



INDUSTRIAL EFFICIENCY IN SOUTH AFRICA

# Eco-Industrial Parks as route to a Circular Economy

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# The Bigger picture

1. Limited and dwindling resources
2. Biodiversity loss
3. GHG Emissions
4. Planet Earth, that also means us (humanity), is in crisis
5. Consumer-driven approach no longer viable
6. Concepts of the current economic system and of growth no longer work
7. Trade and economic pressures
8. Changing geo-political and social landscape
9. Changing concept of Value



**Cannot continue to do  
the same thing and  
expect a different result**

# The Circular Economy

## 1. Definition:

- “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” - UN Brundtland Commission, 1987;
- “The circular economy is a systems solution framework that tackles global challenges like climate change, biodiversity loss, waste, and pollution.” - Ellen MacArthur Foundation;



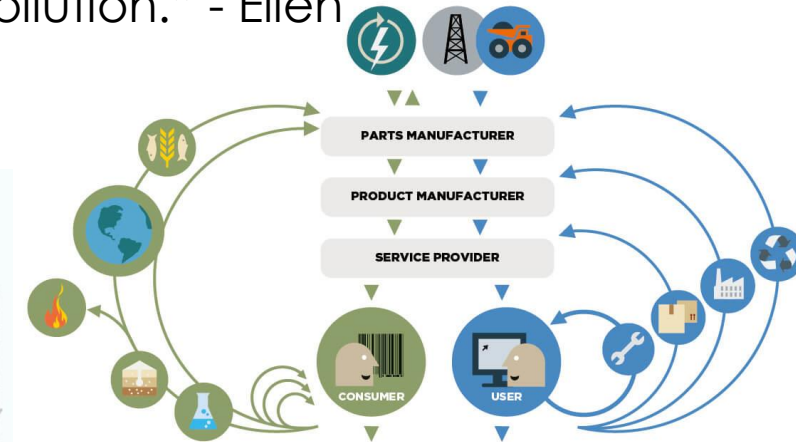
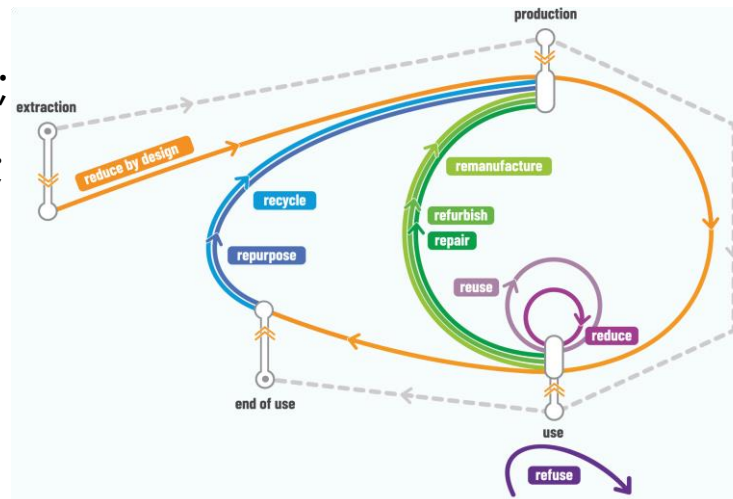
## 2. Three Main principles:

1. Eliminate waste and pollution;
2. Circulate products/ materials;
3. Regenerate nature;

## 3. Systems change

## 4. New definition of Value

## 5. Slow progress, lots of talk, but industry needs specifics



# Why EIPs as a route to a Circular Economy?

1. Bringing **Sustainability** to industry
2. Continuous improvement
3. Collaboration
4. Inclusive
5. Neutral/ a-political
6. Systems approach
7. Practical
8. International Framework based on years of work and lessons learnt



In short, the EIP concept is about creating more resource-efficient and cost-effective industrial parks which are more competitive, attractive for investment and risk resilient. It facilitates a transition to sustainability and the CE.



# The EIP response



1. **Systems approach** (industry, government, civil society, communities, labour, academia, R&D) >> smart cities, regional development
2. Win-Win with economic, environmental and social benefit
3. Multi-dimensional, multi-disciplinary (complexity)
4. South African approach:
  - Green Economy is one of 7 priority sectors;
  - Growth areas (Innovation, Industrialization, Inclusion, Investment and Infrastructure);
  - SEZs and IPs are targeted spatial interventions (Estimated 400 IPs and 15 SEZs);
  - Industrial spaces - catalysts for socio-economic growth, contribute to LED and resilience
5. Three Main Areas: Water, Energy, Waste/ Materials
6. Technical and policy-related interventions

Partnership and  
Collaboration

Coordination  
and facilitation

Integration

Gearing/ Impact

EIP  
Roundtable













# The actual impact of EIPs

1. 1991 - UNEP developed Cleaner Production definition
2. 2009 - UNIDO / UNEP jointly launch RECP
3. Global impact (currently 7 countries in the UNIDO GEIPP)
4. Economic/ financial impact (cost-savings, better profitability)
5. Measurable EIP Indicators (savings, efficiency improvement, etc.)
6. Policy impact
7. Spin-off projects
- 8. Partnerships and collaboration**
9. Improved working conditions (cleaner, healthier, more efficient >> productivity, competitiveness)
10. Reduced risk (economic, social, environmental)

Source: UNIDO (2019). Eco-industrial parks. Achievements and key insights from the Global RECP Programme 2012 – 2018. [https://www.unido.org/sites/default/files/files/2019-02/UNIDO\\_EIP\\_Achievements\\_Publication\\_Final.pdf](https://www.unido.org/sites/default/files/files/2019-02/UNIDO_EIP_Achievements_Publication_Final.pdf).

Training & Skills development  
2010-2022

Trained  
> 7000

PILOT COUNTRIES	7	
PARTICIPATING PARKS	18	
PARTICIPATING COMPANIES	180	
PROFESSIONALS TRAINED	841	
<b>NUMBER OF ...</b>		
IDENTIFIED RECP AND INDUSTRIAL SYNERGY OPPORTUNITIES (NO.)	1,685	
IMPLEMENTED RECP AND INDUSTRIAL SYNERGY OPPORTUNITIES (NO.)	991	
<b>ACHIEVED ...</b>		
SOLID WASTE REDUCTIONS (t/YR)	20,939	
GREENHOUSE GAS REDUCTIONS (T CO <sub>2</sub> EQ/YR)	59,800	
WATER SAVINGS (M <sup>3</sup> /YR)	1,962,218	
FINANCIAL SAVINGS (EURO/YR)	6,746,642	

IEE programme  
2011-2022

Energy saved  
**6.5 TWh**

CO<sub>2</sub>e mitigated  
**6.4 mil tonnes**

Financial savings  
**R 5.3 billion**

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