



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



# EIP concept planning

Training to industrial parks and service providers – April 2025



## Module: EIP concept planning

- Each participant is requested to download the EIP Concept Planning Tool from the UNIDO Knowledge Hub (<https://hub.unido.org/eco-industrial-parks-tools>), and make her/himself familiar with the structure and steps in the tool.
- Industrial parks participating in the training were requested to bring a lay-out map (blue print in A0 format) of their industrial park.
- Park developers/management who participated in 2024 EIP training to bring results from previous EIP concept planning group work and work done since then.

**IMPORTANT:** Anton to save EIP concept planning pictures from 2024 training in shared OneDrive folder, one sub-folder for each park

Confirm preparations with participants



# Concept planning of industrial parks: Common mistakes

Updated slide: Discuss and  
translate Ukrainian ppt



- No good understand industrial land demands
- No good understanding of anchor tenants to attract to industrial park
- No consideration of industry clustering and synergies
- Limited integration with existing or planned utilities and infrastructures
- No good understanding how economic, environmental, social risks will impact industrial park
- Lack of consideration of economic, environmental and social criteria in park planning
- Lack of stakeholder collaboration in concept planning
- Buffer zone is not planned or secured properly
- Lack of consideration of long-term development scenarios
- Added value features of EIP concept plan are not communicated to investors

# Key benefits of applying EIP approaches to industrial park planning

## Beneficiaries

Park management & government

Environment



Industries

Local communities

Better conditions to do business in park

Better access to new technologies and finances

Lower economic, environmental, social risks

Increased quality of life for communities

Lower costs through optimisation and sharing

Minimized green house gas emissions and pollutants

Stronger collaborations between companies and park management

Reduced use of raw materials, water, energy and chemicals

Attract investors and create skilled jobs

Improved workers health and safety

These benefits are highly relevant to attracting companies to industrial parks in Ukraine

## Planning tools Park level

### EIP Concept Planning Tool

Assist in sustainable design of an industrial park

### Master Plan EIP Review Tool

Guide sustainability review of existing Master Plan

## Implementation support tools Park level

### EIP Assessment Tool

Assess park against International EIP Framework and identify EIP opportunities

### EIP Management Services Tool

Strengthen and advance services provided by park management to tenant companies

### Access to Finance Tool

Identify, review and access available financing options for feasible EIP initiatives

### Industrial Symbiosis Identification Tool

Support the identification of waste exchanges between companies

### Gender Assessment Tool

### Gender Assessment Tool

Assess park on gender-responsiveness and coordinate action

## Implementation support tools Country level

### EIP Selection Tool

Select parks with high potential for EIP development and successful EIP projects

### EIP Policy Support Tool

Support EIP policy development and implementation processes

## Monitoring tools Park level

### RECP Monitoring Tool

Monitor and report results of RECP assessments in industrial parks

### EIP Opportunities Monitoring Tool

monitor and report impacts from EIP opportunities in industrial parks

## Review possible site locations for an industrial park

- Selecting the optimal location and size of industrial park is critical to success of industrial park

## Develop feasibility study for developing a new industrial park or optimising an existing park

- Covering economic, environmental and social aspects
- Short-, mid-, and long-term focus
- Business case need to be based on realistic scenarios

## Define unique value proposition of industrial park

- What are the desired investors / industries?
- Why should they invest in industrial park?
- How do you attract these industries?



### Guidance on industrial park siting



Source: GIZ Sustainable Industrial Area (SIA) Toolbox.  
<https://www.sia-toolbox.net/resources>



### Reasons for IP selection by investors

#### Local factors:

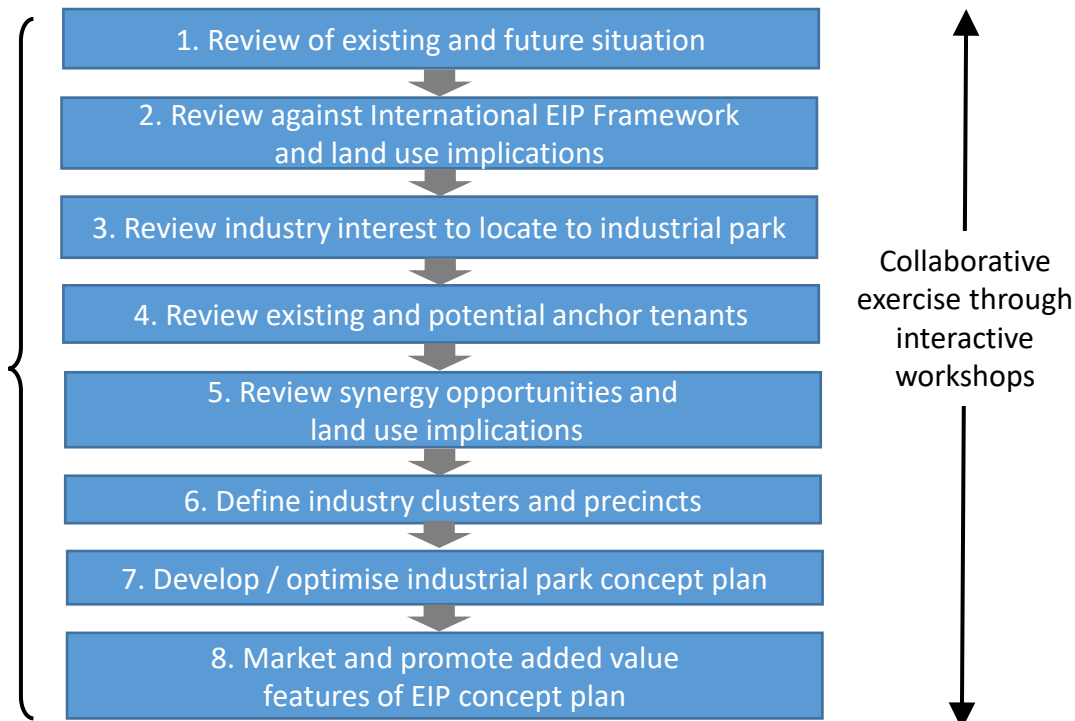
- Raw material supply – „Verbund“
- Permits (availability, speed, political support, ...)
- Brownfield liabilities
- Logistics
- Skilled labor
- Cultural fit (most underestimated factor!)
- Access to knowledge (Universities, Research Institutes, ...)
- Time to market
- Expat living conditions

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## Business attraction and planning opportunities:

- Understand industrial land demands
- Attract synergistic anchor tenants to industrial park
- Encourage industrial synergy development
- Optimise industry zoning and clustering
- Optimise existing and future infrastructures and utilities
- Reduce economic, environmental and social risks
- Increase competitiveness of industrial park
- Communicate added value features of EIP concept plan to stakeholders

## Steps to capture these opportunities:



UNIDO EIP Concept Planning Tool (V1)

[CLICK HERE TO START](#)



## EIP CONCEPT PLANNING TOOL: INSTRUCTIONS

### RATIONALE FOR THE TOOL

The objective of EIP concept planning is to assist in the sustainable and integrated design and operation of industrial parks from an economic, environmental and community perspective. In short, the EIP concept about creating more resource-efficient and cost-effective industrial parks which are more competitive, attractive for investment and risk resilient.

The EIP concept plan should provide flexibility in the sustainable industrial development of the park and allowing for the development of the promising industry synergies identified, and subsequently industry clustering. It provides guidance on the types of industry clustering which can occur in an industrial park, rather than locking in clustering scenarios at this point in time with limited information on future companies to locate to the industrial park. As companies locate to an industrial park, specific and more detailed industry clustering scenarios should be assessed.

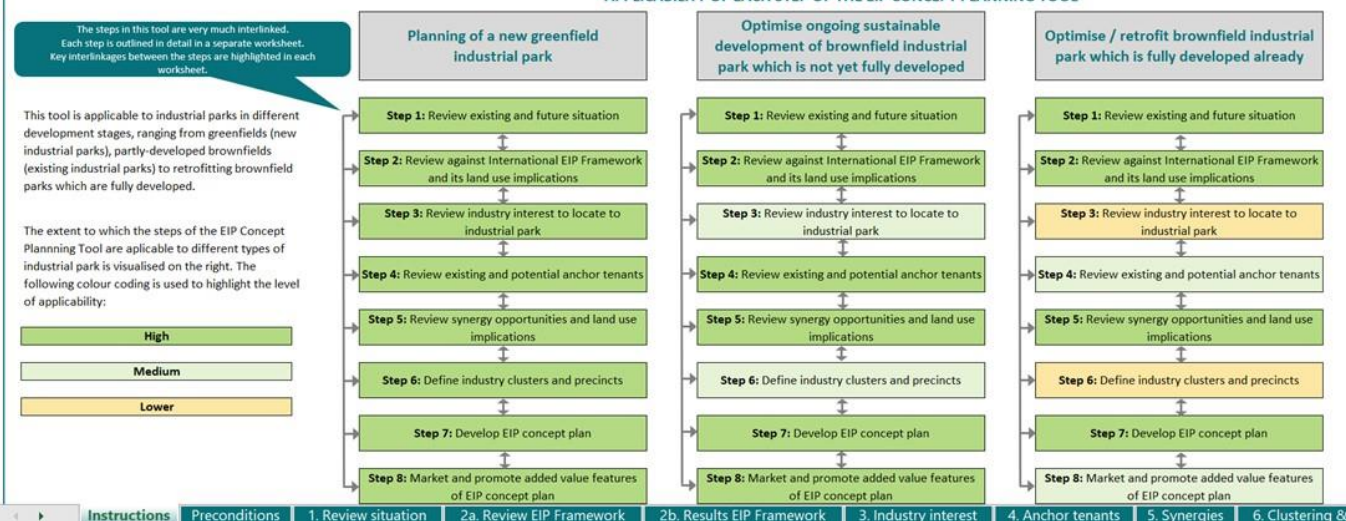
The strategic clustering and integrated planning of companies, infrastructures and utilities is a core element to allow for the development of industrial synergies within industrial parks and with its surrounding regions, as well as a mechanism to reduce the need for utility infrastructure and associated costs.

### TOOL OBJECTIVES

The objective of this tool is to assist in the sustainable and integrated design and operation of industrial parks from an economic, environmental and community perspective by providing a systemic approach to incorporate demand-driven eco-industrial park opportunities into the concept planning of greenfield parks and brownfield parks.

### TOOL APPLICATION - FROM GREENFIELD TO BROWNFIELD INDUSTRIAL PARKS

#### APPLICABILITY OF EACH STEP OF THE EIP CONCEPT PLANNING TOOL



# Practical example Concept design of Pucallpa and Huacho, Peru (2014)





# Practical example Parque Industrial Malambo, Colombia (2018)



**LOCATION CRITERIA**

→ HUBS FROM INDUSTRIAL PROCESS → MODERN WASTE COLLECTOR

**FOOD AND BEVERAGE PROCESSING** (Close to water and wastewater distribution)

- WATER AND WASTEWATER DISTRIBUTION
- ENERGY SUPPLY (Electricity and steam)
- ROAD CONNECTION → ACCESS TO HIGHWAY
- LOGISTICS REQUIREMENTS
- WASTE FACILITIES FOR ORGANIC WASTE
- 200m max land lot
- NOT SO CLOSE TO PORT
- GOOD ACCESS TO TRUCK PATIO (NOT CRITICAL)

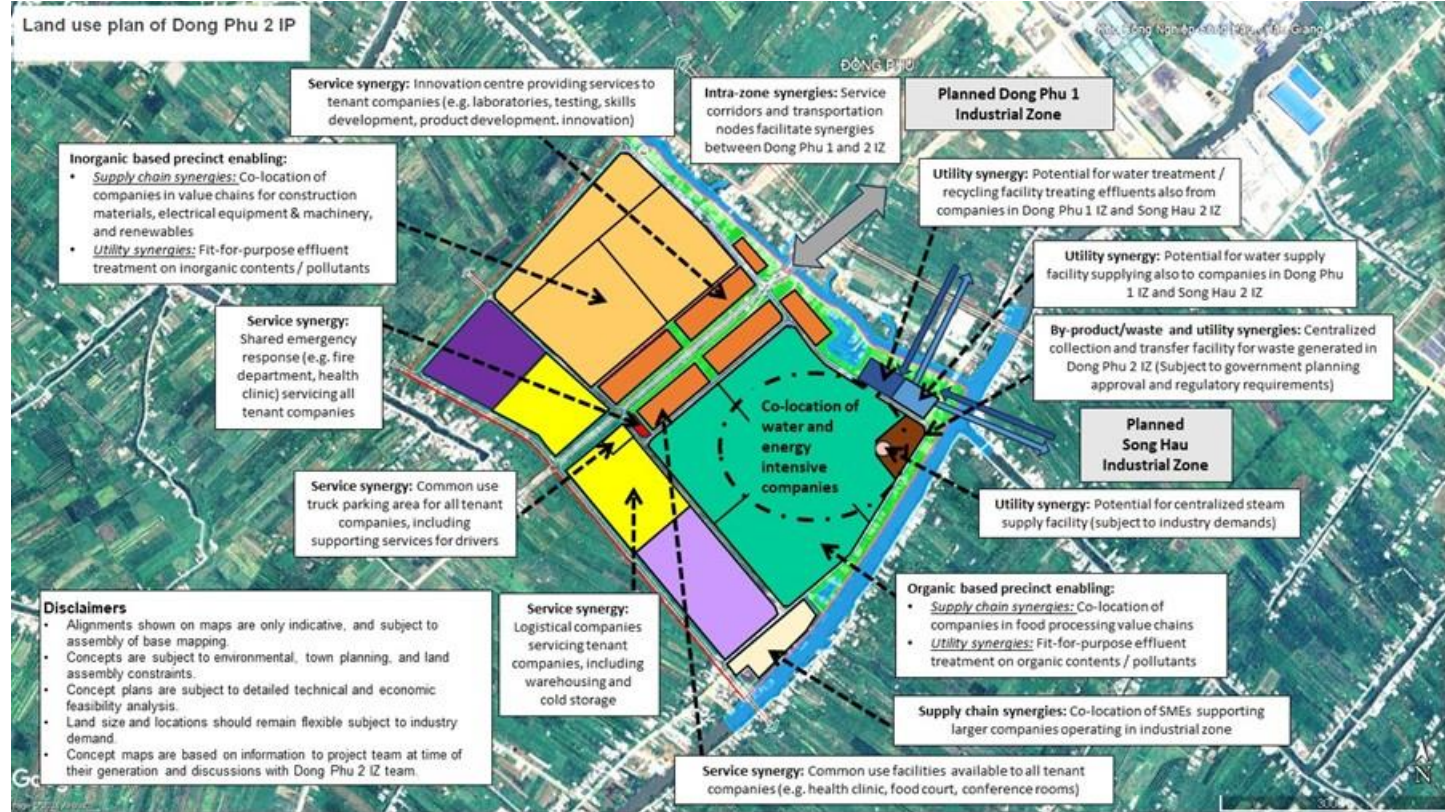
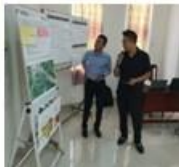


## EIP concept planning



Source: Van Beers D., J.S: Estrada, F.D. Meylan, A. Caballero Villa (2018). Sustainability Opportunity Review and Recommendations for Parque Industrial Malambo (PIMSA), Colombia. UNIDO assignment.

# Practical example Dong Phu 2 Industrial Zone, Viet Nam (2024)





- Energy supply
- Water supply
- Waste management
- Buildings
- Access to finance
- Community
- Strategic infrastructure developments



*Illustrative example only – Not all-inclusive*

Key opportunities	Key challenges
<ul style="list-style-type: none"> <li>• Opportunity in the low carbon and renewable energy value chains</li> <li>• Public Private Partnerships (PPPs) on energy security solutions</li> <li>• Smart infrastructure to increase water efficiencies</li> <li>• Job creation through waste recycling</li> <li>• Bulk waste processing for industry</li> <li>• Leading status of ELIDZ and land available for further development</li> <li>• Etc</li> </ul>	<ul style="list-style-type: none"> <li>• Electricity supply constraints</li> <li>• Lack of skilled labour</li> <li>• Water risks including water supply security and water quality</li> <li>• Access to financing to implement EIP opportunities</li> <li>• Community encroachment</li> <li>• Vandalism and theft of infrastructures</li> <li>• Etc</li> </ul>



## Step 2: Review against International EIP Framework and land use implications

Topic	Benchmarks of International EIP Framework #with spatial dimension	Opportunities to include in ELIDZ's concept plan
<b>PARK MANAGEMENT</b>		
Monitoring and risk management	Park management entity maintains a monitoring system, tracking: <ul style="list-style-type: none"> <li>• Progress on environmental, social and economic performance</li> <li>• Critical risk factors and related responses</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and review critical risks for the ELIDZ and its companies on likelihood and impact</li> <li>• Cluster companies based on their risk profile</li> </ul>
<b>ECONOMIC PERFORMANCE</b>		
Local business & SME promotion	Park management entity allows and promotes the establishment of SMEs that provide services and add value to park residents	<ul style="list-style-type: none"> <li>• Identify optimal location(s) of SMEs (e.g. specific precinct dedicated to SMEs) and supporting infrastructures (e.g. rental buildings customised to needs of SMEs).</li> <li>• ELIDZ already offers incubator buildings to SMMEs to establish and grow</li> </ul>



East London Industrial Development Zone (ELIDZ)  
**Step 3: Review of industrial land demands**



*Illustrative example only – Not all-inclusive*

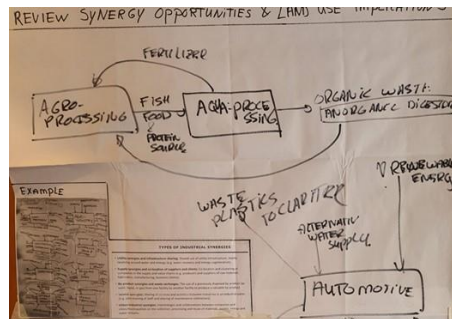
Sectors	Sub-sectors	Priority ELIDZ to attract sub-sector	Likelihood to locate to ELIDZ
Automotive	1 <sup>st</sup> tier suppliers	High	High
	2 <sup>nd</sup> tier suppliers	High	High
	Etc		
Agro processing	Hydroponics	High	High
	Food processing	High	Medium
	Etc		
Aquaculture	Abalone farm and processing	High	High
	Fish farming and processing	High	Low
	Etc		
Transport and logistics	Logistic services, providers, warehousing, distribution	Medium	High
	Etc		



*Illustrative example only – Not all-inclusive*

Anchor tenants	Trigger or contribute to attracting industries			
	Supply synergies	Utility synergies	By-product synergies	Service synergies
<b>Existing anchor tenants in ELIDZ (one example only)</b>				
Automotive OEM	<ul style="list-style-type: none"> <li>Lithium battery suppliers</li> <li>Hydrogen generators</li> <li>Component suppliers not yet operating in ELIDZ</li> </ul>	<ul style="list-style-type: none"> <li>Renewable energy facilities to provide up to 100% renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>Companies collecting and processing industrial wastes (e.g. cardboard, plastics, metal, paint sludge)</li> </ul>	<ul style="list-style-type: none"> <li>Afterpart suppliers</li> </ul>
<b>Potential anchor tenants in ELIDZ (one example only)</b>				
Fish farm & processing	<ul style="list-style-type: none"> <li>Raw materials suppliers</li> <li>Packaging companies</li> <li>Logistical companies</li> </ul>	<ul style="list-style-type: none"> <li>Water supply, treatment and recycling</li> <li>Renewable energy supply</li> </ul>	<ul style="list-style-type: none"> <li>Organic waste processing companies</li> <li>Fertilizer company</li> </ul>	<ul style="list-style-type: none"> <li>Laboratory services</li> </ul>

## Impact of synergy opportunities on spatial planning – examples (not all-inclusive)



Synergy opportunities	Potential implication on land zoning of ELIDZ
<b>Utility synergies</b>	
<p>“Water factory” supplying fit-for-purpose quality industry feedwater to water intensive tenant companies</p>	<ul style="list-style-type: none"> <li>• Allow for location of industry feedwater facility in ELIDZ</li> <li>• Allow for co-location of water intensive companies</li> <li>• Allow for co-location of energy facility with industry feedwater facility</li> <li>• Service corridors in industrial park to allow for efficient water exchanges</li> </ul>
<b>Urban-industrial synergies</b>	
<p>Processing of selected waste streams from local municipality in industrial park or visa-versa (e.g. plastics, paper, organic wastes, construction waste)</p>	<ul style="list-style-type: none"> <li>• Transportation nodes to allow for potential material movements</li> <li>• Allow for co-location of synergistic waste collection and processing companies</li> </ul>

## Criteria for locating precincts and industries in ELIDZ

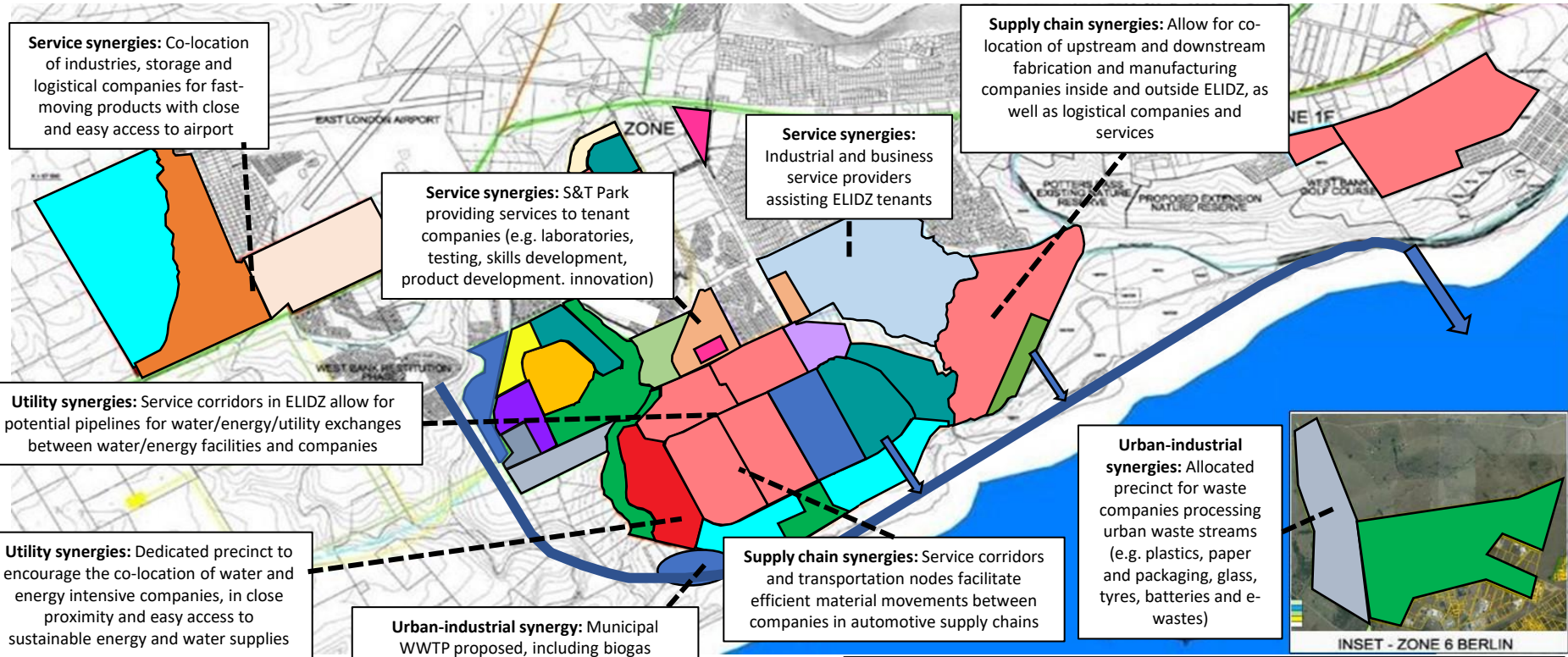
Category	Industry location and clustering criteria
Water	<ul style="list-style-type: none"><li>• High water requirements</li><li>• Encourage synergies</li></ul>
Energy	<ul style="list-style-type: none"><li>• High electricity requirements</li><li>• High use heat, cooling steam, gas</li></ul>
Transport	<ul style="list-style-type: none"><li>• Close access to highway</li><li>• Access to wide roads</li><li>• Close access to port</li><li>• Access to other materials handling services (e.g. truck patio, conveyors)</li></ul>
Potential risks	<ul style="list-style-type: none"><li>• Risk profile (e.g. odour, noise, explosion, fire, soil, air emissions, water pollution)</li><li>• Industry co-location risk</li></ul>
Lot size	<ul style="list-style-type: none"><li>• Large versus small lots</li></ul>
Waste and by-products	<ul style="list-style-type: none"><li>• Access to by-product/waste storage and processing facility</li></ul>
Encourage synergies	<ul style="list-style-type: none"><li>• Supply, utility, by-product and service synergies between industries inside and outside the park (including urban-industrial synergies)</li></ul>

## Assessment of selected sectors against location criteria

Selected (sub-) sectors for ELIDZ	Location criteria									
	High water use	High electricity use	High use heat, cooling steam, gas	Close access to highway	Access to wide roads	Close access to port	Potential risks and buffer zone	Lot size	Wastes & by-products	Other
Automotive suppliers	(X)	XX	X	XX	X		X	2 ha	(X)	
Agro processing	XX	XX	(X)	X		XX	X	5 to 10 ha	XX	EIA Access to airport Separated from noxious processing
Transport & logistics		(X)	(X) to XX Subject to products	XX	X	XX		2 to 10 ha		
Renewable energy generation	(X)	(X)	XX (if gas fired)				X	50 to 100 ha		EIA Access to grid
Etc										

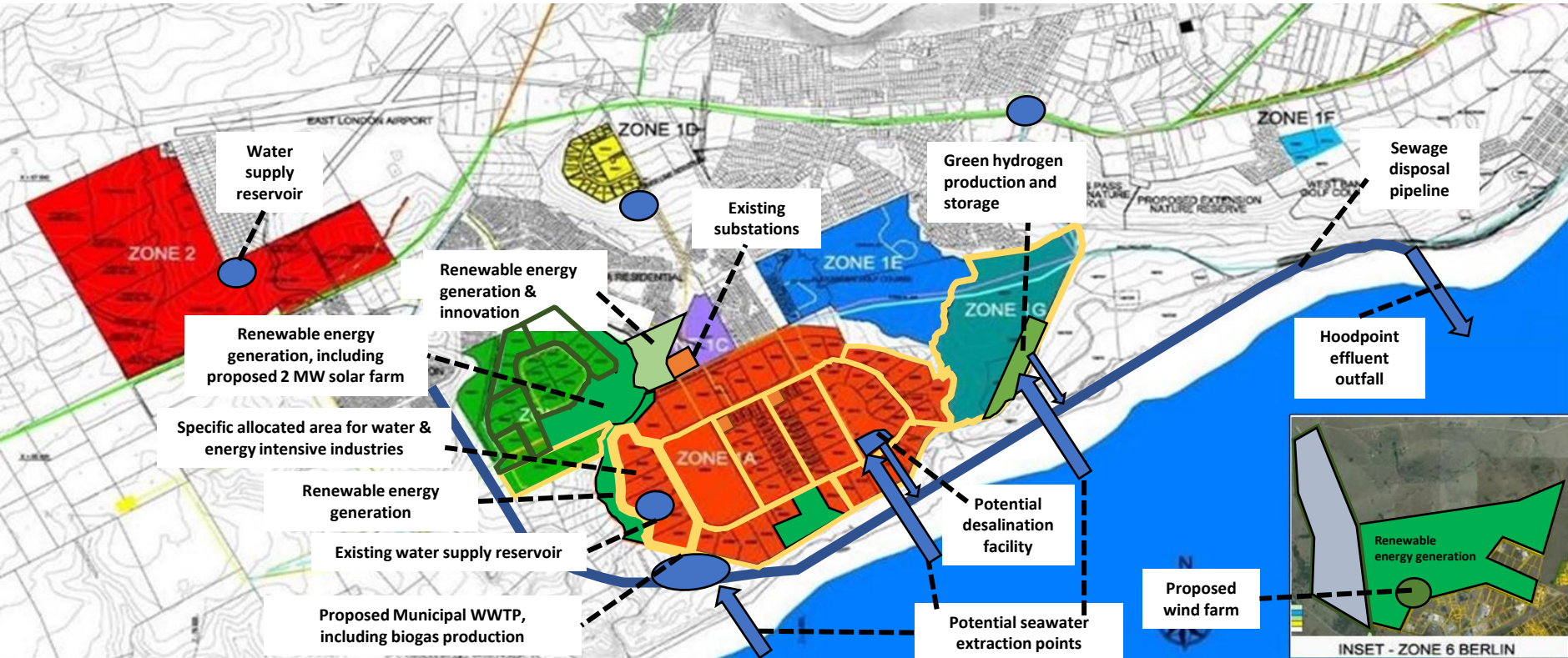
X= Likely    XX = Most likely    (X) = Possible





**Disclaimers**

- Alignments shown on maps are only indicative, and subject to assembly of base mapping.
- Concepts are subject to environmental, town planning, and land assembly constraints.
- Concept plans are subject to detailed technical and economic feasibility analysis.
- Land size and locations should remain flexible subject to industry demand.
- Concept maps are based on information to project team at time of their generation and discussions with ELIDZ team.

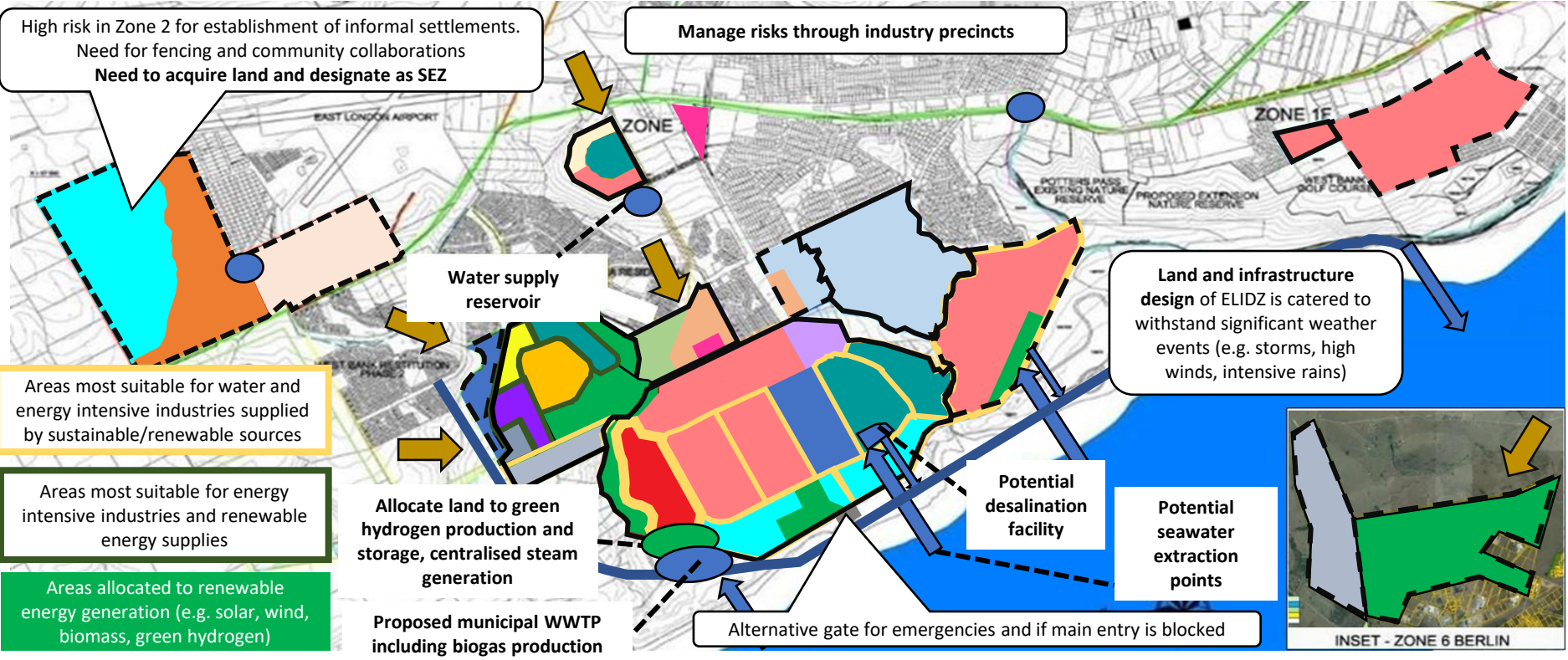


Areas most suitable for water and energy intensive industries supplied by sustainable/renewable sources

Areas most suitable for energy intensive industries and renewable energy supplies

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- Concept maps are based on information to project team at time of their generation and discussions with ELIDZ team.



**Locating and clustering of companies in ELIDZ:**

- Location of new companies within ELIDZ needs to be based on risk profile individual companies and potential accumulative risks. Assessment of these risks are part of Environmental Impact Assessment (EIA) that new investors need to undertake.
- The clustering of any higher risk companies is subject to further detailed risk assessments to be undertaken on a case by case basis for each 'higher risk' company locating to the ELIDZ. These risk assessments need to consider accumulative risks of the (potential) industry mix to locate to the ELIDZ over time.

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- Concepts are subject to environmental, town planning, and land assembly constraints.
- Concept plans are subject to detailed technical and economic feasibility analysis.
- Land size and locations should remain flexible subject to industry demand.
- Concept maps are based on information to project team at time of their generation and discussions with ELIDZ team.

# EIP concept planning provides an opportunity for the ELIDZ to differentiate itself from other industrial parks

- “ELIDZ is a green IDZ, with good ICT connectivity and logistical infrastructure (e.g. port, airport, roads), supporting by the availability of affordable labour and a strong manufacturing base”
- “ELIDZ have access to secure and stable green energy”
- “There is a cost effective, reliable, sustainable and high quality water supply available to investors”
- “ELIDZ has supportive clusters to feed into your business processes”
- “ELIDZ offers a modern customized space in a technology enabled zone which is ready for future smart requirements and where connectivity is fast”

Training module: EIP concept planning

Questions or comments?



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A woman wearing a white hard hat and a high-visibility safety vest is holding a clipboard. She is standing in front of a stack of shipping containers in an industrial setting. The background is slightly blurred, showing various colored containers (orange, blue, green).

**Group work**

## One group per industrial park

- Service providers to spread their participation across the groups

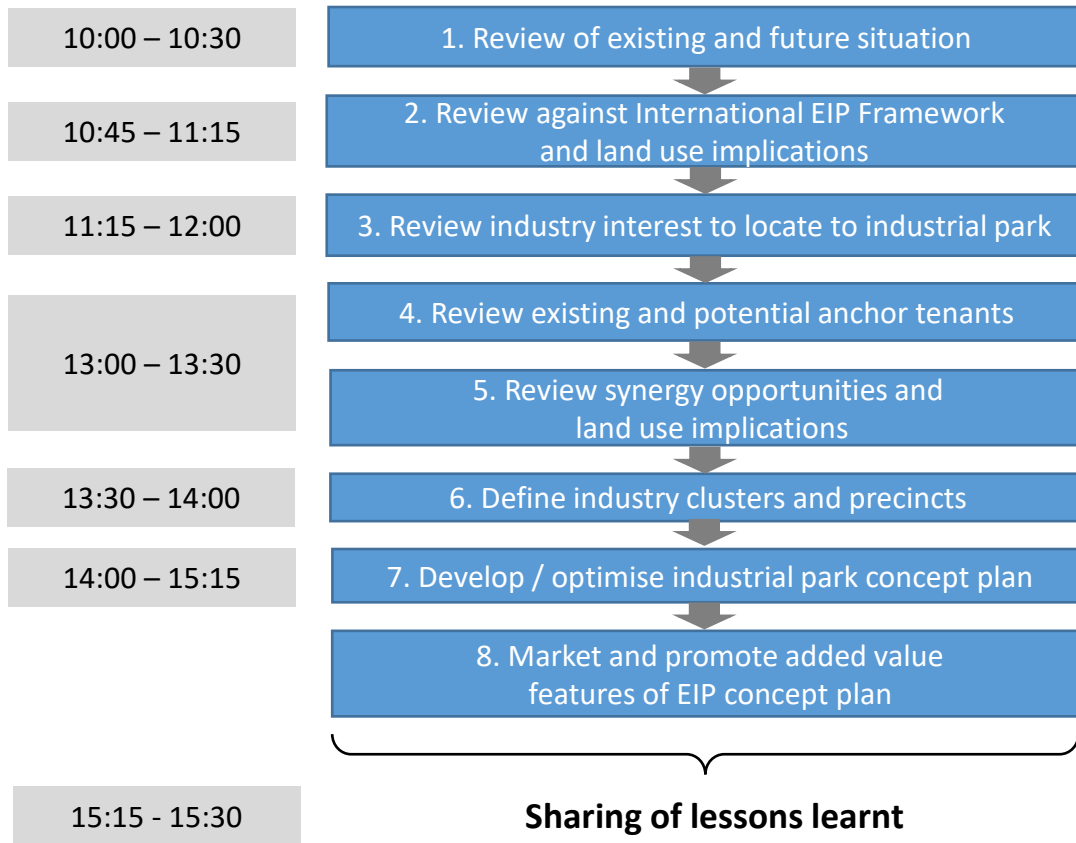
## Starting point for group work:

- A0 printed maps of industrial parks
- Results from EIP concept planning work for parks participated in Uzhhorod May 2024 training

Park developers/management who participated in 2024 EIP training in Uzhhorod to update and deepen their results.

After training, request is for all parks to submit results from exercises to GEIPP team for further assessment.

## Steps of EIP concept planning





## Guiding questions:

- **What are most significant opportunities for industrial park now and in the future?**
  - Consider economic, environmental, social, technical opportunities
- **What are most significant challenges and risks for industrial park now and in the future?**
  - Consider economic, environmental, social, technical challenges and risks
- **Draw existing and future situation of industrial park**
  - Infrastructures inside and outside industrial park
  - Companies inside and outside industrial park
  - Land zoning
  - Sensitive areas
  - Used and free lots of land
  - Key developments inside and outside industrial park
  - Existing communities and expected community / residential developments



# Group work – Step 2: Review against International EIP Framework and land use implications



INTERNATIONAL EIP FRAMEWORK (UNIDO, WORLD BANK, GIZ, 2021)		ASSESSMENT OF INDUSTRIAL PARK	
Topic	EIP prerequisites and performance indicators (including target values)	Land use implications arising from EIP prerequisites and performance indicators	EIP and spatial planning opportunities to incorporate into EIP concept plan
Park management services	A distinct park management entity (or alternative agency, where applicable) exists to handle park planning, operations and management, and monitoring.	Identify suitable location(s) for park management office which is easy accessible to stakeholders inside and outside park (e.g. close to main entry point of park).	
	<p>Park management entity to manage and maintain the industrial park property, common infrastructure, and services as prescribed in the tenant contract. This should include at least the following:</p> <ul style="list-style-type: none"> <li>• Property management, including plot allotments, re-allotments, development, land use monitoring.</li> <li>• Utilities, roads, security (including IT security) and emergency response services/facilities and wastewater treatment plants and operations, including waste heat/energy recovery and distribution networks</li> <li>• Environmental monitoring and advisory activities</li> <li>• Common landscaping, buffer zones, street lighting, security surveillance and street cleaning.</li> <li>• Provide facilitating services to and between tenant firms (for example, networking, collaboration and training opportunities).</li> <li>• Engagement with the park's stakeholders and business representatives.</li> <li>• PR and community participation center/platform/activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify most suitable location and size utilities, roads, and technical units such as waste and wastewater treatment plants and operations, power and energy systems.</li> <li>• Identify most suitable location of park-level and common waste collection areas.</li> <li>• Identify most suitable location(s) of common maintenance and repair workshops.</li> <li>• Identify most suitable location of park-level and common security and emergency response facilities.</li> <li>• Identify most appropriate location and size of buffer zones.</li> <li>• Identify types and most suitable location of common employee and tenant facilities.</li> </ul>	

Discuss with printed templates of International EIP Framework



# Group work – Step 3: Review industry interest to locate to industrial park



Sectors	Sub-sectors	Interest for industrial park to attract / retain sub-sector	Likelihood to locate / retain to industrial park	Comments



Very high, high, medium, low, very low

Discuss with print-outs



# Group work – Steps 4 and 5: Review anchor tenants and synergies



**Anchor tenant: Large company which can attract / retain NEW investors**

Anchor tenants	Trigger or contribute to attracting / retaining industries			
	Supply synergies	Utility synergies	By-product synergies	Service synergies
<b>EXISTING anchor tenants</b>				
<b>POTENTIAL anchor tenants</b>				





# Group work – Step 7: Develop / optimise industrial park concept plan



## Agree on priority topics for EIP concept planning:

- Industry clustering and precincts
- Industrial synergies
- Secure water and energy supply
- Risk management
- Transportation network
- Development phases and roll-out of industrial park
- Shared and common use facilities
- Other topic(s)?

Work with lay-out maps of industrial park brought to the training

## Checklist with guiding questions for EIP concept plans

EIP Concept Planning Checklist

Topic	Checklist question	Consider in EIP concept plan? (Yes / No)
Existing situation	Draw existing and future situation of industrial park on lay-out map <ul style="list-style-type: none"> <li>• Infrastructures inside and outside park</li> <li>• Companies inside and outside park</li> <li>• Land zoning</li> <li>• Sensitive areas</li> <li>• Used and free lots of land</li> <li>• Key developments inside and outside the industrial park</li> <li>• Existing communities and expected community / residential developments</li> </ul> Industrial lots: <ul style="list-style-type: none"> <li>• Mark industrial lots occupied.</li> <li>• Mark industrial lots sold but not yet occupied.</li> <li>• Mark industrial lots available for new companies.</li> </ul>	
Energy supply	Which existing tenant companies are high energy users? <ul style="list-style-type: none"> <li>• Mark these companies on lay-out map</li> <li>• For which applications do they use most energy (e.g. boiler, cooling, drying, process)?</li> <li>• What are their current energy sources (e.g. Electricity, gas, coal, other fossil fuels, renewables)?</li> </ul>	
	Identify and locate suitable energy supply systems to meet current and future energy demands of tenant companies. <ul style="list-style-type: none"> <li>• Existing and potential substations and transformers</li> <li>• Existing and potential gas pipelines</li> <li>• Fuel / gas storage</li> </ul>	
	Identify suitable location(s) for renewable energy facilities in the industrial park with most favourable conditions. <ul style="list-style-type: none"> <li>• Solar PV and storage systems</li> <li>• Wind turbine</li> <li>• Geothermal</li> <li>• Biogas/fuel generation</li> <li>• Green hydrogen</li> </ul>	
	Identify suitable location(s) for solar PV panels outside industrial park which can supply tenant companies.	
Water supply and treatment	Which existing tenant companies are high water users? <ul style="list-style-type: none"> <li>• Mark these companies on lay-out map</li> <li>• For which applications do they use most water (e.g. boiler, cooling, washing, rinsing, process)?</li> <li>• What are their current water sources (drinking water, ground water, recycled water, desalination)?</li> <li>• How do these companies dispose their water currently (e.g. on-site treatment, park-level treatment, no treatment, on-site recycling)?</li> </ul>	
	Identify and locate sustainable water sources to supply systems to meet current and future water demands of tenant companies. <ul style="list-style-type: none"> <li>• Groundwater (centralized or decentralized)</li> <li>• Potable water system</li> </ul>	