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SUSTAINABLE DEVELOPMENT GOAL 9
INDUSTRY, INNOVATION AND INFRASTRUCTURE

UNIDO E-waste Program and the Circular Economy



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CIRCULAR ECONOMY:

DEVELOPMENT OF RECYCLING INDUSTRIES

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Agenda

1. E-waste management and the Circular Economy
2. UNIDO approach to E-waste management
3. An example: the UNIDO-GEF LAC E-waste project



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E-waste management and the Circular Economy



E-waste: facts, challenges and opportunities

- **E-waste streams grow fast:** 44.7 M t. (2017, UNU-ITU-ISWA). Expected grow 45% between 1995-2020.
- **“2nd-hand” equipment (mostly e-waste) exported to developing countries** where it cannot be properly managed or disposed of
- **WEEE has hazardous substances:** POPs, Ba, Cd, Pb, Hg, Cr, Pd, etc. CRTs, flat screens, batteries, fridges and compact fluorescent lamps pose esp. challenges. Skilled operators are required.
- **“Urban mining” / “waste refining” are needed:** by 2030 developing countries would discard 400-700 M obsolete PCs/year and developed countries 200-300 M:
- **Scarce materials used in producing electronics:** about 10% of gold worldwide and other (Pt, Pd, Ag...). There is 40-800 times more gold in 1 ton of Printed Wiring Boards (PWB) than in 1 ton of ore



Main barriers to proper E-Waste Management

- Lack of regulations and current regulatory loopholes that cause uncertainty and permit illegal operations
- Limited management and recycling options which may be very costly and subject to commodity price fluctuations
- Wide variety of stakeholders, views and differing perspectives that create political and policy challenges
- Challenging trans-boundary movement of e-waste as hazardous wastes

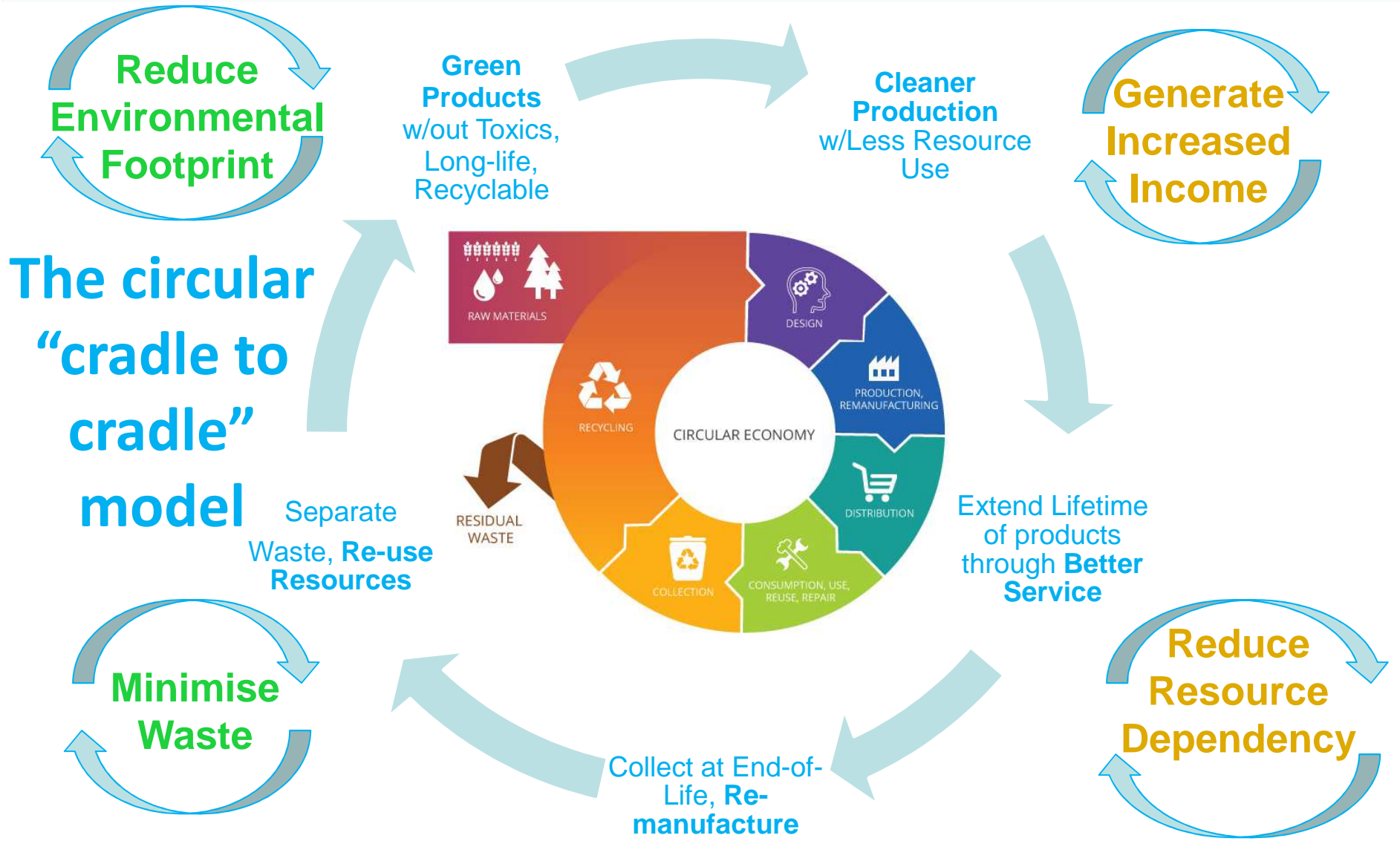


Sources: Khaliq et al. (2014); Global E-waste Management Market (2011-2016)



Rationale for the CE approach

1. Circular Economy seeks optimal management of EoL e-products by promoting reuse, refurbishment and recycling to reduce the rate of resource consumption.
2. The search for smarter e-product design and business models also contribute to reduce e-waste and further promote the virtuous material and economic cycles.





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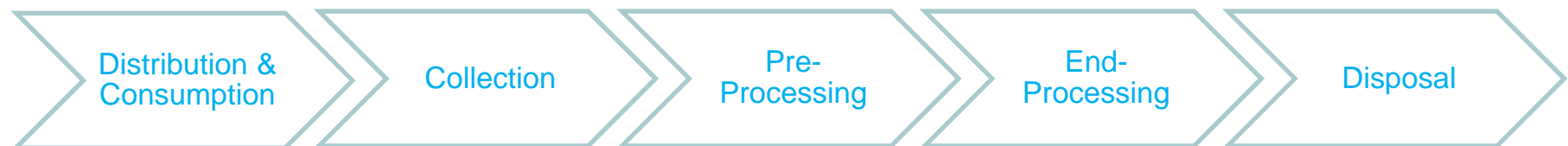
The UNIDO approach to E-waste management



UNIDO Approach to E-waste management

UNIDO and its partners help build and consolidate local capacities

- *By promoting **sustainable e-waste recycling industries that recover efficiently and safely valuable resources***
- *Generating **quality jobs, and care for the environment and health.***



- Green recycling industries are key for implementing a circular economy
- Partnerships for action and technology transfer help countries develop e-waste management systems and strategies based on the whole recycling value chains and life-cycle analyses
- UNIDO enhances N-S, S-S and triangular cooperation and knowledge sharing



UNIDO E-waste project portfolio

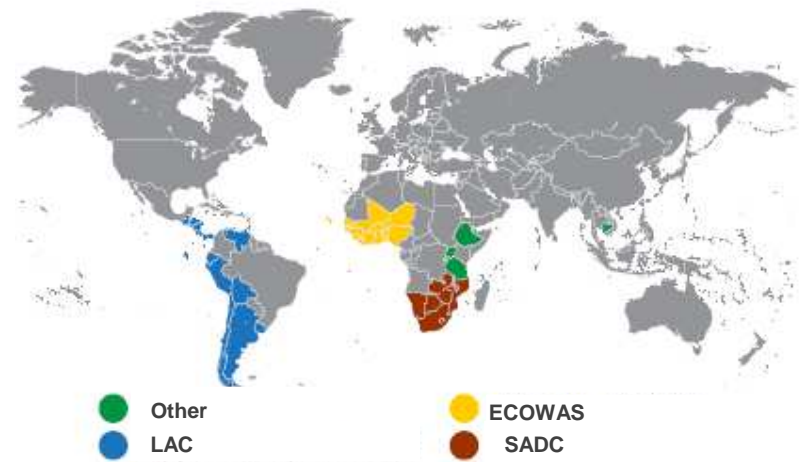
Finished / On implementation:

- Uganda, Tanzania and Etiopia
- Cambodia
- The Philippines
- Regional WEEE Project for Latin America

Pipeline:

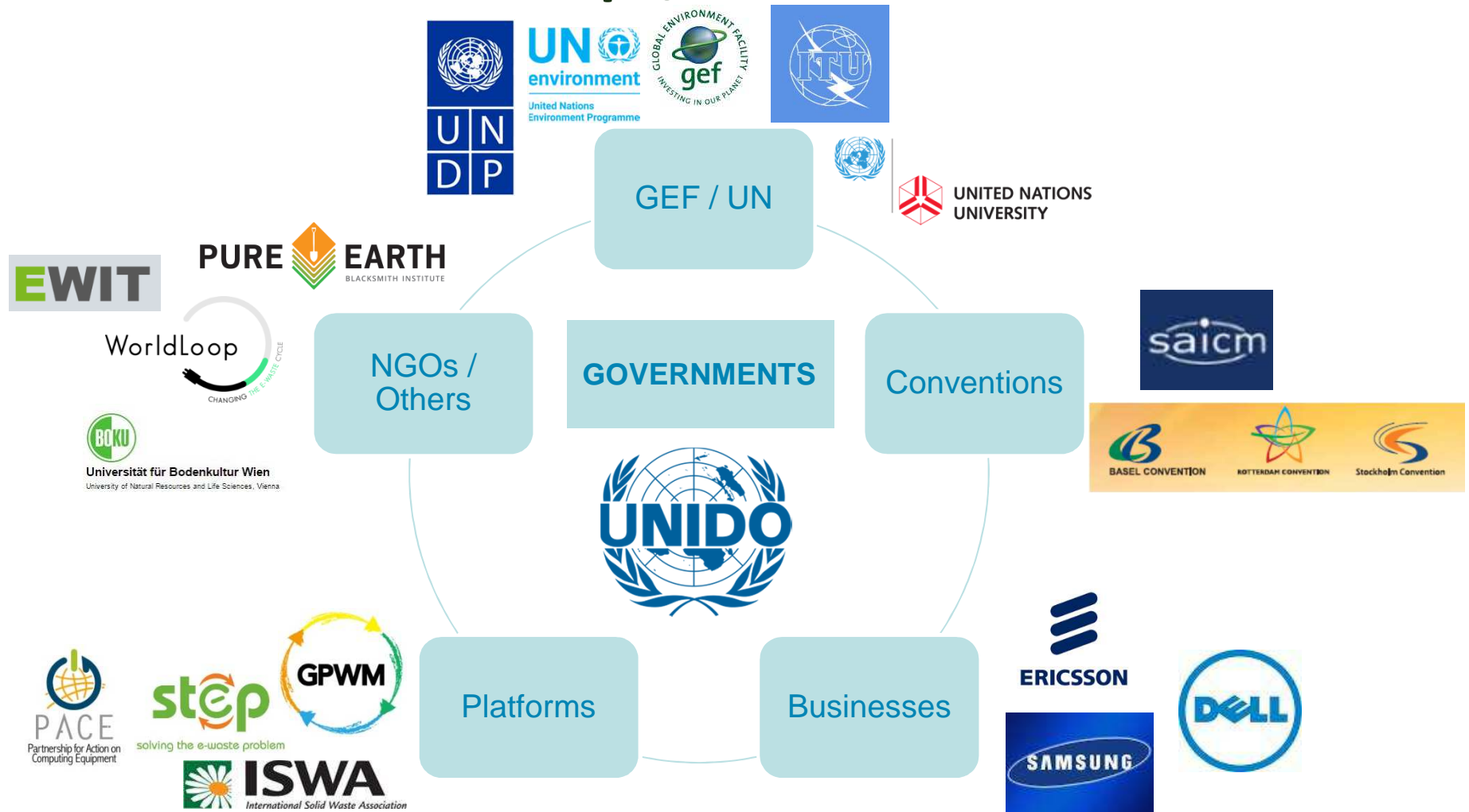
- Regional WEEE Project for ECOWAS**
- Regional WEEE Project for SADC**

**= Technically approved by the GEF





UNIDO Partnerships/ Networks for Success





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Example: the UNIDO-GEF LAC E-waste project



13 participating countries





Project Basic Information

Overall Objective

To **strengthen national initiatives** and **enhance regional cooperation** for the environmentally sound management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries

- GEF-funded (9.5 million USD) plus 71.4 million USD cofinancing
- PIF approved February 2014; PPG Phase started June 2014
- GEF CEO Endorsement on March 2017
- Project officially launched on March 2018
- Next meeting in Costa Rica on March 2019



Main project components

Components	GEF grant, USD	Co-financing, USD
Strengthening of national e-waste management initiatives	3,600,000	13,320,000
Strengthening of national capacities on e-waste dismantling and recycling facilities/infrastructure	3,900,000	43,340,000
Enhancement of Regional Cooperation on e-waste management	1,350,000	10,275,000
Project Monitoring and Evaluation	200,000	772,400
Project Management Costs	450,000	3,703,912
TOTAL	9,500,000	71,411,312



Key project elements

1. Detailed inventories of existing WEEE volumes and ongoing initiatives
2. Policy & legislation development / enhancement, including funding mechanisms
3. Capacity building, training and awareness-raising
4. Improved e-waste strategies, collection and processing schemes
5. Up-scale of national e-waste dismantling / pre-processing facilities, and set-up of sustainable business models
6. Connection to downstream markets on national, regional and international levels in accordance with international conventions, e.g. Basel Convention
7. Partnerships for success (13 countries, 15+ ex. partners, 40+ cof. Partners)





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Thank you!

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