



Ministry of Environment

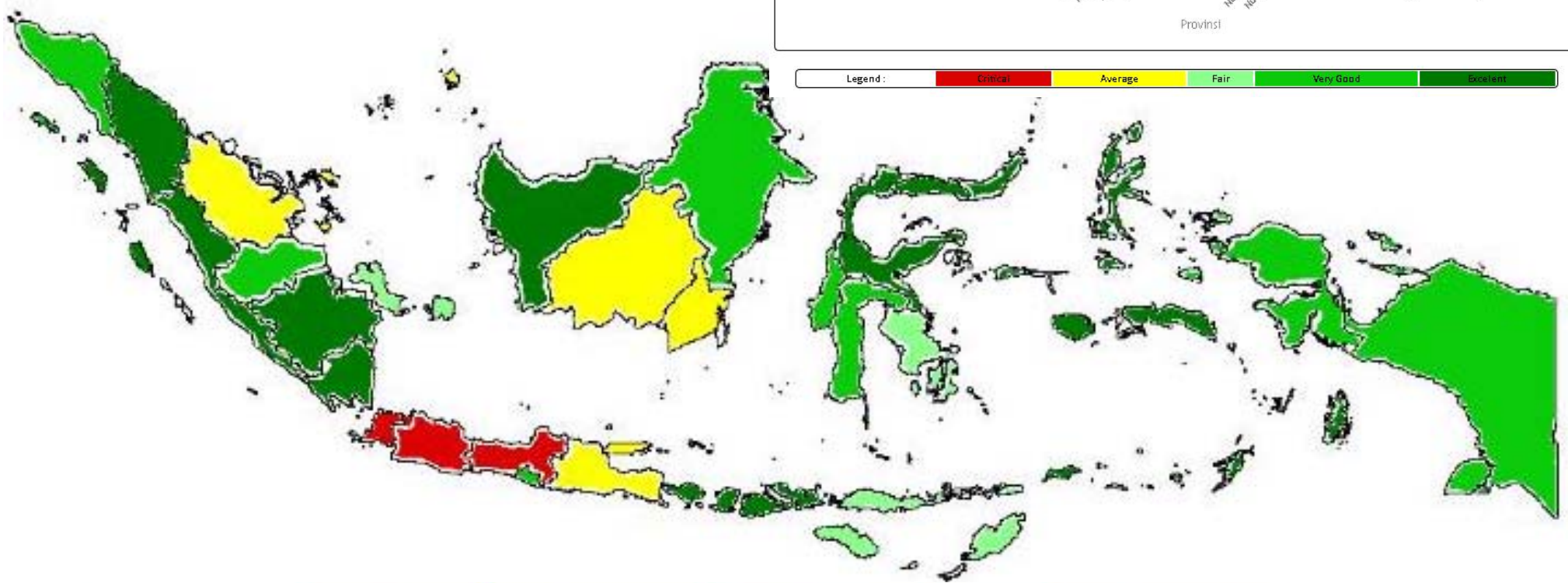
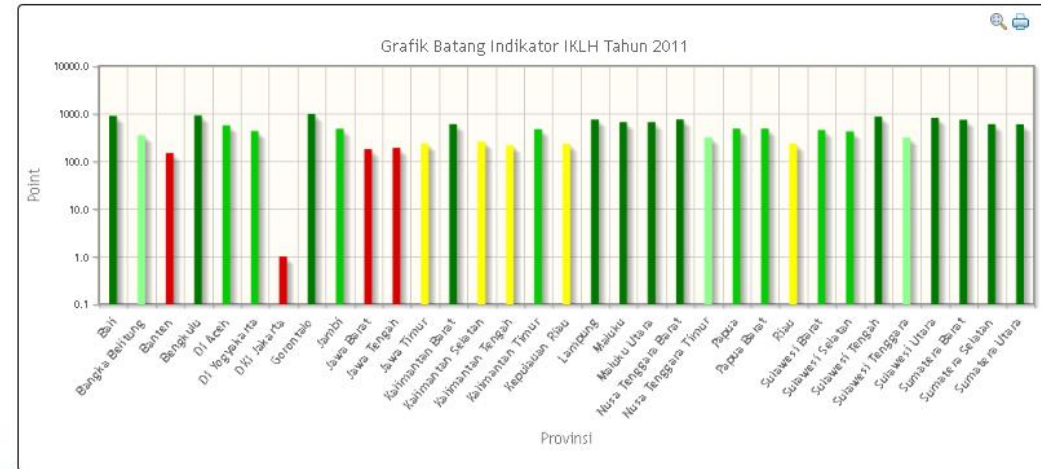
Toward Eco-Industrial Park Implementation In Indonesia and its challenges

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Indonesia Environment Quality Index Distribution per province ^{*)}



Legend: Critical (Red), Average (Yellow), Fair (Light Green), Very Good (Medium Green), Excellent (Dark Green)

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*) Average index of 2009 - 2011

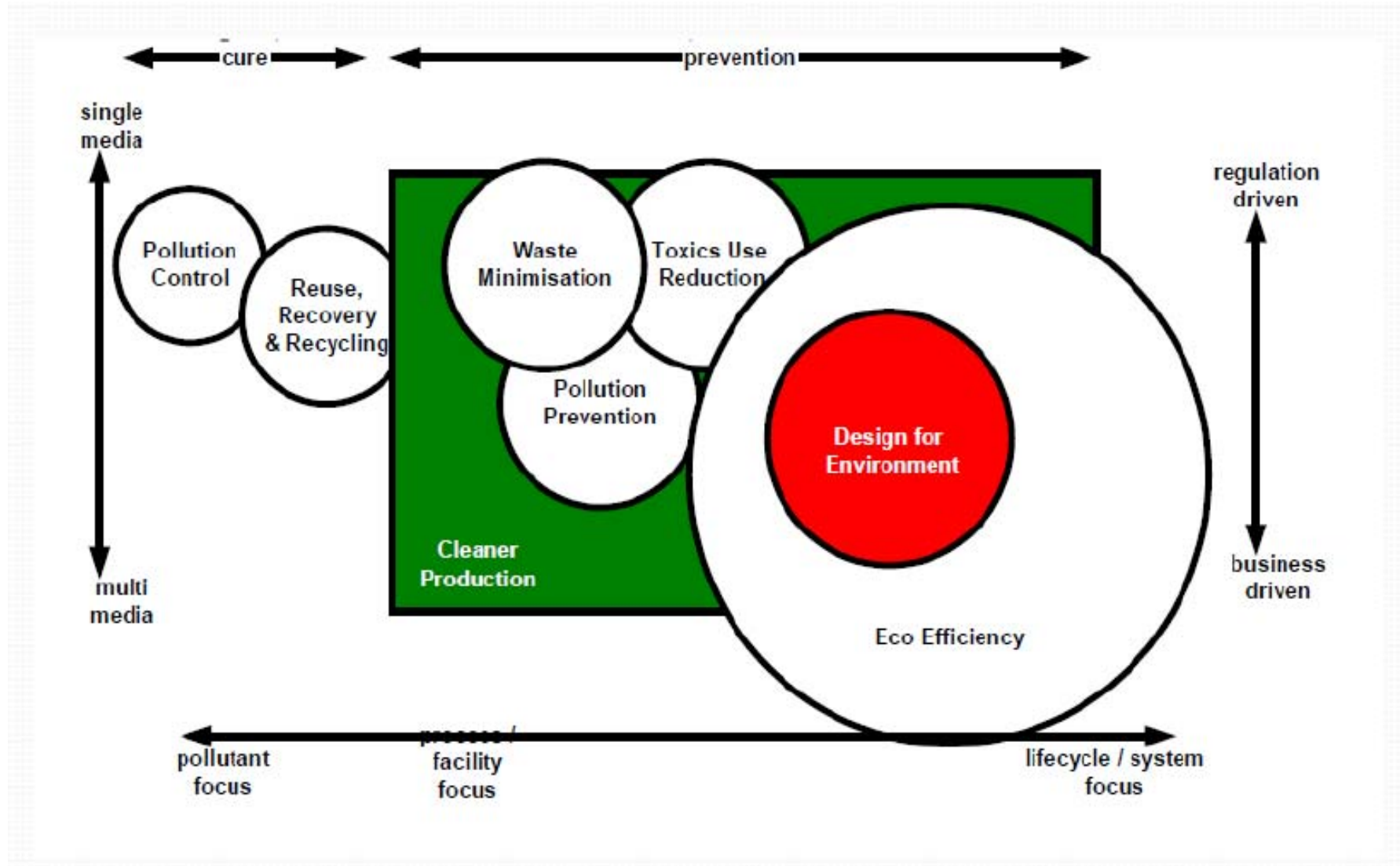


Background

- Industrial growth in Indonesia at 3-5% annually
- Many polluted Industries
- Level of environmental compliance still low
- In efficient used of resources
- Government Regulation No. 24/2009 regarding Industrial Park : industries have obligation to be located in industrial park.



Environmental Management instruments





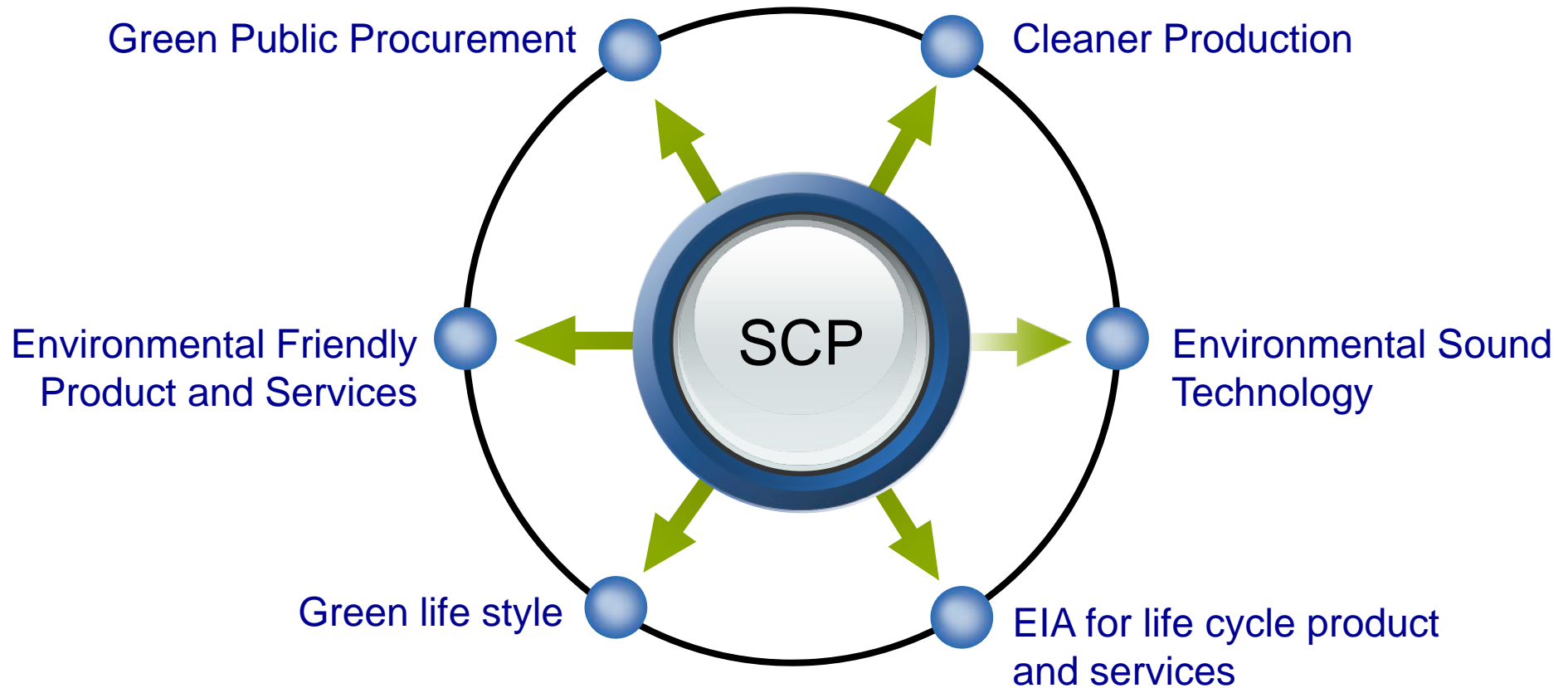
Policy and Instruments

Instruments to support Eco Industrial Park :

- Implementation of 10Y SCP Indonesia
- Resource Efficient and Cleaner Production (RECP) Program – UNIDO → Technical Assistance
- PAKLIM – GIZ Project : Eco Industrial Park → capacity building
- Program for Pollution Control Evaluation and Rating → level of compliance

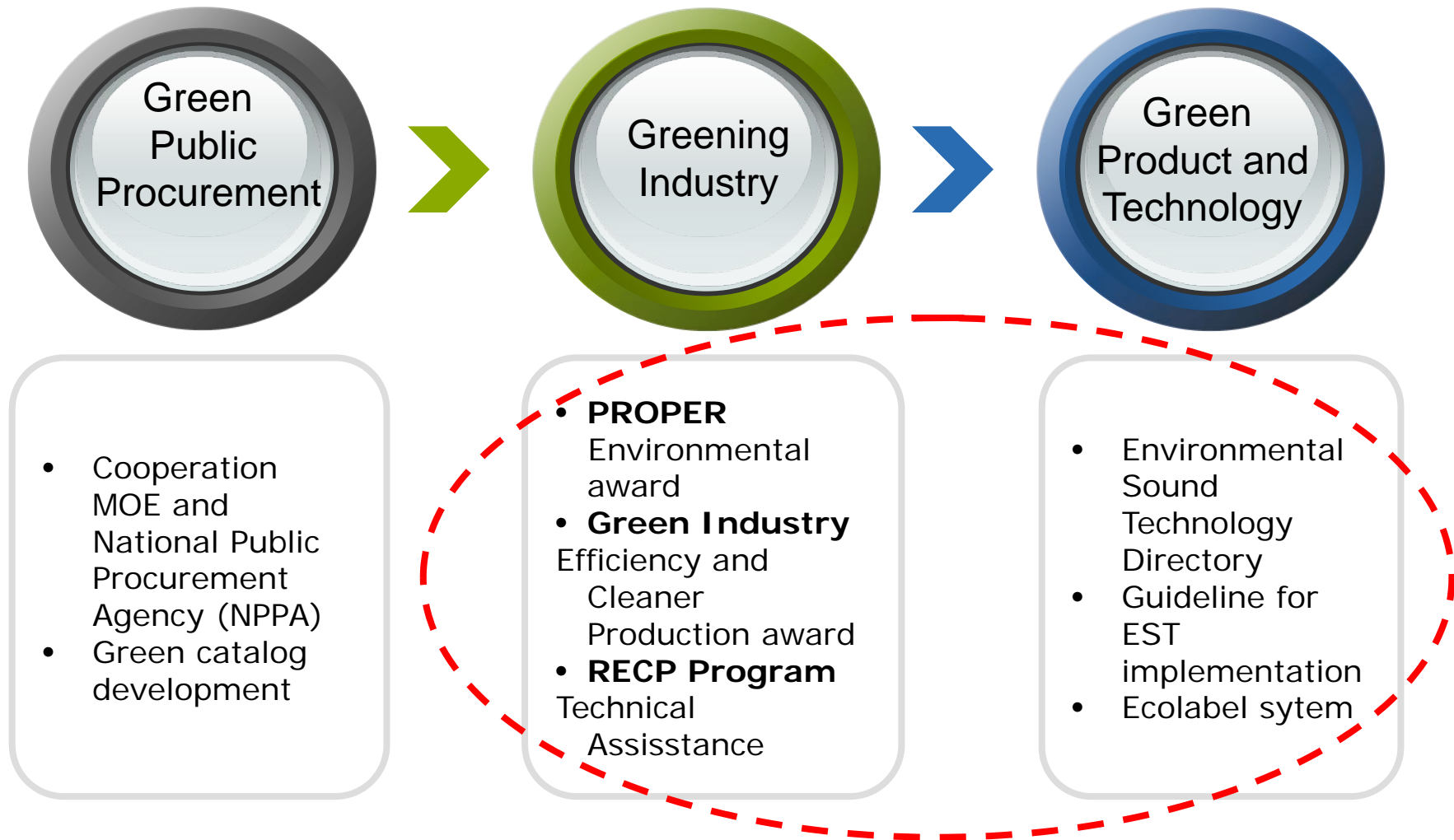


SCP Tools and Policy





SCP Implementation in Indonesia



Resource Efficient and Cleaner Production Program

- Supported by UNIDO
- Technical assistance to industries in order to improve industries performance in :
 - energy efficiency : how to use energy efficiently,
 - identify control parameters to optimize energy use
 - To suggest applicable improvement for achieving optimum performance at low cost, intermediate, high cost
 - Water conservation
- Targeted industries :
 - Small and Medium Industries
 - Industrial Park

Policy Advice for Environment and Climate Change (PAKLIM)

- Supported by GIZ Germany
- One of objectives :
 - Development of Eco Industrial Estate criteria
 - Capacity building to industries and government staffs



Program for Compliance Improvement

PROPER :

Alternative Environmental compliance instrument developed by Environmental Impact Agency in 1995 which has **synergy with other compliance instruments** to improve a level of environmental compliance of industries through public disclosure mechanism.





Aspect of Rating Evaluation

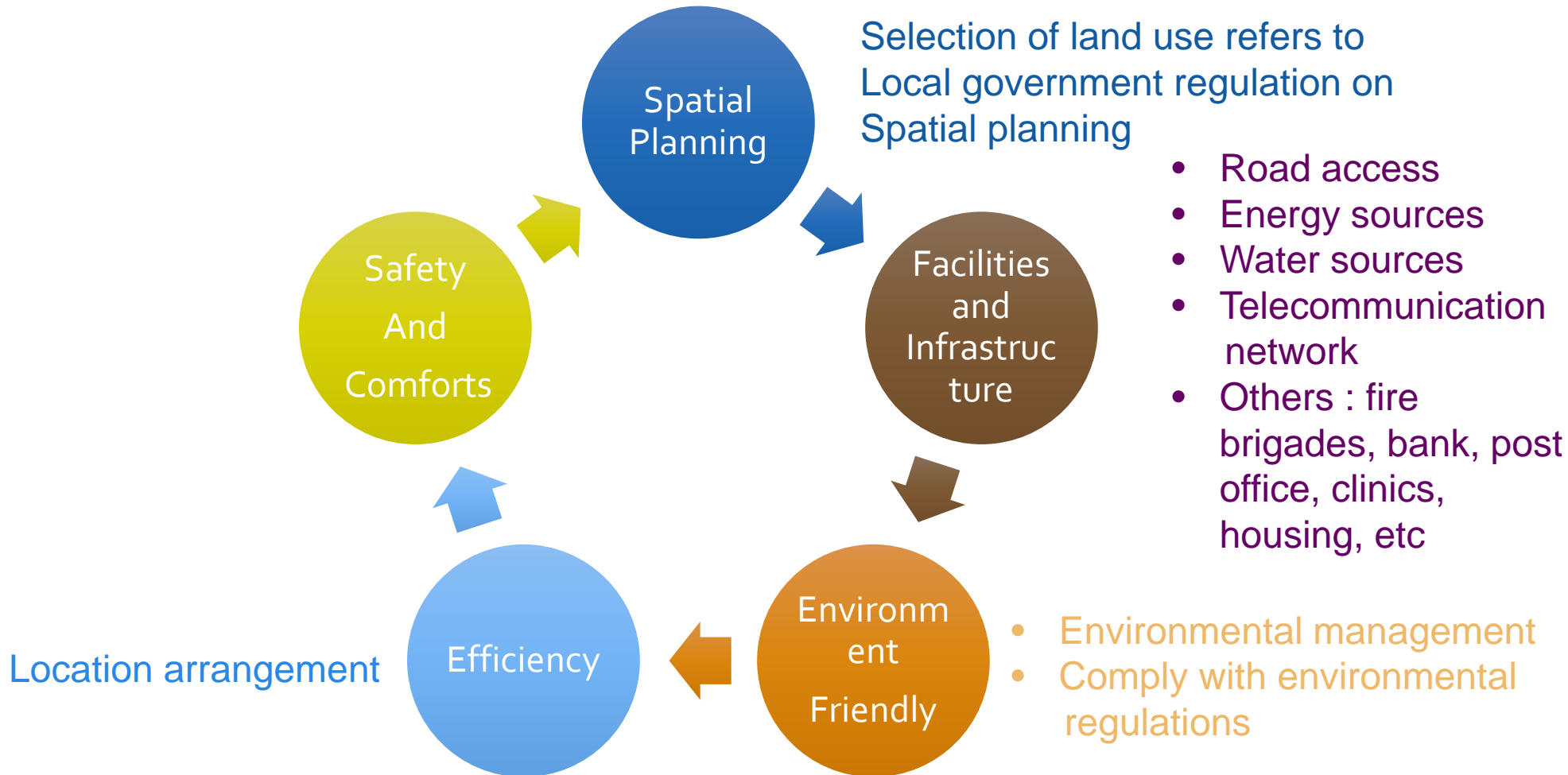
Level of compliance	Colour Rating	Performance Criteria		Type
		Area	Metode	
Beyond Compliance	Gold	Environmental Management System	Effort Oriented	Voluntary
	Green	Energy Efficiency, Water Conservation, GHG Reduction, Biodiversity		
		CSR: Community Development		
Compliance	Blue	Ocean Pollution Control	Result Oriented	Obligation
Out of compliance	Red	Water Pollution Control		
		Air Pollution Control		
	Black	Hazardous Waste Management		
		Implementation of EIA		

Policy on Industrial Park

Government Regulation No. 24 Year 2009 regarding Industrial Park

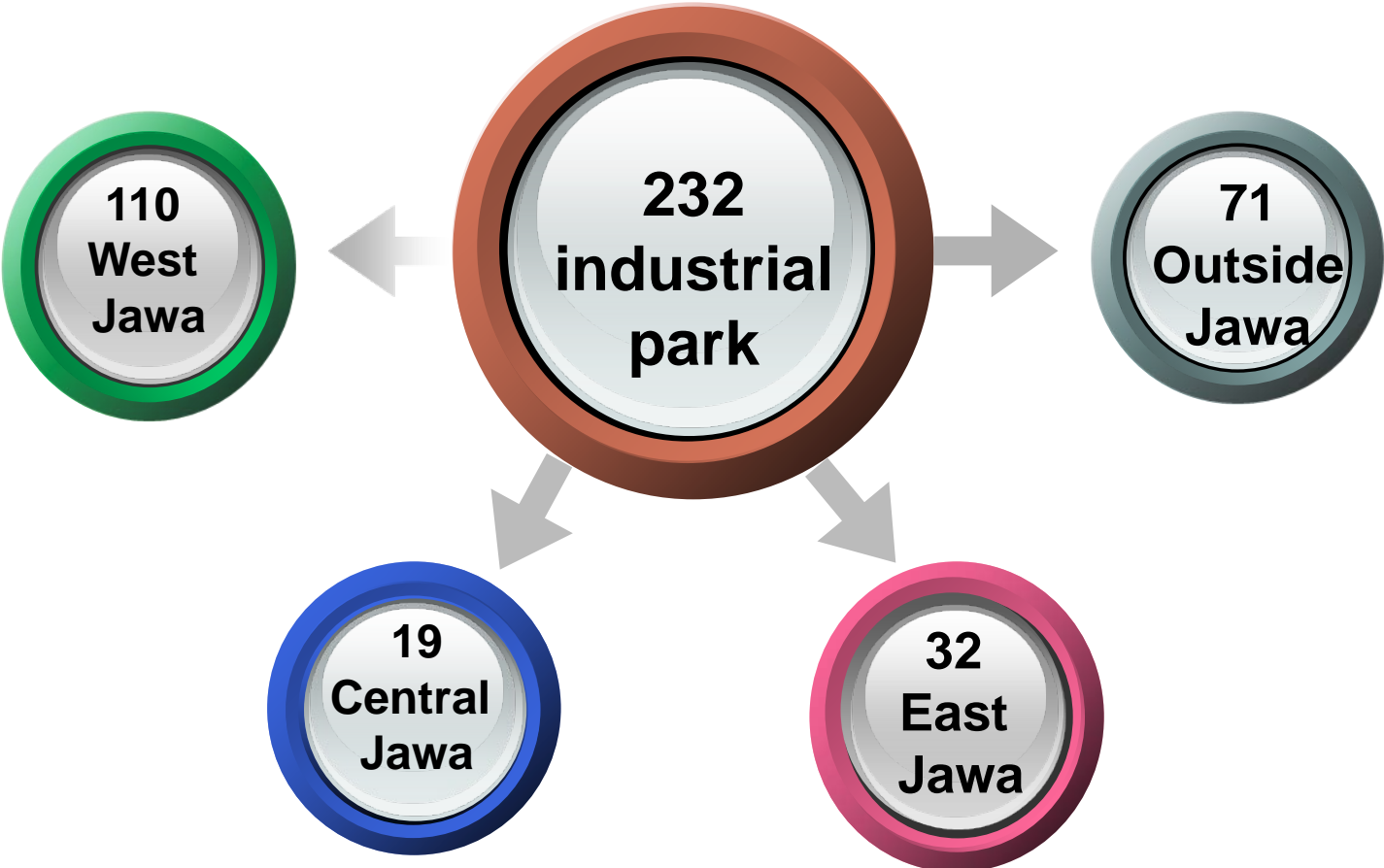
- Definition :
 - Centralized industrial activities area with its facilities and infrastructure developed by permitted industrial park company.
- Every new investment industries has to be located in industrial park except certain of industries and small scale industries.

Principles of Industrial Park



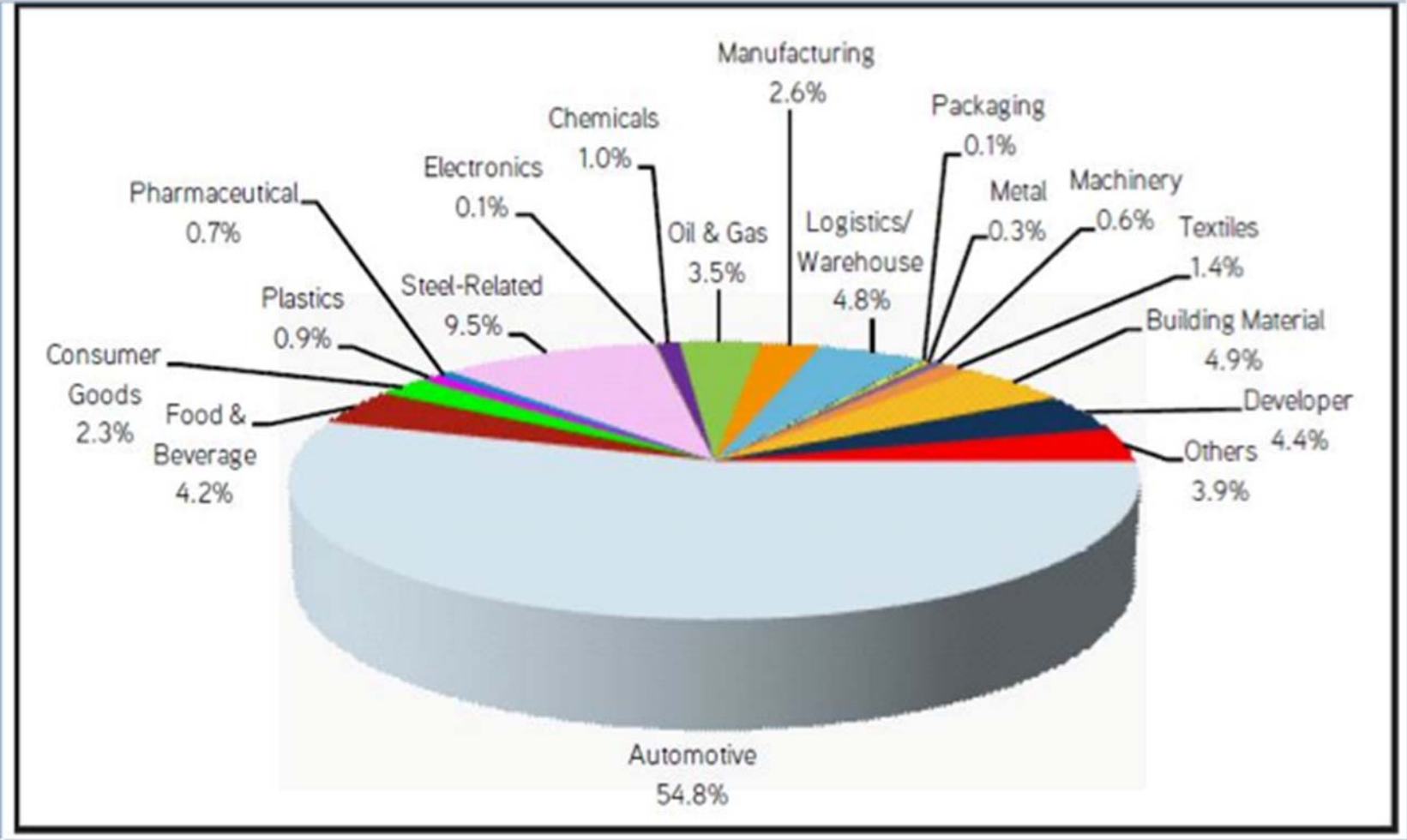
Source : *Technical Guidance of Industrial Park*

Distribution of Industrial Park in Indonesia



Source: Industrial Estate Association, 2012

Industrial Park in Bekasi (West Jawa) is dominated by automotive sectors in 2012



Source : Collier International Indonesia, 2012



Plan for Eco Industrial Park in Indonesia

- RECP – MOE Indonesia – UNIDO
 - Technical assistance towards eco industrial park
 - Energy efficiency
 - Water conservation
 - Waste exchange
 - Etc
- PAKLIM – GIZ Project - MOI
 - Capacity building for eco industrial park
- MOE and MOI Indonesia join project : Pilot project to build Eco Industrial Park

Proposed Pilot Project for Eco-Industrial Park in Makassar, South Sulawesi

- **Name** : **PT. Kawasan Industri Makassar**
(Makassar Industrial Park)
- **Location** : Makassar, South Sulawesi
- **Number of Tenants**: 260 (20 multinational companies : Japan, Taiwan, Korea, Australia, US, Singapore)
- **Type of industries** : Cold storage, chocolate production, food industries, furniture, plywood.
- **Facilities** :
 - Centralized Waste Water Treatment Plant
 - Electricity → PLN (National Electricity Company)
 - Water → Regional Water Company (PDAM)

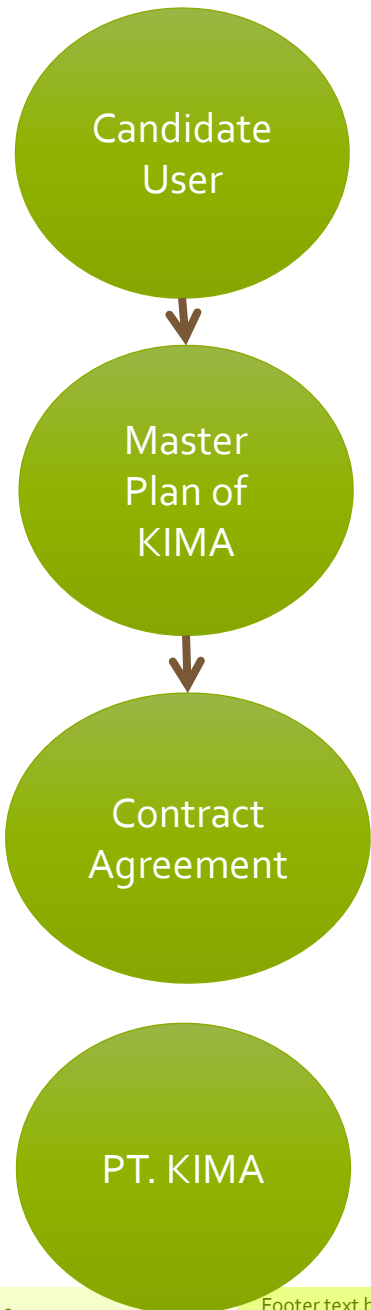
Land use for PT. KIMA

No.	Type of used	STANDAR NSMP *	EXISTING Land	Remark
1	Industrial kavling	70 %	77,39 % L= 250 Ha	Unused 10.96 Ha
2	Drainage	8-12 %	9,3 % L= 29,9 Ha	
3	Buffer zone	10 %	6,19 % L= 19 Ha	Reforestation, Boulevard, Parks
4	Supporting facilities	6-12 %	5.4 % L= 17.41 Ha	

Existing implementation for EIP

1. Energy conservation :
Minimize energy used for building operation
2. Climate consideration :
Climate should be considered in designing a building
3. Energy sources minimization :
Efficient used of natural resources should be considered in designing a building
4. Buffer zones
 - to improve air ambient quality
 - water conservation
 - esthetique

Industrial Development Permitting and Evaluation of Environmental Impact Mechanism in Industrial Park



ECO DEVELOPMENT INDUSTRY



- Development Program
- Factory design
 - Document
 - Environmental permit

- Construction monitoring
- Industrial Park SOP adoption

- Monitoring environmental impact (wastewater, air emission, solid waste)
- Customer complain
- CSR
- Reporting



Green Production Implementation

Existing

- Usage of recycled waste by other industries (waste usage). Example : fish bones, shell crab, quill is used for raw material for animal feed industries
- Fuel substitution with organic waste such as palm oil shell, waste chips

Plan for implementation

- Develop power plant with renewable energy as fuel such as rice husk using.
- Energy efficiency potential : gasification of solid waste by converting the solid waste into gaseous fuel.



Supports and Challenges

Supports

- Governor of South Sulawesi support to develop Eco Industrial Park in Makassar.
- Top level management of PT.KIMA commitment on Eco Industrial Park.
- International Cooperation Projects : UNIDO, GIZ, NIES Japan (brand new project).

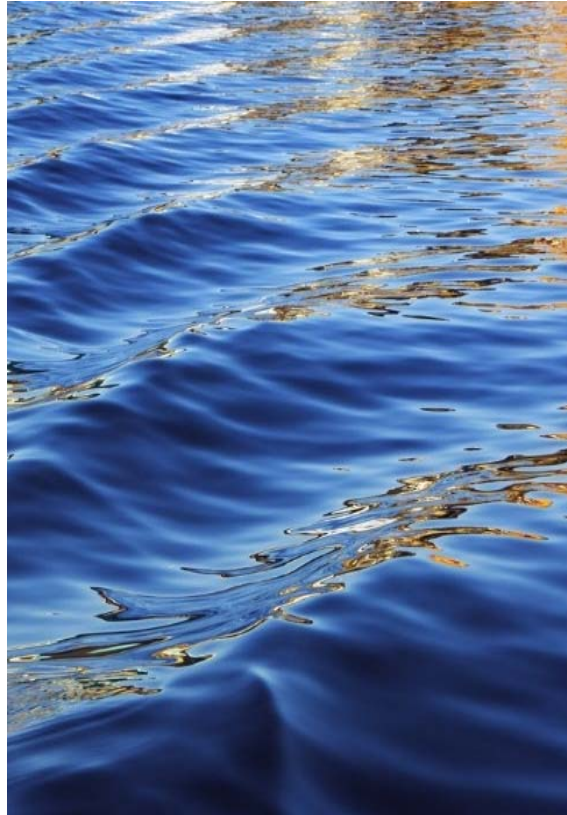

Challenges

- Incentives for industries in implementing resource efficient and cleaner production.
- How to contribute to the commitment of reducing CO₂ emission by 26% in 2020.
- Information system is needed as a source of any information regarding environment impact.
- Less financial incentive program

Conclusions

- Integrated approach and collaboration between international projects will lead to the success of EIP pilot project.

- Impact of success EIP pilot project :
 - Promote new policy on EIP
 - Pilot project will be followed by other industrial parks in Indonesia



Thank You
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