The SDGs and UNIDO's Approach to Sustainable Cities

Florian Peter Iwinjak
Strategic Relations and Resource Mobilization Officer

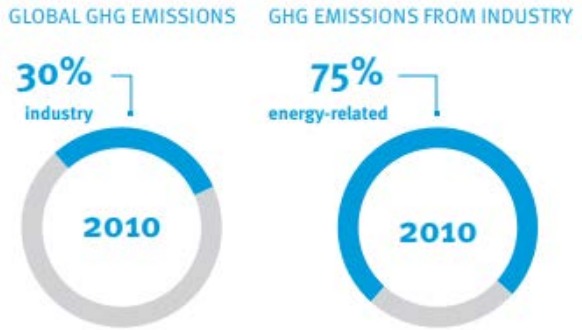
with Inputs from
Katarina Barunica
Associate Industrial Development Expert

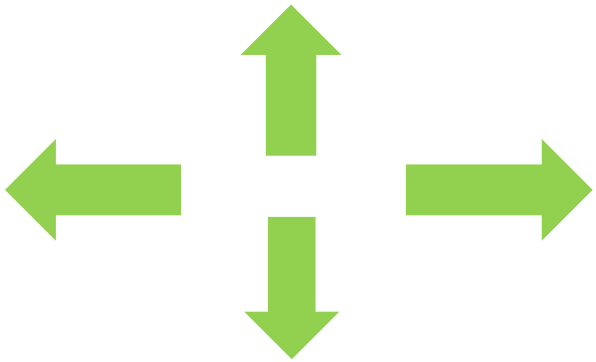
European Cities Conference
9 October 2018
Vienna

Agenda

1. **The Sustainable Development Goals**
2. UNIDO's mandate
3. UNIDO's sustainable cities approach
4. Best Practice Examples

NEW URBAN AGENDA





THIRD INTERNATIONAL CONFERENCE
FINANCING FOR DEVELOPMENT
13-16 JULY 2015 • ADDIS ABABA • ETHIOPIA
TIME FOR GLOBAL ACTION

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Historical Context

The Millennium Development Goals (MDGs)

The Sustainable Development Goals (SDGs)

2000 2015 2030

- Universal: all countries need to report on their efforts
- Holistic: covers basically all dimensions of development
- Balanced: all three dimensions of Sustainable Development
- Priorities remain: poorest and most vulnerable (“no one left behind”)
- Alignment & interrelatedness: to SDGs for countries/ cities necessary
- Evidence-driven: global indicator framework, July 2017 (232indicators)

SUSTAINABLE
ENERGY FOR ALL

Sustainable energy

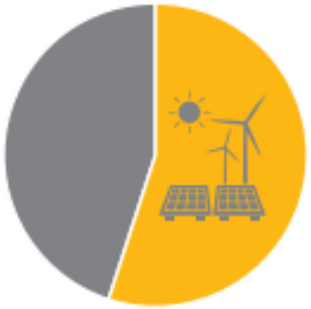
- **Universal access** to affordable, reliable and modern energy services
- Increase substantially the share of **renewable energy** in the global energy mix
- Double the global rate of improvement in **energy efficiency**
- Enhance **international cooperation** to facilitate access to clean energy research and technology, promote investment in energy infrastructure and clean energy technology
- Expand **infrastructure and upgrade technology** for supplying modern and sustainable energy services in developing countries, in particular least developed countries, small island developing States and landlocked developing countries

7 AFFORDABLE AND CLEAN ENERGY

Ensuring access to affordable, reliable and modern energy for all has come one step closer due to recent progress in electrification, particularly in LDCs, and improvements in industrial energy efficiency. However, national priorities and policy ambitions still need to be strengthened to put the world on track to meet the energy targets for 2030.

- From 2000 to 2016, the proportion of the global population with access to electricity increased from 78 per cent to 87 per cent, with the absolute number of people living without electricity dipping to just below 1 billion.
- In the least developed countries, the proportion of the people with access to electricity more than doubled between 2000 and 2016.
- In 2016, 3 billion people (41 per cent of the world's population) were still cooking with polluting fuel and stove combinations.
- The share of renewables in final energy consumption increased modestly, from 17.3 per cent in 2014 to 17.5 per cent in 2015. Yet only 55 per cent of the renewable share was derived from modern forms of renewable energy.
- Global energy intensity decreased by 2.8 per cent from 2014 to 2015, double the rate of improvement seen between 1990 and 2010.

55 per cent of renewable energy was derived from modern forms in 2015



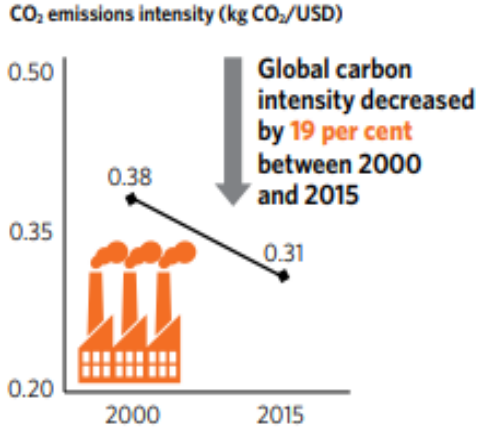
4 in 10 people still lack access to clean cooking fuels and technologies

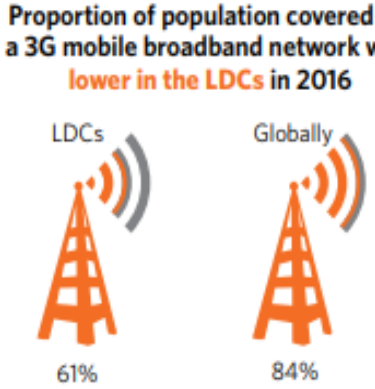
Source: UN SDG report 2018

Industry, Innovation and Infrastructure

- Develop quality, reliable, sustainable and **resilient infrastructure**
- Promote **inclusive and sustainable industrialization** (+raise industry's share of employment and GDP)
- Increase access of **small-scale industrial and other enterprises** to financial services and integration into value chains and markets
- Upgrade infrastructure and **retrofit industries** to make them sustainable
- Enhance scientific research, upgrade the **technological capabilities** of industrial sectors in all countries
- Support domestic **technology development, research, innovation**
- Significantly increase access to **information and communications technology** (universal and affordable access to the Internet in LDCs)

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE





Steady progress has been made in the manufacturing industry. To achieve inclusive and sustainable industrialization, competitive economic forces need to be unleashed to generate employment and income, facilitate international trade and enable the efficient use of resources.

- The global share of manufacturing value added in GDP increased from 15.2 per cent in 2005 to 16.3 per cent in 2017, driven by the fast growth of manufacturing in Asia.
- Globally, the carbon intensity decreased by 19 per cent from 2000 to 2015—from 0.38 to 0.31 kilograms of carbon dioxide per dollar of value added.
- In 2015, medium-high- and high-technology sectors accounted for 44.7 per cent of total manufacturing value added globally. The value added reached 34.6 per cent in developing economies, up from 21.5 per cent in 2005.
- By 2016, the proportion of the population covered by a third generation (3G) mobile broadband network stood at 61 per cent in the LDCs and 84 per cent globally.

Source: UN SDG report 2018

Sustainable Cities and Communities

- Ensure access for all to **adequate, safe and affordable housing**
- Provide access to safe, affordable, accessible and sustainable **transport systems**, improving road safety, expanding public transport
- Enhance inclusive and **sustainable urbanization** and capacity for participatory, integrated and sustainable human settlement planning
- Protect and safeguard the world's **cultural and natural heritage**
- Reduce the number of deaths, people affected, losses by **disasters**
- Reduce the adverse per capita **environmental impact** of cities
- universal access to safe, accessible, green and **public spaces**
- Support positive **links between urban, per-urban and rural areas**
- increase number of cities adopting/implementing **integrated policies**
- Support LDCs in building **sustainable and resilient buildings**

11 SUSTAINABLE CITIES AND COMMUNITIES

Many cities around the world are facing acute challenges in managing rapid urbanization—from ensuring adequate housing and infrastructure to support growing populations, to confronting the environmental impact of urban sprawl, to reducing vulnerability to disasters.

- Between 2000 and 2014, the proportion of the global urban population living in slums dropped from 28.4 per cent to 22.8 per cent. However, the actual number of people living in slums increased from 807 million to 883 million.
- Based on data collected for 214 cities/municipalities, about three quarters of municipal solid waste generated is collected.
- In 2016, 91 per cent of the urban population worldwide were breathing air that did not meet the World Health Organization air quality guidelines value for particulate matter (PM 2.5); more than half were exposed to air pollution levels at least 2.5 times higher than that safety standard. In 2016, an estimated 4.2 million people died as a result of high levels of ambient air pollution.
- From 1990 to 2013, almost 90 per cent of deaths attributed to internationally reported disasters occurred in low- and middle-income countries. Reported damage to housing attributed to disasters shows a statistically significant rise from 1990 onwards.

In 2016, 4.2 million people died from ambient air pollution

Damage to housing due to natural disasters showed a statistically significant rise between 1990 and 2013

Source: UN SDG report 2018

4 basic steps to localizing SDGs

1. Initiate an **inclusive and participatory process**: Raising awareness of the SDGs and engaging stakeholder collaboration to achieve the goals and targets.
2. **Set the local SDG agenda**: Translating the global SDGs into an ambitious yet realistic agenda that is tailored to the local development context.
3. **Planning for SDG implementation**: Deploying goal-based planning principles and mechanisms for more sustainable social, economic and environmental outcomes.
4. **Monitoring and evaluation**: Ensuring that SDG implementation remains on track, and developing local capacity for more responsive and accountable governance.

Source: UN SDSN (2016) see link

Opportunity of resource revolution

Source: McKinsey 2011

Agenda

1. The Sustainable Development Goals
2. **UNIDO's mandate**
3. UNIDO's sustainable cities approach
4. Best Practice Examples

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

SUSTAINABLE DEVELOPMENT GOAL 9
INDUSTRY, INNOVATION AND INFRASTRUCTURE

UNIDO AT A GLANCE

UNIDO WAS ESTABLISHED IN **1966** AND IN 2016 CELEBRATED ITS

50th ANNIVERSARY

THE ORGANIZATION BECAME A SPECIALIZED AGENCY OF THE UNITED NATIONS IN **1985**

THE DIRECTOR GENERAL OF UNIDO

LI Yong
(CHINA)

WAS APPOINTED FOR A PERIOD OF FOUR YEARS BY THE SECOND SPECIAL SESSION OF THE GENERAL CONFERENCE (28 JUNE 2013)

UNIDO EMPLOYS

638
STAFF MEMBERS
(as at 31 December 2016)

THE PORTFOLIO OF PROJECTS AND PROGRAMMES IN HAND

$503.5
MILLION

THE PRIMARY OBJECTIVE IS THE PROMOTION OF

inclusive and sustainable industrial development (ISID)

IN DEVELOPING COUNTRIES AND ECONOMIES IN TRANSITION

UNIDO FOSTERS ISID THROUGH

- Creating shared prosperity
- Advancing economic competitiveness
- Safeguarding the environment

BY PROVIDING TECHNICAL COOPERATION, ANALYTICAL AND POLICY ADVISORY SERVICES, STANDARD SETTING AND COMPLIANCE, AND BY CONVENING FOR KNOWLEDGE TRANSFER, PARTNERSHIPS AND NETWORKING

IN ADDITION TO ITS HEADQUARTERS OFFICE IN VIENNA, UNIDO HAS OFFICES IN BRUSSELS, GENEVA AND NEW YORK.

ITS FIELD NETWORK CONSISTS OF

47 REGIONAL HUBS, AND REGIONAL AND COUNTRY OFFICES

COVERING **156** COUNTRIES

UNIDO maintains Investment and Technology Promotion Offices in eight locations (Beijing, Lagos, Manama, Moscow, Rome, Seoul, Shanghai, and Tokyo) and in 2016 signed an agreement to open another in Bonn, Germany. Moreover, UNIDO and UNEP jointly support the Global Network for Resource Efficient and Cleaner Production (RECPnet) composed of 74 members, including National Cleaner Production Centres in 63 countries.

AS AT 31 DECEMBER 2016, THE ORGANIZATION HAS

170
MEMBER STATES

www.unido.org/member_states

$210.1
MILLION

NET VOLUNTARY CONTRIBUTIONS IN 2016

THE VALUE OF TECHNICAL COOPERATION DELIVERY IN 2016 AMOUNTED TO

$178.6
MILLION

General Conference

DETERMINES GUIDING PRINCIPLES AND POLICIES • APPROVES WORK PROGRAMME AND BUDGETS • APPOINTS DIRECTOR GENERAL

All Member States • meets every 2 years • next session: 27 November – 1 December 2017

Industrial Development Board

REVIEWS THE IMPLEMENTATION OF THE WORK PROGRAMME AND BUDGETS; MAKES POLICY RECOMMENDATIONS TO THE GENERAL CONFERENCE, INCLUDING THE APPOINTMENT OF THE DIRECTOR GENERAL

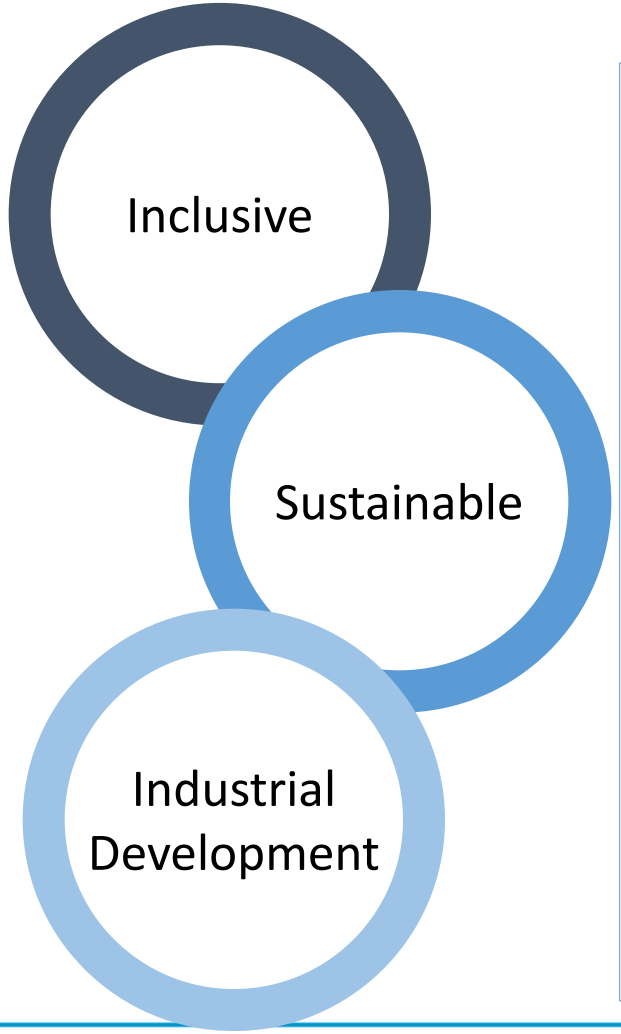
53 Members • meets once a year • next session: 27 – 29 or 30 June 2017

Programme and Budget Committee

ASSISTS THE BOARD IN PREPARING AND EXAMINING THE WORK PROGRAMME, THE BUDGET AND OTHER FINANCIAL MATTERS

27 Members • meets once a year • next session: 16 – 18 May 2017

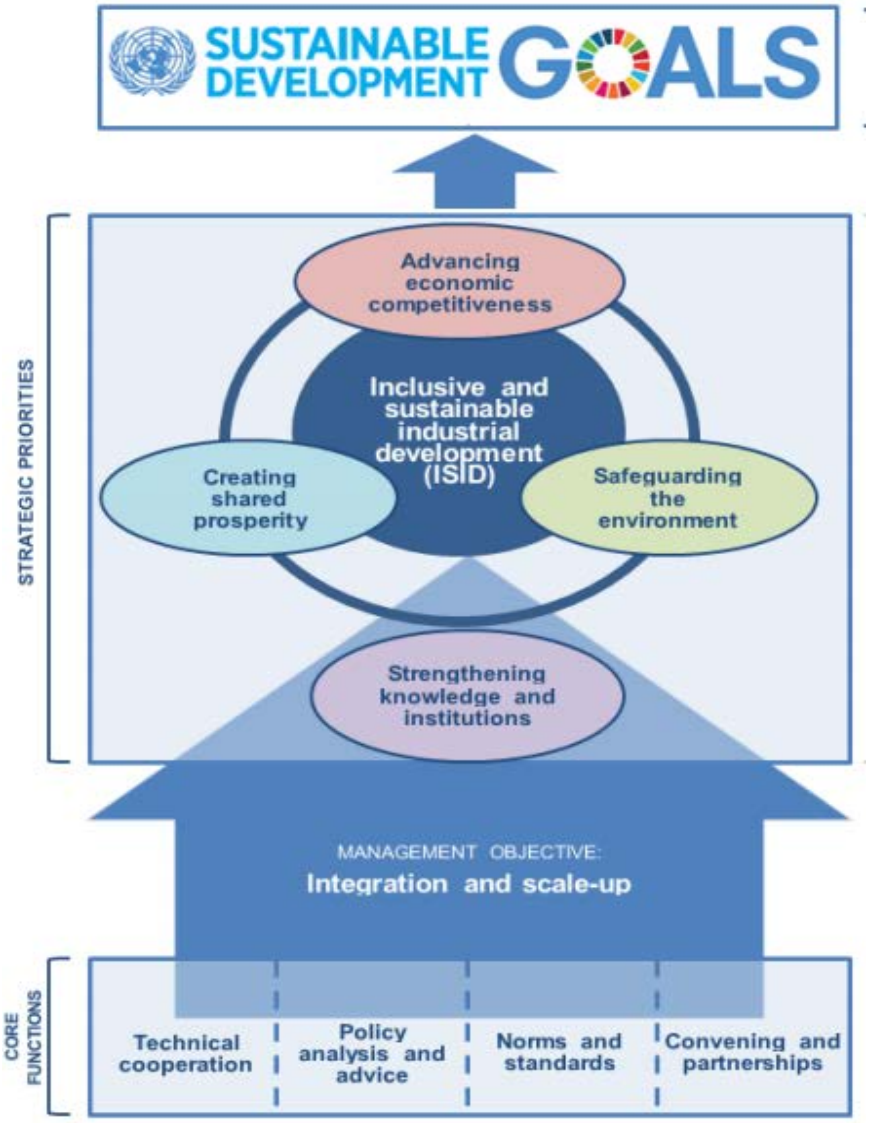
Inclusive and Sustainable Industrial Development



No one should be left behind. We should ensure that no person – regardless of ethnicity, gender, geography, disability, race or other status – is denied universal human rights and basic economic opportunities.

Production processes that are **less carbon-intensive can save energy, reduce consumption of non-renewable resources, and minimize greenhouse gas emissions**, while also stimulating innovation, technological change, diversification and job creation.

New development approach, which looks at **society, economy, industry and the environment** as a whole.


SUSTAINABLE DEVELOPMENT GOALS
STRATEGIC PRIORITIES
Advancing economic competitiveness
Inclusive and sustainable industrial development (ISID)
Creating shared prosperity
Safeguarding the environment
Strengthening knowledge and institutions
MANAGEMENT OBJECTIVE:
Integration and scale-up
CORE FUNCTIONS
Technical cooperation
Policy analysis and advice
Norms and standards
Convening and partnerships

Energy and Environment Partnerships

Transformational Partnerships

Multiple stakeholder coalitions

Catalyst for change to overcome development challenges

Strategic Partnerships

Multilateral donors

Bilateral donors

Private Sector

Optimize / increase impacts on local producers & development

Knowledge Partnerships

Institutions incl. universities & research institutes

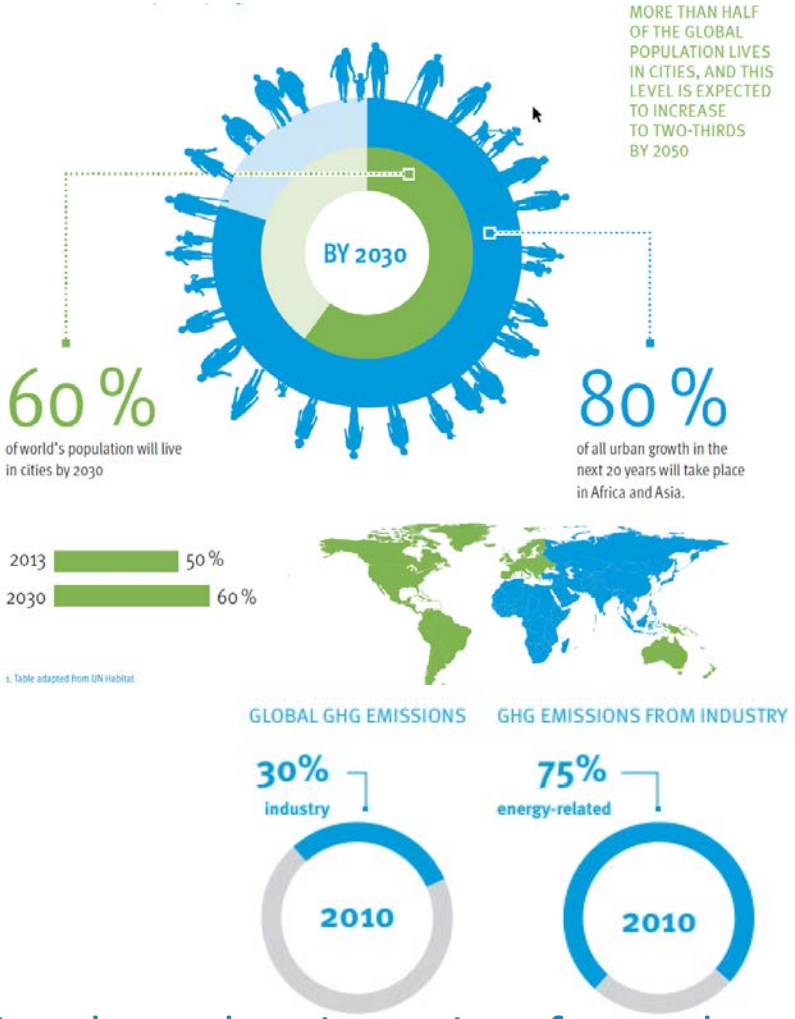
Provision of best practices, norms and implementation support

Agenda

1. The Sustainable Development Goals
2. UNIDO's mandate
3. **UNIDO's sustainable cities approach**
4. Best Practice Examples

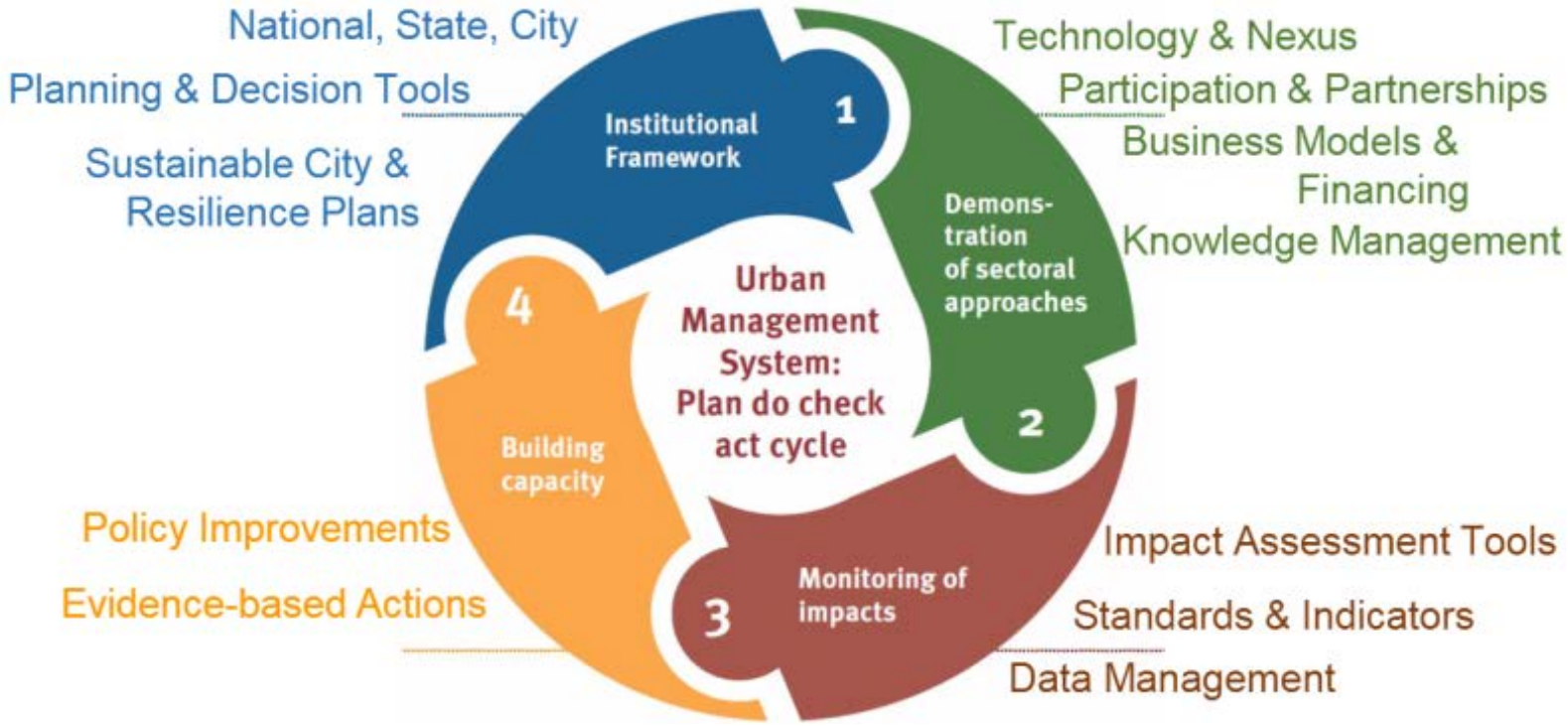
Urban areas account for…

- **Challenges:** 55% of global population currently live in cities, and is expected to reach 60% by 2030, 70% of global energy consumption
- **Opportunities:** 70% of GDP, developing synergies, such as decoupling economic growth from environmental degradation, while at the same time creating employment and fostering clean energy innovation
- **Benefits of industry in the cities:** Local economic development through job creation and income generation
- **Industry offers solutions to the cities:** Limiting the carbon intensity of growth



Sustainable Cities

Hubs of Innovation, Low Carbon
Industrialization and Climate Action

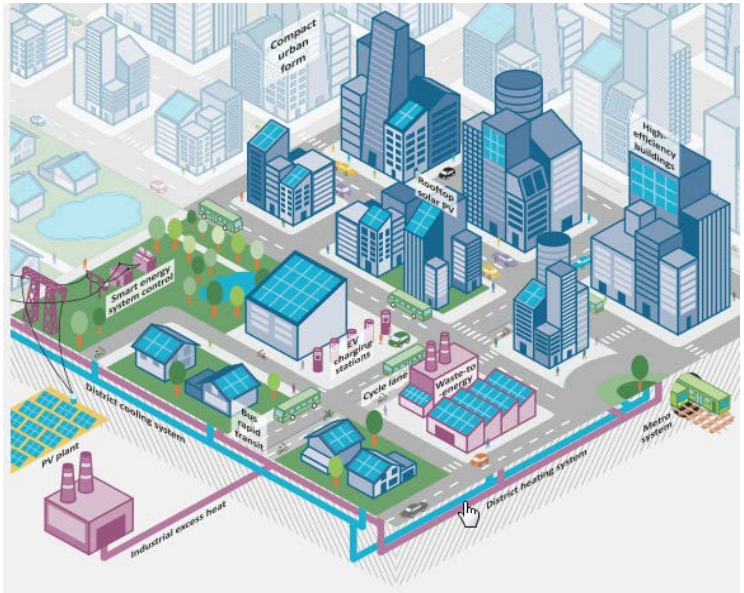


Sustainable Cities

Hubs of Innovation, Low Carbon Industrialization and Climate Action

- **SDG 11**-Sustainable Cities
- **SDG 7**-Clean energy,
- **SDG 9**-Industry & Innovation
- **SDG 13**-Climate Action

Key elements of sustainable urban energy systems



Source: OECD/IEA 2016

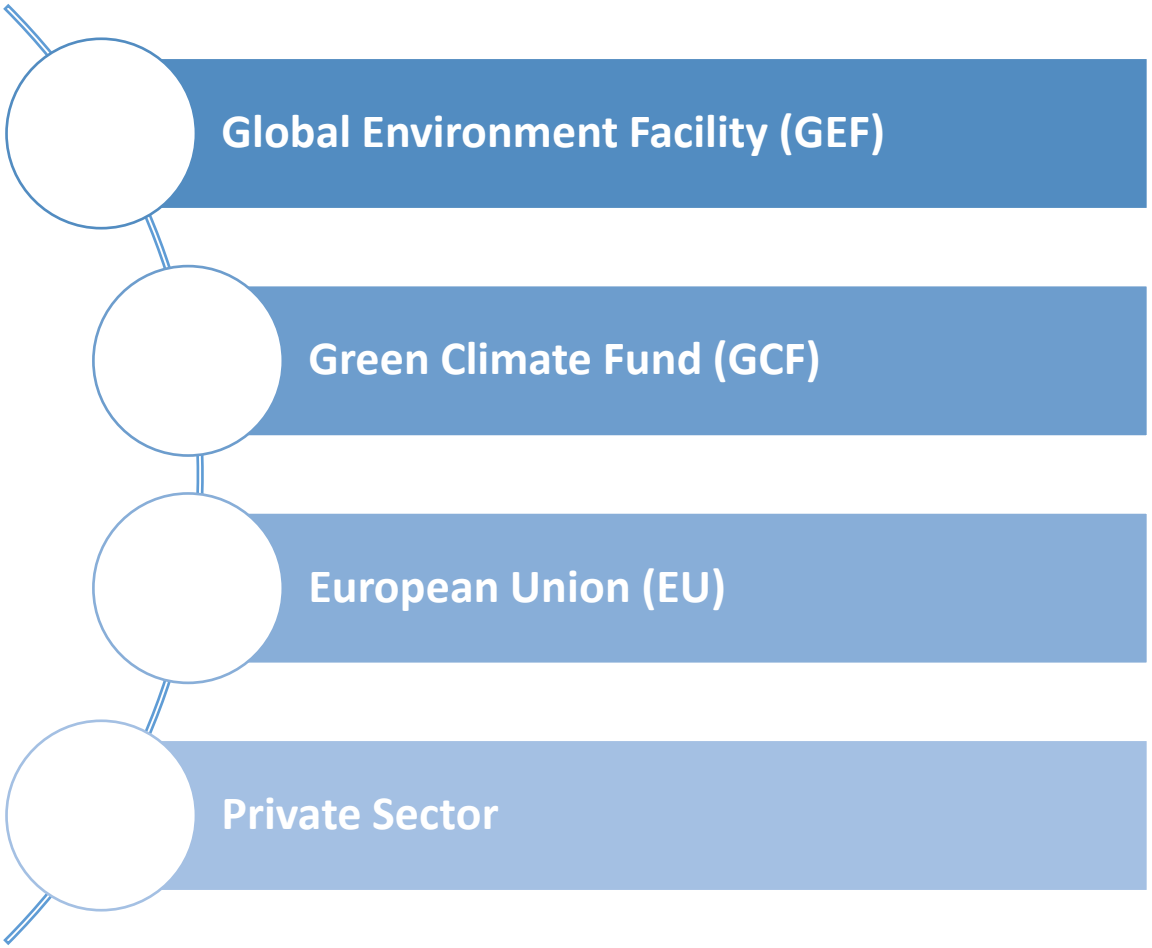
Development interventions

1. DRIVING GREEN TECHNOLOGY INNOVATIONS AT CITY SCALE
2. ESTABLISHING CLIMATE RESILIENCE IN URBAN PLANNING AND MANAGEMENT
3. PROMOTING URBAN INCLUSIVENESS
4. INCREASING PARTNERSHIP WITH DIVERSE ACTORS AND DEVELOPING CITY NETWORKS

What UNIDO offers for sustainable cities?

Low Carbon Infra-structure and Services	Urban Industrial Systems	Innovative City Solutions	ACTIVITIES
⇢ Energy systems and smart grids ⇢ Renewables and industrial energy efficiency ⇢ Low-carbon urban mobility ⇢ Reduce hazards and develop energy recovery from waste streams	⇢ Green value chains and cluster approaches ⇢ Eco-industrial parks and urban industrial symbiosis ⇢ Resource efficiency and cleaner production ⇢ Food-security, safety and agro-processing	⇢ Clean tech and smart city solutions ⇢ Start-up incubators and entrepreneurship ⇢ Foreign and local investment promotion ⇢ Creative and cultural industries development	
Inclusivity: Gender mainstreaming and youth employment			CROSS-CUTTING THEMES
Resilience: Adaptation and managing climate risk			
Partnerships: Engaging cities, stakeholders, and the private sector			

Funding Mechanisms



GEF-7: Sustainable Cities Impact Program

Low carbon transport, Energy efficient buildings, cities and industries

See next slide

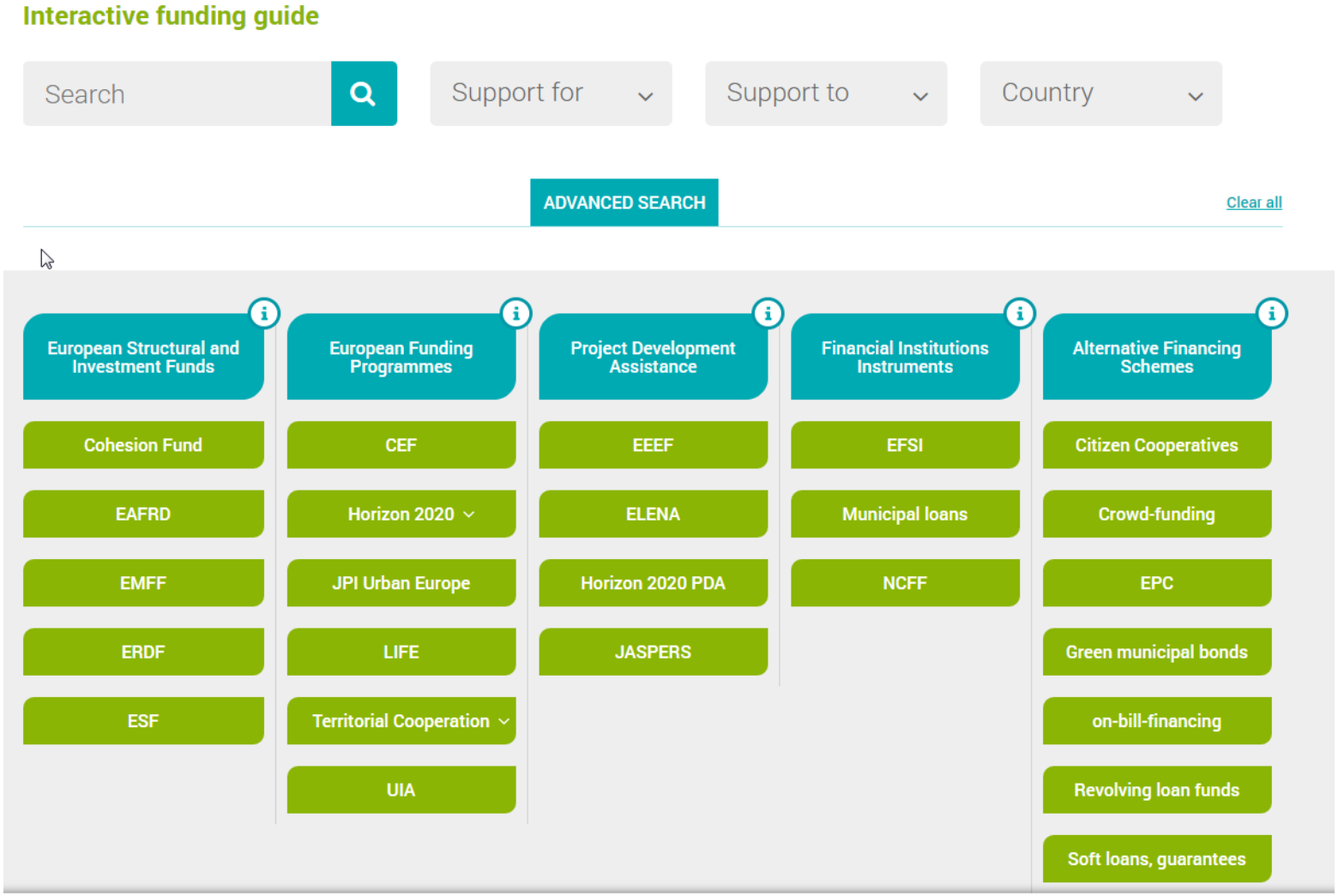
Public Private Development Partnerships (PPDPs)

Potential EU funding for European Cities

- European Fund for Strategic Investments (EFSI): large investments
- European Regional Development Fund (ERDF): regional development
  - Urban Innovative Actions and URBACT
- Cohesion Fund (CF): trans-EUR transport networks, environment
- European Social Fund (ESF): supporting jobs and job opportunities
- European Agricultural Fund for Rural Development (EAFRD)
- European Maritime and Fisheries Fund (EMFF): coastal cities
- LIFE: nature, climate action projects (incl. urban challenges)

Outside EU/ global:

- Instrument for Pre-Accession: preparing for EU accession (acquis)
- Covenant of Mayors: climate and energy, excellent funding page



Source: Covenant of Mayors 2018: https://www.covenantofmayors.eu/support/funding.html

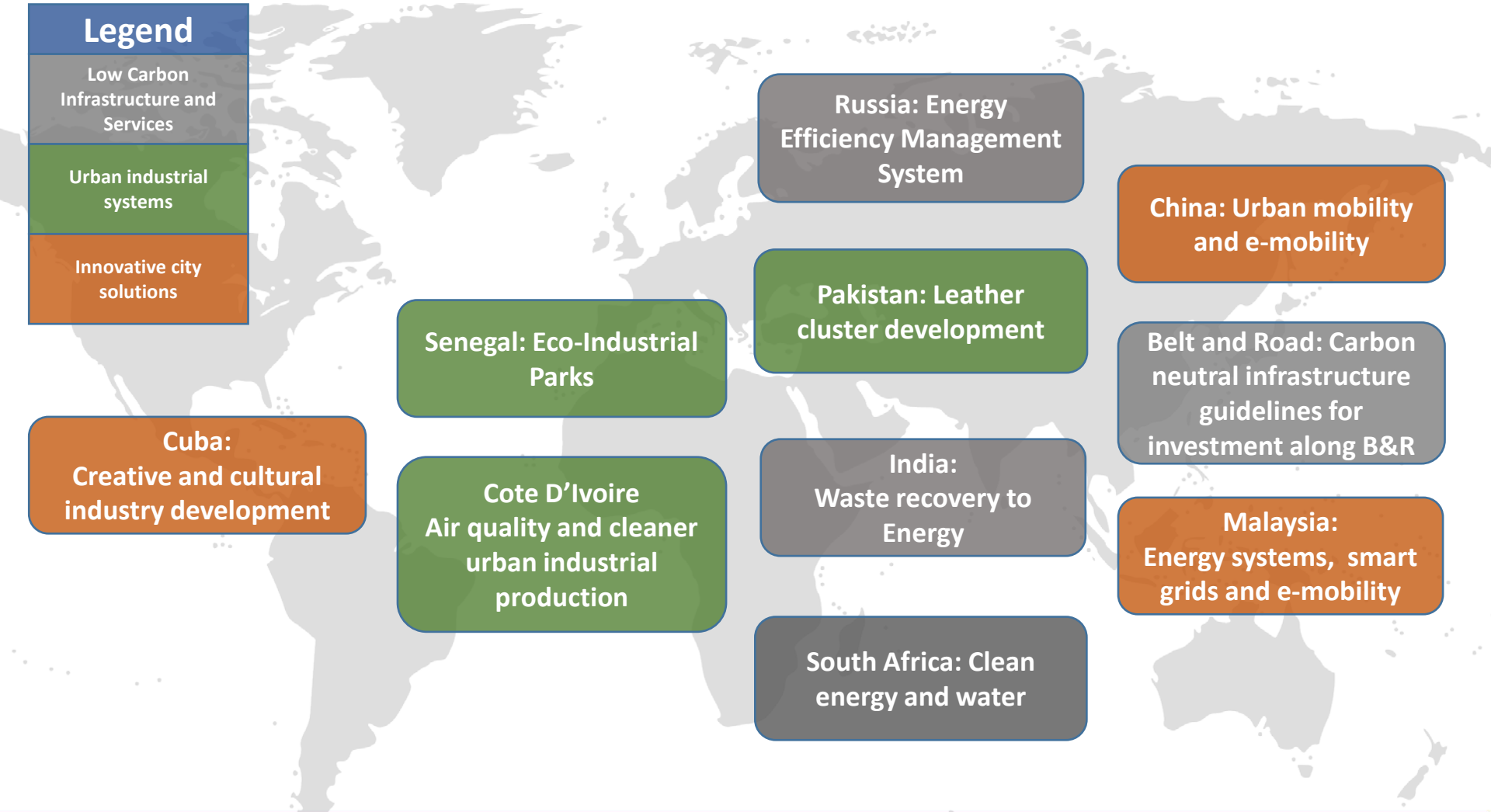
Agenda

1. The Sustainable Development Goals
2. UNIDO's mandate
3. UNIDO's sustainable cities approach
4. **Best Practice Examples**

GEF-7: Sustainable Cities Impact Program

- GEF-7 has increased focus on Impact Programs
- Scale up and grow number of pilot projects
  - Increase number of cities in current countries and expand the program into new countries
  - More cross sector projects
- Enhance involvement of Global Platform for Sustainable Cities (GPSC)
  - Further develop GPSC as hub for knowledge sharing and best practices within program
  - Increase number of participating cities
  - Apply new Urban Sustainability Framework (USF)

UNIDO Sustainable Cities Reference Projects



Sustainable Coastal Cities in Turkey

- Alignment with Turkey's "Zero-Waste" programs
- Under GEF 7 Sustainable Cities Impact Program
  - E-waste management (Chemicals and Waste)
  - Plastic recycling and pollution control (International Waters)
  - Recycled derived fuel and sustainable transport (Climate mitigation)
- Funding and partners

Focal Area	GEF Project Financing
Climate Change Sustainable Cities IP	4,000,000 2,000,000
International Waters	1,000,000
Chemical and Waste	6,000,000

Partners
MoEU
Municipalities, Government agencies (ie: TUBITAK), local SMEs, universities and other technical educational institutions in Turkey
Union for Mediterranean
Association of the Mediterranean Chambers of Commerce and Industry

Climate Technology Centre and Network

CTCN
CLIMATE TECHNOLOGY CENTRE & NETWORK

UNEP

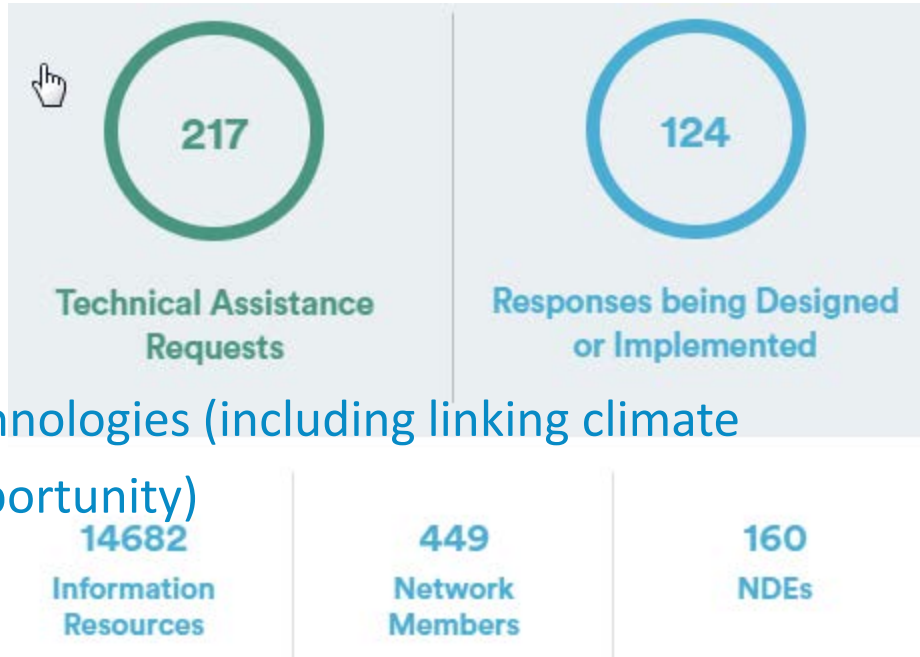
UNIDO

Mandate:

- Operational arm of the UNFCCC's Technology Mechanism;
- Aim: stimulate development &transfer of climate technologies to developing countries to combat climate change
- hosted by UNEP and UNIDO

Services:

- Technical assistance
- Knowledge sharing and training
- Fostering collaboration on climate technologies (including linking climate technology projects with financing opportunity)



Banja Luka: Rehabilitation & Modernization of the district heating (DH) system

Context

- System relies on high cost crude oil and experiences significant energy losses

Requested CTCN Response

- Analysis assess the district heating network and energy efficiency, building efficiency, appropriateness of current heat production, and financial situation
  - Construction of new biomass boilers (cheaper, renewable and locally available)
  - Rehabilitation and replacement of key components in the distribution network
  - Switching to consumption based metering and billing

Expected Impact

- Strategy for significantly upgrading its district heating and financing (EBRD)
- Reduction of procurement cost of crude oil and fuel consumption by up to 27% , saving €4.5 million/year in crude oil expenditure and 20,000 tC02/y
- Economic and employment benefits, cleaner, safer and reliable heating

Belgrade: Modernization of the district heating (DH) system and energy efficiency in buildings

Context

- one of the largest (DH) system in Europe (2800MW, 1420km): natural gas boilers and fuel oil boilers, no waste heat from cogeneration or other sources
- Energy efficiency of the building stock low, and energy consumption high

Requested CTCN Response

- Report on the current status of district heating and building efficiency
- Assessment of combined options for district heating modernization and building efficiency improvements

Expected Impact

- Strategy for significantly upgrading its district heating and financing (EBRD)
- development of a new energy tariff system and its application
- Reduction in heat loss to 5% in medium term, saving EUR 6-7 million/y

Panama City: Accelerating the transition to sustainable mobility and low carbon emissions

Context

- transformation towards a more integrated public transportation system
- natural gas brings the opportunity to use in transportation, whilst electric mobility field offer a attractive and environmentally friendly alternative

Requested CTCN Response

- Analysis of the introduction of low or zero emission buses in the city
- Analysis of two alternatives: electrical buses vs. natural gas buses
- Indication of other transport alternatives that can be helpful to strengthen the public transport system
- Capacity building: workshop with all relevant stakeholders; training on the transport model for specialised transport personnel

Expected Impact

- Recommendations of the most appropriate transport technology for Panama, including an economical evaluation of subsidies, real operational costs of the current system and of the proposed solutions

Resource Efficient and Cleaner Production

RECP net

Vision: Preventive environmental strategies applied to processes, products and services to increase efficiency and reduce risks to humans and the environment

~50 National Cleaner Production Centres (NCPCs) since 1994

5 service areas:

1. Awareness building and information, dissemination
2. Professional training
3. In plant assessments/ technical assistance
4. Policy advice
5. Transfer of Environmentally Sound Technologies

UNIDO UNEP

http://www.recpnet.org

Industrial Symbiosis in Tianjin Binhai New Area (China)

Context

- Highly polluting and inefficient industry
- 800 SMEs, including manufacturing enterprises, recyclers, and technology and services providers

Strategy

- Creating linkages between companies
- Setting up network and IP governance, based on data and capacity

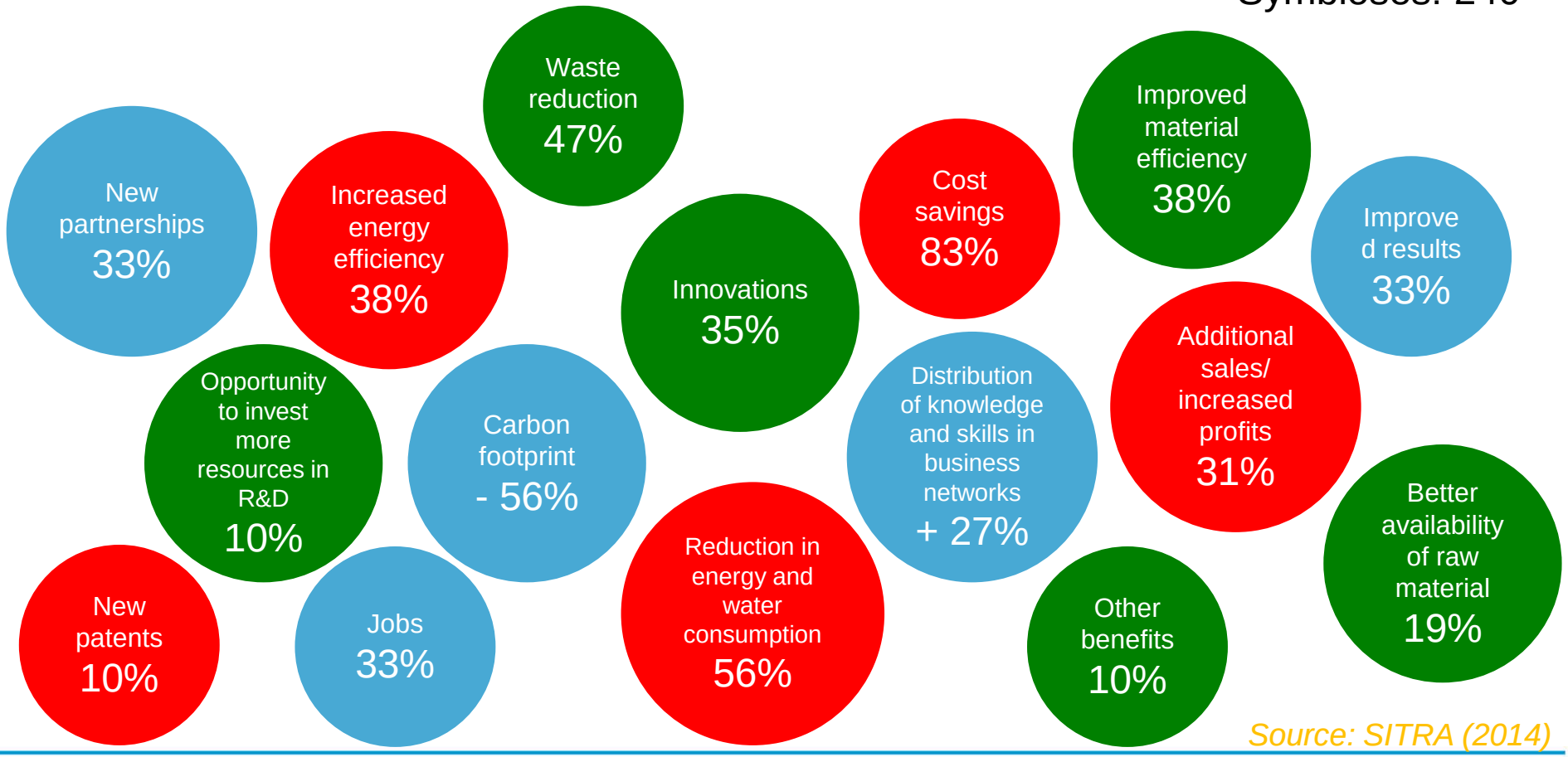
Impact

- 1 430 000 tones of waste diverted from landfill
- CO2 emissions reduced by 167 000 tones
- €9.5 million cost saving and €14.6 million increase in revenues
- Increased employment opportunities

switchasia NETWORK FACILITY

Benefits of Industrial symbiosis for Companies

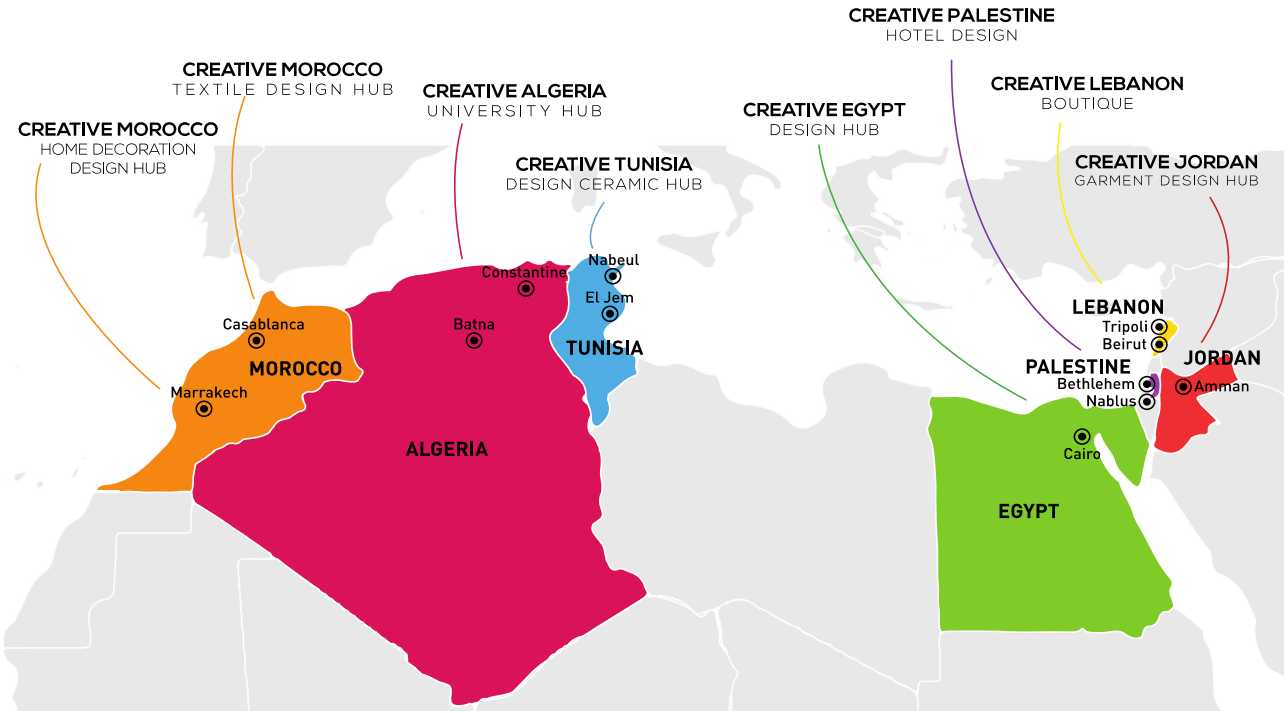
Respondents: 125 companies
Symbioses: 240



Source: SITRA (2014)

Creative Mediterranean

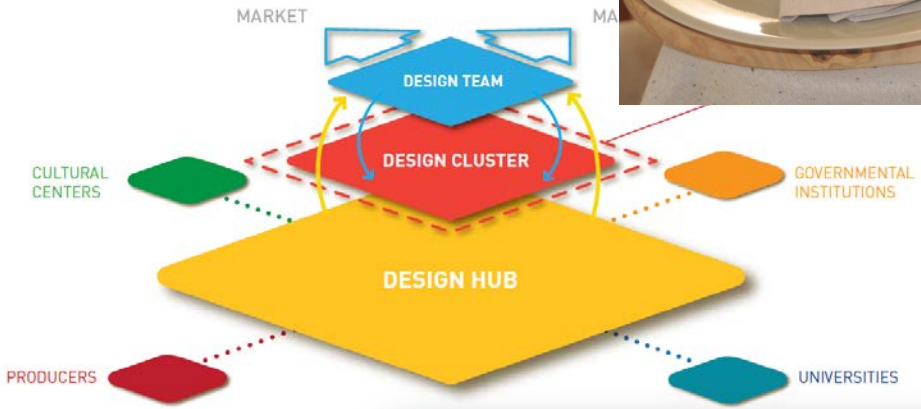
CREATIVE MEDITERRANEAN | resilience through creativity

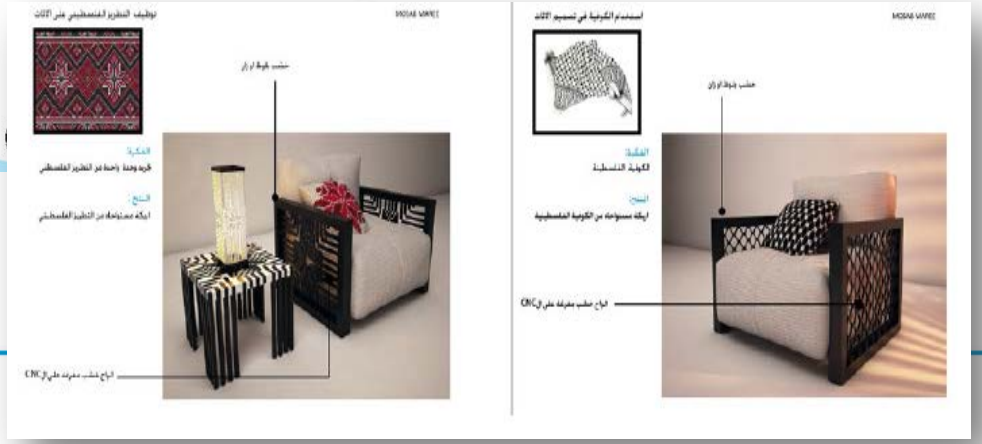


Impact:

- Mapping cultural & creative industries in the region
- 2 million people reached through dissemination, 60 local institutions strengthened
- 4 design hubs with modern equipment & technologies, 11 new collections
- 50%+ business performance, 337 direct jobs created, 9 partnerships with retailers

CREATE A DESIGN ECO-SYSTEM





Delicious Montenegro

- Integrated cluster approach : Agro-food, tourism and creative Industries
  - 4 clusters supported: training, study tours, marketing, valorization, action plans, etc.
  - One national brand: “Delicious Montenegro” and national cluster strategy
- Collaboration between stakeholders is an essential feature:
  - 36 government bodies, institutions, business associations & academia, 12 local self-government units and 47 SMEs with 167 fixed term employees (24 women) and about 280 seasonal workers.
- Integrated cluster approach impact:
  - territorial products, produced by marginalized populations and women (SDG 1 and 5)
  - Reducing inequalities within national borders (SDG 10)
  - Preserving natural and cultural heritage through awareness about biodiversity (SDG 15)
  - Generation of income and job opportunities (SDG 8)
  - Support agricultural communities and strengthening food security (SDG 2)

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

FINANCE CENTER FOR
SOUTH-SOUTH COOPERATION
南南合作金融中心
FCSSC

BRIDGE FOR CITIES

Belt & Road Initiative: Developing Green Economies for Cities

SAVE THE DATE

Please join us for the

3rd annual "BRIDGE for Cities" event

9 to 11 October 2018

Vienna International Centre
Vienna, Austria

Thank you for your attention!

Florian Peter Iwinjak
F.iwinjak@unido.org
+43(1)26026-3139

www.unido.org
https://open.unido.org

Since pictures say more than words

- Creative Mediterranean:
  - https://www.youtube.com/watch?v=xSwR9SJeWyI
  - https://www.medcreative.org/the-project
- Malaysia Sustainable cities
  - https://www.youtube.com/watch?v=Ljsa2l9wYlw
- India Sustainable cities
  - https://www.youtube.com/watch?v=DtdcWkdSLZQ

Useful material

UN

- UN-SDSN (2018): SDG Index and dashboards report 2018
- UN (2018): The Sustainable Development Goals Report 2018
- UN-SDSN (2016): Getting Started with the SDGs in Cities: A Guide for Stakeholders
- UN-SDSN (2015): Indicators and a Monitoring framework for the SDGs: Launching the Data revolution

UNIDO

- UNIDO (2016): Sustainable Cities: Hubs of Innovation, Low Carbon Industrialization and Climate Action
- UNIDO (2015): Promoting climate resilient industry

UNIDO/UN Means of Implementation for 2030 Agenda

All supported by EU Institutions and/or EU Member States

Links to all these networks here on P.13