Sustainable Health in Procurement Project (SHiPP)

Reducing harm to people and the environment caused by the manufacture and disposal of medical products and by implementation of health programmes in developing countries

São Paulo, March 29, 2019
Susan Wilburn, HCWH International Sustainability Director
### Summary

<table>
<thead>
<tr>
<th>Project Location</th>
<th>Global and in 10 selected project countries (<strong>EECA</strong>: Moldova and Ukraine, <strong>Africa</strong>: South Africa, Tanzania and Zambia, <strong>Asia</strong>: China, India, Vietnam with scale-up in Southeast Asia: Indonesia, Philippines, So Korea, <strong>Latin America</strong>: Argentina, Brazil with scale-up in Latin America: Chile, Colombia, Costa Rica)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Duration</td>
<td><strong>Four years</strong>, 2018-2021</td>
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<tr>
<td>Development Objective</td>
<td>Promote <strong>sustainability in the health sector</strong> supply chain to improve human health and <strong>reduce greenhouse gases, resource depletion, and chemical pollution</strong></td>
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<tr>
<td>Programme Objective</td>
<td>Strengthen sustainable procurement in the <strong>UN system</strong> and in <strong>strategic countries</strong> to leverage purchasing power and drive policy and market demand for sustainable manufacturing and waste management in the health sector</td>
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</table>
Why Sustainability?
Environmental Factors = $\frac{1}{4}$ of global burden of disease – WHO, 2016: 12.6 million deaths per year

“Climate Change is the greatest health threat of the 21st Century”: Lancet Commission

“Climate change is the greatest health opportunity of the 21th century”: Dr. Margaret Chan, Director General, WHO
Health care is NOT PREPARED for climate change
Low tide (15 feet difference twice per day)
每天都要经历两次4.6米的潮汐变化

My home at almost high tide
涨潮时我家的样子
Why health and environment?

Human health is directly impacted by the environment

- Climate change
- Air pollution
- Contaminated water
- Toxic chemicals
- Management of waste

The health sector has a moral imperative to:
“first do no harm”

And to lead by example demonstrating sustainability while protecting human health
Air Pollution: Global burden of disease

**GBD Air Pollution**

全球大气污染导致的疾病负担:

WHO reported that in 2012 around 7 million people died - one in eight of total global deaths - as a result of air pollution exposure.

- 3.3 million deaths linked to indoor air pollution
- 2.6 million deaths related to outdoor air pollution


**Outdoor air pollution-caused deaths – breakdown by disease**

室外大气污染导致的死亡-按疾病分类:

- 40% – ischaemic heart disease缺血性心脏病;
- 40% – stroke中风;
- 11% – chronic obstructive pulmonary disease (COPD)慢性阻塞性肺疾病;
- 6% - lung cancer肺癌; 和
- 3% – acute lower respiratory infections in children小儿急性下呼吸道感染.
The health sector environmental footprint

Greenhouse gas emissions
- NHS-England represents 25% of the public sector carbon footprint
- U.S. health care industry represents 8% of their carbon footprint nationally

The incineration of medical waste
- Source of dangerous air pollutants: dioxin (carcinogen and endocrine disruptor) and mercury (neurotoxicant, retards development, intelligence)

The use of hazardous chemicals indoors
- Contributes to the high rates of asthma among health care workers
- Reproductive hazards, carcinogens, mutagens

The huge scale of the health care sector results in unhealthy practices
- Poor waste management
- Use of toxic chemicals
- Unhealthy food choices
- Reliance on polluting technologies
Why procurement?

• The health sector spends huge amounts of money on purchasing goods. For instance, the worldwide market for medical devices -- one strand of the supply chain -- grew to US $305 billion in 2010.

• The UN spends $ 5 billion/ year on health products

• Healthcare purchasing results in a significant environmental impact. The NHS in England, for example, calculates that it spends 20 billion a year on goods and services, which translates into a carbon footprint of 11 million tons -- 60% of the NHS's total carbon footprint.

*By harnessing its tremendous purchasing power, the health sector can impact the global supply chain*
National Health Service (NHS) – England: 65% of the NHS GHG Emissions are from Procurement of products and services

Footprint: 18 million tons of CO2 per year, 26% of public sector emissions

CO2 Reduction Targets

- 10% by 2015
- 26% by 2020
- 80% by 2050
A Global Mandate for SCP

10YFP: A global framework adopted by Heads of State at Rio+20 for an international cooperation to shift towards sustainable consumption and production (SCP) patterns in developed and developing countries.

“The major cause of the continued deterioration of the global environment are the unsustainable patterns of consumption and production...”

“SCP is one of the overarching objectives of, and essential requirements for, sustainable development.”

“Encourage and promote the development of a 10-year framework of programmes (10YFP) to shift towards SCP patterns....” (JPOI, 2002)

A/CONF.216/5 (paragraph 226 – “The Future We Want”). 10YFP adopted

SDG and Post-2015

Agenda 21, Rio de Janeiro, 1992

Johannesburgo Plan of Implementation (JPOI), 2002

Marrakech Process, 2003-11

Rio +20, 2012

10YFP as an implementation mechanism of the SDGs
SDG 12.7: Promote public procurement practices that are sustainable, in accordance with national policies and priorities.
SHiPP Alignment with Key Policies and Strategies

- Sweden’s “Results strategy for global action on socially sustainable development 2014–2017 under the results contributing to Improved Basic Health”.
- UNDP Corporate Strategic Plan 2018-2021.
- HCWH Mission and Goals

- **SDG’s Agenda: simultaneously, in an integrated and comprehensive manner;** and collaborating with UN Agencies, national governments, private sector and also civil society.
  - SDG 3 Good Health and Well Being
  - SDG 5 Gender Equality
  - SDG 6 Clean Water and Sanitation
  - SDG 7 Affordable and Clean Energy
  - SDG 8 Decent Work and Economic Growth
  - SDG 11 Sustainable Cities and Communities
  - SDG 12 Responsible Consumption and Production
  - SDG 13 Climate Action
  - SDG 16 Peace, Justice and Strong Institutions.
The United Nations Inter-Agency Task Team on Sustainable Procurement in the Health Sector (SPHS)

**Establishment:** May 2012 in Copenhagen, Denmark
Hosted: from January 2015, UNDP Istanbul Regional Hub, Turkey

**Members:** seven UN Agencies and three Multilateral Health Financing Institutions.

**Vision:** Promote sustainable procurement of health commodities and to contribute to greener health systems

**Leverage:** Annual cumulative purchase power of US$5 billion in the global health sector

**Aim:** Reduce environmental and social impact of the health sector, and improve human health and well-being
Strategy & Vision of Health Care Without Harm

- Health care mobilizes its ethical, economic and political influence to create an ecologically sustainable, equitable and healthy world.

- HCWH’s Mission is to: Transform health care worldwide so that it reduces its environmental footprint, becomes a community anchor for sustainability and a leader in the global movement for environmental health and justice.

HCWH’s 3 Overarching Goals

1. Protect Public Health from Climate Change: Reduce health care’s carbon footprint, foster climate resilient health systems, mobilize the health sector to address climate change as a public health issue, and advocate for solutions that accelerate a transition to clean, renewable energy.

2. Transform the Supply Chain: Establish and globalize procurement criteria and leverage health care’s purchasing power to drive policies and markets for ethically produced, healthy, sustainable products and services.

3. Build Leadership for Environmental Health: Inspire, mobilize and support health care’s leadership to promote environmental sustainability, human rights, and the right to health in order to achieve large-scale transformational change. This project brings together all three goals.
Global Green and Healthy Hospitals | Agenda Goals

**Leadership**
Prioritize environmental health as a strategic imperative

**Chemicals**
Substitute harmful chemicals with safer alternatives

**Waste**
Reduce, treat and safely dispose of healthcare waste

**Energy**
Implement energy efficiency and clean, renewable energy generation.

**Water**
Reduce hospital water consumption and supply potable water

**Transportation**
Improve transportation strategies for patients and staff

**Food**
Purchase and serve sustainably grown, healthy food

**Pharmaceuticals**
Prescribe appropriately, safely manage and properly dispose of pharmaceuticals

**Buildings**
Support green and healthy hospital design and construction

**Purchasing**
Buy safer and more sustainable products and materials
Health Care Without Harm- UNDP Partnership

Start of the Partnership: (2015) Skoll Foundation + UN Foundation support

• Project aim:

• Key environmental dimensions:
  • **Greenhouse gas (GHG) emissions** and climate change: focusing on aligning efforts around policy, standardization and measurements and developing concrete actions to reduce emission
  • **Resource depletion**: focusing on efficiency regarding consumption of water, energy and raw materials
  • **Pollution and chemical emissions**: focusing on compliance with international and national commitments and conventions to reduce the impact of toxicity, along with the substitution of non-compliant and less harmful products

Set of important **tools and guidance** for introducing sustainable procurement in the health sector
Project in Brief

Sustainable Health in Procurement Project (SHiPP) : 2018-2021

UNDP and HCWH

- Promote sustainability in the health sector in the Global South.
- Address the intersection between health, human rights and the environment.
- Aggregate demand for sustainable manufacturing and waste management.
- Impact positively on the environment and on human health.
Project Objectives
SHiPP Launches in April 2018
Sustainable Supply Chain Considerations

Natural Resource Conservation
- Use less
- Reusable
- Recyclable
- Recycled content

Social Equity
- Human rights
- Worker safety
- Child protection

Safer Chemicals/Materials
- Mercury-free
- Latex-free
- PVC-free

Air Quality
- Does not contribute to poor air; reduce greenhouse gas emissions

Water Quality
Use less, Manage effluent

Renewable Energy
Energy Efficiency and Alternatives to Fossil Fuels

Waste/End of Life Impact
- Cost of disposal, handling
- Recyclable
- Take Back (Packaging)

Covers: Products Services Packaging
**Project Outcome:**  Greenhouse gases, resource depletion and chemical pollution reduced

**Hazardous chemicals**
- Substitute chemicals of concern for more sustainable, less toxic substances
- Mercury-free measuring devices *(Minamata Convention on Mercury)*
- PVC and DEHP -free medical products
- Less toxic disinfectants, sterilants and cleaning products

**Greenhouse gas reduction**
- Procurement of renewable energy
- Substitute low-carbon anesthetic agents
- Energy-efficient biomedical devices, lighting, and HVAC systems

**Resource conservation**
- Water quality, water management
- Substitute non-burn waste treatment technologies *(Stockholm Convention on POPs)*
- Effluent in manufacturing
Objective 1

Develop universally adaptable criteria and standards for sustainable manufacturing, distribution and content of products procurement by the health sector

Results Framework:

- **Indicator 1:** Number of sustainable procurement laws, policies and strategies revised with support from the project
- **Indicator 2:** Number of products identified for substitution
- **Indicator 3:** Number of alternative products accessible in developing countries
- **Indicator 4:** Number of hospitals, health systems and national ministries of health phasing out and substituting hazardous products
I. STATEMENT OF THE POLICY
This policy shall serve as a guide for all end-users in the procurement of products and services where environmental considerations are incorporated as a basis of decision in addition to the conventional judgment such as price and quality.

II. POLICY GUIDELINES
a. Green procurement standards shall be applied to all purchases made by the hospital.
b. The green procurement specifications shall be included in the end-users specifications or terms of reference.
c. Suppliers shall be informed of the requirements and submit documents of their adherence to Purchasing Division as basis of eligibility.
d. The suppliers shall also follow the existing standards of the hospital’s procurement process.
e. The end-user shall strictly adhere to the specifications set by the Green Procurement Team under the Eco-Friendly Committee and duly approved by the Hospital Director.
Phil Heart Center What We Have Done To Date...

**PRACTICE...** Green Purchasing of the following:

- Non-mercurial thermometers and BP Apparatus;
- Lithium (non-mercurial) batteries for equipments;
- 134a Refrigerants for AC equipments;
- Compact Fluorescent & T5 Fluorescent fixtures;
- LED light fixtures;
- Water saving toilet fixtures such as Eco-flush water closets; drip-free tech (WaterSense) faucets & showers
- Waterless urinals;
- Polyprophelene & polyethylene pipes (PPR & PE) for waterline distribution systems (instead of PVC);
- Low VOC and anti-bacterial paints for repainting works;
- De-polluting paints for exterior painted walls;
- Recyclable boxes for food packaging;
- Eco-wood and wood substitutes for wood fabrication;
- Gypsum board & fiber cement boards for walls & ceiling;
- Bio-degradable plastic for trash collection;
What We Have Done To Date...

**PRACTICE...** Green Purchasing of the following:

- **Establishment of the following:**
  - Material Recovery Facility;
  - Sewage Treatment Plant with gray water harvesting;
  - Elimination of old incinerator plant;
  - Botanical Garden for hospital harvest and use;
  - Vertical Gardens for areas where conventional gardening is not possible;

- **Reusing paper for inter-office communications**
  (Grade A papers are only used for external and official communications only);

- **Use of “MedTrak” Network paperless system for inter-office transactions and communications;**

- **Recycling of used linen;**

- **Gray water piping system for water closets;**

- **Solar Panels on roof of Medical Arts Building;**

- **Heat pumps for hot water distribution;**
Sweden: Sustainable procurement in practice

Qualification requirements
Minimum requirement on supplier routines and processes for handling social responsibility in supply chain

Award criteria
Promoting suppliers guaranteeing a more sustainable supply chain; e.g.
- Supply chain transparency
- Worker and human rights risk management and follow-up
- Workers’ influence in factories
- Chemicals in production process
- Conflict minerals

Evaluation model
PC

Price
70 %

Quality
30 %

Environment
€1,3 million

Social
€1,3 million

Contract terms
Binding requirements on routines, processes and reporting to ensure CoC compliance

Supported by Sustainable Health in Procurement Project (SHiPP)
Case ICT procurement

Environment: mandatory & award criteria
Code of Conduct

2010
2014
2015
2016-2017
2018
Case ICT procurement

Environment: New mandatory & award criteria
Code of Conduct and contractual obligations

Results 2010-2016

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<tr>
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<th>2010-2016</th>
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<tbody>
<tr>
<td>Energy (kWh)</td>
<td>- 50 %</td>
</tr>
<tr>
<td>Waste incl reuse (kg)</td>
<td>- 82%</td>
</tr>
<tr>
<td>Hazardous substances (kg)</td>
<td>- 63 %</td>
</tr>
</tbody>
</table>
Case ICT procurement

Environment: New mandatory & award criteria
Code of Conduct and contractual obligations

2015
Media critique
Supplier follow-ups
Factory audits
Corrective actions

2016-2017

Environment: mandatory & award criteria
Code of Conduct

2014

2010

Supported by Sustainable Health in Procurement Project (SHiPP)
"The Swedish county councils have made a significant contribution to the practice of human rights due diligence in global supply chains, and helped to increase the capacity of both its contractor, an IT reseller, and a global computer brand to manage their supply chains responsibly." (Electronics Watch, 2016)
Case ICT procurement

Environment: New mandatory & award criteria
Code of Conduct. CAPs.

Environment: mandatory & award criteria
Code of Conduct 2010

2014
- Media critique
- Supplier follow-ups
- Factory audits
- Corrective actions
- Risk analyses
- Supplier dialogues

2015

2016-2017
Action plan sustainable supply chains ICT

2018

Sustainable Health in Procurement Project (SHiPP)
## PRIORITIZED RISK

### GENERIC SUPPLY CHAIN

<table>
<thead>
<tr>
<th>HUMAN RIGHTS</th>
<th>LABOR RIGHTS</th>
<th>ENVIRONMENT</th>
<th>ANTI-CORRUPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RAW MATERIAL</strong></td>
<td>Conflict minerals Tin, Tantalum, Tungsten and Gold (3TG), as well as cobalt, emanating from mining operations in the DRC and adjoining countries are associated with serious human rights abuses on workers and communities and the proceeds are used to finance regional conflicts. Land grabbing occurs in most mining countries.</td>
<td>Mining industry (especially 3TG, cobalt, copper) is known for hazardous working conditions leading to fatal injuries and diseases. There is a high risk of forced labour, child labour and other forms of modern slavery.</td>
<td>Mining takes place in countries with weak and corrupt government systems. There is a high level of corruption in the mining industry.</td>
</tr>
<tr>
<td><strong>OTHER SUB-</strong></td>
<td>The main concerns in ICT are: lack of freedom of association/collective bargaining and on working and living conditions such as salaries below living wage, excessive overtime hours, poor housing, forced labour and occupational health and safety risks. Problems are generally larger further down in supply chain.</td>
<td>High usage of chemicals and toxic metals in component production plants (IC, RAM, PCB, Cameras, batteries etc.) pose a risk for workers and the environment, local communities suffers from air and water pollution. Problems are generally larger further down in supply chain.</td>
<td>ICT manufacturing takes place in countries with a high level of corruption.</td>
</tr>
<tr>
<td><strong>FINAL ASSEMBLY</strong></td>
<td>The main concerns in ICT are: lack of freedom of association/collective bargaining and on working and living conditions such as salaries below living wage, excessive overtime hours, poor housing, forced labour and occupational health and safety risks.</td>
<td></td>
<td>ICT manufacturing takes place in countries with a high level of corruption.</td>
</tr>
<tr>
<td><strong>PACKAGING/DISTRIBUTION</strong></td>
<td>There is a risk that electronic waste is dumped in poor countries, harming human health and the environment.</td>
<td></td>
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</tr>
<tr>
<td><strong>REUSE/RECYCLING</strong></td>
<td>There is a risk that electronic waste is dumped in poor countries, harming human health and the environment.</td>
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</tbody>
</table>
ACTION PLAN

Swedish regions and county councils

REGION C

ICT

2016 - 2018

Sustainable procurement
Code of conduct for suppliers
Challenges

• Appropriate expertise in the evaluation committee
• Verifying suppliers’ statements
• Corporate confidentiality
• Follow-ups are resource intensive

Results (effect of CAPs)

• Increased transparency in the supply chain
• Increase in number of suppliers with policies and processes in place
• Increased risk awareness further down the supply chain
• Elimination of certain dangerous substances
• Increased energy efficiency
• Better conditions for workers in the supply chain?
Impacts of Anesthesia Gas

Global Warming Potential (GWP*) values for the inhaled anesthetics are:

- Sevoflurane 130x*
- Isoflurane 510x*
- Desflurane 2,540x*
- Nitrous Oxide 298x* (persists over longer timeframes)

* metric equivalent of CO²

Atmospheric persistence:

- Sevoflurane: 1.1 yrs
- Isoflurane: 3.2 yrs
- Desflurane: 14 years
- Nitrous Oxide: 114 years
Purchasing Trends - Quantity Purchased

Gas Waste Reduction

Monthly purchasing of desflurane plummeted, saving $20,000/mo.

Dr. Karin L. Zuegge, University of Wisconsin - Madison
Kaiser-Permanente
Environmental Stewardship Goals
By 2025

CLIMATE ACTION
Become “carbon net positive” by buying enough clean energy and carbon offsets to remove more greenhouse gases from the atmosphere than we emit.

SUSTAINABLE FOOD
Buy all of our food locally or from farms and producers that use sustainable practices, including using antibiotics responsibly.

SAFER PRODUCTS
Increase our purchase of products and materials meeting environmental standards to 50%.

WASTE REDUCTION
Recycle, reuse or compost 100% of our non-hazardous waste.

COLLABORATION
Pursue new collaborations to reduce environmental risks to foodsheds, watersheds and air basins supplying our communities.

WATER CONSERVATION
Reduce the amount of water we use by 25% per square foot of buildings.

SUSTAINING SUSTAINABILITY
Meet international standards for environmental management at all of our hospitals.
Safer Product Successes – to name a few

- Latex-free Exam Gloves
- Mercury-free Thermometers and Sphygs
- PVC-free Carpeting/resilient flooring
- Sustainability criteria for fabrics
- DEHP/PVC-free IV Bags and Tubing
- PVC-free and DEHP-free Split-Tip Chronic Dialysis Catheters
- Chemically-safest infant skin care
- Tricolsan-free soaps
- Flame retardant-free therapeutic surfaces
- Ban on antimicrobials and PFCs in furnishings

https://practicegreenhealth.org/topics/environmentally-preferable-purchasing/epp-case-studies-health-care
Bold Goal

Safer Products:
Kaiser Permanente will increase its purchase of products and materials meeting environmental standards to
20% by year 2020
50% by year 2025

Only 3 sourcing cycles
Total Spend Optimization

Environmentally Preferable Purchasing (EPP)

KP’s EPP Standard: at least 50% of a supplier’s products must meet eleven safer chemical criteria and at least two waste criteria.
Tools and Resources, Updates

Tools and Resources Available

- List of chemicals of concern with hazard statements
- Top 13 products for priority substitution
- Fact sheets: waste treatment autoclaves, non-mercury devices, non-PVC products
- Tender document example: Autoclave
- Anaesthetic gas tool GWP
- Health systems implementation of the EU green and sustainable procurement directives

Updates

- TOR published for Sustainable Procurement Index Health consultancy – due 29 March 2019
- GGHH/PGH Guidance document in development – Draft 2 due in April; final in September
- GHG measurement methodology, global estimate and carbon hot spots in procurement – due August 2019
- Resource Mobilization meeting held 21 March
- HCWH-UNDP, co-chairs for newly established health sector task team for UN One Planet Sustainable Public Procurement
# SHiPP Preliminary Priority Chemicals for Substitution

<table>
<thead>
<tr>
<th>Hazardous Chemical/chemical in product</th>
<th>Safer substitute</th>
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<tbody>
<tr>
<td><strong>Anesthetic gases and equipment:</strong></td>
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<tr>
<td>Desfluroane is the most potent greenhouse gas</td>
<td>Closed systems for anaesthesia administration; Intravenous instead of inhaled anaesthesia; Eliminate desflurane; Minimize use of nitrous oxide</td>
</tr>
<tr>
<td><strong>Dioxins (incineration of health care waste)</strong></td>
<td>Autoclaves, microwaves, alkaline hydrolysis, biodigesters</td>
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<tr>
<td><strong>PVC/DEHP</strong></td>
<td>Non-PVC alternative polymers including polypropylene, silicone, polyethylene, nitrile</td>
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<td><strong>Disinfectants:</strong></td>
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<tr>
<td>- Glutaraldehyde</td>
<td>Peracetic acid (acetic acid and hydrogen peroxide), H2O2, steam sterilization, OPA (Cidex OPA)</td>
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<tr>
<td>- Ethylene Oxide</td>
<td></td>
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<tr>
<td>- hypochlorite sodium</td>
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<tr>
<td><strong>Mercury containing devices, specifically thermometers, sphygmomanimeters, amalgam, high-mercury florescent lights</strong></td>
<td>Digital, electronic measuring devices</td>
</tr>
</tbody>
</table>
The 10YFP Sustainable Public Procurement Programme

Launch of health sector task team February 2019, co-chairs, HCWH/UNDP
SPP Committee: Brasil

Brazil:
Instrução Normativa nº 01, de 19 de janeiro de 2010, do Ministério do Planejamento, Orçamento e Gestão (Requires Federal Government to conduct Sustainable Procurement)

Where is the health sector?
Project Countries

1. Lower Middle income countries to develop sustainable procurement practices and policies:
   - Argentina, Moldova, Ukraine, Tanzania, Vietnam, and Zambia.

2. Growing economies with important health sectors’ production and consumption, and major regional influence:
   - Brazil, China, India and South Africa.
   - Scaling up in Latin America and Southeast Asia
Thank you