

# SUMMARY REPORT

2016  
GGSD  
Forum

9 & 10 November  
OECD, Paris

Urban green growth,  
spatial planning and land use



2016  
Green  
Growth  
and  
Sustainable  
Development  
Forum





Established in 2012, the Green Growth and Sustainable Development (GGSD) Forum is the key annual green growth event at the OECD. The GGSD Forum is a space for multidisciplinary dialogue on important cross-cutting issues, where coordination across different government ministries, OECD committees, business and civil society is vital to deliver on the green growth agenda.

The OECD's fifth GGSD Forum was held on the theme of “**Urban green growth, spatial planning and land use**”. The three main sessions of the Forum included: **(1)** Existing land use policies for inclusive development and green growth; **(2)** The remaining challenge of urban sprawl; and **(3)** Innovative policy approaches to meet green growth challenges in cities. In addition, four parallel sessions were held focusing on the following areas: **(A)** Resilient infrastructure; **(B)** Tracking progress on urban green growth and the Sustainable Development Goals; **(C)** Win-win solutions for “inclusive” and “green” cities; and **(D)** The impact of tax policies on land use outcomes.

# Why urban green growth matters?



Stanley Yip and Patrick Klugman

National governments committed themselves to a global agenda for a sustainable world by 2030 when they adopted the **Sustainable Development Goals** in 2015. An integral part of these international efforts include actions taken by subnational levels of government. In fact, cities are already leading the way in the shift towards greener economies by investing in resilient infrastructures, renewable energy solutions, and low-carbon transportation. Every day, municipalities make decisions that help reduce urban environmental impact and stimulate growth. But how can governments, local leaders and businesses work together to ensure that cities continue to generate growth, combat climate change, and improve their residents' well-being?

## Setting the Scene: what works and what doesn't

**Simon Upton**, the OECD Environment Director, opened the Forum by outlining some areas where fresh enquiries are needed to address the undesirable consequences of policies that fail to align. On taxation for example, twelve out of the 26 analysed OECD countries are providing tax deductibility for commuting. This is creating an adverse incentive for people to live far from their workplace, which exacerbates urban sprawl.

Governments are constantly tasked with defining better fiscal, education, competition, trade, environment and health policies. **Christian Kastrop**, director of the OECD's Economics Department, examined what "**better**" means in the case of green growth. Asking if it was more growth, lower costs, or better results, his presentation drew attention to **trade-offs** and the need to identify and quantify them in order to better advise governments on spatial planning and land use policies.

*How can we create positive synergies from land use policies for improved economic efficiency, environmental sustainability, and social inclusion?* Discussing the importance of coordinating land use and transport planning, **Christian Kastrop** discussed the importance of coordinating land use and transport policies for better economic and environmental outcomes. The OECD's Economic Survey of Norway (2010) was quoted as an example; it had suggested the use of a realistic estimate of the '**shadow price**' of CO<sub>2</sub> to ensure that the choice of location of public services is made with consideration to their implication for road traffic.

"Today, over half of humanity lives in urban areas. By 2050, it will be nearly 70%."



Rintaro Tamaki, Deputy Secretary-General of the OECD

Given the important role of the **New Urban Agenda** that was recently adopted during the **Habitat III Conference in Quito**, the GGSD Forum was a unique opportunity to discuss these urban trends and their role in framing the future of green growth developments in cities.

Exploring **multi-level governance** solutions was at the heart of the discussions that gathered 45 speakers and over 200 participants. Drawing on previous and ongoing work from various OECD Committees, keynote presenters and speakers aimed to identify best practices as well as key knowledge gaps that help establish future work priorities on green growth for the OECD and others.

Cities are already acting as “catalysts of change” in the transformation for a greener global economy. They are uniquely positioned to cope with the challenges of climate change and rapid urbanisation. In the **Scene-Setting Session**, two keynote speakers were invited to share their views on good practices in mitigation, land use and spatial planning from their country’s perspective.

*“Local governments have everything they need to be efficient: they are self-governed entities and they have first-hand knowledge of where resources should be allocated.”*

– Patrick Klugman

Paris is one of the most densely populated cities in the world, with two million inhabitants living in an area of 104 km<sup>2</sup>. *How is Paris doing on its pledge to reduce greenhouse gas emissions by 75% by 2050 compared to 2004?* Some answers provided by **Patrick Klugman**, Deputy Mayor of Paris, include the design of the Clichy-Batignolle district featuring 40,000 m<sup>2</sup> of PV panels, a car sharing programme known as Autolib’, and the “vegetalisation” of Parisian walls and rooftops. The city of Paris is also heavily investing in affordable housing to guarantee that neighbourhoods maintain a certain level of social diversity.

## Rapidly Urbanising Cities

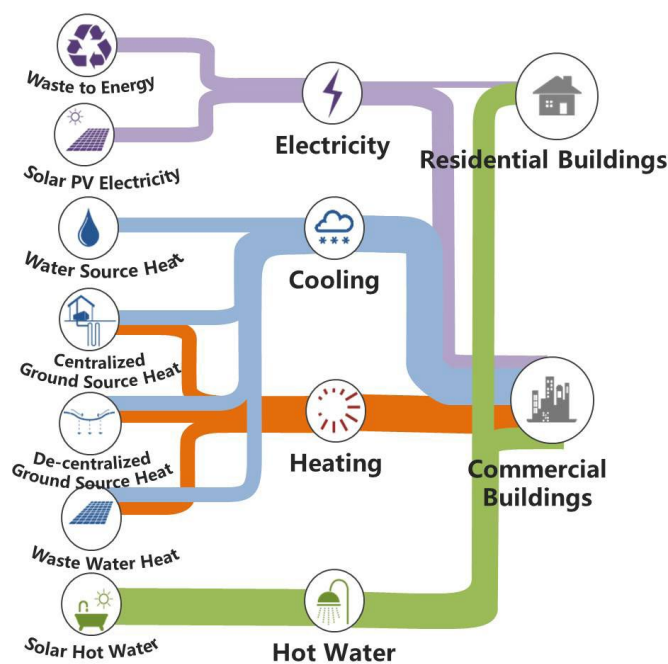


Source: Stanley Yip, 2016

In the People’s Republic of China, the urbanisation rate has grown from 24% in 1978 to over 55% today. The country is aware that this rapid urbanisation represents an opportunity to set ambitious sustainability goals for cities. **Stanley Yip**, Professor at the Centre of Urban Planning and Design at Peking University, shared insights about China’s new **Urbanisation Plan 2014-2020**.

It requires 50% of all new buildings to be certified as green buildings and it has set a 13% target for renewable energy consumption. In addition, the country’s latest **13th Five-Year Plan 2016-2020** is expected to allow peaking of CO<sub>2</sub> emissions by 2030, along with the launch of a national carbon emissions trading scheme. Because of the large size of its territory, China typically starts by introducing pilot projects at the local level to test innovations and policies before deploying them throughout the country.

Twenty one cities have already joined the Alliance of Peaking Pioneering Cities (APPC), representing almost 120 million people. Beijing was cited as an example of a Chinese city that is embracing innovative urban green growth solutions. Under its Land Use Plan 2004-2020, the city has designed 14 green eco-districts and aims to reduce its energy demand by 28% and its water consumption by 36%, obtain 10% energy supply from renewable sources, and increase green spaces by 18%. However, Stanley Yip also noted that, often, subnational levels of government lack the appropriate policy and market incentives to implement these top-down directives.



Source: Stanley Yip, 2016



Left to right: Jana Plaminková, Paul Le Blanc, Shahar Solar, Salin Geevarghese and Dominique Bureau

# Session 1

Session 1 of the GGSD Forum was co-organised with the OECD **Regional Development Policy Committee (RDPC)** and moderated by its Chair, **Paul LeBlanc**. The session explored different land use policies that are pursued to promote economic, environmental and social goals. Speakers from the United States, France, the Czech Republic and Israel were invited to discuss different land use policies supporting green growth and inclusive stakeholder engagement in their respective countries.

**Paul LeBlanc** noted the importance of **monitoring and evaluation** of land use and spatial planning policies. “It is imperative to determine if we are on the right track to achieve the desired land use and green growth outcomes”, he said.

*“Land use is a policy field where co-operation between the local, regional and national level is crucial for achieving desired outcomes.”*

– Paul LeBlanc

Planning traditions, systems and models to control and monitor sprawl vary greatly across countries. Given the increasing environmental concerns associated with urban sprawl, governments around the world and at all levels are re-examining their institutional arrangements to harmonise socio-economic development with the challenges of environmental protection.

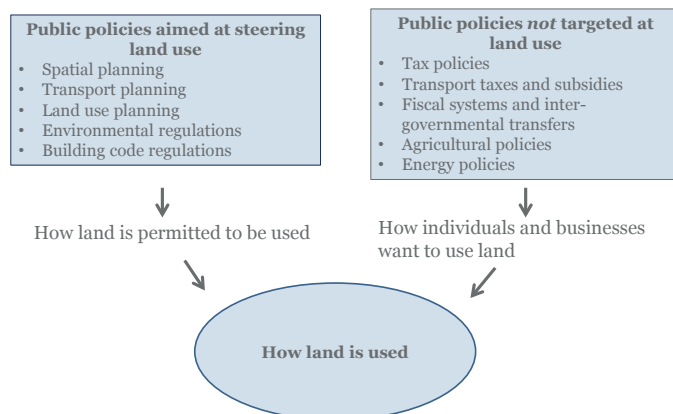
**Joaquim Oliveira Martins** from the OECD’s Public Governance and Territorial Development Directorate highlighted that spatial and land use planning systems alone cannot meet these goals. Instead, a broader range of tools needs to be used. In particular, public policies such as tax, agriculture, energy, and transport policies affect land use outcomes. Greater attention has to be paid to these incentives to ensure they are aligned with objectives related to land use.

During his keynote presentation, **Philip McCann** from the University of Groningen highlighted the wide-ranging differences that exist in the way that land

is approached by various stakeholders, including developers, home owners, lawyers, planners, investors, and policy makers. He noted that interactions between land use policies, planning policies and other policies (especially in legal terms) are extremely complex. The interaction between land markets and planning policies happens within a continuum that ranges from genuine planning (the Netherlands) to development control systems (United Kingdom), which makes coordination between policy areas and across government levels extremely difficult. **Philip McCann** argued that all of this is institutionally and culturally dependent.

**Joaquim Oliveira Martins** cited an example from the Netherlands, where a newly adopted **Environment and Planning Act (2016)** has integrated the rules and regulations for wide-ranging policy areas such as nature, water, construction and dwellings in order to speed up and simplify decision-making.

**Dominique Bureau** from the French Economic Council for Sustainable Development provided an overview of France’s urban plan known as “SCOT” or **Schéma de Cohérence Territoriale**, along with some of the country’s latest legal developments. He discussed the implications of the recently adopted **ALUR Law** of 2014, which made land use assessments mandatory to elaborate future local urban plans and to open up zones to urbanisation.



Source: Joaquim Oliveira Martins, OECD

# Compact & sustainable cities

Cities are at the frontline of adapting to a growing world population. This means that greater densities are needed in cities to accommodate more urbanites. The rationale for building compact cities is, however, not just about demographics, it is also about economic and environmental advantages.

This message was also shared by **Christian Kastrop** in the Scene-Setting Session, who argued that although policies encouraging more compactness might lead to higher property prices, they can also improve environmental and social outcomes if they are well integrated with public transport planning. The idea that “the move towards urban densification is desirable for health, energy and transport planning” was similarly echoed by **Philip McCann**.

**Jana Plamínková**, City Counsellor of Prague, provided an overview of her city’s approach to sustainable development. Prague has a Strategic Plan that foresees compactness and high-density as key enablers of sustainable development. Building a compact city is expected to trigger the following positive externalities:

- Higher share of healthy and safe mobility;
- Lower carbon footprint;
- Shorter commute times;
- Enhanced access to public services and amenities;
- Reduction of negative externalities such as car traffic, air and noise pollution, traffic accidents;
- High density of job opportunities.

**Jana Plamínková** also presented Prague’s Metropolitan Land Use Plan, which is currently under development. It emphasises actions on the inner city’s brown fields in order to orient potential development to the city-core area.

Her presentation noted that some of the best agricultural lands are being sold for urban expansion. This point was also shared by **Shahar Solar**, Head of Environmental Planning and Green Building at the Environment Ministry of Israel, who explained that municipalities tend to earn more from developed land than agricultural land, which gives them an incentive to authorise new developments.

# Local action for global challenges

**Salin Geevarghese** from the US Department of Housing and Urban Development explained the respective roles of federal and state governments in supporting green growth. One of the tools made available by the US federal government is a scheme known as the **Community Development Programme**. It provides states and localities with a financial allocation for affordable housing, capacity building, and overall land use and urban planning. It is particularly useful to address the needs of low-income residents and disaster recovery. Another example is the **Sustainable Communities Initiative**, a large bottom-up initiative that helps states and localities design integrated approaches to land use and planning, transportation and economic development policies, while collaborating across the policy silos.

As urban planning, land use and green growth initiatives remain a state and local responsibility in the United States, **Salin Geevarghese** cautioned against top-down directives from the Federal government, which are not efficient. This stresses the necessity to **build capacity** at the local level to ensure that relevant jurisdictions are equipped to make the right decisions at the right time.



Salin Geevarghese

**Shahar Solar** from the Environment Ministry of Israel also explained why, with 600 inhabitants per square kilometre and 92% of the population living in cities, Israel is one of the densest countries in the Western world. In contrast to the US experience, Israel’s planning system requires any change at the local level to be first approved by the central government. He shared the vision of his country’s planning system, which is based on a **National Master Plan, Regional Plans** and **Local Plans**.

## Identified knowledge gaps and suggestions for future work

- Conduct further studies on the impact of urban planning policies on rural areas and how these are affecting green growth prospects for cities and regions.
- Analyse the policy trade-offs between sustainable, affordable and liveable housing in cities.
- Identify solutions to cope with governance fragmentation and uneven capacity of local authorities across territories.
- Identify the determinants that drive an area to end up with compact or sprawling commuting zones.

# Session 2

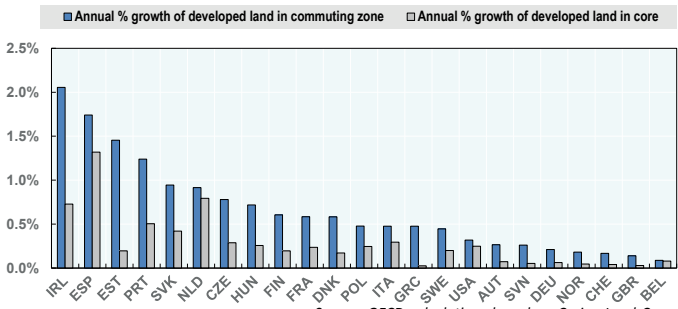
Having explored different land use and planning traditions in various countries and some policy mistakes of land markets in **Session 1**, it was vital to shed light on the effects of land-use patterns and spatial planning instruments on urban development trends. **Session 2** of the GGSD Forum focused on urban sprawl, which remains a major concern for many countries. Experts from leading universities, the European Environment Agency and OECD governments examined the main drivers and trends of urban expansion and discussed the efficiency of anti-sprawl instruments.

The session was moderated by **Edward Hearnshaw**, Principal Policy Analyst at New Zealand’s Ministry for the Environment and Delegate to the **OECD Working Party on Integrating Environmental and Economic Policies**.

## Growing land consumption

In the Forum’s Opening Session, **Rolf Alter**, the Director for Public Governance & Territorial Development at the OECD, noted that developed land in primarily urban areas accounts for 14% of all land in Europe, 18% in Japan, and 10% in the US. **Joaquim Oliveira Martins’** presentation in **Session 1** had similarly shown an increase in total land consumption everywhere, although at different rates. As illustrated in the graph below, the amount of developed land per capita in urban areas varies greatly across different OECD countries.

**Annual growth rates of developed land between 2000-12**



Source: OECD calculations based on Corine Land Cover and National Land Cover Database.

However, **Joaquim Oliveira Martins** also explained that the volume of developed land mostly grew outside the urban core, while density patterns remained unchanged inside cities. This was echoed by **Marie Cugny-Seguin** from the European Environment Agency, who pointed to the fact that the expansion of urban areas is outpacing actual population growth in Europe.

In her keynote, **Marie Cugny-Seguin** affirmed that urban sprawl is an ongoing process in Europe, resulting from a lack of planning and limited control of land sub-division. She discussed changing land use patterns and provided examples of two European countries that introduced rigorous limitations to the growth in land use. In Switzerland, the **2014 Spatial Planning Act** helped protect towns from sprawl by restricting the expansion of building zones to areas where a prior evaluation has projected population increase. Germany is also limiting land take on the urban fringes, densifying inner city areas, recycling land, and safeguarding open spaces. The country’s **National Sustainable Development Strategy of 2007** aims to reduce the land take for settlements and transport routes from 130 ha per day in 2000 to 30 ha per day by 2020.

## Explaining urban sprawl

Cities grow spatially for several reasons, including higher populations, higher incomes, and better transportation systems to the suburbs. In his keynote, **Jan Brueckner** from the University of California provided his perspective on urban sprawl and explained some market failures that are causing spatial expansion. These include:

- **Road congestion**, resulting in long commuter trips and increasingly spread-out cities.
- The failure to account for the **pollution** caused by urban transportation and residential energy use.
- **Developer’s failure** to consider the benefits of open space from land on the urban fringe.



A remedy to these market failures is making driving more expensive through **congestion tolls**, such as those implemented in London, Stockholm and Singapore. A study cited by **Jan Brueckner** estimated that optimal congestion tolls could reduce urban land area by 12-20% in the long-term.

Urban sprawl may also be a matter of policy failure, noted **Walid Oueslati** from the OECD's Environment Directorate. An example of such policy failures is the pressure faced by national governments to address **housing crises** in contexts of high construction and land prices in the city centre. The lack of co-ordination between policy areas with competing priorities is contributing to the construction of highly isolated, fragmented and car-dependent urban developments.

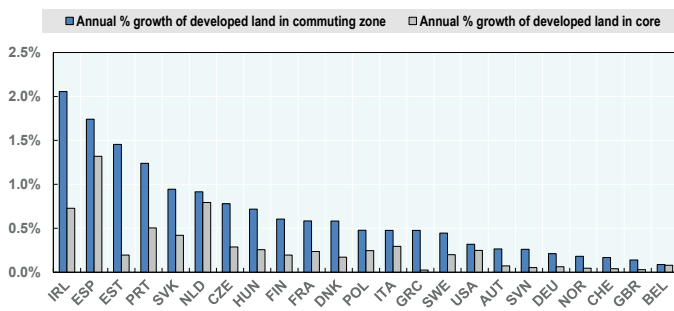
In Session 1, **Philip McCann** had already noted that land markets and land use policies typically aim at multiple goals at the same time, which makes land use regulation inefficient in reducing housing prices. While many factors can explain higher housing prices, including low interest rates and land use restrictions, **Walid Oueslati** further discussed the role of high housing costs in pushing people to live in the suburbs.



Left to right: Jan Brueckner, Ed Hearnshaw and Elena Irwin

Although land use regulation is generally aimed at preventing sprawl, **Elena Irwin** from Ohio State University pointed to the correlation between the growth of developed land per capita and housing costs. This finding was consistent with **Joaquim Oliveira Martins'** message that declining per capita use of land is strongly impacting land prices (see graph).

### Per capita growth of development land in functional urban areas (cores and commuting zones combined)



Source: OECD calculations based on Corine Land Cover and National Land Cover Database.

An explanation provided by **Elena Irwin** is that zoning rules and density thresholds are in fact preventing densification and the construction of sufficient housing for growing urban populations. As a consequence, cities are able to accommodate population growth only through outward expansion or through shrinking living spaces per capita. **Elena Irwin's** presentation examined urban development trends in the United States, where data on new single-family housing constructions reveals that cities are undergoing expansion rather than sprawl.

**Julien Salanié** from Saint-Etienne University focused his intervention on the link between environmental regulations and urban sprawl. Based on a previous OECD study on Natural Parks in France, he indicated that urban environmental policies often fail to protect the environment around the cities. Indeed, land use policies that protect an area also tend to make it more attractive, more expensive, and therefore bring it under greater pressure. This explains why spatially targeted policies such as environmental zoning generally result in re-location of polluting activities

Furthermore, more expensive areas are not only likely to drive changes in land prices and population densities, they ultimately affect the social composition of neighbourhoods. The gentrification around protected areas further emphasizes the need for policies aimed at both environmental protection and social development.

### Identified knowledge gaps and suggestions for future work

- Cope more systematically with the unattended consequences of urban expansion in terms of farmland value, biodiversity, ecosystems and energy consumption.
- Address the lack of empirical evidence regarding the impact of zoning policies and car sharing on urban green growth.
- Develop new dynamic models that are able to anticipate future benefits of preserving land.
- Explore solutions to overcome the co-ordination gaps among different ministries and local authorities.
- Collect better data on anti-sprawl policies and the interactions between different regulations.



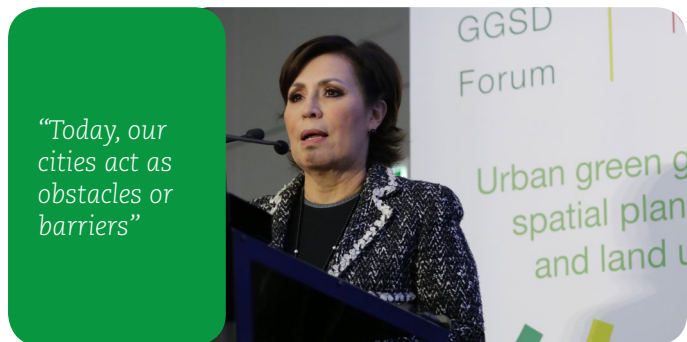
Left to right: Adrash Varma, Edoardo Croci, Evelyn Nacario-Castro, Vincent Fouchier, Rosario Robles Berlanga, Chang-Beom Kim and Hoang Vinh Hung

Discussions in **Session 3** focused on **innovative policy approaches that can help cities overcome green growth challenges**. Participants from Mexico, Vietnam, Korea, Italy and two representatives from the private sector and an NGO were invited to share thoughts and experiences on how cities can accelerate urban green growth.

The session was moderated by **Vincent Fouchier**, Director of the Aix-Marseille-Provence metropolitan area planning project and Chair of the OECD **Working Party on Urban Policy** (WPURB).

*“Cities are part of the world’s problems. They are, however, also where the solutions will be found and where green growth will occur.”*  
 – Vincent Fouchier

While green growth opportunities do exist, harnessing their potential requires sustained and enhanced knowledge sharing and co-operation among cities and across different levels of governments. Learning from best practices is, therefore, crucial to identify approaches that are suitable for urban spaces with similar characteristics.



Rosario Robles Berlanga, Minister of Agrarian, Territorial and Urban Development (SEDATU), Mexico

## Urban green growth agenda

**Rosario Robles Berlanga**, the Mexican Minister of Agrarian, Territorial and Urban Development, gave a keynote presentation exposing her country’s high vulnerability to climate-related events. In order to control sprawl and boost the implementation of Mexico’s National Urban Development Policy, the Ministry of Agrarian, Territorial and Urban Development was created in 2013. Among other tasks, it is supporting the implementation of Mexico’s new urban agenda, composed of five lines of actions:

- Sustainable housing,
- Public spaces,
- Governance,
- Urban emerging management,
- Urban consolidation.

As an example of successful metropolitan governance, Rosario Robles Berlanga cited the state of Jalisco, which has completely transformed the emphasis of its investment portfolio from road infrastructure to public transportation.

In Vietnam, the approach to sustainable development has for a long time focused on adaptation to climate change, said **Hoang Vinh Hung** from the Ministry of Construction. He shared details about his country’s 2014 **National Strategy for Green Growth**, which facilitates investments in urban green growth projects. In describing some of the main challenges faced by his country, he emphasised the importance of policy coherence. Currently, spatial planning and urban planning in Vietnam are under the responsibility of two different ministries. This calls for further consistency and horizontal co-operation on the federal level.

# Reducing energy consumption

**Chang-Beom Kim** from Seoul's Metropolitan Government discussed the case of Seoul, a city known for its high population density and large number of tall buildings. He presented the **One Less Nuclear Power Plant Plan**, which aims to reduce Seoul's energy consumption by 4 million tonnes of oil equivalent (TOE) between 2014 and 2020 through targeted actions in electricity generation, including solar power generation, energy efficiency and energy savings.

## Urban mobility fostering green growth

**Edoardo Croci** from the Green Economy Observatory in Milan (Italy) noted that considerations of geographical, morphological, technological, economic and social determinants of greenhouse gas emissions impact on urban sustainability. In the case of urban mobility, these considerations include:

- The length of trips and their modal split;
- Passenger and freight movements;
- The location of residential and commercial buildings.

Edoardo Croci presented two urban mobility solutions implemented in the city of Milan showing how **urban road pricing** and **bike and car sharing** can contribute to the reduction of greenhouse gas emissions in cities.

## Smart cities = green growth actors

**Adarsh Varma**, Associate Director at BuroHappold Engineering provided a private sector perspective on the use of **smart planning** to create viable, cost-effective, and practical **business solutions** for green and prosperous cities. As an example, he showcased the use of LED street lighting in India. These are integrated with environmental sensors, which can also be used for Wi-Fi hotspots. This enables the creation of connectivity solutions between infrastructure and people and makes cities more resilient to shocks and stresses. The **Barcelona Smart City Programme** is



an example of how smart planning can permit the integration of key infrastructure services such as energy, transport, waste management and water.

- **Smart water technology** allowed the city to save \$58 million annually.
- **Smart parking technology** increased parking revenues by \$50 million each year.
- The smart city efforts made it possible to create an additional 47,000 **jobs**.

## Urban green growth challenges

- **Capacity challenges**

Throughout the day and a half of discussions, several panellists made references to the **institutional and capacity challenges** of putting a national vision into practice through local action.

**Adash Varma** similarly discussed the lack of low carbon or green growth planning capacity in cities. "According the World Bank, only 30% of the top 150 cities have some basic low carbon planning capacity".

- **Financing urban green growth activities**

Access to finance for urban green growth remains a significant challenge for local governments. In the first keynote of the GGSD Forum, **Patrick Klugman** had already called for improvements in municipalities' access to climate finance. Metropolitan areas have a vast array of opportunities to increase financial flows to them. But tapping into these requires robust collaborative frameworks. Reference was also made to the usefulness of **private-public partnerships** to finance energy saving measures in cities such as building renovations for energy efficiency.



Based on the experience of Seoul, **Chang-Beom Kim** also identified the need for closing the gap between finance and urban climate actions as one of the greatest challenges faced by urban leaders. He argued that the international financial institutions had to play its role and drastically improve access to climate finance for cities and local governments.

**Edoardo Croci's** presentation provided an overview of innovative financial models to solve the issue of limited municipal budgets. These innovative financing sources range from capitalisation of municipal tangible assets, introducing green municipal bonds, levies based on local green fiscal reforms, to crowd funding. The introduction of payment schemes for ecosystem services and pricing mechanisms in the form of congestion tolls or parking fees were also mentioned as potential financial sources for urban green growth.

Municipal budget	Project financing
<b>Traditional</b>	<b>Traditional</b>
<ul style="list-style-type: none"> <li>• European national, regional/provincial transfers</li> <li>• Local government fiscal revenues (including fines)</li> <li>• Local charges for providing public services</li> <li>• Local government debt</li> </ul>	<ul style="list-style-type: none"> <li>• Financial system (equity and loans)</li> </ul>
<b>Innovative</b>	<b>Innovative</b>
<ul style="list-style-type: none"> <li>• Capitalization and Securization of municipal tangible assets</li> <li>• Green municipal bonds</li> <li>• Local carbon markets</li> <li>• Levies based local green fiscal reforms (value capture taxes, tourism levies, congestion charges etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Multinational and national development banks (grants and loans)</li> <li>• Local project purpose taxes</li> <li>• Public-Private Partnership models</li> <li>• Social impact bonds</li> <li>• Crowdfunding</li> <li>• Third party financing (ex. ESCOs)</li> <li>• Payments for Ecosystem Services schemes</li> </ul>

Source: Edoardo Croci, 2016

“According to the World Bank, only 5% of the top 500 developing cities today are deemed credit worthy in international finance markets.” said **Adash Varma**. Demonstrating how smart planning can create business models along with profitable revenue streams can ultimately help improve the **credit worthiness of cities**.

- **Inclusive decision-making**

In the case of Prague, **Jana Plamínková** discussed some of the difficulties faced by the municipality, including the opposition to compactness. People who are apprehensive about further densification of the city believe that compactness will result in fewer green areas. This is why inclusive platforms to debate with all relevant stakeholders are important to ensure a successful implementation of urban green growth policies and activities. **Adash Varma** also noted that the influential investment community is still not fully engaged in urban green growth discourse. Moving forwards, having them on board in collaborative platforms will be key to count on more involvement from the private investors in urban green growth.



An example of a successful collaborative approach was featured by **Evelyn Nacario-Castro**, the Executive Director of Ramon Aboitiz Foundation Inc. (RAFI), a non-profit organisation in the Philippines building partnerships between the local government and civil society. In a fragmented governance system where the planning process remains sector oriented, she shared the experience of the **Metro Cebu Development and Coordinating Board (MCDB)**. It is composed of public and private leaders from 13 cities and municipalities located on the eastern side of the island. They designed a **Roadmap for the Sustainable Urban Development of Metro Cebu** to cover planning, transport management, solid waste management, water supply, and disaster risk and reduction management.

### Identified knowledge gaps and suggestions for future work

- Improve cities and local governments' access to climate finance.
- Support cities to improve their creditworthiness to attract green business opportunities.
- Build planning and implementation capacity of cities and local governments.
- Craft collaborative platforms that bring various stakeholders together, including the investment community, and encourage engagement on green growth activities at the local level.

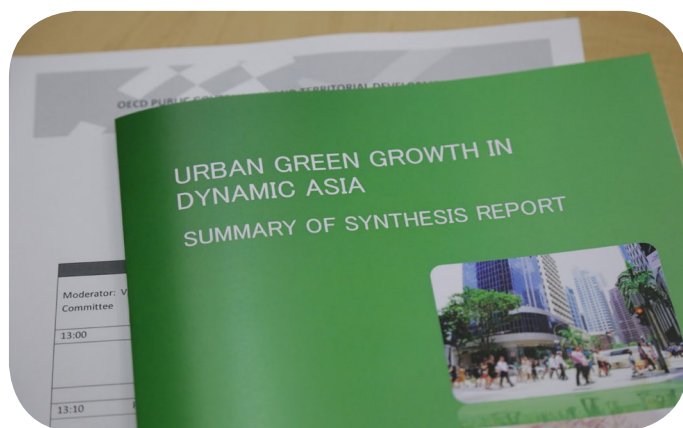


Left to right: Marianne Fay and Tadashi Matsumoto

## Side Event: Urban Green Growth in Dynamic Asia

Chaired by **Douglas Franz**, Deputy Secretary-General, OECD  
 Opening Remarks by **Ryotaro Suzuki**, Deputy Permanent Representative,  
 Permanent Delegation of Japan to the OECD

Contributing both to the OECD Green Growth Strategy and to the OECD Strategy on Development, a synthesis report of the **Urban Green Growth in Dynamic Asia project** was launched during a side event on the first day of the GGSD Forum. The report covered key findings on economic and environmental performance of the five case study cities in Southeast Asia, namely Bangkok (Thailand), Iskandar Malaysia (Malaysia), Bandung (Indonesia), Hai Phong (Viet Nam) and Cebu (Philippines).



Representatives of the case study cities expressed remarkable appreciation and interest in the report. The Malaysian ambassador to France, H.E. **Dato' Ibrahim Abdullah** indicated that *“extracting lessons from the report will provide a sense of comfort that the development of Iskandar Malaysia remains on track to be geared for global competitiveness while taking into account the green growth aspect of it”*.

Comments from representatives of Thailand, Indonesia and the Philippines stressed the importance of the governance recommendation the report had put forward on harmonising policies coordinating, communicating and collaborating across levels of government.

More information about the project can be found at:

[www.oecd.org/regional/regional-policy/knowledge-sharing-for-urban-green-growth-in-dynamic-asia.htm](http://www.oecd.org/regional/regional-policy/knowledge-sharing-for-urban-green-growth-in-dynamic-asia.htm)

## Parallel Session A Resilient Infrastructure: Innovative approaches\*

Co-organised with the World Bank

**Moderator:** Marianne Fay, Chief Economist Sustainable Development Vice Presidency, World Bank

Decisions about investment in urban infrastructure, buildings and land use taken now will have important implications for development outcomes in the future. Moreover, it is critical to avoid that cities become “locked into unsustainable development pathways”, further exposing them to increasingly intense and frequent shocks and stresses. **Julie Rozenberg** from the World Bank Sustainable Development Group noted that errors were common when predicting how infrastructure projects are likely to perform in the future. Rapid changes, competing policy priorities and



Source: Julie Rozenberg, World Bank

the uncertain nature of climate change are making efficient decision-making more challenging.

**Julie Rozenberg** pointed to the need to reverse the way that decisions about infrastructure investments are made. She provided an example of the “**Predict then Act**” approach, which was applied to design a plan for **Lima’s urban water supply system** based on various climate change and modifications in

demand scenarios. This comprehensive plan was considered sufficiently robust and it permitted the launch of a first wave of investment projects. Another example was the **development of urban wetlands in Colombo**, which were found to represent a good economic opportunity. This was done based on a rigorous assessment of the impact of reductions in rent, flood risks, and their impacts on both the poor and non-poor. In conclusion, **Julie Rozenberg** recalled the importance of stakeholder engagement to enable a process of efficient decision-making.

**Lola Vallejo** from the OECD’s Environment Directorate focused her presentation on how governments respond to the projected physical impacts of climate change on infrastructure. Global infrastructure investment needs are estimated at \$90 trillion. In order to avoid costly repairs, adaptive measures and emergency response in the future, it is essential to build climate resilience into investment decisions. Some examples of climate resilient infrastructures include the **construction of a second runway at Brisbane Airport** in Australia, built 4.1 metres above sea level, and the **construction of drainage infrastructure** in Copenhagen through a network of permeable roads and green spaces. **Lola Vallejo** also presented existing OECD work that explored four policy levers enabling governments to build climate-resilient infrastructure:

- Evidence provision,
- Accounting for climate risks,
- Policy and regulation,
- Disclosure of climate risks.

**Keywan Riahi** from the International Institute of Applied Systems Analysis (IIASA) in Austria discussed the role of infrastructure investment in the long-term transformation of energy systems. The pledges made under the 2015 Paris Agreement have strong implications for investments in energy infrastructure in the upcoming decades, he said. These provide opportunities for transformational change and will drive the next generation of new technologies in the transport and building sectors. **Keywan Riahi** asked how we can increase the marginal cost of abatement through behavioural change and incentivise efficiency investments.

**Pheakdey Heng** from the Global Green Growth Institute (GGGI) in Cambodia discussed the challenges faced by his country, where only 20% of the population lives in urban area, but urbanisation rates are among the highest in the region. Essential water supply, sanitation, waste management, energy and transport infra-structures are failing to catch up with “uncontrolled urbanisation”. This is causing losses of natural resources, more frequent flooding, high increase in private vehicles, and congestion. To help address these issues, the **Green City Strategic Plan** was developed for the city of Phnom Penh in collaboration with the GGGI. It aims to de-couple economic growth from environmental impacts, increase social inclusion, and provide urban resilience for all citizens. **Pheakdey Heng** noted the urgent need to plan for compact, low carbon urban forms that allow for the optimal use of urban infrastructure. To that end, the Green City Strategic Planning initiative should be extended to other cities and towns in the country.



Source: Pheakdey Heng, GGGI

### Identified knowledge gaps and suggestions for future work

- Identify sources of finance and catalyse the massive inflows of investments needed for green technologies and sustainable infrastructure building.
- Address the competing priorities of urban planners: conservation vs. development, short-term vs. long-term, including through behavioural change.
- Provide space for mutual learning between developed and developing countries (e.g. screening tools and standard setting).

# Parallel Session B

## Tracking progress towards urban green growth and the SDGs\*

Moderator: **Shardul Agrawala**, Head of Division at the Environment Directorate, OECD

Because of the great variations in data availability and quality across countries and regions, green growth measurement problems are exacerbated at the urban level. This brings upfront the issue of striking a balance between international comparability and data produced at the local level.

A presentation by **Myriam Linster** from the OECD's Environment Directorate answered questions such as "What do we mean by green growth?" and "How do we monitor green growth?". After sharing some lessons from previous OECD work on indicators, she noted that, if well-designed and communicated, indicators can be powerful tools to:

- Track progress;
- Monitor performance and inform about results, while increasing accountability;
- Support decision making and policy implementation;
- Inform public debates, encourage public participation, and raise awareness.

To the question "How do we identify the most appropriate indicators?", **Myriam Linster** responded by underlining the importance of drawing from and adapting existing OECD indicator sets, and using agreed selection criteria based on relevance, analytical soundness, and measurability.

**Kookie Habtegabber**, Green Economy Advisor and formerly Global Lead at WWF, discussed the state

of play of urban environmental data in African cities. She noted that the lack of subnational data is currently limiting African cities' ability to inform policy and investment decisions. Illustrated by a map showing urban areas in relation to watersheds in Africa, **Kookie Habtegabber** explained that high urban expansion is in fact taking place on the same watersheds used for supplying the cities with fresh water. She called for further research to analyse the socio-economic impact of the reduction of water provisions.

**Monica Brezzi** of the Public Governance & Territorial Development's Directorate, presented the OECD-EU definition of cities, which is currently applied to 31 countries and briefly recalled previous work on developing internationally comparable indicators for OECD "functional urban areas". She explained why these indicators matter and the importance of unpacking national averages. She noted that half of the 288 metropolitan areas have managed to decouple CO<sub>2</sub> emissions from economic growth, as their emissions decreased in absolute terms.

However, there are still very divergent patterns across cities in the same country. It is, therefore, vital to monitor progress towards policy objectives among cities within the same country. Finally, various speakers called for more attention on the role of cities in the SDGs implementation and the importance of supporting policy dialogue at the territorial level.

**Jeon Seongwoo** from Korea University pointed out that work by research institutes on measuring progress on green growth at subnational levels could be better used to inform policy making, including at national level. Cities and other subnational public authorities have the adequate tools to capture the information they need and to tackle the issues they are confronted with. He provided an example of the case of urban air pollution in cities located in the North-East of Korea, where academic research has demonstrated that transboundary air pollution remains an issue that cannot be solved at subnational level, but requires action at national level and through international cooperation.

**Some reactions from the audience:**

- "In Turkey, land values have increased by a factor of 10. How should that increase in value be shared among the community?"
- "In many African countries, cities are still in the process of being developed. How can Africa plan for those future cities to ensure that it does not make the same mistakes as developed cities?"
- "The quality and cost of schools are other factors that determine where people want to live. Can school policies also affect urban sprawl?"
- "When the super storm Sandy hit, New York's water infrastructure was unharmed because it is based on green infrastructure. In contrast, New Jersey suffered \$2.5 billion to its water infrastructure."

### Identified knowledge gaps and suggestions for future work

- Use technical advances for data collection and analysis.
- Explore new data sources such as big and open data.
- Build coherence and alignment of environmental impact indicators with the SDGs.

\* An [issue note](#) on "Measuring urban green growth: the concept, data and adequate mechanisms for tracking progress" was prepared to inform and steer the discussions during this parallel session.



# Parallel Session C

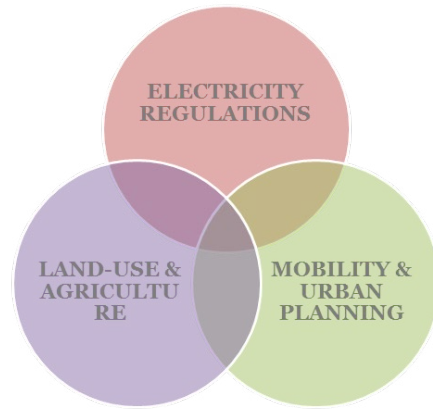
## Towards win-win solutions for inclusive and green cities

Co-organised with the OECD Inclusive Growth in Cities Initiative and the C40

**Moderator:** Lamia Kamal-Chaoui, Director for the Centre for Entrepreneurship, SMEs, Local Development and Tourism (CFE)

Both climate change and rising inequalities have transformative, wide-ranging implications, and cities are on the frontline in both battles. Yet too often, cities, as well as central governments, develop strategies to address these challenges in isolation from each other. There is, however, an opportunity to reconcile the short-term and long-term benefits of climate action and inclusion. **Joshua Alpert** from the C40 Cities Climate Leadership Group, **Richard Baron** and **Virginie Marchal** from the OECD, **Salin Geevarghese** from the U.S. Department of Housing and Urban Development, and **Holly Foxcroft**, urban expert, discussed how cities can better align the climate and inclusion agendas. These discussions contributed to the Second Meeting of the [Champion Mayors for Inclusive Growth Initiative](#) held in Paris on 21 November.

**Housing and transport** were identified as key areas for action to advance both climate and inclusion objectives. It is crucial to better manage policy incentives for home-owners and renters and to identify new sources of financing. This is particularly pertinent, given that the costs and benefits of retrofits may not be shared by all, but can generate both climate and inclusion dividends.



Source: Richard Baron, Virginie Marchal, Key findings from "Aligning Policies for a Low-carbon Economy", OECD

**Measurement efforts** to monetise the social benefits of climate action are also underway. Central governments have been trying to estimate the combined housing and transport costs of living, working and investing in a given area. In the United States, the Location Affordability Portal has helped increase transparency and supported households to make more informed decisions, reduce their cost burdens and, ultimately, lower their carbon footprint. However, insufficient data collection at the city level is still limiting the ability of mayors and local leaders to recognise that climate action can be an equaliser. Local governments need to collect more and better data to inform climate policies that fully realise their benefits and trade-offs.

Some cities have begun to “de-silo” their institutional response to climate change and inclusion by bringing together agencies that had previously worked separately on these issues. Panellists stressed the importance of **better governance** and a clear case was made for the importance of **greater policy alignment** across sectors and levels of government.

Institutions and governments at all levels must continue to facilitate the engagement of lower-income and vulnerable populations in local planning and policy making processes. For instance, public consultations for land-use planning decisions are not attended by representative stakeholders, in particular with insufficient representation of vulnerable populations.

### Identified knowledge gaps and suggestions for future work

- Better and more systematic data collection at the city level to understand the benefits and trade-offs of climate policies.
- Identification of strategies to achieve greater policy alignment across sectors and levels of government to jointly address the challenges of climate change and inequality.
- Further efforts to facilitate the engagement of lower-income and vulnerable populations in the local planning and policy making processes.
- Identification of new sources of financing to deliver on the climate and inclusion agendas.

# Parallel Session D

## Tax policies and land use outcomes

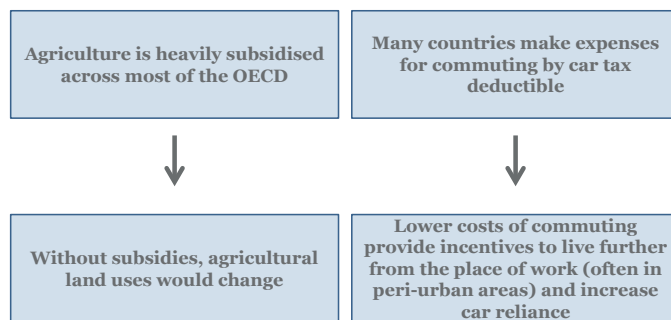
Moderator: Kurt van Dender, Centre for Tax Policy and Administration, OECD

Several policy instruments create incentives to use land in specific ways, impacting both urban sprawl and environmental performance in cities. However, the taxation of income, property, transport and energy at all government levels does not always create incentives that are aligned with land use and spatial planning objectives.

**Jos van Ommeren** from Vrije Universiteit, Amsterdam, **Alwin Moes** from the Swiss Federal Tax Administration, **Hansjörg Blöchliger** from the OECD's Economic Department, and **Rüdiger Ahrend** from the OECD's Urban Policy Division discussed the implications and role of taxation systems and policies in influencing and shaping urban green growth.

Several features of tax systems in OECD countries were identified as unintentionally exacerbating urban sprawl. These include the deductibility of commuting expenses, which lowers the cost of commuting and acts as an incentive to live further from the place of work. Other examples include preferential treatment of mortgages, company cars and parking subsidies. In some countries, local governments obtain a large share of revenues from business taxes, which incentivises them to allocate as much land as possible to business uses. Or when single family home owners receive preferential tax treatment, residents are incentivised to live in low density suburban areas.

### How fiscal and tax systems influence land use



Source: Joaquim Oliveira Martens, OECD.

Fiscal instruments can, however, foster good land use and favour the densification of cities if properly designed.

The declining cost of private car use is one of the most important drivers of suburban sprawl. There is, however, growing public awareness of the adverse impacts of transport subsidies on congestion and the environment. The reduction of subsidies and increase in taxes on car use could further encourage more compact patterns of urban development.

Finally, panellists discussed how different government structures (decentralised vs. centralised) can also affect land use. For example, fiscal decentralisation may foster urban sprawl by creating inter-jurisdictional fiscal competition and by encouraging subnational governments to turn to fiscal zoning regulation. Fiscal centralisation, on the other hand, could limit the growth of affordable housing, as sub-national governments have fewer incentives to develop land.

### Identified knowledge gaps and suggestions for future work

- Further studies are needed to better understand the unintended consequences of taxes at the local and subnational levels.
- Better and more fine-grained measures of sprawl are needed to understand the effects and analyse the efficiency of different fiscal instruments.
- In considering the role taxation can play in providing revenues for urban green urban investments and other financing issues, further efforts are needed to co-ordinate policies between sectors and different levels of government.
- Overcoming resistance to increased use of (road) pricing.



# Closing Session

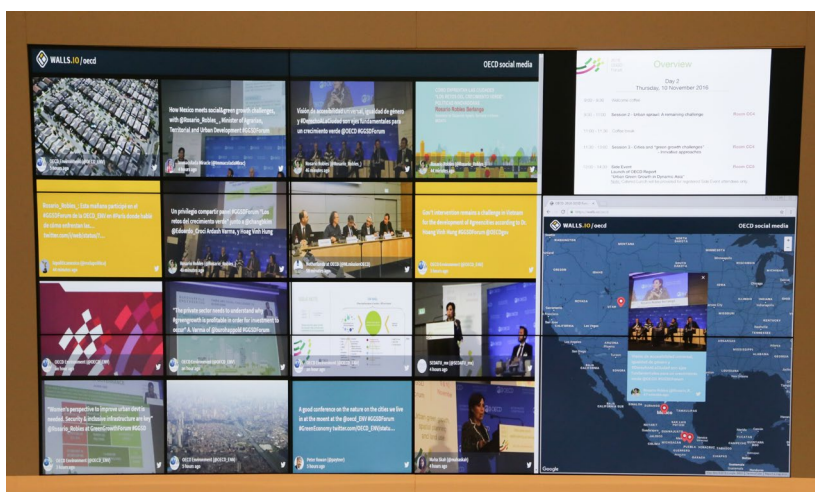
Left to right: Douglas Frantz, Luiz de Mello and Shardul Agrawala

A final Closing Session was moderated by **Douglas Frantz**, Deputy Secretary-General of OECD, who concluded that this GGSD forum had met its key objectives: to identify knowledge gaps and to prioritise next steps, which inform the OECD's programme of work and budget to ensure that horizontal and cross-cutting green growth issues remain properly reflected in the organisation's work streams.

**Luiz De Mello** of the OECD Public Governance and Territorial Development Directorate, highlighted the importance of **governance** in all of the issues discussed throughout this Forum, but noted that they have traditionally been dealt with in silos. Breaking the silos is therefore necessary both *within* and *across* different levels of government administration, provided that investment decisions for green growth are often difficult with that type of vertical and horizontal policy alignment. He also noted that it is also necessary to continue the OECD work to better understand spatial planning and land use regulations, and on **monitoring urbanisation**. He also flagged the need to better understand "**mechanisms and tools for value capture**", both in order to raise revenues and to achieve intended outcomes. Two key knowledge gaps that need to be addressed going forward are: (i) limited information on how local land use plans are drawn up and cascaded down through different levels of government, making it difficult to learn lessons and share best practices; and (ii) the impact of land use regulations in terms of environmental sustainability, well-being and inclusiveness.

**Shardul Agrawala** of the OECD Environment Directorate, flagged that urban planning is a key instrument in policymakers' hands to achieve green growth. He pointed out that the motivation for the OECD Environment Policy Committee's work on spatial planning and land use, was to address the path dependence and lock-in that urban planning entailed both in terms of greenhouse gas emissions and vulnerability to climate risks in urban areas. He noted that environment ministries are increasingly concerned with both environmental impacts and economic/social consequences. The **Spatial Planning INstruments and the Environment (SPINE)** project aims to address the economic and environmental effectiveness of land use planning instruments and potential gains from policy reforms, through geospatial data and analytical methods. Further work needs to focus, for example, on developing more **multidimensional metrics of urban sprawl**. The identified key knowledge gaps that the OECD needs to address include the potential trade-offs between **urban space conservation** and **property taxation, environmental zoning** and its impacts, and the environmental and economic effects of certain policies where the interplay between land use and environmental implications is very strong. For future work under the SPINE project, investment in **geospatial macro data collection** is also important.

**Douglas Franz** concluded the session by mentioning that next year's GGSD Forum will be held on November 21-22 2017 and will focus on **Greening the Ocean Economy**. He invited attendees to provide suggestions and recommendations on how to shape the upcoming event.



# List of Speakers

## Opening Session

**Mr. Rintaro Tamaki**, Deputy Secretary-General, OECD

**Mr. Simon Upton**, Director, Environment Directorate, OECD

**Mr. Patrick Klugman**, Deputy Mayor of Paris, France

**Mr. Stanley Yip**, Professor at Peking University, Beijing, People's Republic of China

**Mr. Christian Kastrop**, Director of the Policy Studies Branch, Economics Department, OECD

**Mr. Rolf Alter**, Director, Public Governance & Territorial Development, OECD

## Session 2

Urban sprawl: A remaining challenge

**Dr. Edward Hearnshaw**, Principal Policy Analyst, New Zealand Ministry for the Environment; Delegate to the OECD Working Party on Integrating Environmental and Economic Policies.

**Prof. Jan Brueckner**, Economics, University of California, United States

**Ms. Marie Cugny-Seguin**, Natural System and Sustainability, European Environment Agency

**Prof. Elena Irwin**, Environmental & urban economist, Ohio State University, United States

**Dr. Julien Salanié**, Associate Professor, Université Saint-Etienne, France

**Prof. Walid Oueslati**, Senior Economist, Environment and Economy Integration, OECD

## Session 1

Do existing land use policies work well for inclusive development and green growth

**Mr. Paul LeBlanc**, President of Atlantic Canada Opportunities Agency and Chair of OECD Regional Development Policy Committee

**Prof. Philip McCann**, Faculty of Spatial Sciences, University of Groningen, The Netherlands

**Mr. Joaquim Oliveira Martins**, Head, Regional Development Policy Division, OECD

**Mr. Dominique Bureau**, Economic Council for Sustainable Development, Ministry of Environment, Energy and the Sea, France

**Dr. Jana Plamínková**, City Counsellor of Prague, Czech Republic

**Mr. Salin Geevarghese**, U.S. Department of Housing & Urban Development

**Mr. Shahar Solar**, Ministry of Environment, Israel

## Session 3

How do cities meet "green growth challenges"? Innovative policy approaches

**Dr. Vincent Fouchier**, Director of the Aix-Marseille-Provence metropolitan area planning project; Chair of the OECD Working Party on Urban Policy (WPURB)

**Ms. Rosario Robles Berlanga**, Minister of Agrarian, Territorial and Urban Development (SEDATU), Mexico

**Dr. Hoang Vinh Hung**, Urban Development Agency, Ministry of Construction, Vietnam

**Mr. Chang-Beom Kim**, Ambassador for International Relations, Seoul Metropolitan Government

**Prof. Edoardo Croci**, IEFE Università Bocconi, Green Economy Observatory, Milano, Italy

**Dr. Adarsh Varma**, Associate Director, Cities & Economics, BuroHappold Engineering, United Kingdom

**Ms. Evelyn Nacario-Castro**, Executive Director, Ramon Aboitiz Foundation Inc., Philippines

## Parallel Session A

Resilient infrastructure: Innovative approaches

**Dr. Marianne Fay**, Chief Economist for Climate Change, World Bank

**Ms. Julie Rozenberg**, Economist, World Bank

**Ms. Lola Vallejo**, Policy Analyst, Environment Directorate, OECD

**Dr. Pheakdey Heng**, Policy Lead, Global Green Growth Institute, Cambodia

**Mr. Keywan Riahi**, Energy Program Director, International Institute of Applied Systems Analysis

## Parallel Session B

Tracking progress on urban green growth and Sustainable Development Goals: Data, information and indicators

**Mr. Shardul Agrawala**, Head of Division, Environment Directorate, OECD

**Ms. Myriam Linster**, Environmental Performance & Information, Environment Directorate, OECD

**Ms. Monica Brezzi**, Regional Analysis & Statistics, Public Governance & Territorial Development, OECD

**Prof. Seong Woo Jeon**, Environmental Science & Ecological Engineering, Korea University

**Ms. Kookie Habtegaber**, Green Economy Adviser, formerly Global Lead at WWF

## Parallel Session C

Towards win-win solutions for “inclusive” and “green” cities and the C40

**Ms. Lamia Kamal-Chaoui**, Director for the Centre for Entrepreneurship, SMEs and Local Development (CFE) and Coordinator of the Inclusive Growth in Cities Initiative

**Joshua Alpert**, Director of Special Projects, C40 Cities Climate Leadership Group

**Mr. Richard Baron**, Principal Advisor, Round Table on Sustainable Development, OECD

**Ms. Virginie Marchal**, Policy Advisor, Aligning Policies for the Transition to a Low-carbon Economy (APT), OECD

**Mr. Salin Geevarghese**, U.S. Department of Housing & Urban Development

## Parallel Session D

The impact of tax policies on land use outcomes

**Mr. Kurt van Dender**, Centre for Tax Policy and Admin, OECD

**Prof. Jos van Ommeren**, Spatial Economics, VU University, Amsterdam, The Netherlands

**Mr. Alowin Moes**, Senior Economist, Swiss Federal Tax Administration, Switzerland

**Mr. Hansjörg Blöchliger**, Senior Economist, Economics Department, OECD

**Mr. Rudiger Ahrend**, Head of Urban Policy, Public Governance & Territorial Development, OECD

## Closing Session

**Mr. Douglas Frantz**, Deputy Secretary-General, OECD

**Mr. Luiz de Mello**, Deputy Director, Public Governance & Territorial Development, OECD

**Mr. Shardul Agrawala**, Head of Division, Environment Directorate, OECD

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