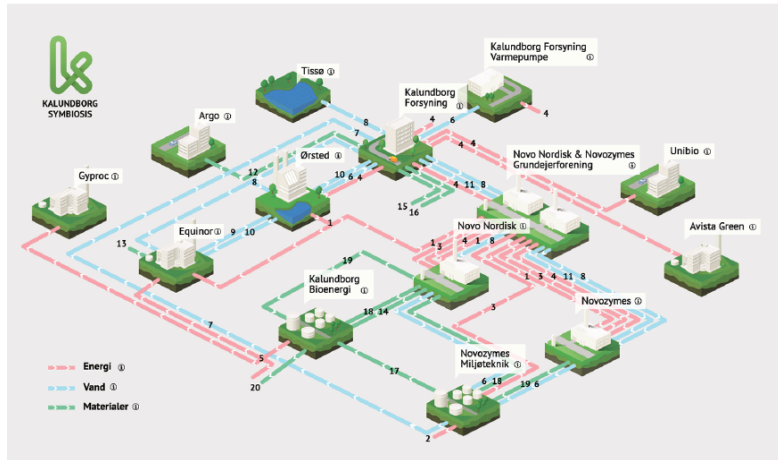
toostussumbioos

Tööstussümbioosi (ingl k industrial symbiosis) eesmärk on kinnise tootmistsükli saavutamine, kus ühe ettevõtte või tootmisüksuse jäätmed, heitsoojuse ja muud ülejäägid tasakaalustab ära teine ettevõtte.

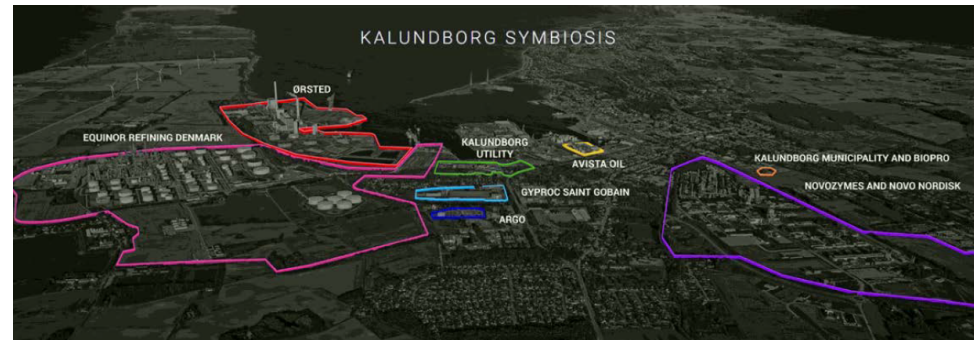
Tööstussümbioos on üks majandusvorme, mis tagab ettevõtetele innovatiivse koostöö, leides uusi viise kasutamaks ühe ettevõtte jäätmeid teise toorainena. Tööstussümbioos kujutab endast kohalikku partnerlust, kus partnerid jagavad ja korduskasutavad ressursse, et luua ühist väärtust. Selle eesmärk on luua tehniliste või bioloogiliste materjalide ahel, kus kadusid ja jäätmeid tekib minimaalselt.

Kalundbog, Taani <http://www.symbiosis.dk/en/>

- Alates 1972
- Ressursivahetus – energia, vesi, jäätmed, biomass ja etanool
- Soojus osaliselt elektrijaamast
- 9 organisatsiooni koostöö (era + avalik)
- Veesääst 95 %

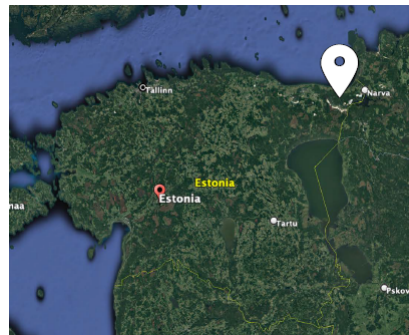


<https://youtu.be/lsm7NdQe94I>



Auvere Agropark

- Rekultiveeritud Narva karjääri alade kasutuselevõtt - 1500 ha
- Naabruses veeressurss
- Auvere jaama soojusenergia kütteks, basseiniveeks, kastmisveeks
- Elektri otseliinide rajamise võimalus
- CO2 kasutuselevõtt
- Tuhk – komponent väetiste tootmisel
- 330 kV alajaam – võimalus suuremahuliste alternatiivenergia projektide jaoks
- Mastaabiefektist tulenevad ringmajanduse lahendused



IVIA



Eesmärgid ja ambitsioon

HAPPINESS

- › Inspiring Environment
- › Recreation & Sports
- › Work Balance
- › Benefits
- › Pride
- › Integration

HEALTH

- › Work Environment
- › Elimination of toxicity
- › Food
- › Activity

ECONOMY

- › Job Creation
- › Example Project
- › Innovation
- › Regional Boost
- › Financial Resilience

CULTURE

- › Connectivity
- › Heritage
- › Education
- › Healthy Community
- › Inclusivity

SPECIES

- › Crop Diversity

- › Species Protection
- › Diversification of Species in the Area
- › No Pollution
- › Native Species
- › Humans are Guests

ECOSYSTEM

- › Eco-management
- › Protection
- › Increase Biodiversity
- › Soil Quality
- › Experiments
- › Green Structure
- › Water Management

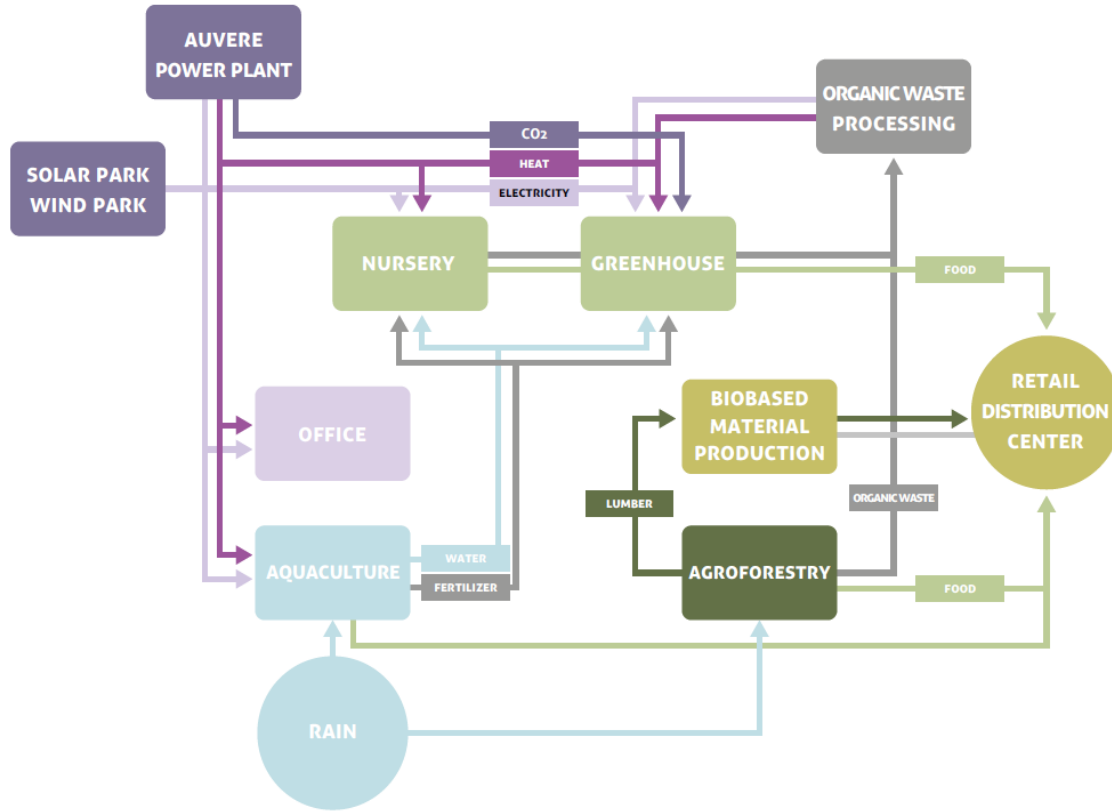
MATERIALS

- › Zero Waste
- › Water System
- › Circular Operations
- › Circular Construction
- › Bio-based
- › Harmony with Nature

ENERGY

- › Renewable Energy
- › Self-sufficiency
- › Net Energy Exporter
- › Energy Efficiency
- › No Emissions/ Waste
- › Energy Business/ Energy Innovation

- Luua majanduslikult edukas tööstuspark, mis on eeskujuks keskkonnasäästlike ja innovaatiliste lahendustega
- Luua piirkonda pikaajalised ja kõrge väärtusega töökohad
- Suurendada piirkonna toiduga kindustatust ja toidujulgeolekut (*food resilience & food security*)
- Suurendada jäätmete kasutuselevõttu ning vähendada jäätmete teket
- Suurendada piirkonna jätkusuutlikku majandamist
- Suurendada endise kaevandusala loodusväärtust ja bioloogilist mitmekesisust
- Tugevdada kohalikku ettevõtluskeskkonda (välis)investeeringute kaudu





- LIGHT INDUSTRY (HEAT TRANSFER ZONE)**
(BIOCHEMISTRY, CONSTRUCTION MATERIALS, FOOD PROCESSING, & WORKSHOPS)
- BUSINESS, RESEARCH & EDUCATION**
(OFFICES, FLEX-WORK PLACES, STARTUP-HUB, PROTOTYPING, LAB FACILITIES, CONTROL CENTER, WAREHOUSES, PACKAGING, DISTRIBUTION)
- HEAVY INDUSTRY (FACILITIES)**
(LOGISTIC CENTER, PART MANUFACTURING, AUCTION HOUSE, RECYCLING, SOLAR PARK, FIBRE PROCESSING, MUNICIPAL COMPOST)
- GREENHOUSES**
(PRODUCTION)
- GREENHOUSE FACILITIES**
(SERVICE & EMERGENCY AREAS)
- ECOLOGICAL NETWORK**
(CORRIDORS & PARKS)
- EXPERIMENTAL PARK**
- AGROFORESTRY / SILVOPASTURE**
- COMMERCIAL AGRICULTURE**
(RENT A SMALL FARM, PICK YOUR OWN FOOD PARK)
- AQUACULTURE**
- WATER NETWORK**
(WATERWAYS & CHANNELS)
- FISH FARMS**
- WATER MANAGEMENT FACILITY**
- EXISTING BRIDGE**
- PROPOSED NEW BRIDGE**
- PROPOSED WATER TUNNEL**

INDUSTRY & SERVICES



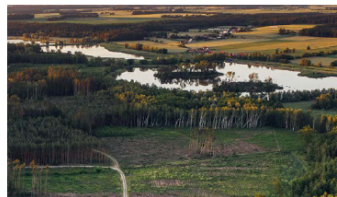
A1

GREENHOUSES



A2

AGROFORESTRY



A3

ECOLOGICAL CORRIDOR



A4

AQUATIC VEGETATION



A5

Agropargi ajakava

- 2019 algas ettevalmistus, tutvustamine huvigruppidele - Maaeluministeerium, Keskkonnaministeerium, MKM, EAS, Enefit Power, IVOL, IVEK, Maaülikool, Taltech, Tartu Ülikool, Hollandi saatkond
- Detailplaneeringu (DP) eskiislahendus koostatud
- Eel - teostatavus-Tasuvus Analüüs (TTA) koostatud
- DP ja KSH koostamise rahastamine MATA programmist
- Algamise taotlus esitatud 17.10.2019
- DP ja KSH koostamine algatatud 25.07.2020 – 9 kuud!
- **DP + KSH 2020-2022 (24 kuud) + põhi TTA + võrgustike ülesehitamine**
- Maa omandiküsimuste lahendamine 2023 (6 kuud)
- Taristu projekteerimine 2024 (6 kuud)
- Katastritoimingud 2024 (3 kuud)
- Taristu finantseerimine + riigihanked 2024 (3 kuud)
- Taristu ehitus 2024-2025 (12 kuud)
- Turundus 2024+
- Ettevõtete investeeringud 2025+



Tänan!

Nele Rogenbaum

nele@ivia.ee

53020109