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# E-waste and the SDGs

## 电子废物与可持续发展目标

Dr. Kees Baldé



# SCYCLE Programme

## 可持续循环项目



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## Key projects/ activities 主要项目及活动

### 1. Policy advice 政策咨询

- 2007 Review of the EU WEEE Directive
- 2017 E-waste in Latin America
- 2020 Common methodology WEEE Directive

### 2. E-waste quantification studies 电子废物量化研究

- Global E-waste Monitor (2014, 2017, 2020)
- ProSUM (Prospecting the Urban Mine, 2017)

### 3. Capacity building and training 能力建设和培训

- E-waste Academies (Global, 2009-now)

### 4. Facilitating International Dialogue 促进国际对话

- Main driver UN E-waste Coalition
- Global E-waste Statistics Partnership
- Hosting StEP Secretariat to 2019



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# Usage and products change 用途和产品变化



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## E-products 电子产品

Improving quality of life 提高生活质量

### Challenges

Sustainable consumption and production

可持续消费和生产

Waste Management 废物管理

Economic supply chain risks 经济供应链风险

**Need materials for: 需要材料用于:**

Clean Energy Transition 清洁能源过渡

Smart Cities 智慧城市

### SDG

E-waste has a sub-indicator under SDG 12 on

Sustainable Consumption and Production

可持续发展目标12“可持续消费和生产”下有一个子指标，内容关于电子废物。



# E-waste Generation

## 电子废物的产生







## WEEE Legislation 废弃电气和电子设备法规

2014: 61 countries

2020: 78 countries

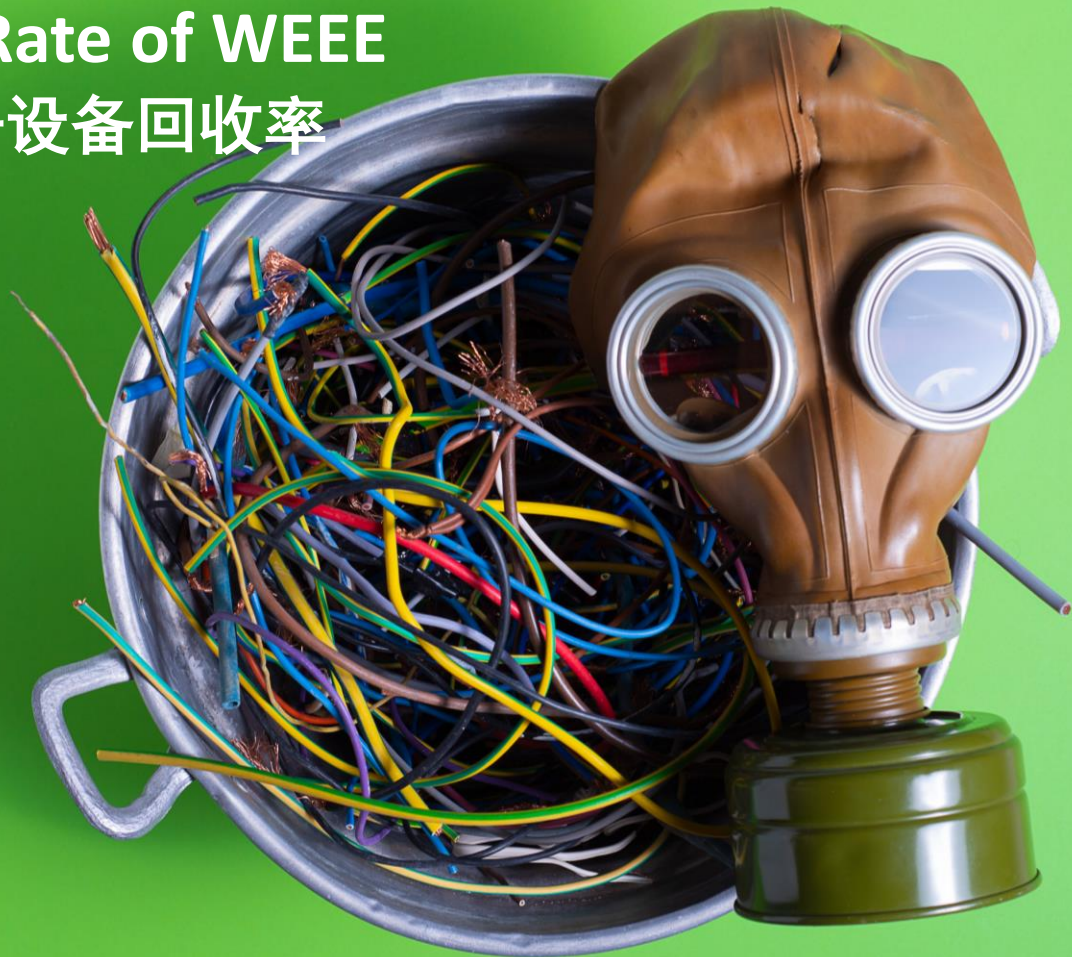




# Global Collection Rate of WEEE

全球废弃电气和电子设备回收率

2019: 17.5%







Value: Raw Material Value: 57 billion USD 价值：原材料价值：570亿美元

Toxic materials 有毒材料

50 t of Mercury 50吨汞

71 kt brominated flame retardants in plastics 71000吨塑料中的溴化阻燃剂

Mismanagement contributes to global Warming 管理不善导致全球变暖

100 Mt CO<sub>2</sub>-eq emissions from untreated refrigerants

未经处理的制冷剂产生的1亿吨二氧化碳当量的排放

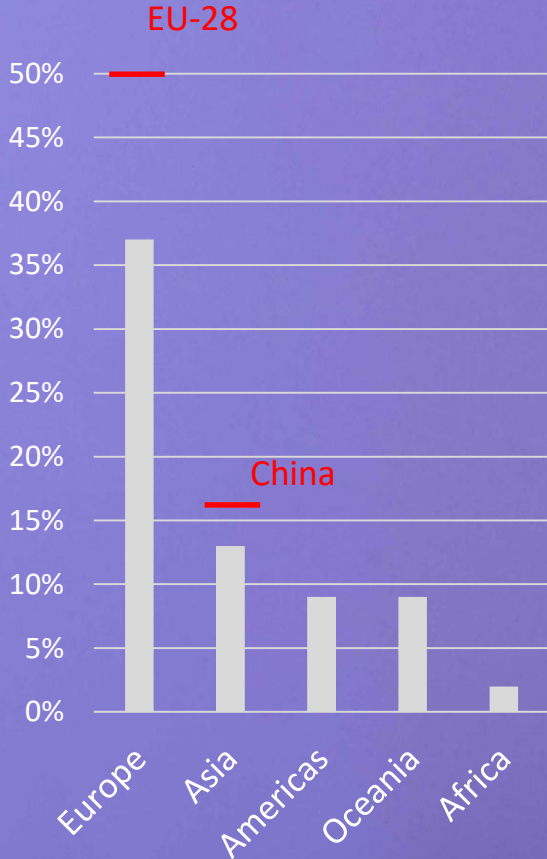
	kt	mill.USD		kt	mill.USD
Ag	1.2	579	In	0.2	17
Al	3046	6062	Ir	0.001	5
Au	0.2	9481	Os	0.01	108
Bi	0.1	1.3	Pd	0.1	3532
Co	13	1036	Pt	0.002	71
Cu	1808	10960	Rh	0.01	320
Fe	20466	24645	Ru	0.0003	3
Ge	0.01	0.4	Sb	76	644





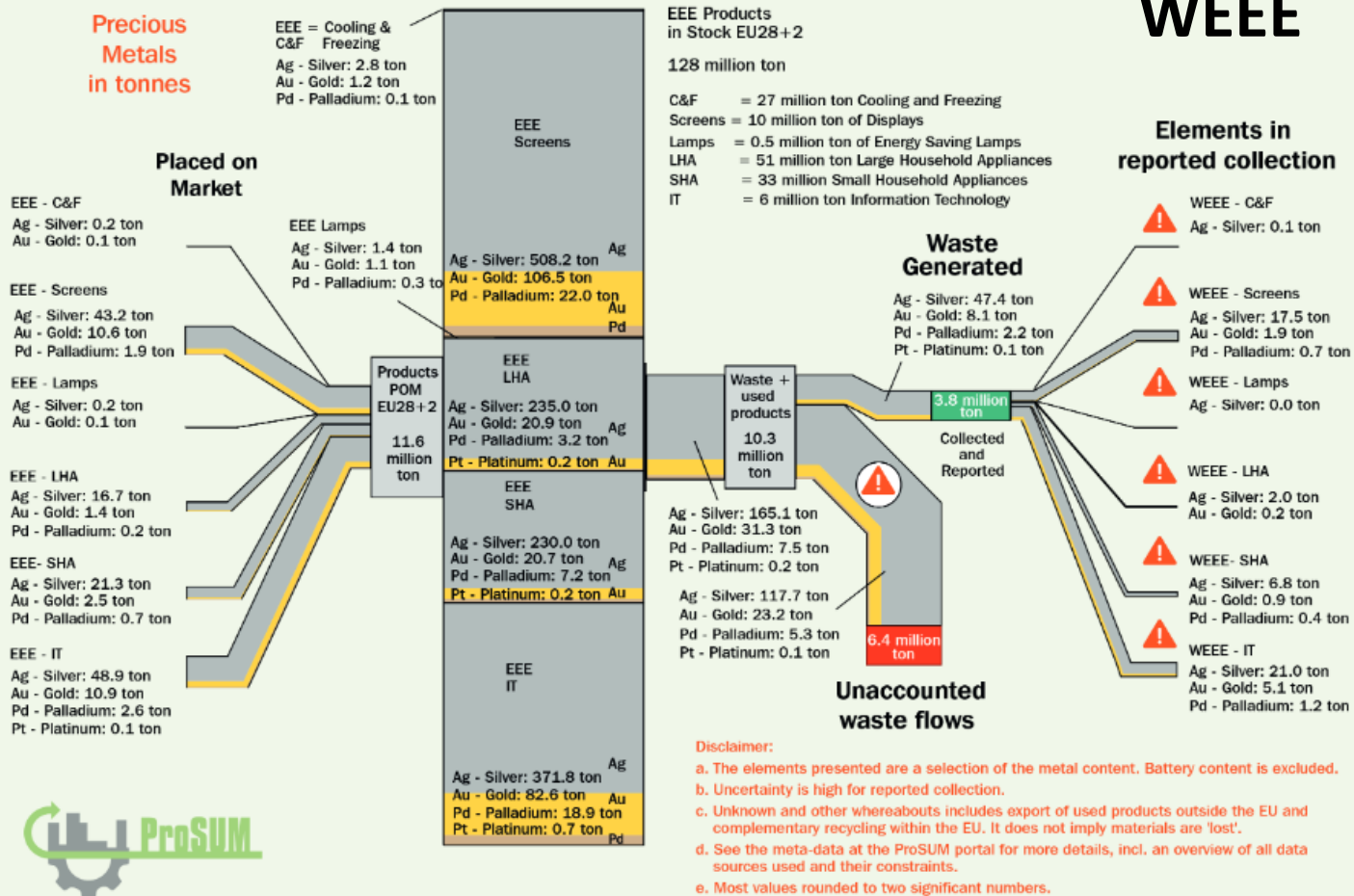
# Environmentally sound management of WEEE (Collection Rate)

## 废弃电气电子产品的无害环境管理(收集率)





2015  
Precious  
Metals  
in tonnes



Ag-Silver



Au-Gold



Pd-Palladium

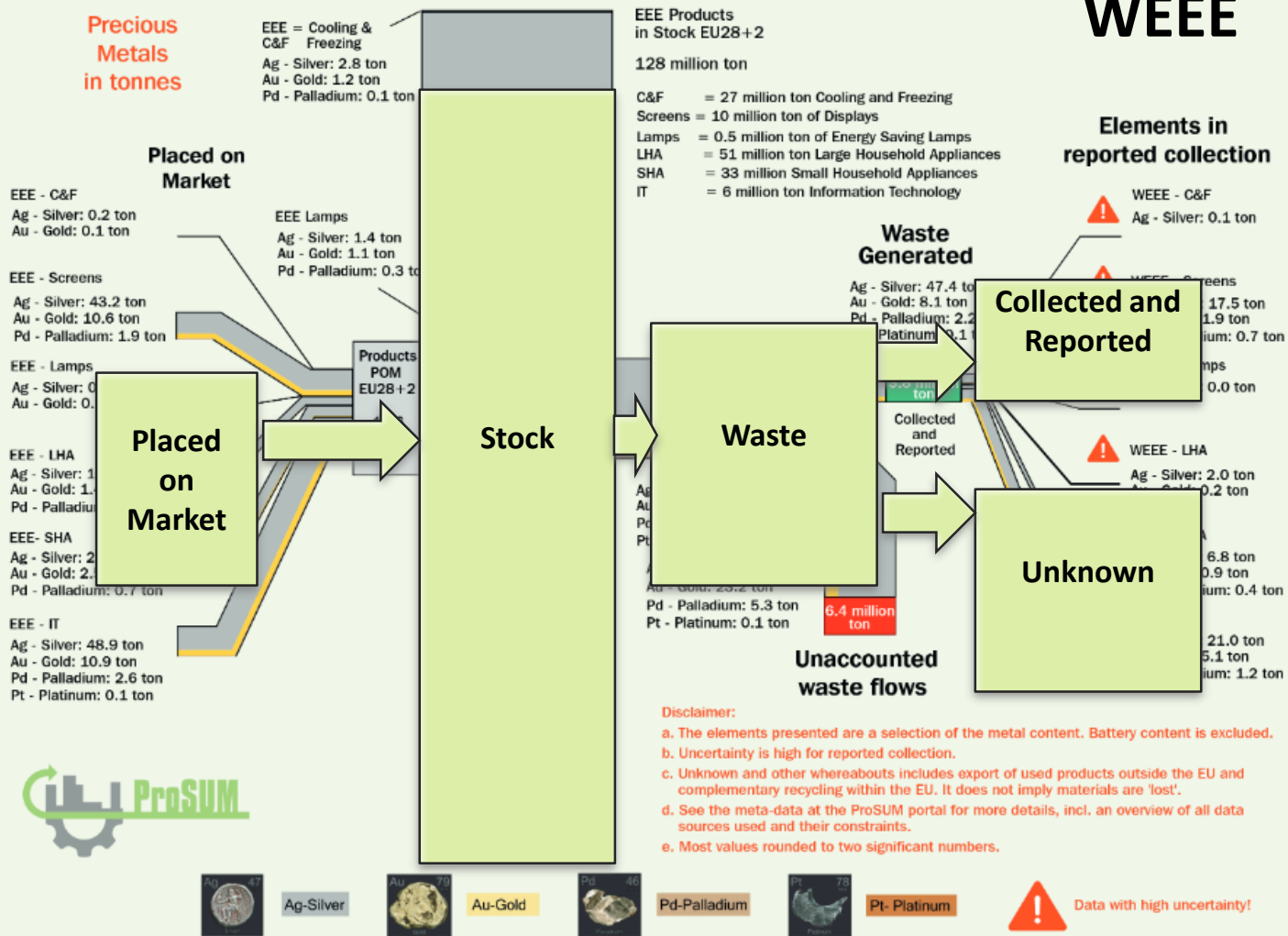


Pt-Platinum

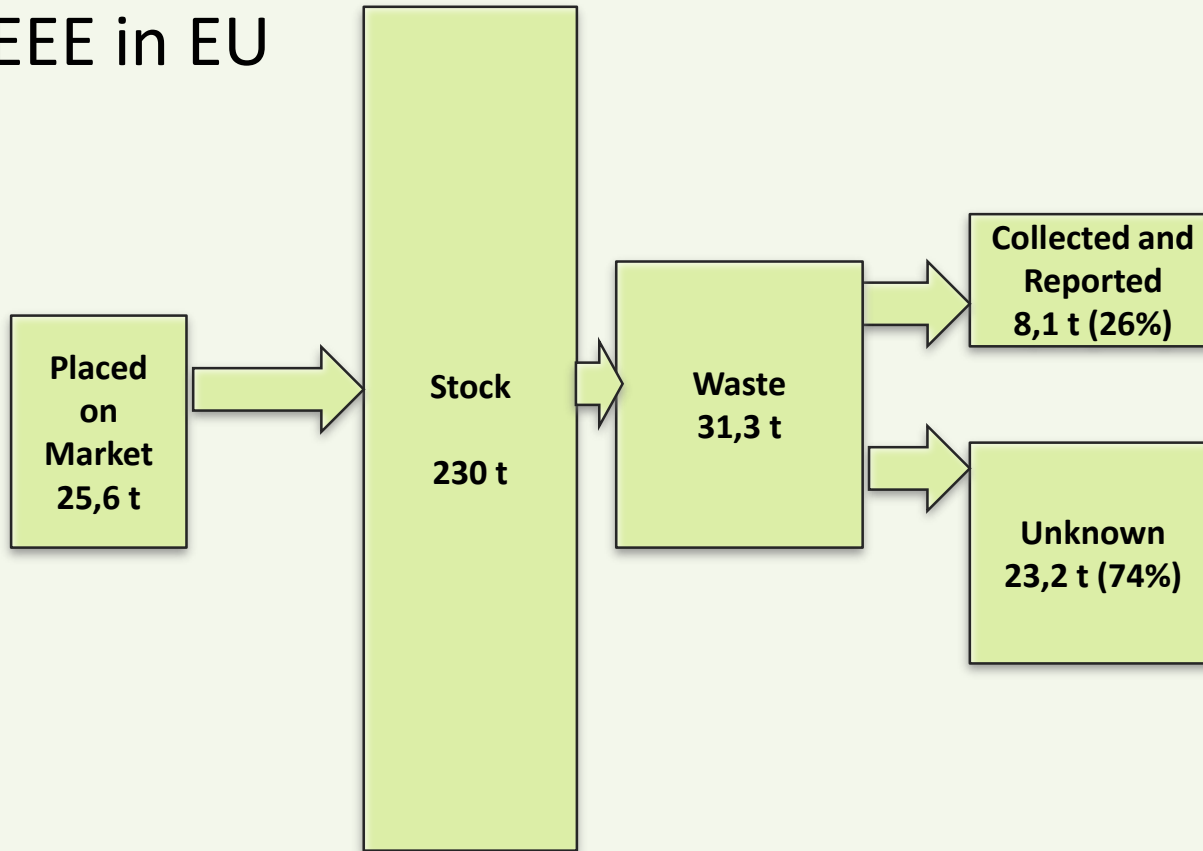


Data with high uncertainty!

2015

Precious Metals  
in tonnes

# Gold in WEEE in EU





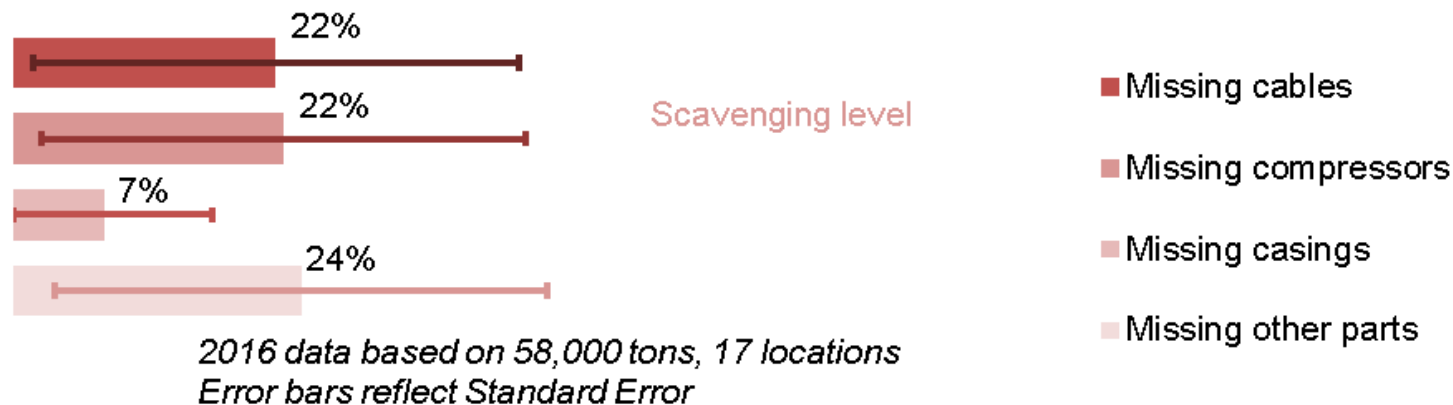
# Scavenging of components in cooling and freezing equipment

## 清除冷却和冷冻设备中的成分



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8 Mt CO<sub>2</sub>-eq / year

Emissions of 6 million cars or two coal powerplants

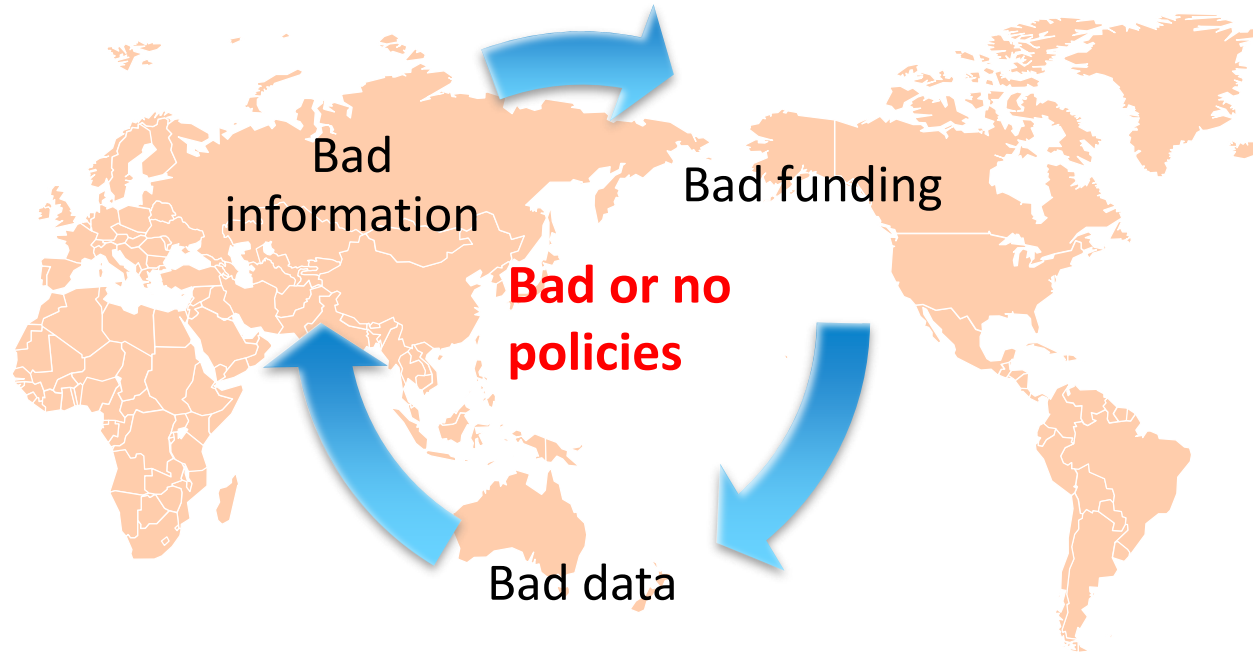
600万辆汽车或两座煤电厂的排放量





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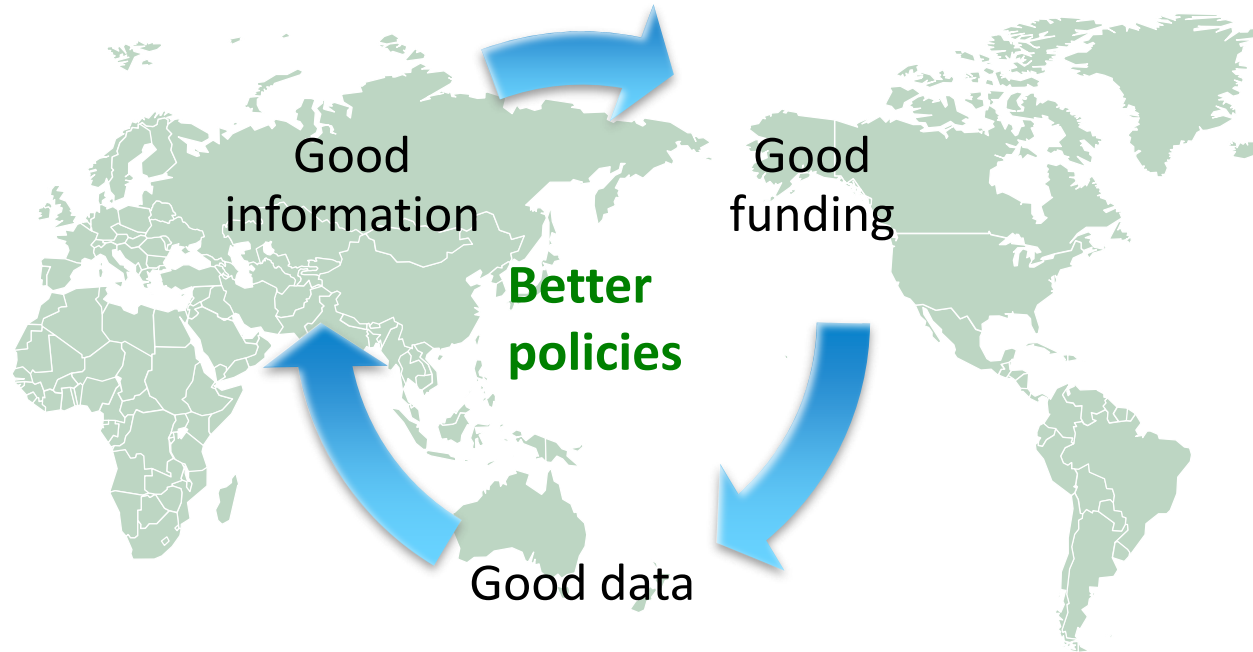
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**Recycling industry:** to know which materials are found in their waste streams

回收行业：了解在其废物流中发现了哪些材料

**Manufacturers :** which recycled materials and components they can use

制造商：可使用哪些回收材料和部件

**Policy Makers:** how to create an world that is greener, circular, more competitive, less dependent on CRM, and monitor the progress

决策者：如何创造一个更环保、更循环、更有竞争力、更不依赖客户关系管理的世界，并监测进展情况。



## Take away messages

- E-products contribute positively to SDGs  
电子产品对可持续发展目标作出积极贡献
- But, due to that e-waste volumes increases rapidly and recycling is not keeping pace  
但是，由于电子垃圾量迅速增加，回收利用跟不上
- So, in order to achieve the SGDS:
  - Improve recycling e-waste into Raw Materials 改进将电子废物回收为原材料的工作
  - Reduce environmental impact 减少环境影响

### Key data sources:

- Global E-waste Monitor 2020
- [www.globalewaste.org](http://www.globalewaste.org)
- H2020 Prospecting the Urban Mine Project
- Future WEEE scenarios

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