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EIP feasibility assessment

Training to industrial parks and service providers – April 2025

Feasibility assessments for industrial parks: Common mistakes

Updated slide: Discuss and translate Ukrainian ppt

- **Feasibility assessment is missing key elements, resulting in wrong investment decision and thereby wasting a lot of money and time**
  - Location/site selection not addressed
  - No clear unique selling proposition of industrial park
  - No proper market demand projections
  - No proper financial analysis
  - Opportunity, impact, risk analysis does not cover all relevant topics
  - No consideration on park management model and services
  - Regulatory analysis is missing key policy / government implications for industrial park
  - Infrastructure assessments is not addressing critical infrastructure and utilities
  - Environmental and social assessments are not included

- **Pre-feasibility assessment is not done before detailed feasibility assessment**
  - Pre-feasibility will identify critical Go/ No go aspects

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Topics typically covered by feasibility assessments

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- Location/site selection
- Vision and objective for industrial park
- Unique selling proposition
- Market demand projections
- Financial analysis
- Opportunity, impact, risk analysis
- Park management model and services
- Regulatory analysis
- Stakeholder analysis
- Infrastructure assessments
- Environmental and social assessments
- Development plan and phasing

UNIDO (2019). International Guidelines for Industrial Parks. Weblink

Suggestions how to integrate EIP approach

- **Location/site selection**
  - Selected site must meet minimum economic, technical, environmental and social requirements,
  - Take into account short-, medium and long-term developments

- **Vision and objective for industrial park**
  - Check that vision and objectives cover key economic, environmental, social considerations
  - Outline commitment to transform into an eco-industrial park

- **Unique selling proposition (USP)**
  - EIP approach helps to differentiate from other industrial zones
  - See example from the East London Industrial Development Zone, South Africa

Suggestions how to integrate EIP approach

- **Market demand projections**
  - Market demands and trends will be affected by impacts of climate change, circular economy, pressures within supply chains, etc
  - EIP approach can assist with broadening scope of market demand projections (e.g. new markets, how will traditional industries be affected)

- **Financial analysis**
  - Need to take into account how to share the investment costs of centralised infrastructure and utilities (e.g. centralised boiler system, waste recovery, water recycling)
  - Need to analyse and select financial model for centralised infrastructure (e.g. build, own, operate, transfer)

- **Opportunity, impact, risk analysis**
  - Consider economic, technical, environmental and social risks in balanced manner
  - Take into account short-, medium and long-term risks

Suggestions how to integrate EIP approach

- **Park management model and services**
  - Ensure park is managed with business mind-set, rather than property development project or government initiative
  - Go beyond “traditional” services to tenants and consider added-value services to assist tenants to increase their performance, reduce their risk, and facilitate innovation

- **Regulatory analysis**
  - Include compliance with international economic, environmental and social standards
  - Include targeted performance on International EIP Framework (e.g. Worldbank, UNIDO, GIZ)

- **Stakeholder analysis**
  - Consider all stakeholders which are directly and indirectly linked to the industrial zone
  - Go beyond “traditional” stakeholders and include community, training and educational facilities, innovation institutions, etc

Suggestions how to integrate EIP approach

- **Infrastructure assessments**
  - Consider integrated and shared infrastructure on water, energy, waste
  - Take into account rapid innovation developments and impacts of climate change
  - Ensure optimisation and integration with already existing infrastructure and future development

- **Environmental & social assessments**
  - Alignment with international standards
  - Take into account impacts of climate change (e.g. water shortages, flooding, fires)
  - Take into account short-, medium and long-term environmental and social impacts

- **Development plan and phasing**
  - Consider module-based infrastructure which can grow with development of industrial zone
  - Manage investment needs by alignment infrastructure and integrated phasing of industrial zone
  - See example from the East London Industrial Development Zone, South Africa

Pre-feasibility assessments

Objectives:

- Establish broad perspective to assess overall potential of industrial park project
- Guide decision-making on whether industrial park is technically, financially, economically, socially and environmentally sound
- Allows industrial park to be positioned within (inter)national and regional competition, and national strategic planning

Feasibility assessments

Objectives:

- Conduct a reliable full feasibility analysis with detailed calculations and designs
- Result in an evidence-based final go/no-go decision regarding whether or not to proceed with the industrial park
- Assist in process to finance industrial park development

Do pre-feasibility assessment **FIRST** before deep-diving as part of detailed feasibility assessment

Adapted from: UNIDO (2019). International Guidelines for Industrial Parks.

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Practical example: Yellowstone County Industrial Park Feasibility Analysis, Montana, USA

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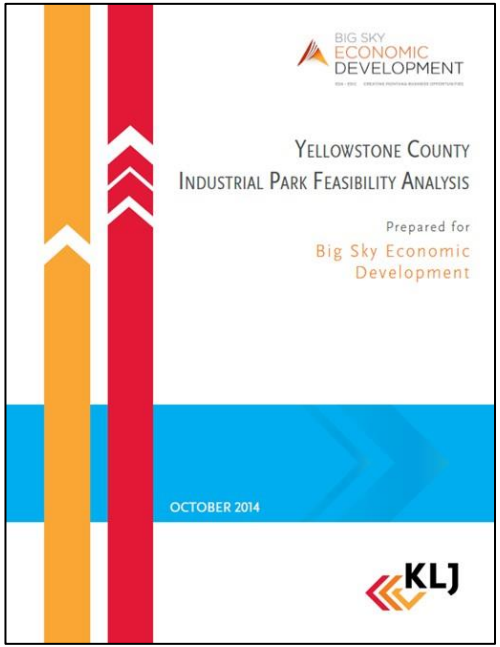

Feasibility study is available from: [Weblink]

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Practical example: Leblanc Road Industrial Park Feasibility & Development Study, Canada

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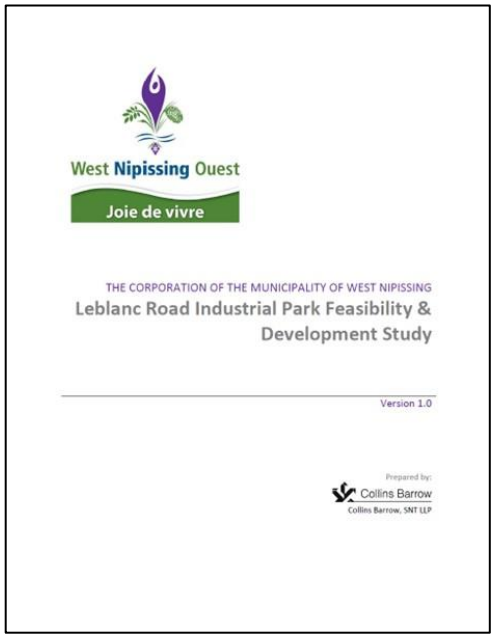
Example of feasibility study done for very small industrial park (35 ha)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Leblanc Road Industrial Park Feasibility & Development Study

Version 1.0

Prepared by:
Collins Barrow
Collins Barrow, SNT LLP

Feasibility study is available from: [Weblink]

Practical example: Kwinana Water Reclamation Plant (KWRP), Australia

- Facility is a joint initiative of the Water Corporation and Kwinana companies
- Facility secures water supply to Kwinana companies. Lack of competitively priced water is a „showstopper“ for large water intensive companies.
- Double benefit of greater overall water efficiency and reduced process water discharges into Cockburn Sound (sensitive marine environment).
- Production of 6,000 ML/year of industry feedwater from treated effluent from municipal WWTP
- Capital cost of A$ 25 million, invested by Water Corporation. Return on investment through long-term water supply contracts to water intensive companies.

Source: Van Beers D., Corder G.D., Bossilkov A., van Berkel R., (2007). Industrial Symbiosis in the Australian Minerals Industry: The Cases of Kwinana and Gladstone. Journal of Industrial Ecology, Vol. 11, no.1.

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Practical example
Steam supply by shared boiler system, Viet Nam

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Technical feasibility	
Technical options	• Boiler system using biomass as main fuel • ESCO to provide steam to existing textile-dyeing cluster in industrial zone • Required capacity of 110 tons of steam per hour
Environmental benefits	• Reduction of 29,218 ton CO_2 emissions due to better efficiency and change of fuel

Economic Criteria	Estimated Value
Revenues	7,9 million US$/yr
CAPEX	5,563,543 US$
OPEX	4,939,443 US$/yr

Financing options	IRR	Payback period
Financing option: **Own finance: 50%** **Commercial loans: 50%**	58%	1.7 years

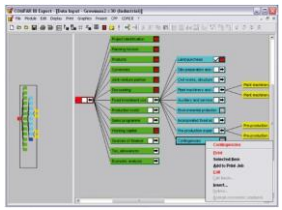
This investment is highly profitable

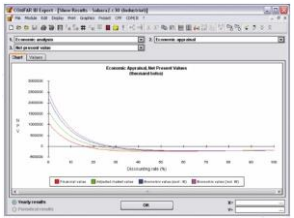
Source: Vietnam National Cleaner Production Centre and Sofies (2018). Testing of Eco-Industrial Park Guidelines and EIP opportunity assessments for Vietnam. International Finance Corporation (IFC) Project.

UNIDO's COMFAR feasibility analysis tool

- **Computer Model for Feasibility Analysis and Reporting (COMFAR)** tool can be used by potential industrial park developers for their feasibility analysis work
- COMFAR comprises manuals, teaching materials and software aimed at supporting the project's identification and preparation processes
- Three COMFAR versions are available to public and private stakeholders
  - COMFAR III Expert - can be used to support both new as well as expansion projects, with a scalable planning horizon of up to 60 years
  - COMFAR III Business Planner
  - COMFAR III Mini Expert
- COMFAR III Expert Facilitates financial and economic appraisal of investment projects. It permits the user to simulate the short- and long-term financial and economic situation of industrial and non-industrial investment projects.

- Easy to Access – Easy to Operate
- User-Defined Flexibility
- Cash Flow Model
- Financial Analysis (Enterprise Level)
- Economic Analysis (Macro Level)
- Graphical Presentation of Results
- Sensitivity Analysis
- Non-Industrial Investment Projects





Weblink: www.unido.org/resources-publications-publications-type/comfar-software

Unique value proposition (UVP) of industrial park

UVP offers a clearly articulated benefit to investors and companies, providing them something that competing parks can't or don't offer

The UVP should be compelling enough to attract new investors

Key questions to define UVP

- What are key strengths of your industrial park?
- What are the desired investors / industries?
- Why should they invest in your industrial park, and not elsewhere?
- How do you attract these industries?

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Approach for investment attraction strategy

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Understand investors

- Origin
- Size / location
- Reasons for locating
- Decision making criteria and process
- Key locational requirements

Develop investment strategy

- IP features to meet investor demands
- Market positioning
- Unique value proposition
- Investment targets
- Action plan to attract investment

Implement investment strategy

- Pro-active facilitation
- Incentives
- Demand-driven infrastructures and facilities
- Investor services

EIP approach assists in strengthening the competitiveness and attracting industries to IPs

Demand projections

Industrial parks must only be located in areas with sufficient market demand to justify development and operational costs.

Demand projections are essential to determine:

- Proper location, scope and size of industrial park
- Land uses and zoning within the industrial park
- Required infrastructure and associated CAPEX
- Types of sector-driven incentives and policies to better attract likely investors
- Potential revenue from occupants to make industrial park financially viable
- Justify public expenditure costs and socio-economically "net positive" proposition
- Industrial park's branding and investment promotion strategies

Source: Jean Paul Gauthier (UNIDO PNDP Training Workshop Peru, 2018) and UNIDO (2019) International Guidelines for Industrial Parks.

Demand projections – Key steps

Identification of Target Industry Sectors -Drawing on the results of the benchmarking analysis and other critical inputs, develop a list of target industries

Identification of Target Markets -Examine existing economic activity, industry location requirements, and investment and trade trends to develop a list of likely sources of investment

Targeted Demand Surveys -Conduct targeted surveys within selected sectors and regions to gain a sense of investor demand and fine-tune understanding of industry location requirements

Demand Projections -Develop estimates of demand by firm and industry and forecast future industrial park land take-up, based on demand surveys, investment trends, and space requirements of target industries

Source: Jean Paul Gauthier (UNIDO PNDP Training Workshop Peru, 2018) and UNIDO (2019) International Guidelines for Industrial Parks.

Infrastructure and service needs assessment

INDUSTRIAL INFRASTRUCTURE

- Development of integrated transportation infrastructure (on-site and off-site)
- Development of power/energy infrastructure
- Development of a logistics hub
- Development of communications infrastructure
- Development of integrated utilities infrastructure

ENVIRONMENTAL INFRASTRUCTURE

- Development of solid waste collection, transport and treatment facilities
- Development of an industrial waste collection, sorting, transport and management system
- Water source development and harvesting, including rainwater, treatment and recycling infrastructure
- Development of wastewater treatment and recycling
- Renewable energy infrastructure development
- Development of co-generation plants
- Centralized effluent treatment through centralized effluent treatment plants (CEPTs)
- Provision of pollutant and toxicity testing facilities and laboratories

SOCIAL INFRASTRUCTURE

- Establishing an industrial zone with compatible social infrastructure
- Integrated industrial, commercial, institutional and social development
- Development of knowledge, training and research support infrastructure
- Provision of emergency services

EIP approach assists in developing integrated and shared infrastructures

Source: UNIDO (2019). International Guidelines for Industrial Parks.

Risk assessment

- **Typical risk rating approach, assessing the potential impact and likelihoods of risks. The total risk rating is the multiplied value of both the impact and likelihood rating.**
- **The risk assessment is linked with a Political, Economic, Social, Technological, and Environmental (PEST-E) analysis.**

Likelihood	Impact: Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Significant and Extensive (5)
Almost Certain (5)	5	10	15	20	25
Likely (4)	4	8	12	16	20
Possible (3)	3	6	9	12	15
Unlikely (2)	2	4	6	8	10
Almost Impossible (1)	1	2	3	4	5

Risk assessment

Potential risks to consider

PLANNING RISKS	• Planning compliance • Surrounding population density • Traffic and congestion • Adjacent projects • Utilities capacity • Enterprise layout • Land title • Demand risks • Economic justification	ENVIRONMENTAL AND HAZMAT RISKS	• Storm flood • Fire/explosion • Hazardous materials • Waste and wastewater disposal • Natural disasters
STRATEGIC RISKS	• Construction risks • Supplier and partner non-performance risks • Policy instability • Promoter capacity • Operations • Governance • Technology • Regulatory framework	HUMAN RESOURCE AND OCCUPATIONAL RISKS	• Accidents/health • Operational safety • Reduction and retention • Knowledge management • Emergency support • Management
FINANCIAL RISKS	• Stock exchange /capital market fluctuations • Exchange and interest rate fluctuation • Liquidity / cash flow • Fraud • Financial viability	FIXED ASSET RISKS	• Security • Energy supply • Property damage • Machinery breakdown
MARKET AND COMMERCIAL RISKS	• Competitors / Market share / Reputation • Business interruption		

Source: Adapted from Oldani Insurance Group Ltd. (2015) and Locus Economica (2019)

Risk assessment - Template

Identified risks	Risk time frame (Short, medium, long-term)	Risk rating			Possible risk mitigation approaches
		Likelihood	Impact	Total risk	
Political risks					
Economic risks					
Social risks					
Technological risks					
Environmental risks					

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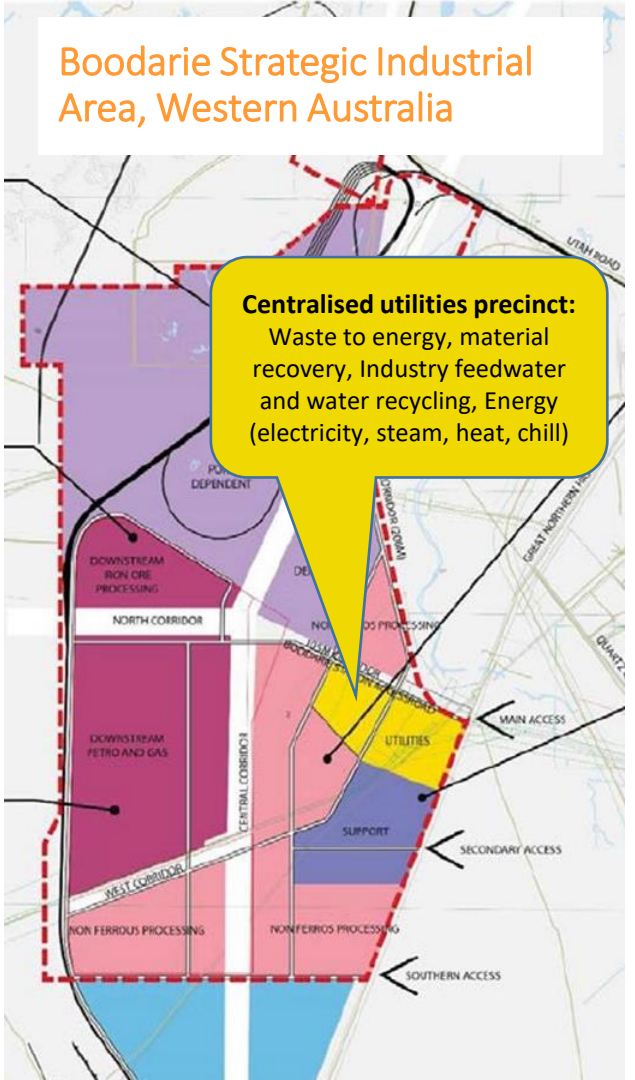
Mitigating risks in infrastructures

- **Leverage on existing infrastructures**
- **Phased development to minimize financial risks**
- **Undertake thorough and realistic feasibility studies**
  - Assess multiple infrastructure options
  - Sensitivity analysis
- **Designate land for infrastructures and utilities in industrial park**
  - E.g. dedicated Utilities precinct for industry feedwater and water recycling, energy (electricity, steam, heat, chill), waste to energy, material recovery, etc
  - Centralized location to minimize costs for “piping and pumping”
- **Procurement with proper due diligence**

Source: UNIDO (2018). PNDP Training Workshop, Peru. Jean-Paul Gauthier, Economist and SEZ Lawyer.

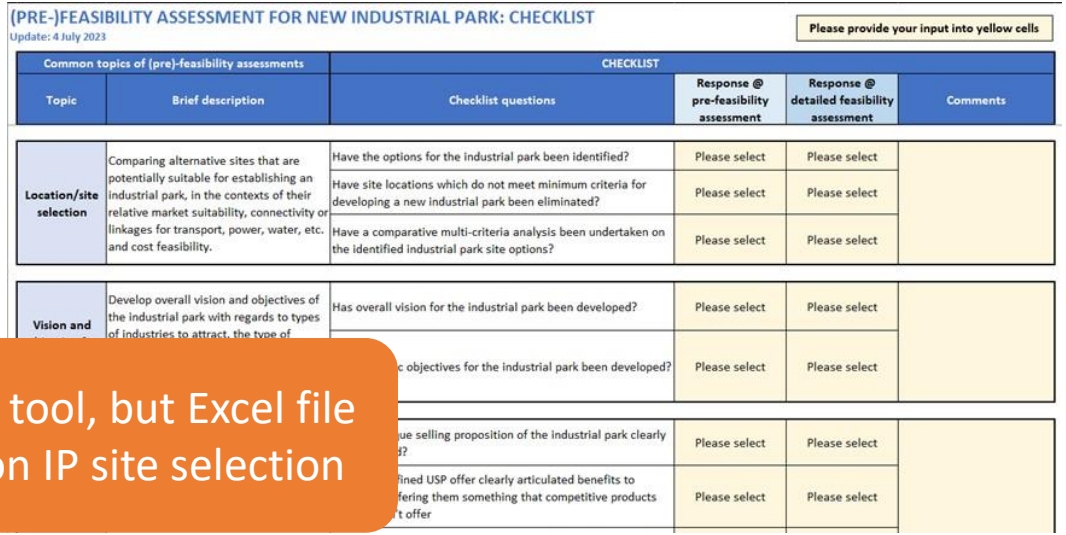
Boodarie Strategic Industrial Area, Western Australia



Feasibility assessment

Tool demonstration

- Demonstration of a Site Selection & Feasibility Tool for new industrial parks
- Participants to question and comment on methodology and its applicability to Ukraine



(PRE-)FEASIBILITY ASSESSMENT FOR NEW INDUSTRIAL PARK: CHECKLIST

Update: 4 July 2023

Please provide your input into yellow cells

Common topics of (pre)-feasibility assessments		CHECKLIST			
Topic	Brief description	Checklist questions	Response @ pre-feasibility assessment	Response @ detailed feasibility assessment	Comments
Location/site selection	Comparing alternative sites that are potentially suitable for establishing an industrial park, in the contexts of their relative market suitability, connectivity or linkages for transport, power, water, etc. and cost feasibility.	Have the options for the industrial park been identified?	Please select	Please select	
		Have site locations which do not meet minimum criteria for developing a new industrial park been eliminated?	Please select	Please select	
		Have a comparative multi-criteria analysis been undertaken on the identified industrial park site options?	Please select	Please select	
Vision and	Develop overall vision and objectives of the industrial park with regards to types of industries to attract, the type of	Has overall vision for the industrial park been developed?	Please select	Please select	
		c objectives for the industrial park been developed?	Please select	Please select	
		ue selling proposition of the industrial park clearly d?	Please select	Please select	
		fined USP offer clearly articulated benefits to fering them something that competitive products t offer	Please select	Please select	

Note: This is not a formal UNIDO tool, but Excel file based on practical experiences on IP site selection

Training module: EIP feasibility assessment

Questions or comments?

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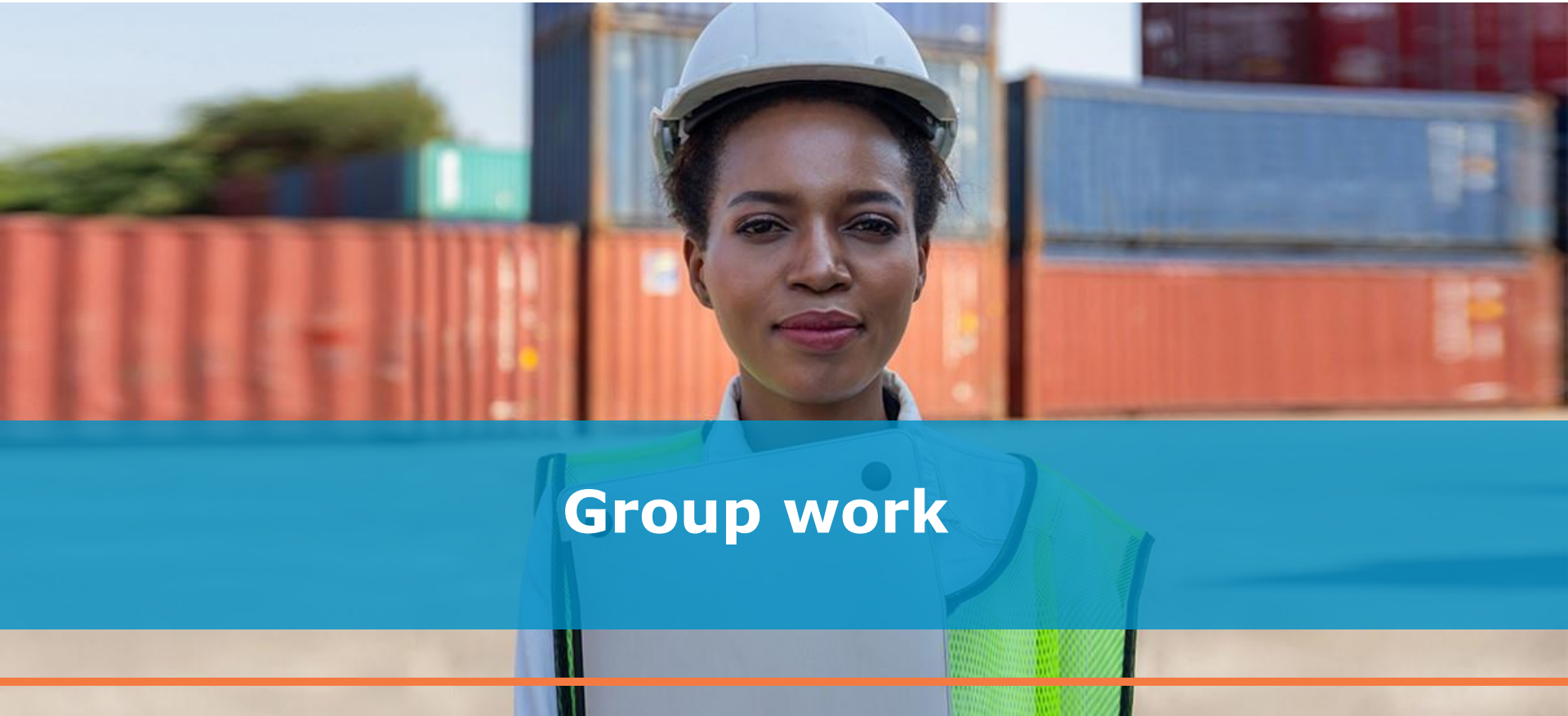


Group work

Group work: EIP feasibility assessment

One group per industrial park

- Service providers to spread their participation across the groups

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

10:00 – 10:30	Gap analysis on key elements of a feasibility assessment
10:45 – 11:15	Market demand projection
11:15 – 12:00	Risk and opportunity analysis
13:00 – 14:00	Infrastructure needs assessment
14:00 – 15:15	Investment needs and financial analysis

Sharing results from group work

Group work: Gap analysis on key elements of a feasibility assessment

Complete worksheet “Feasibility checklist” in IP Site Selection & Feasibility Tool

- What topics are sufficiently covered?
- What are key gaps in current work done for your industrial park?

(PRE-)FEASIBILITY ASSESSMENT FOR NEW INDUSTRIAL PARK: CHECKLIST

Update: 4 July 2023

Please provide your input into yellow cells

Common topics of (pre)-feasibility assessments		CHECKLIST			
Topic	**Brief description**	**Checklist questions**	**Response @ pre-feasibility assessment**	**Response @ detailed feasibility assessment**	**Comments**
Location/site selection	Comparing alternative sites that are potentially suitable for establishing an industrial park, in the contexts of their relative market suitability, connectivity or linkages for transport, power, water, etc. and cost feasibility.	Have the options for the industrial park been identified?	Please select	Please select	
		Have site locations which do not meet minimum criteria for developing a new industrial park been eliminated?	Please select	Please select	
		Have a comparative multi-criteria analysis been undertaken on the identified industrial park site options?	Please select	Please select	
Vision and objective for industrial park	Develop overall vision and objectives of the industrial park with regards to types of industries to attract, the type of industrial park, expectations from economic, environmental, and social perspectives.	Has overall vision for the industrial park been developed?	Please select	Please select	
		Have specific objectives for the industrial park been developed?	Please select	Please select	
		Has the unique selling proposition of the industrial park clearly been defined?	Please select	Please select	
		Does the defined USP offer clearly articulated benefits to investors, offering them something that competitive products can't or don't offer	Please select	Please select	

Group work: Market demand projection

Complete worksheet “Demand analysis” in IP Site Selection & Feasibility Tool

- What is priority to attract subsector?
- Names of specific new tenant companies
- What are favourable features of IP to accommodate subsector/company?

International Standard Industrial Classification (ISIC) http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27		List existing companies already operating in industrial park	Priority for industrial park management to attract subsector?	Likelihood to locate to industrial park	Name(s) of specific new tenant company/ies already identified (if any)	What are anticipated economic benefits and job creation from new tenant company/ies?	What are favourable features of IP to accommodate subsector/company?	What are potential risks to accommodate subsector/company in IP?
ISIC Division	ISIC Group							
Section C - Manufacturing								
10 - Manufacture of food products	101 - Processing and preserving of meat		Please select	Please select				
	102 - Processing and preserving of fish, crustaceans and molluscs		Please select	Please select				
	103 - Processing and preserving of fruit and vegetables		Please select	Please select				
	104 - Manufacture of vegetable and animal oils and fats		Please select	Please select				
	105 - Manufacture of dairy products		Please select	Please select				
	106 - Manufacture of grain mill products, starches and starch products		Please select	Please select				
	107 - Manufacture of other food products		Please select	Please select				
	108 - Manufacture of prepared animal feeds		Please select	Please select				
11 - Manufacture of beverages	110 - Manufacture of beverages		Please select	Please select				
12 - Manufacture of tobacco products	120 - Manufacture of tobacco products		Please select	Please select				
13 - Manufacture of textiles	131 - Spinning, weaving and finishing of textiles		Please select	Please select				
	139 - Manufacture of other textiles		Please select	Please select				
14 - Manufacture of wearing apparel	141 - Manufacture of wearing apparel, except fur apparel		Please select	Please select				
	142 - Manufacture of articles of fur		Please select	Please select				
	143 - Manufacture of knitted and crocheted apparel		Please select	Please select				

Group work: Risk and opportunity analysis

Complete worksheet “Risk & opportunity analysis” in IP Site Selection & Feasibility Tool

- Political, Economic, Social, Technological, and Environmental (PEST-E) analysis
- Likelihood and impact of risks and opportunities?

Risks and opportunities for industrial park	Time frame (Short, medium, long-term)	Rating (see figure below)			Approach(es) to mitigate risk or capture opportunity
		Likelihood 1 (almost impossible) to 5 (almost certain)	Impact 1 (insignificant) to 5 (extensive)	Total score	
Political risks					
	Please select	Please select	Please select	#VALUE!	
	Please select	Please select	Please select	#VALUE!	
	Please select	Please select	Please select	#VALUE!	
Economic risks					
	Please select	Please select	Please select	#VALUE!	
	Please select	Please select	Please select	#VALUE!	
	Please select	Please select	Please select	#VALUE!	
Social risks					
	Please select	Please select	Please select	#VALUE!	

Group work: Infrastructure and investment needs

Complete worksheet “Infrastructure needs” in IP Site Selection & Feasibility Tool

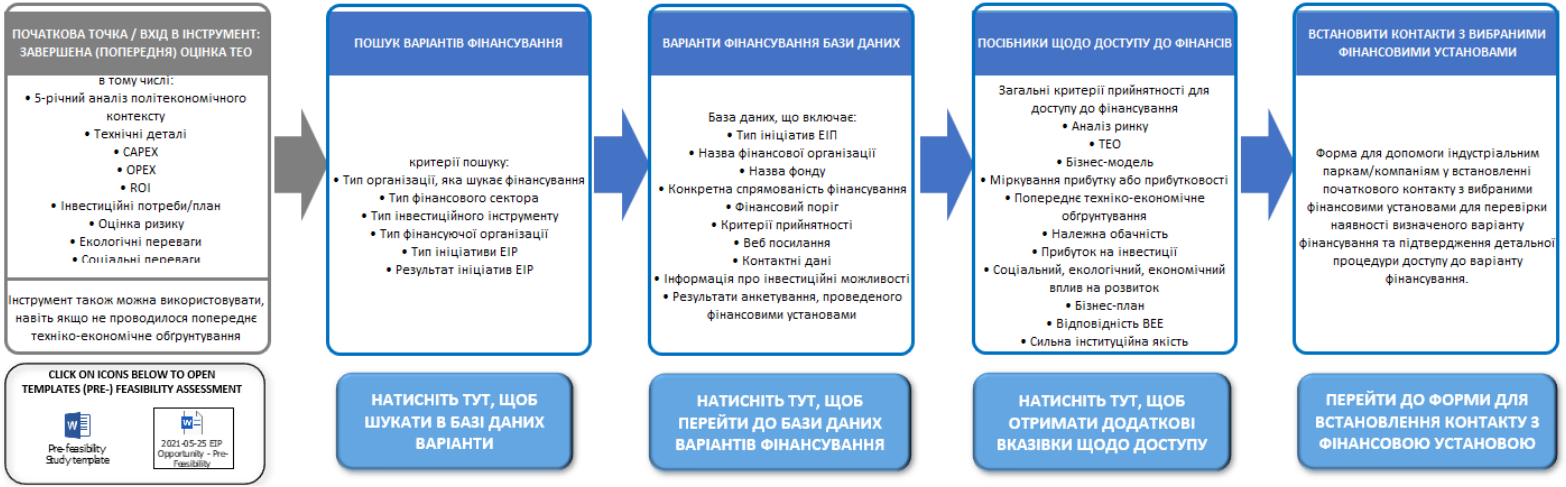
- Which infrastructure is required for your site?
- Which infrastructure is already available?
- What are estimated costs and investment lead?
- What are key gaps in current work done for your industrial park?

Topic	On-/off-Site	Infrastructure and service elements	Required for site?	Currently available?	Estimated costs	Investment lead	Response on how infrastructure and service needs are addressed
Roads	Off-site	Good access from highway to industrial park	Please select	Please select	Insert response	Insert response	Insert response here
	On-site	Road network	Please select	Please select	Insert response	Insert response	Insert response here
Water	Off-site	Connection(s) to main water supply network	Please select	Please select	Insert response	Insert response	Insert response here
	On-site	Water supply network	Please select	Please select	Insert response	Insert response	Insert response here
Electricity	Off-site	Connection(s) to main electricity supply network	Please select	Please select	Insert response	Insert response	Insert response here
	On-site	Electricity supply network	Please select	Please select	Insert response	Insert response	Insert response here
Gas	Off-site	Connection(s) to main gas supply network	Please select	Please select	Insert response	Insert response	Insert response here
	On-site	Gas supply network	Please select	Please select	Insert response	Insert response	Insert response here

Group work: Access to Finance

Apply Ukraine Access-to-Finance Tool for your investment needs

- Download tool from https://geipp-ukraine.org/en/eip-access-to-finance-a2f-tool/
- Can you identify potential financing sources for specific investment needs identified for your industrial park?
- What other financing sources can you identify or have already?



Group work feedback

Each industrial park to share results and lessons learnt from exercises

- Gap analysis on key elements of a feasibility assessment
- Market demand projection
- Risk and opportunity analysis
- Infrastructure needs assessment
- Investment needs and financial analysis

How does the group today impact on the unique value proposition outlined in training yesterday?

3 minutes max per park please