



Phase 1 - Concepts, facts & figures

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Presentation

This is a presentation made by Antonis Mavropoulos during ISWA's event in IFAT, May 2012. It concerns the first outputs of the ISWA project "Globalization and waste management". The presentation is also available in mobile application format.

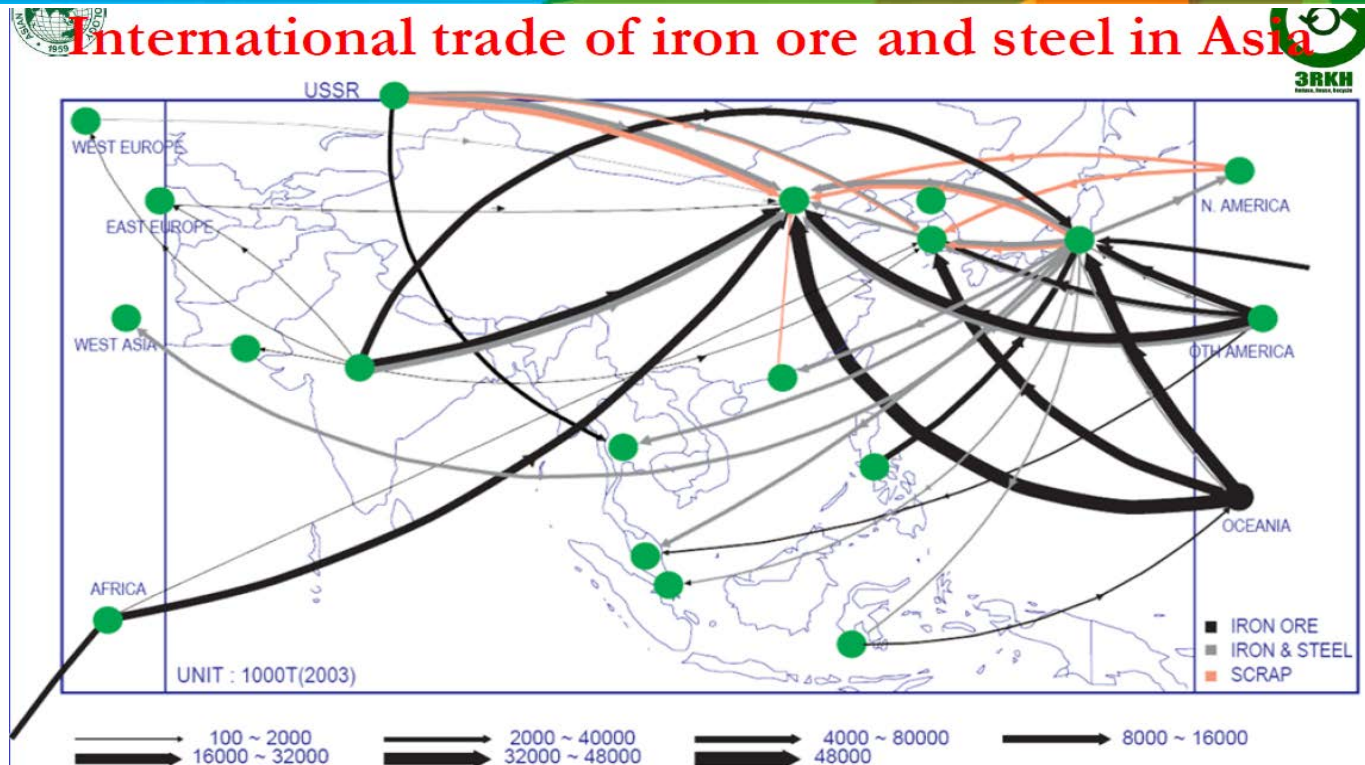
ISWA's Task Force on Globalization & Waste Management

- Decision taken from September 2010
- Four focus areas: megacities, informal sector, global recycling markets & international aid tools
- Members: Antonis Mavropoulos, David Wilson, Jeff Cooper, Bjorn Appelqvist, Costas Velis, & partnerships
- 1st phase completed in June 2012 – first report in Florence
- Outputs up to now

Contents

- Understanding Globalization
- Global Facts & Figures for Waste Management
- Globalization Footprint to Waste Management
- Conclusions

Understanding Globalization?




Complex material flow with a number of countries involved !!!

Source: Toward Resource-Efficient Economies in Asia and the Pacific, ADB-IGES, 2007

SWM is linked with
resource management



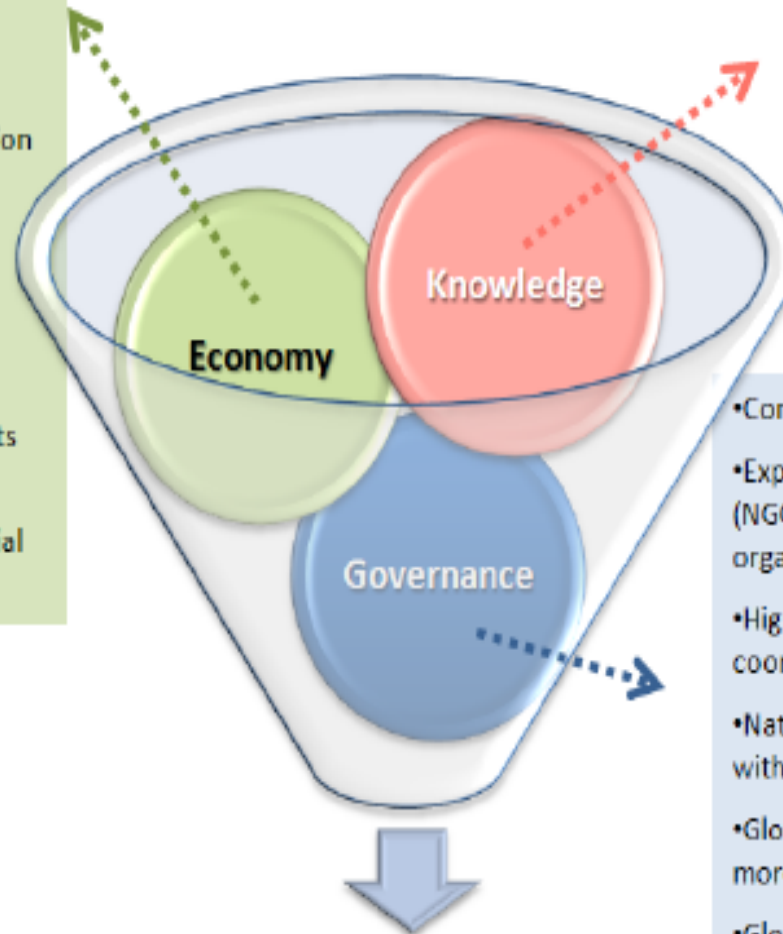
SWM is part of the global
network of material and
recyclable flows

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- There are certain waste problems that can't be resolved locally e.g. e-waste management, waste trafficking
 - Climate Change & Waste Management linkages provide a global canvas to understand the global impacts of local waste management
 - Urbanization, as a major global trend, is directly linked with the globalization process – megacities are the nodes of the globalization network

Conceptual Understanding

- Globalization impacts to waste management
 - Economy
 - Knowledge
 - Governance
- Focus on:
 - Megacities
 - Informal sector as a recycling partner
 - Global recycling markets
 - International aid tools

- De-link production centers from consumption
- Creation of global recycling markets
- Increase GDP/capita in developing countries → increase of waste production worldwide
- Marginalization of cities, livelihoods, countries results in serious Health and Environmental Impacts
- Due to Climate Change initiatives, globalization makes obvious the impacts of local actions to global phenomena
- Direct increase of international financial flows for waste management purposes



Waste Management

- Fast flow of information regarding consumption, technologies, best practices etc.
- Consumerism became a norm
- Environmentalism became a norm
- Creation of global institutional and citizens networks
- Advanced role in NGOs
- Demonstrate the need of global thinking - local acting

- Complex inter-state interactions
- Expansion of the role of non-state actors (NGOs, multinational companies, global organizations etc.)
- Highlight the need for global environmental coordination
- National regulations are always compared with international standards
- Global regulations are becoming more and more important
- Global landscape for financial issues, especially for infrastructure development

Globalisation and waste management linkages

Defining Globalization...

- **Globalisation as Internationalisation** : the increase of international exchange and the interdependence of countries.
- **Globalisation as liberation**: the reduction of constraints that are imposed by governments for transfers among countries.
- **Globalisation as universalization**: the procedure of expanding ideas and experiences for people in every corner of the world.
- **Globalization as modernization**: the expansion of the social structures of modernity (capitalist relations, industrial system, etc.) all over the world, as well as the procedure of destruction of special ways of production and the loss of local identity.
- **Globalisation as “deterritorialization”**: the release procedure from the geographical space, as the social space can no longer be entirely mapped with territorial terms.

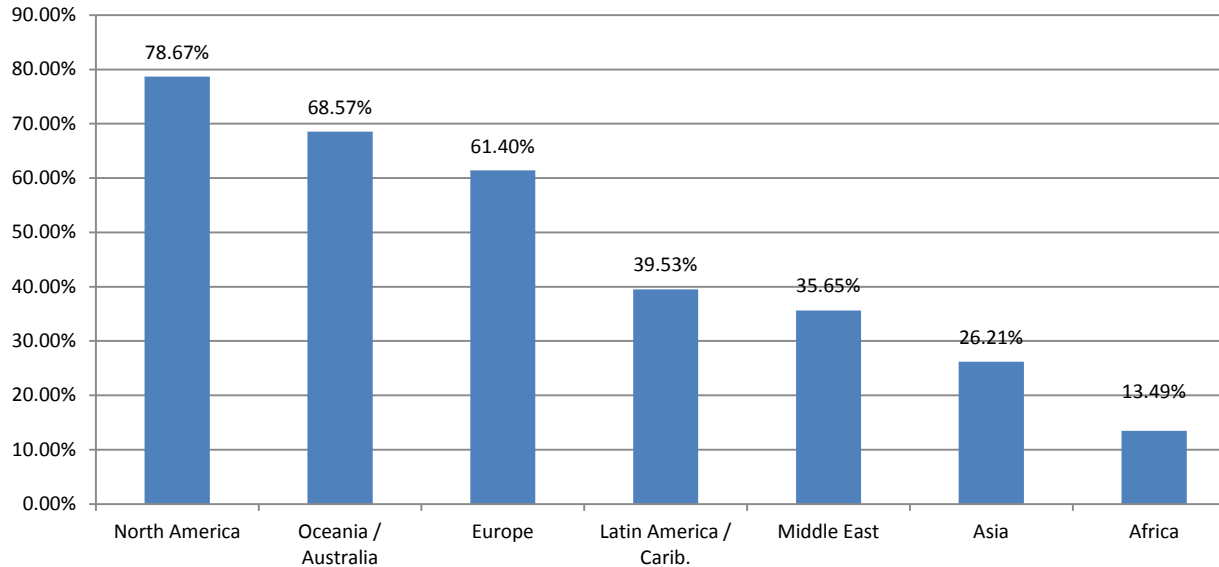
ISWA's View

Globalization's dynamics offer many opportunities to improve the human condition, but also involve significant potential threats. The challenge is to manage the process of globalisation in such a way that it promotes environmental sustainability and equitable human development.

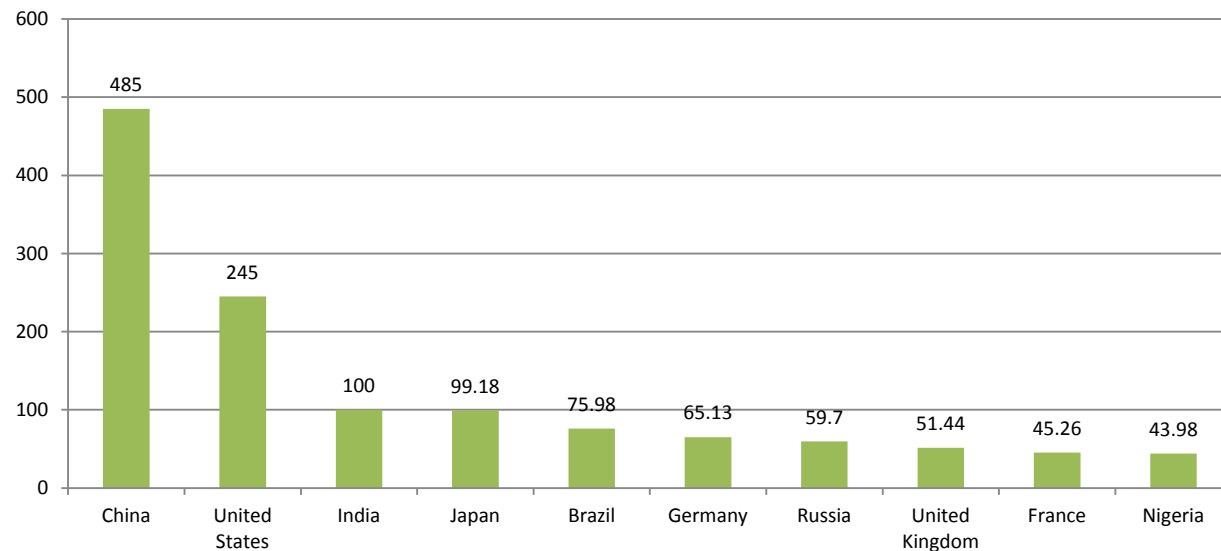
Globalization influences and changes Waste Management practices (e.g. recycling, waste prevention) but also Waste Management practices affect the way globalisation progresses (e.g. global recycling markets, waste trafficking)

Core Change 1: Interconnectivity

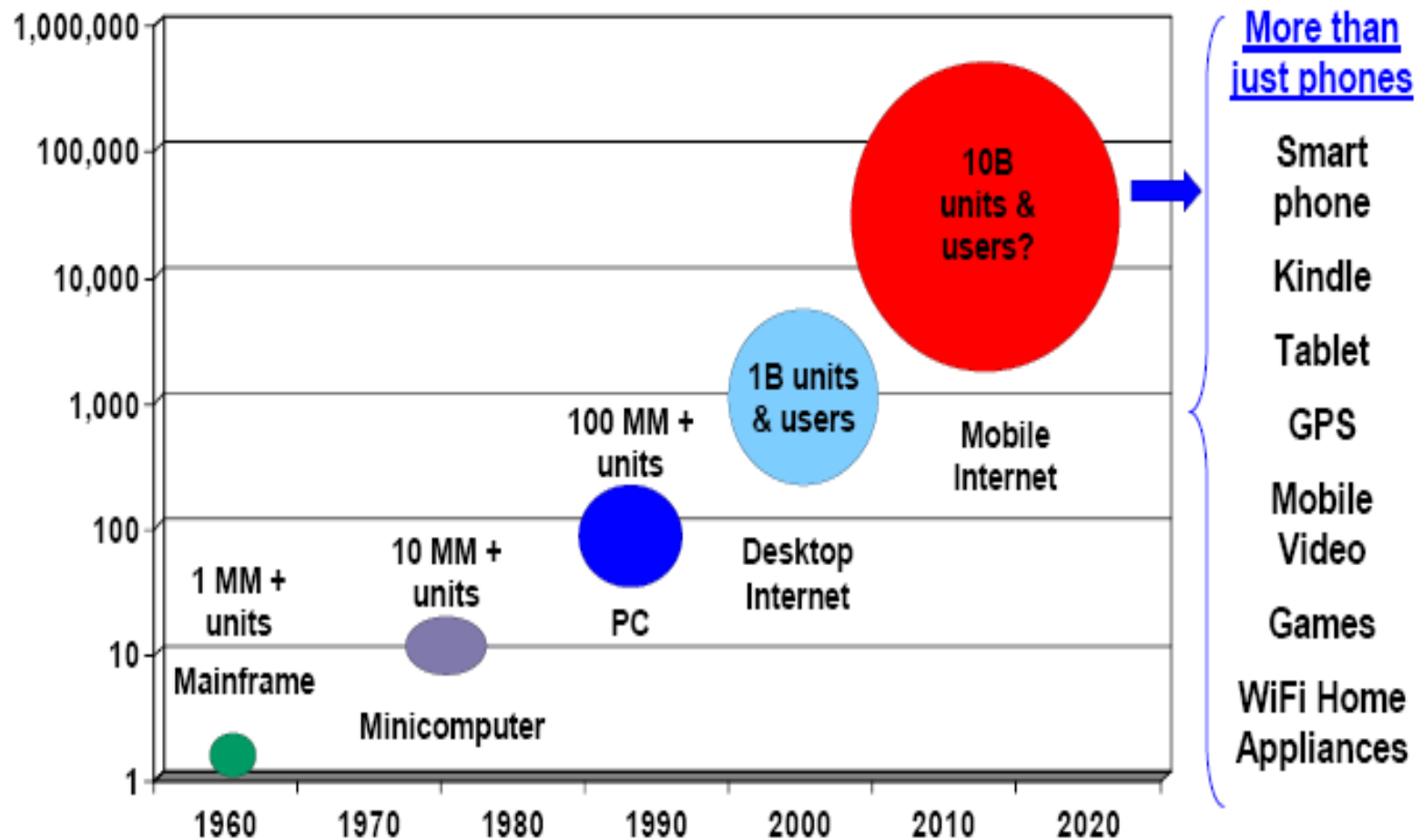
Internet Penetration rates per region (percentage %)



Internet users in 2011 (in million)

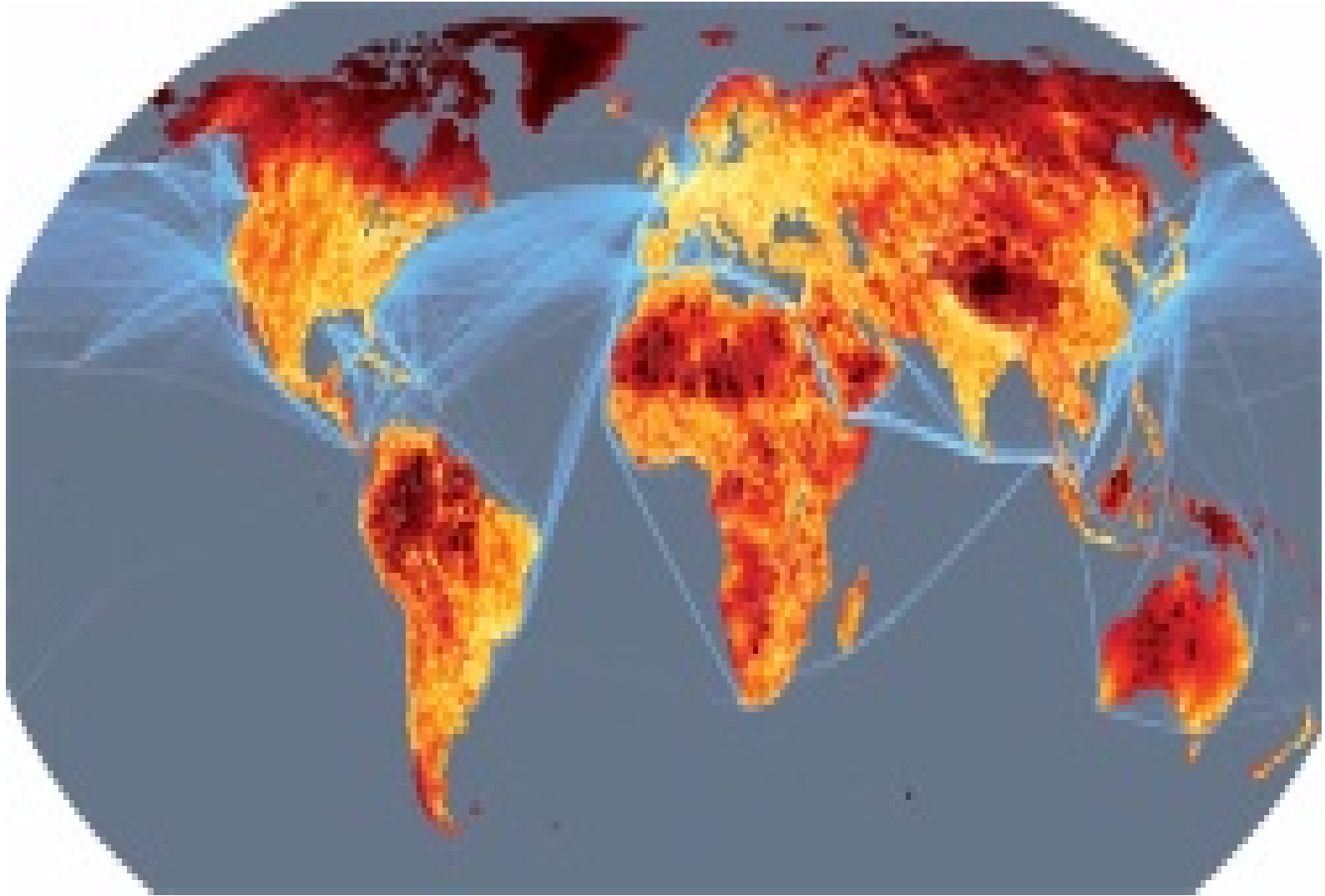


Computer Growth Cycles (MM users/units in Log Scale)



Source: Morgan Stanley Research

10% Remoteness: 48+ hours away with ground based travel



Impacts to Governance

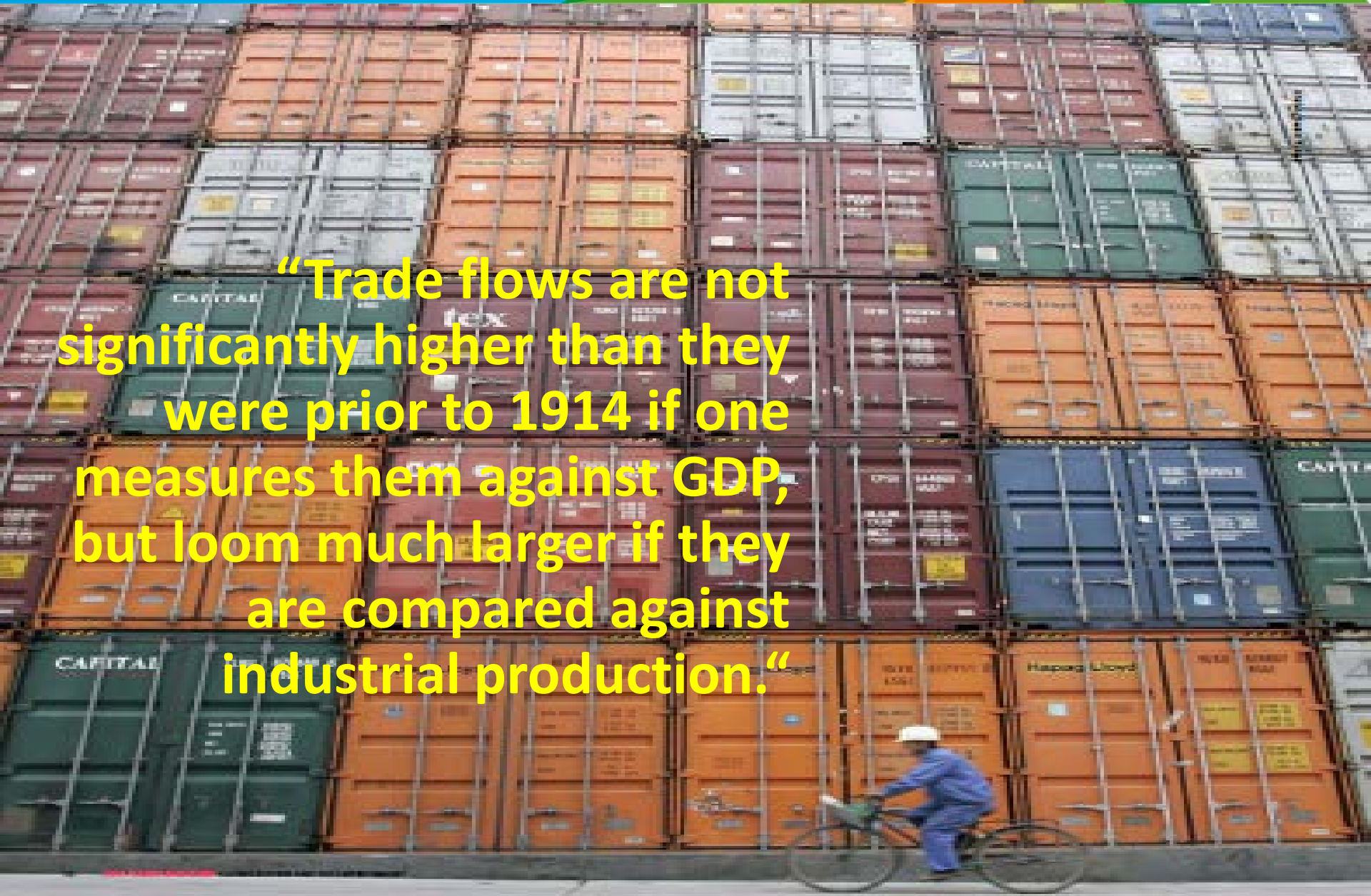
- A key – intervention
- Global stakeholders increase their influence
- Local stakeholders are more open to global input
- Megacities are deeply involved and influenced by governance patterns

Impacts to Waste Management

- Globalisation → increasingly difficult for states to rely only on national regulation e.g. recycling & zero waste
- Growing demand for global regulation, e.g. waste trafficking, raw materials
- Globalisation → involvement of a growing diversity of participants and their coalitions in addressing SWM
- Direct increase of international financial flows dedicated to SWM creates a new arena for decision-making

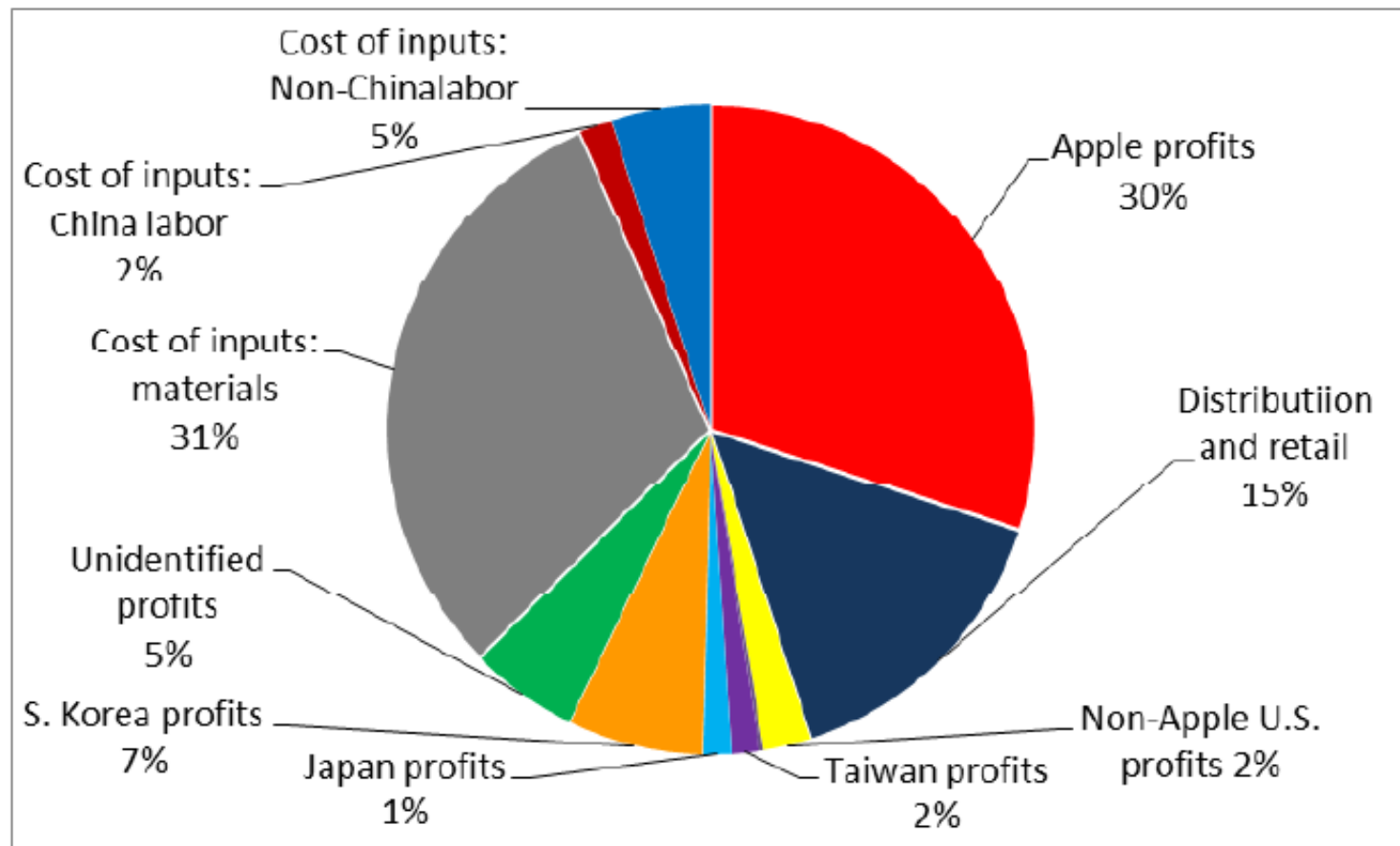
Core Change 2: Trade & Industrial Flows

“Trade flows are not significantly higher than they were prior to 1914 if one measures them against GDP, but loom much larger if they are compared against industrial production.”



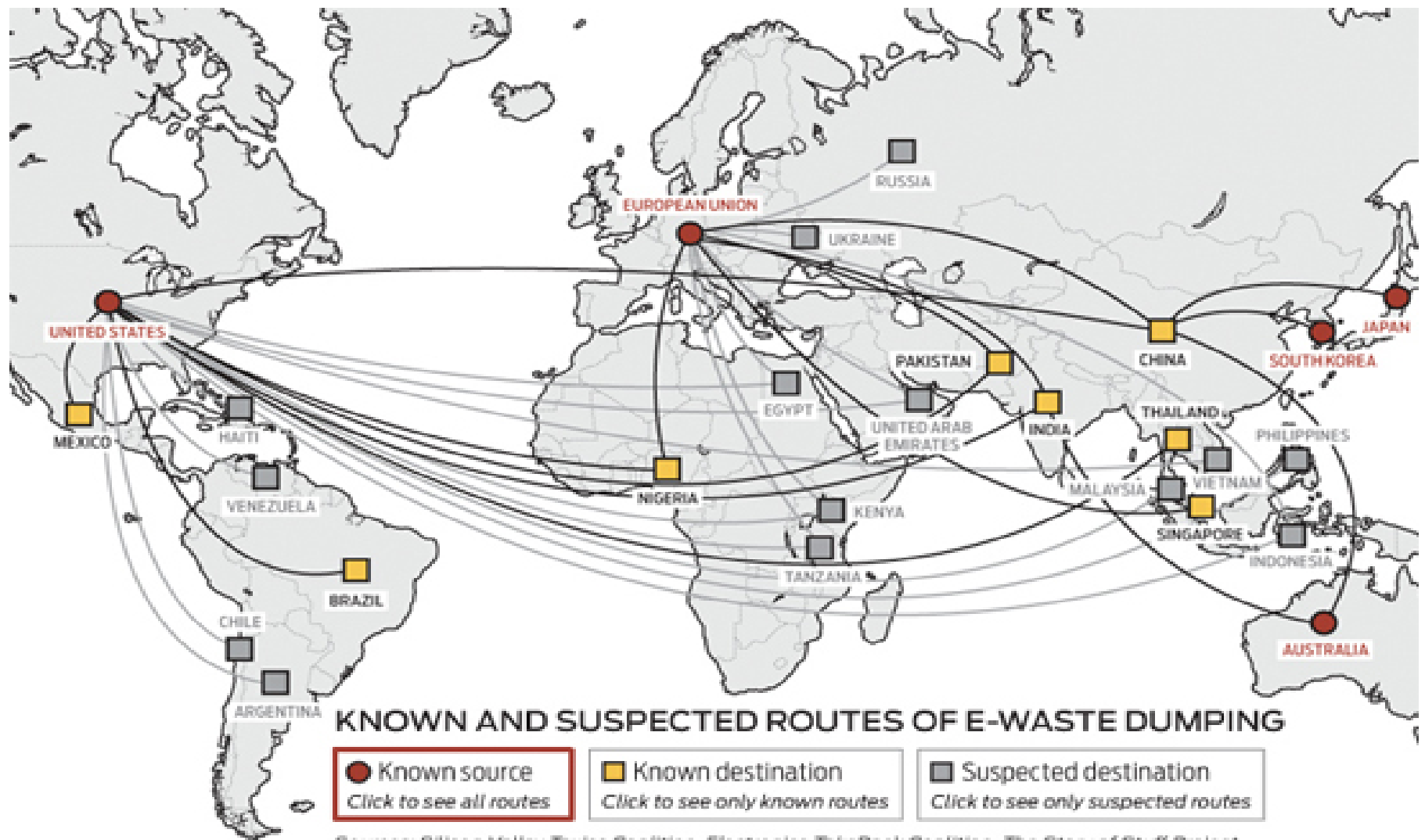
Value Distribution

Distribution of value for iPad



Source: **Capturing Value in Global Networks: Apple's iPad and iPhone**, Kenneth L. Kraemer, Greg Linden, and Jason Dedrick, University of California, Irvine, University of California, Berkeley and Syracuse University

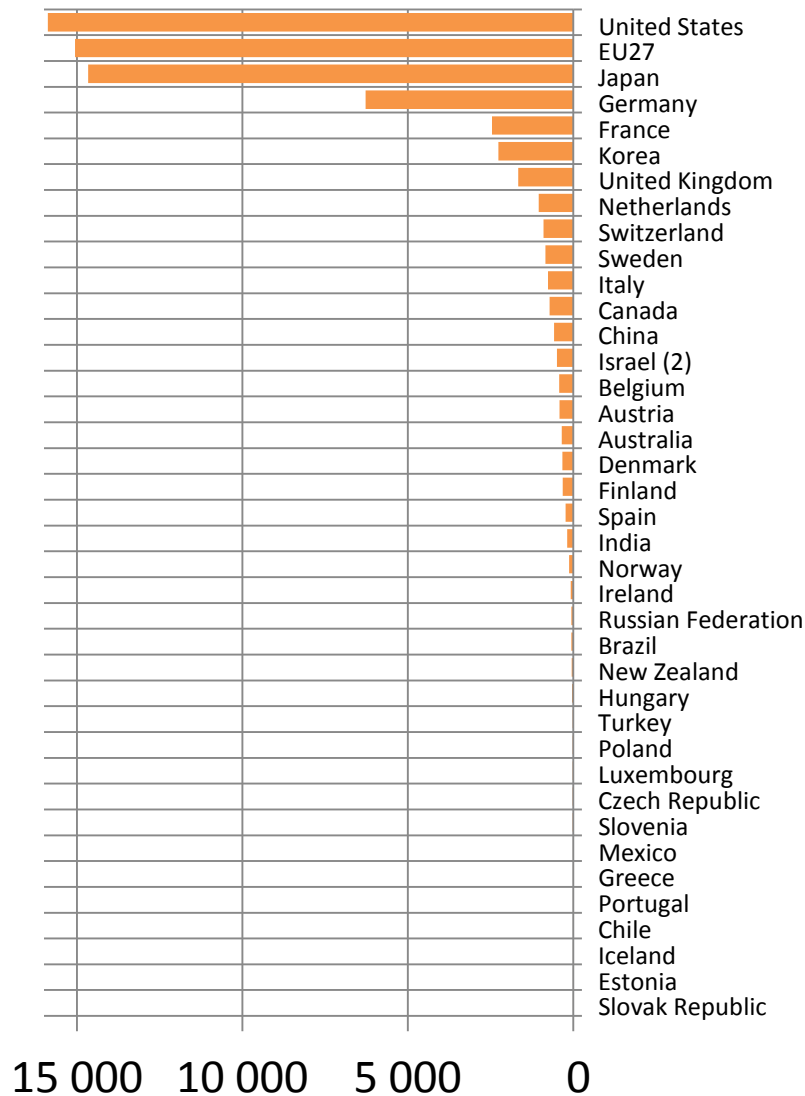
E-waste Distribution



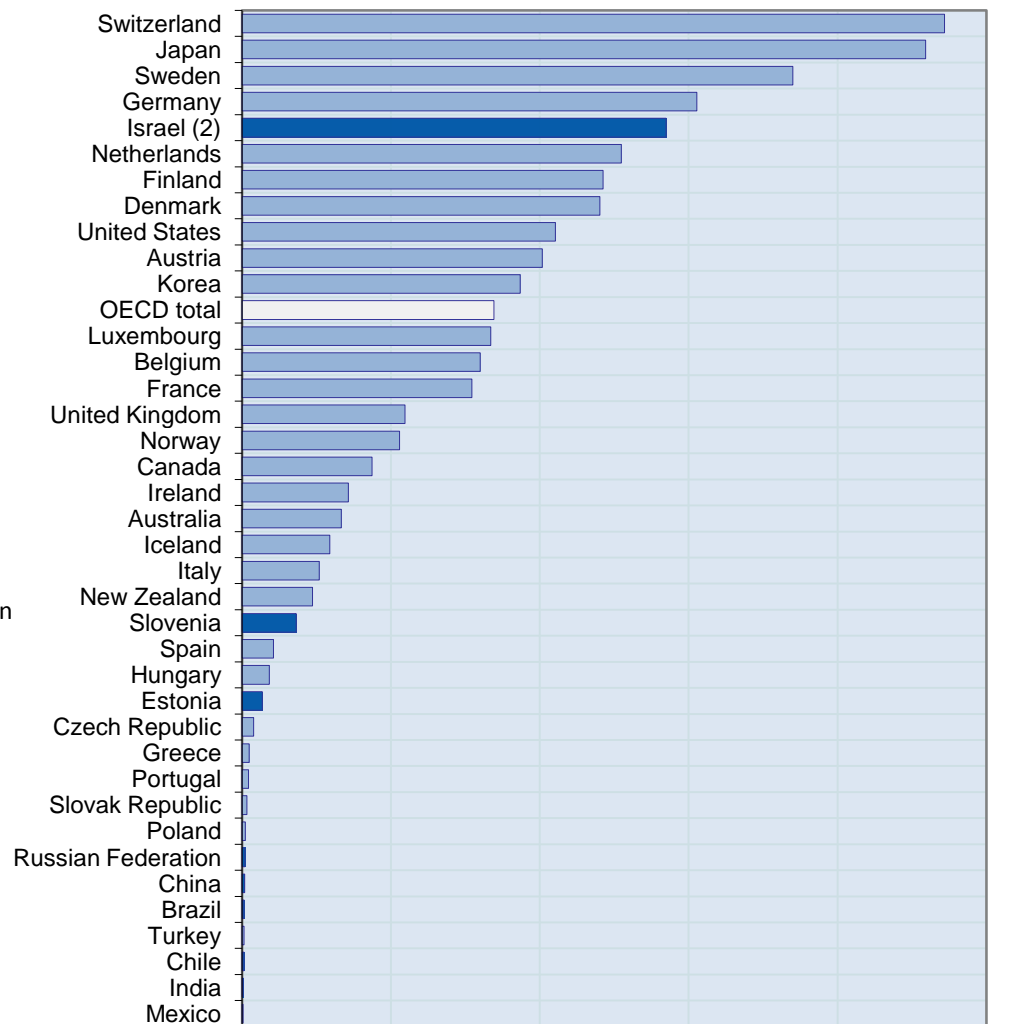
Source: International electronics recovery coalition, available at <http://www.ierc.info/e-waste-dumping-an-interactive-map/>

Internationalization of Science & Technology

Triadic patents absolute numbers, 2007, OECD

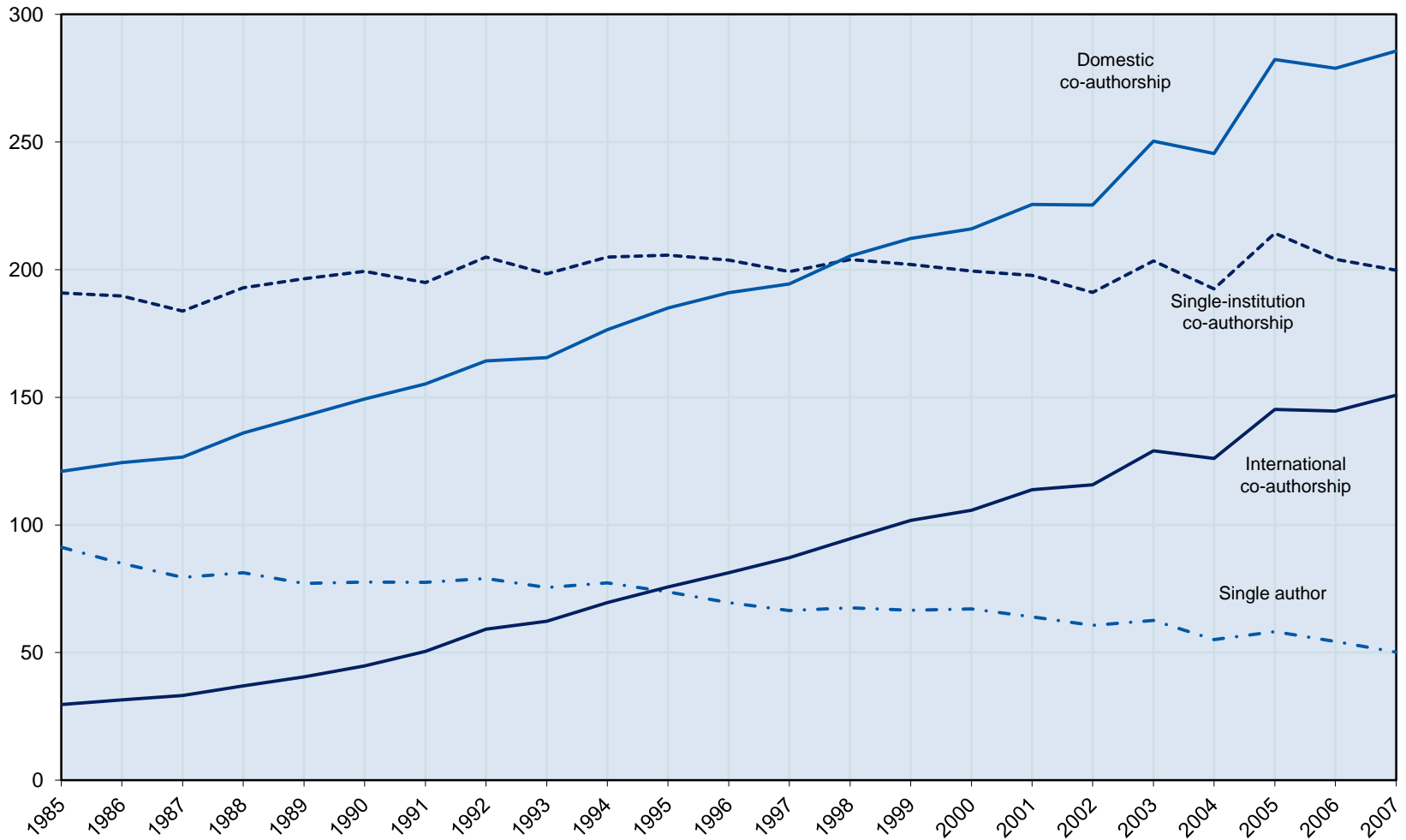


Triadic patents per 1 million population, 2007, OECD



Co-authorship

Thousands

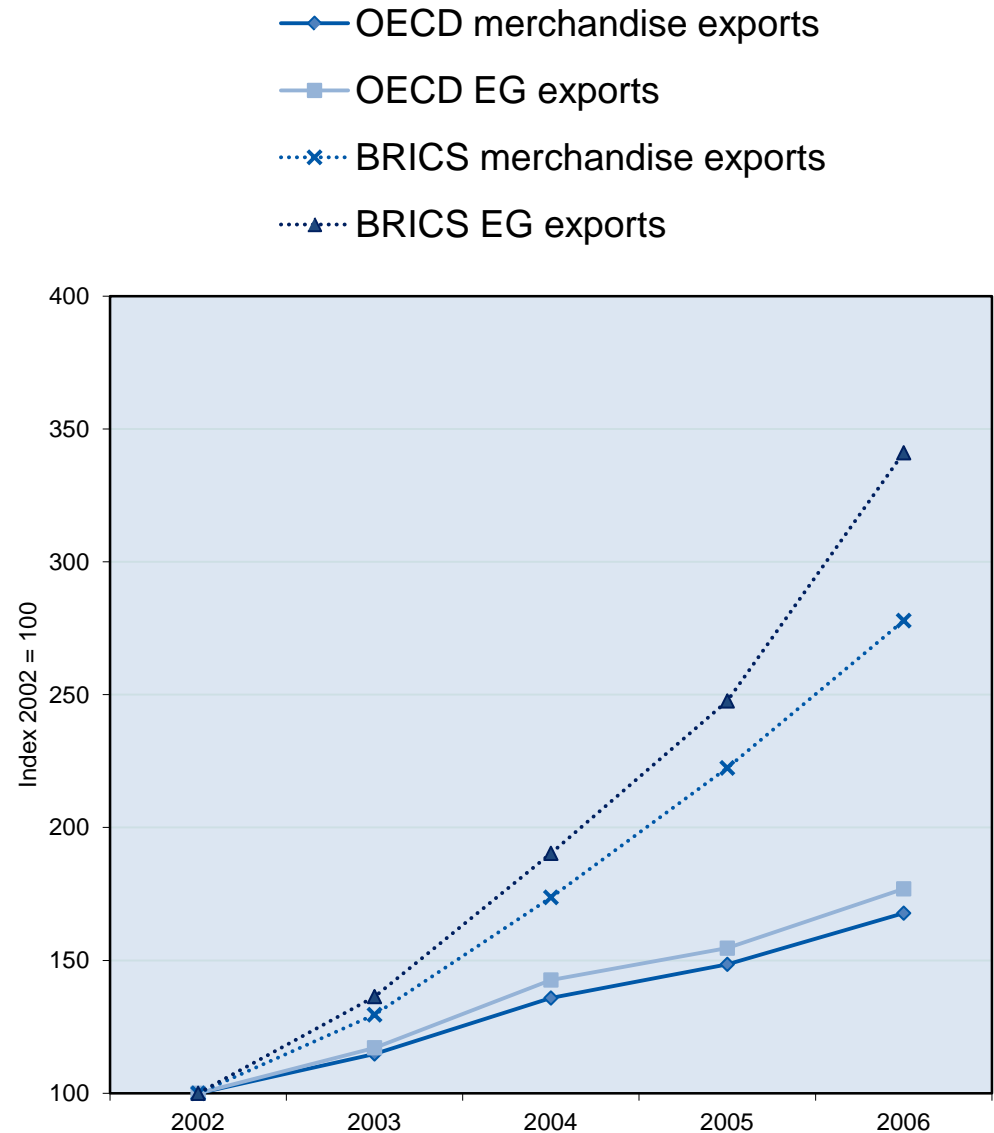


Environmental Goods Export

OECD: 370 billions – 1%
of GDP – 6% of exports

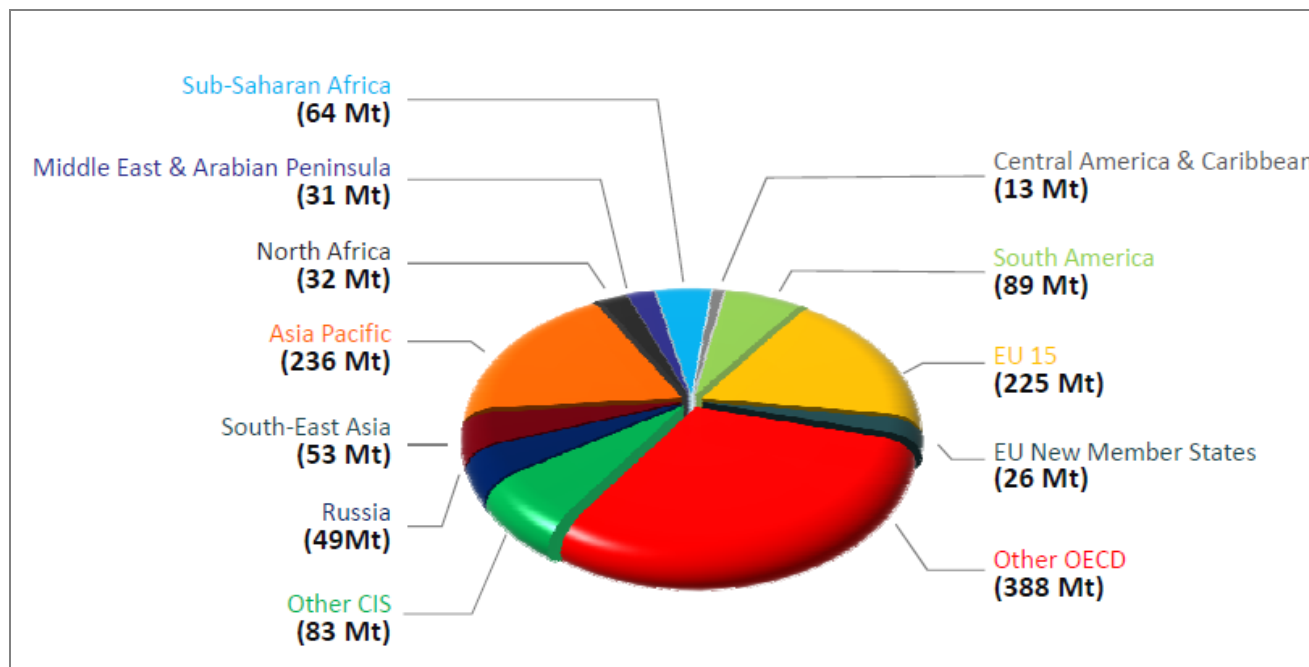
BRICs: 43 billions – 1%
of GDP – 2,7% of exports

BRICs growth rate: 35%



Global Facts Regarding SWM

- Annual waste generation exceeds 4 billion tons / almost half of them are municipal
- The growth of population and GDP/cap will result in increased waste generation

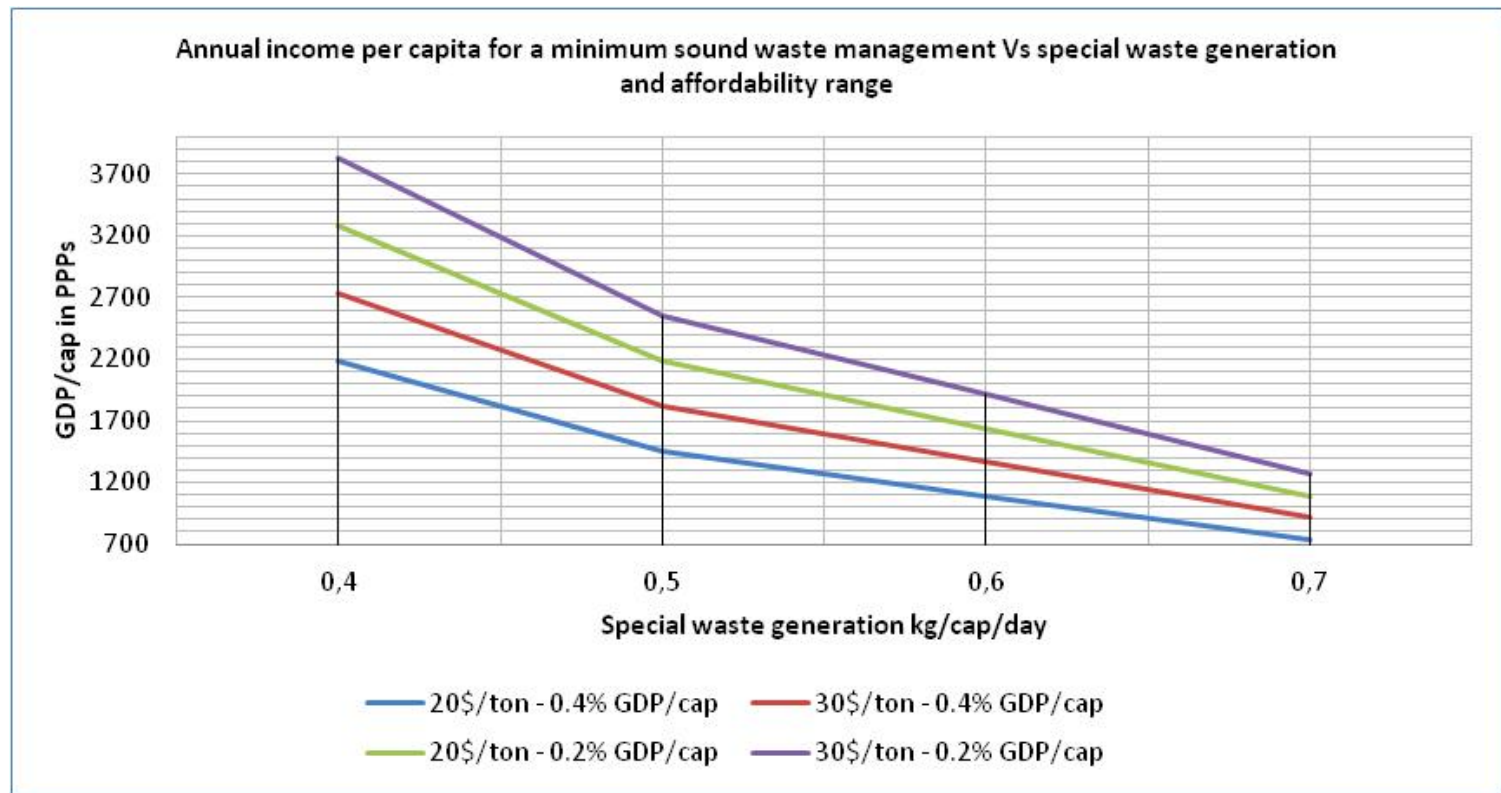


Source: Veolia, Cyclope (2009) From waste to resource: an abstract of world waste survey 2009, Paris.
[Available: http://www.uncrd.or.jp/env/spc/docs/plenary3/PS3-F-Veolia_Hierso-Print%20abstract.pdf]

Key – Figures

- Around 70% of the municipal waste produced is driven to landfills and dumpsites
- Almost 11% of the global municipal waste is treated in thermal and WtE units
- 19% is led to recycling and Mechanical and Biological Treatment (MBT)
- Climate change Initiatives are drivers for better waste management
- Waste Management industry is one of the most dynamic ones on a global scale, with more than 350 billion Euros turnover and around 40 million workers

How Many People Without Access to Waste Management Services?

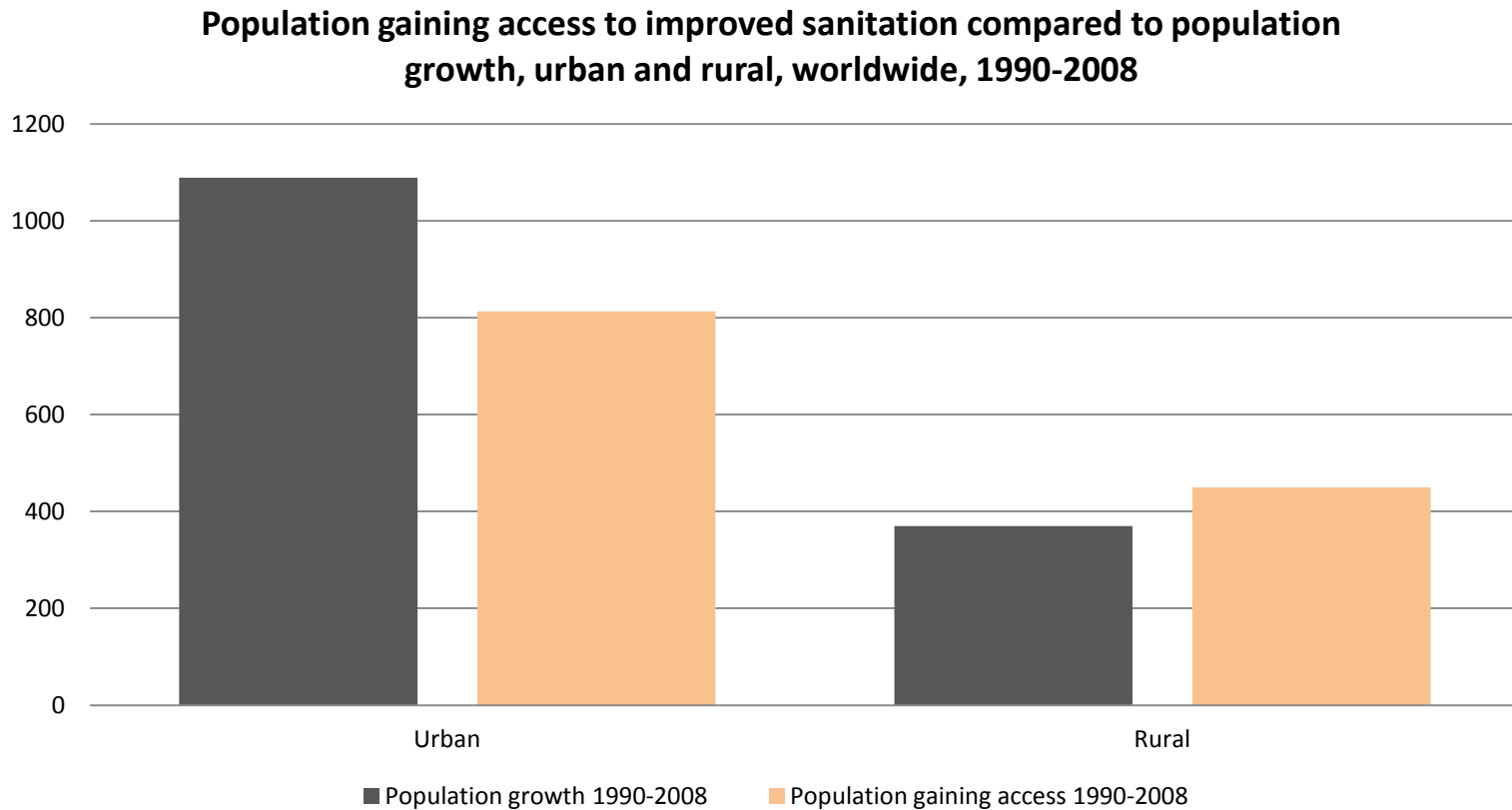


Source: *Waste management for everyone*, available at www.d-waste.com

Recent estimations: almost 52% of the global population
- More than 3,6 billion in 2008 or everyone who lives with GNI less than 1200 -1600 \$ / year

Global View of Waste Management

The problem is mainly urban



Source: WHO & UNICEF (2010) Progress on Sanitation & Drinking Water: 2010 Update, France.
Available: http://whqlibdoc.who.int/publications/2010/9789241563956_eng_full_text.pdf

Instead of Conclusions

- Lack of relevant data and approaches
- Major problem: data inconsistency – no benchmarking available
- Positive reception from several entities and groups
- The importance of governance
- The importance of megacities