Institutional suitability and arrangements for a circular economy in Industry Parks; the case of Ethiopian Industrial Parks Development Corporation (IPDC)

the pioneering Sustainable Industrial Area

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Overview of Ethiopian Industrial Parks Development (IPDC)

The Ethiopian Industrial Parks Development Corporation (IPDC) was established in 2014,

IPDC was established to achieve the following purposes:

• To develop and manage industrial parks,

• To prepare detail national industrial parks master plan

• To serve as industrial park land bank

• **Availing necessary infrastructure** accessible to industrial park investors

• Operating and Maintaining Industry parks
IPDC has communicated its Vision, Mission and Core Values as follows:

**VISION**
- To be an innovative and leading eco-industrial parks developer and operator in Africa by 2025

**MISSION:**
- highest standards of professionalism;
- drive industrialization,
- promote exports,
- create employment opportunities

**CORE VALUES:**
- Highest level of integrity and professionalism
- Learning organization
- Concern to the environment
- Effective and efficiency
- Customer satisfaction
Industrial Parks Development Corporation (IPDC) Overview

• 11 Industrial Parks are under construction (HIP, BLIP1, BLIP2, KIP, MIP, KIP, DDIP, JIP, DBIP, BDIP and AIP)

• Textile sector is priority industry in the country (others will be added next)

• 30 industrial parks are planned to be constructed with in next 10 years

• 2 million workers will be employed with in next 10 year

• Foreign Direct Investment will be improved

• Eco-Industry Parks principles are adopted
Legal and institutional frameworks

IPDC shall comply national and international legislations (Proc. 886/2015) including:

- Environmental Impact Assessment (Proc. 299/2002) and (Reg. 417/2009)
- Solid Waste Management (Proc. 513/2007)
- Environmental Pollution Control (Proc. 300/2202)
- Prevention of Industrial Pollution (Regu. 159/2008)
- Hazardous Waste Management and disposal (Proc. 1090/2018)
- Electrical and Electronics Waste Management and Disposal (Proc. 425/2018)
- Registration and Administration of Industrial chemicals (Proc. 1075/2018)
- Provisional Standards for Industrial Pollution control and others

Institutional frameworks

- Has established environment protection and social safeguard directorate at HQ.
- Has wastewater treatment units at each IPs
- Has drinking water supply team at each Ips
- Has ESM unit at IP level
- Committed to build Eco-Industry Park
Our target towards circular economy compliances

Commitment and Awareness

Indicators

Planning

Behavior Change

Implementation

Goals

Management Approach

Developing Requirements

Compliance and Enforcement

- Environmental Quality
- Sustainable Development
- Reduce Risk
- Prevent Pollution
- Clean Up Contamination

Voluntary

Market Based/ Voluntary

Mandatory

- Constitution
- Laws & Legislation
- Regulations
- Permits
- Licenses
- Guidance and Policy

Compliance Promotion

Compliance Monitoring

Enforcing the Requirements

Building Effective Programs

Program Evaluation
Main Circular economy requirements at Industry Parks requirements

- Technology standard (innovative technology)
- Performance standard (risk reduction)
- Economic requirement (feasible?)
Why IPDC enforce Environmental circular economy legal frameworks?

▪ Achieve Environmental Goals and create a GREEN economy

▪ Level the Playing Field

▪ Create Integrity in the Law

▪ Create Public Respect for the Government and IPDC

▪ Ensure laws achieve objectives
Benefits of circular economy for IPDC

• Socially acceptable
• Environmentally safe
• Resource efficient
• Tradable permits
• Cost Avoided
  • Costs for operating equipment, maintenance, etc. that will never have to be spent
• Cost Postponed
  • Return on investment of capital costs for equipment or systems that will eventually still have to be installed or purchased
  • Recognition of the time value of money
Man Power - IPDC Parks’ Development Division Manpower Structure

- CEO
- DCEO Parks Development
  - Director - Master Plan and Land Bank
  - Director - Design, contract administration and project management
  - Director - Infrastructure
  - Director - Energy Supply
- DCEO Corporate Governance
- DCEO Parks Operation
  - Director - Environment and social safeguard
  - Engineers (project coordinators)
Key Components of circular Economy in IPDC and our performance

Environment & Social Safeguarding

- Environmental management systems Establishment
- Wastewater Treatment And reuse
- Safe drinking Water in the catchment
- Air and noise quality monitoring
- Ecosystem Services Improvements (Green belt)
- Solid waste management
- Hazardous material management
- Energy Management
- Social safeguards

Cross-cutting issues
- Procedures, manuals & guidelines
- Institutional Capacity Building
- Cross institutional coordination
- Documentation
Major innovative Circular economy performances in IPDC

1. Solid Waste Management
   • No solid waste send to land fill (textile scraps, plastics, food wastes, paper and cartoons)- we create jobs for SMEs
   • Linkage for recyclers is created
   • E-waste and empty chemical containers are still the challenge
   • Sludge from the wastewater treatment is also a biggest challenge

2. Ecosystem services improvement in the Park
   • Minimum 20% land area is green
   • Composting organic waste to link to landscaping project is the gap
   • Establishing nursery need partnership
3. Wastewater treatment and reuse

- Zero Liquid and Advanced wastewater treatment plant were installed
- 20,000,000 cubic meter wastewater is treated per year
- 14,000,000 cubic treated wastewater is reused (production, greenery, irrigation)
- Alliance for Water Stewardship certification is started
- Cost recovery is a bigger challenge
- National laws need to be revised for subsidies of environmental projects
KLIP ZLD–WWT process flow diagram

Indicators:
- Normal water
- Treated water and backwash water
- Process flow
- Sludge process
- Filtrate

ETP receiving chamber

Raw influent

Wet well

Coarse bar screen

Stilling chamber

Grit chamber

Equalization

Flash mixer

Primary clarifier

Aeration

Secondary clarifier

Tertiary tank/polishing unit

Clearwater tank

DMFs

Hypochlorite

RO 1, 2 & 3

Salt

Treated water tank to reuse for production

Indicators:
- Normal water
- Treated water and backwash water
- Process flow
- Sludge process
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Let us maximize our Partnership on industrial Area sustainability

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