

# Transformative Partnerships

*Case Studies on Urban Governance*





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RESEARCH ADVISOR  
Nicholas You

PROJECT TEAM  
Dinesh Naidu  
Lim Wei Da  
Hazelina Yeo

EDITING  
Alvin Pang

DESIGN & LAYOUT  
Sylvia Sin

PROOFREADING  
Brooklyn-media Pte Ltd

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For feedback and enquiries, please email:  
[MND\\_CLC\\_Enquiries@mnd.gov.sg](mailto:MND_CLC_Enquiries@mnd.gov.sg)

COVER IMAGE: Marina Barrage, Singapore.  
Source: toonman/Getty Images



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## FOREWORD

by **Desmond Lee**

Senior Minister of State for National Development & Home Affairs  
Singapore

Singapore has changed dramatically over the past 50 years. In the 1960s, our city was plagued by flood, disease, congestion and pollution. Infrastructure was poor, unemployment was high, and economic challenges were severe. During that time, Singapore's Housing & Development Board (HDB) had to resettle people from over-crowded and unhygienic slums to modern public housing, and provide proper homes for Singaporeans. Today, HDB flats are home to over 80% of Singaporeans, with about 90% of households owning their homes. Beyond improving the quality of life and environment, Singapore is committed to supporting social equity. Through inclusive design and policies, our public housing integrates people of diverse ethnicities and religions in each neighbourhood.

We have come a long way in public housing, and have also put in tremendous effort to enhance our city's resilience and sustainability. Singapore has developed an integrated water management system to support its water needs, described in one of the case studies in this publication. As a highly dense city-state, we have achieved the greening of Singapore into a City in a Garden through decades of planning and cultivation. But we are still doing more to realise this vision—creating a lush green city, conserving our rich biodiversity for our people to enjoy, even as our city becomes more built-up.

Singapore's urban development goals are aligned to Goal 11 of the Sustainable Development Goals (SDGs), to “make cities and human settlements inclusive, safe, resilient and sustainable”. The Centre for Liveable Cities has distilled Singapore's urban development journey and experiences into its Liveability Framework, which identifies integrated master planning and development, and dynamic urban governance as bedrock systems that support our development as a liveable and sustainable city.

In particular, Singapore's approach to dynamic urban governance delves into how we engage the community as stakeholders and work with markets. For example, Singapore's physical development is guided by plans produced by the Urban Redevelopment Authority in partnership with our people and businesses. Consultation has helped our city planners better understand and address evolving aspirations, while collaboration has allowed us to tap the capabilities of our partners to realise bolder visions. It is in recognising the importance of partnerships that this publication has been put together. The three case studies featuring Singapore, North East Lincolnshire and Gwangju included in this publication will provide readers with insights on the innovative partnership models that have been adopted to make these cities more sustainable and liveable.

Global urban issues are becoming increasingly complex. Let us all commit to work towards active collaboration across sectors, disciplines and national borders in order to develop more liveable and sustainable cities for the benefit of our people.



## MESSAGE

by **Dr Joan Clos**


Executive Director, United Nations Human Settlements Programme

Singapore has been an active partner in supporting the formulation of Sustainable Development Goal 11 (SDG11) on making cities and human settlements inclusive, safe, resilient and sustainable. The Centre for Liveable Cities (CLC), a division of the Ministry of National Development, has done so through international platforms like the World Cities Summit and Mayors Forum, global debates, research and capacity-building programmes.

UN-Habitat has been working closely with the Singapore government to develop a joint capacity-building programme to support the UN 2030 Agenda for Sustainable Development. The programme focuses on capability development and institutional strengthening to support the achievement of the SDGs in cities of the developing world. It also seeks to better equip city leaders with key urban systems principles, knowledge, skills and tools for planned urbanisation that will enable them to lead changes in their cities' urban planning and make progress toward achievement of the SDGs; and to encourage cross-sector and cross-region knowledge exchange through peer-to-peer learning and the transfer of learning approaches. I'm heartened that we are working towards the first pilot programme for African cities.

The UN-Habitat and Singapore collaboration combines the comparative advantages of UN-Habitat's global knowledge, expertise, normative responsibilities and networks, with Singapore's development experiences and lessons distilled from its unique urban planning approaches, urban land management, mobility and urban finance models that have led to the concept of liveable cities—a concept that lies at the heart of the Singapore Liveability Framework. The partnership between UN-Habitat and Singapore also plays a key role in promoting UN-Habitat's three-legged approach, emphasising the importance of the three elements that planned urbanisation should rely on: a solid legal framework, sound urban planning and design, and a viable financial plan. The combined approaches of both organisations are key to achieve sustainable, inclusive, safe and resilient cities in close connection with the SDG11 and the New Urban Agenda, expected to be adopted here in Quito, Ecuador.





Exchanging Solutions,  
Forging Partnerships

by **Khoo Teng Chye**  
Executive Director, Centre for Liveable Cities

The Lee Kuan Yew World City Prize 2016 honours Medellín as a model for innovative urban transformation. Source: Alcaldía de Medellín Cuenta con vos/Flickr, CC by-NC-SA 2.0



Cities are focal points of many complex problems; they are also drivers of transformation. However, city governments need not confront them alone, nor should they reinvent the wheel. Collaborating with and learning from one another through international platforms such as Habitat III can help to identify and deliver sought-after solutions.

Singapore's Centre for Liveable Cities (CLC) strives to contribute to such efforts by providing our global network of urban leaders with the knowledge and support to make cities better through our research, capability development, knowledge platforms and advisory work.

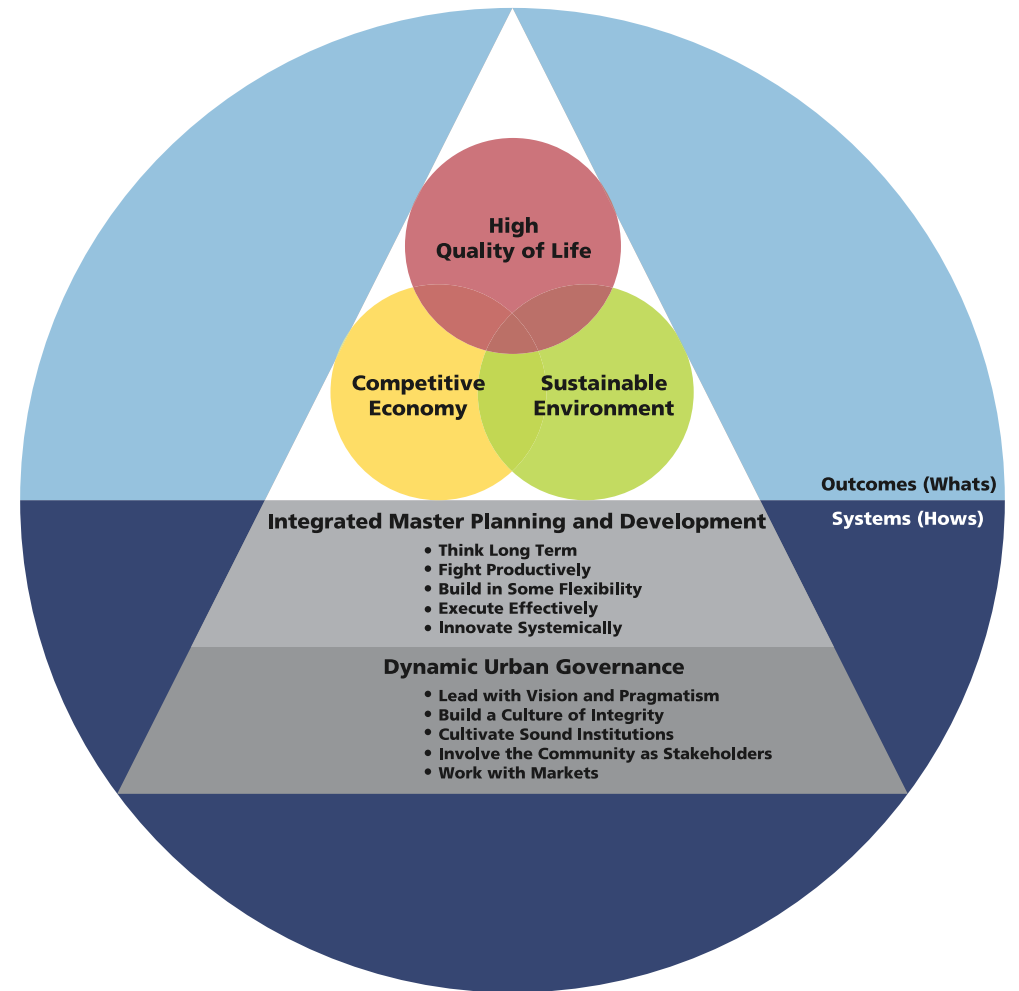
Many cities are interested in learning about Singapore's urban transformation. The CLC Liveability Framework is a distillation of our research in this area. It suggests integrated master planning and development, and dynamic urban governance have been critical to Singapore's development and successful integration of a high quality of life, competitive economy and sustainable environment.

CLC aims to facilitate the exchange of knowledge among city leaders through events such as the biennial World Cities Summit, jointly organised with the Urban Redevelopment Authority, which also includes the Lee Kuan Yew World City Prize and the annual World Cities Summit Mayors Forum.

The World Cities Summit is an important platform for government leaders and industry experts from around the world to address liveable and sustainable city challenges, share integrated urban solutions, and forge new partnerships. This year's 2016 summit was held in conjunction with the Singapore International Water Week and CleanEnviro Summit Singapore. The three events jointly attracted over 21,000 attendees from 115 countries. More than 1,000 companies also participated, resulting in more than \$18.71 billion worth of business announcements.



The World Cities Summit (WCS) 2016 featured a whole-of-government exhibition pavilion, 'Towards a Smart and Sustainable Singapore'.



The CLC Liveability Framework lists key principles from Singapore's development experience. Scan the QR code to download CLC's book "Liveable & Sustainable Cities: A Framework".





The annual World Cities Summit Mayors Forum is an exclusive event for mayors and city leaders, and the largest event of its kind in the world. In 2014, the forum supported a standalone Sustainable Development Goal on sustainable cities and human settlements. At the Mayors Forum in 2016, 110 cities issued a declaration supporting Habitat III, the New Urban Agenda, and a shared vision of liveable, inclusive, safe, resilient and sustainable cities.

The first Mayors Forum hosted outside of Singapore was in 2013, in the inaugural Lee Kuan Yew World City Prize Laureate city, Bilbao.





We look forward to welcoming the world's city leaders to the next Mayors Forum in May 2017 in Suzhou, Jiangsu Province, China. Suzhou was the Lee Kuan Yew World City Prize Laureate in 2014.

We also invite everyone in the business of making cities better to join us in Singapore for the next World Cities Summit, from 8 to 12 July 2018. Through these events, we hope to maintain the momentum created by Habitat III, by gathering urban leaders from around the world to address our shared challenges and goals.

Suzhou, Lee Kuan Yew World City Prize Laureate 2014, will host the next Mayors Forum in May 2017. Source: Department of Publicity of Suzhou Industrial Park

INTRODUCTION

# Case Studies on Urban Governance

by **Nicholas You**

The implementation of the 2030 Sustainable Development Agenda and the New Urban Agenda will require knowledge sharing, capacity building and leadership at all levels of government and civil society. Faced with rapid urbanisation, intensifying environmental challenges as well as fiscal and other pressures, cities around the world are constantly seeking newer and better ways to improve their urban conditions and stimulate their economies. One way to support this effort is to document and disseminate examples of successful solutions. Urban development and management issues are highly complex, and there is no ‘one size fits all’ solution. Nevertheless, there are examples of new and transformative approaches that have enabled cities to achieve substantial results.

This series of case studies focuses on one of the key components of urban innovation—that of multi-stakeholder partnerships. Such partnerships will become more important as cities seek to execute projects and implement programmes that go toward realising the New Urban Agenda. Stakeholders may seek to do better with existing or diminishing resources, by exploring new ways of doing things, or creating new financial arrangements. Elements that are vital for such partnerships to be effective are explored in the case studies that follow. A common factor of all three case studies in this booklet is good governance and leadership, not only at the top but at all levels of public administration, within the community, and among private-sector contractors and service providers.

These case studies offer an important qualitative perspective that provides planners and policy makers with insights into what works in urban governance, and why. They also elaborate on how developmental agendas can be made meaningful to people. Stories of how citizens, industry and government have transformed their respective communities not only inspire others in their efforts, but are also one of the best ways to learn and progress together.

### Exploring Transformative Partnerships

This booklet documents three very different approaches to sustainable urban development through innovative partnerships from Singapore, North East Lincolnshire in the UK, and Gwangju in the Republic of Korea. A key aspect of these partnerships involves breaking down traditional silos of public administration in order to improve the efficiency and effectiveness of service delivery, promote quality of life, and build urban sustainability and resilience.

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### *Singapore* *(Public–Public Partnership)*

In Singapore, all producers, distributors and consumers of water are consolidated and managed under a single entity, PUB, Singapore's National Water Agency. With a single benchmarking, reporting and accountability system for water management, the city-state has been able to effectively and efficiently close its water-loop, engage relevant stakeholders (from residents to the private sector) to enhance its water resilience.

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### *North East Lincolnshire, UK* *(Disruptive Urban Governance and Business Model)*

A 10-year regeneration partnership with a private company has helped the UK's North East Lincolnshire borough improve its service delivery and economic growth.

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### *Gwangju, Republic of Korea* *(Public, Private and People Engagement)*

By establishing a domestic Carbon Bank system, involving the power, water and gas utilities, a local commercial bank and local environmental non-governmental organisations (NGOs), the Korean city of Gwangju has given its inhabitants a tangible means of seeing and relating their actions to the reduction of greenhouse gas emissions reflected through the carbon point system.



The successes of these case studies go beyond the specific actions taken. In the process of exploring different forms of partnership, they demonstrate the importance of an integrated and holistic approach to planning and development, and the value of dynamic urban governance.

#### **Integrated Planning and Development**

Despite differences in approach and methodology among the cities studied, a common theme is the need to cut across boundaries that hinder different entities from working flexibly together, towards a shared long-term goal.

#### **Dynamic Urban Governance**

In each of the three cases, good governance and visionary yet pragmatic leadership helped establish relationships of trust and respect among the different stakeholders. This allowed all parties to work together as equals, according to their core strengths, and to put forward the bold new ideas and execute the changes needed to achieve lasting transformative outcomes. This constructive climate came as the result of a highly iterative engagement process between the public, private and civil society sectors.

At the end of the day, no institution can make a city truly sustainable on its own. Herein lies one of the key challenges: to harness the knowledge, expertise and experience of all stakeholders, in order to make a difference to our cities.

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## CASE STUDY

# Integrated Water Management in Singapore

## THE CHALLENGE

*Water has been and will always be a matter of survival for Singapore. As a small island city-state, there is limited space available for water catchments. One of independent Singapore's critical water sources is imported water from neighbouring Malaysia. The Water Agreements were enshrined in the Separation Agreement with Malaysia which was registered with the United Nations. Malaysia's guarantee was also enacted into the Malaysian Constitution by an Act of Parliament. In its early years of independence, Singapore also faced problems of drought and floods during periods of extreme weather conditions.*

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by Lim Wei Da

Water rationing in the 1960s. Source: PUB, Singapore's National Water Agency



### Developing Sound Water Institutions and Infrastructure

In 1963, the Public Utilities Board (PUB) was set up as a statutory board under the Ministry of Trade and Industry to take over the responsibilities of providing water, electricity and piped gas from the British colonial administration. Understanding the importance of water, then-Prime Minister Lee Kuan Yew established the Water Planning Unit under the Prime Minister's Office in 1971 to complement PUB's work.

Guided by the 1972 Master Plan, Singapore went through a phase of expansion and construction to increase its water supply, improve sanitation and reduce flooding. To manage stormwater for flood prevention and alleviation, a drainage department was created in 1972 under the Ministry of Environment.

### Institutional Integration: Public-Public Partnership

In 2001, the departments responsible for the different aspects of sewerage and drainage functions under the Ministry of Environment were merged with the PUB's Water Department. This reconstituted PUB became the national water agency, tasked with managing the city-state's water in an integrated manner. It oversaw the collection of rainwater from catchments, drains, canals and ponds for storage in reservoirs; the treatment and distribution of drinking water; and an island-wide sewerage system to collect all used water for treatment.



NEWater is produced using advanced membrane technologies to purify treated used water.  
Source: PUB, Singapore's National Water Agency

### Urban Systems Approach: Closing the Water Loop

Singapore, through PUB, began to develop additional sources of water supply in the mid-1990s and early 2000s. Beyond the local catchment and imported water, Singapore went on to develop its capability to recycle treated used water

and desalinate sea-water, creating the "Four National Taps":

1. Water from local catchment
2. Imported water
3. NEWater (high-grade reclaimed water)
4. Desalinated water



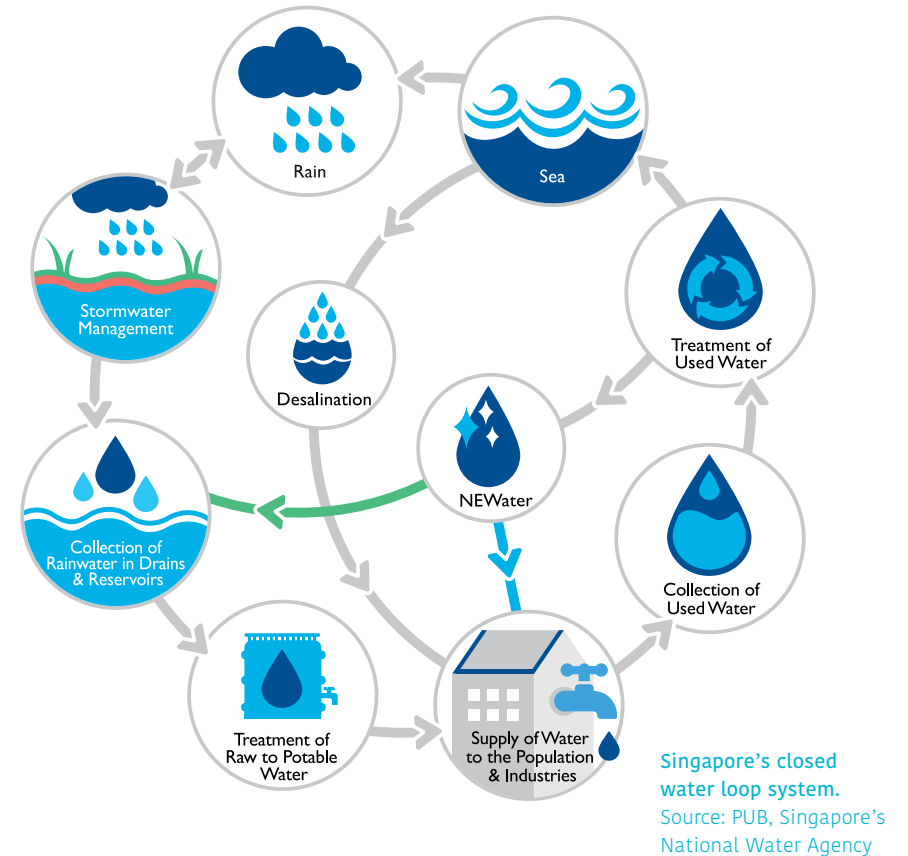


The two desalination plants in Singapore are designed, built, owned and operated by the private sector. Source: Hyflux Ltd

With the addition of NEWater and desalination, Singapore was able to close its water loop, making its water supply more resilient and sustainable. As water continues to remain a matter of critical importance for the small city-state, Singapore's water policies have evolved over the years, with the focus now also on sustainability.

This holistic approach to water management can be distilled into three key strategies:

1. Collect every drop of water
2. Reuse water endlessly
3. Desalinate more seawater



The closed water loop system was made possible in Singapore because of its integrated systems approach, supported by a long-term approach to planning, strong political will and dynamic urban governance. Working closely together, the planners responsible for various aspects of water management, including the water supply network, sewerage and drainage, could mesh different urban activities into an effective, holistic city-wide water system.

*The closed water loop allows for the yield of existing water to increase exponentially with increased recycling of water.*

Looking forward, Singapore aims to have 90% of its land area become water catchments in the long run. The Reservoir Integration Scheme, developed between 2004 and 2007, has connected several reservoirs with pumps and pipelines so that excess water can be spread out for better storage. With the completion of the Marina Reservoir, the Punggol and Serangoon reservoirs, Singapore water catchment area has been expanded to about two-thirds of Singapore's land surface since 2011.

Phase One of the Deep Tunnel Sewerage System (DTSS), an extensive used-water super-highway to enhance Singapore's used-water conveyance and facilitate large-scale NEWater production, was completed in 2008. Phase Two of the DTSS, expected to be completed by 2025, will help to increase the overall water recycling rate from 30% to up to 55% of total water demand in the long run.

With Singapore making substantial investments in technology to overcome water challenges and "close" the water-loop, a thriving cluster of water companies has emerged in Singapore.

Efforts by the Singapore government to grow and develop the water industry, and partnerships with other public agencies, including the Economic Development Board and the International Enterprise Singapore, have nurtured Singapore's water R&D industry into a multi-million-dollar sector.



*Left* The Deep Tunnel Sewerage System  
Source: PUB, Singapore's National Water Agency

*Bottom* The Marina Barrage is a multi-use space that fulfils functions of flood control, urban water catchment and public recreation.  
Source: PUB, Singapore's National Water Agency





Another critical dimension to water management is addressing water demand, which calls for ongoing public engagement. The Singapore government has consistently charged for water on the basis of full cost recovery, so as not to subsidise a scarce resource and inflate demand. This is supported by other measures to manage demand, including public education and mandating standards for efficiency in water usage and related water fittings and appliances.

From 2000, the PUB also began to explore how water-based assets could contribute to Singapore's liveability. As part of its integrated approach towards water management, PUB adopted the philosophy of "bringing the public closer to water". Its Active, Beautiful, Clean Waters (ABC Waters) Programme has transformed the country's utilitarian concrete canals and drains into a more aesthetically pleasing system of streams, rivers and lakes, which also serve as public spaces for recreation and social interaction.



Children in primary schools learn about water conservation.  
Source: PUB, Singapore's National Water Agency

The programme makes use of multi-functional, water-sensitive designs to create more natural waterways that better support stormwater management and bring citizens closer to water, enabling them to enjoy and cherish the surrounding environment so that they will in turn keep the waters clean.

#### The Singapore Water Story

The Singapore water story is one of an integrated urban systems approach, in which a well-coordinated public-public partnership, engaging its various stakeholders, has allowed a water-stressed city state to manage its ongoing water challenges in an integrated and holistic manner.

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Before and after canal restoration in the Bishan-Ang Mo Kio Park as part of the ABC Waters Programme.  
Source: Ramboll Studio Dreiseitl





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#### CASE STUDY

## Urban Regeneration in North East Lincolnshire

#### THE CHALLENGE

*A borough of about 160,000 inhabitants in the Yorkshire and Humber region of northern England, North East Lincolnshire has long been seen as one of the most economically-challenged areas in the UK. After its once thriving fishing industry went into decline in the 1970s, the town faced low growth, an ageing workforce, lower than average education levels and a higher than average proportion of unemployed residents.*

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by Eamon Drumm, Roman Serdar Mendle and Olga Horn



Derelict buildings that used to be at Grimsby Docks, North East Lincolnshire.  
Source: Mark Richardson/Alamy

### The Solution

The area's prospects for economic growth were hindered by a lack of capital investment and difficulty in retaining labour. As early as 2006, North East Lincolnshire Council (NELC), the borough's governing body had discussed the option of outsourcing certain public services. This would not only strengthen capacities, funds and skills in service delivery, but also foster economic growth and regenerate the borough. Even though there were different political affiliations represented amongst the council's 42 members, it unanimously decided to outsource specific services (including road maintenance, local economic growth and urban regeneration) to a private sector company.

Through this initiative, the council sought to change its approach to procurement from a transactional relationship to one that focuses on transformative outcomes that improve the lives of residents. To do this, it tied 30% of the private partner's profits to a number of outcome-based Key Performance Indicators (KPIs) that involved creating jobs and improving conditions for the community.

These KPIs included:

- generating 4,200 jobs over the lifetime of the partnership;
- managing a programme for regeneration and renewal projects, including 3,500 new and improved homes;
- reducing the number of people killed or seriously injured in traffic accidents by 33% for adults and 50% for children; and
- attracting £170 million (US\$245 million) of public and private investment, with adequate training, apprenticeships and work placements for 400 young people.

Balfour Beatty WorkPlace Limited, a facilities management firm, won a competitive bid for a 10-year "North East Lincolnshire Regeneration Partnership", and was appointed on 1 July 2010. The firm was subsequently acquired by the UK branch of the ENGIE Group, a French-based multinational utility company.

*30% of the private partner's profits were conditioned on its meeting a number of outcome-based KPIs such as generating 4,200 jobs.*

Approximately 300 council staff became employees of ENGIE as part of the contract. The services wholly or partially outsourced under the partnership included:

- attracting outside investment (from private companies or public regional economic development boards, for example);
- strategic asset management for council-owned real estate including housing, community learning services, repair of highways and transport facilities, and parking services;
- architectural consultancy, urban planning and development management;
- environmental and flood risk management; and
- building control and security.

The partnership had its fair share of challenges. When the central government's national austerity measures in 2010 led to budget cuts, NELC had to negotiate to reduce its financial contribution to the partnership with ENGIE between 2011 and 2013. This extended the contract by two years, and meant that services had to be delivered for less money and over a longer period of time to recoup costs. During the first two years, the partnership tended to focus more narrowly on achieving contractual KPIs within the given budget, instead of delivering transformative outcomes.





The former ENGIE Fabricom site was converted into a multimodal training centre for the ports, energy and logistics sectors in Immingham for £7 million. The projects are managed by ENGIE's professional technical services team in Grimsby. Source: Modal Training Ltd

Nonetheless, both NELC and ENGIE worked hard to improve and recalibrate the partnership's governance and management mechanisms, and to focus on urban regeneration, prosperity, health and well-being. They changed the frequency of strategic partnership board meetings, setting up less formal operational meetings to keep both NELC and ENGIE on the same page. ENGIE also attended local ward meetings so it could better understand the needs of residents and councillors on the ground.

### The Outcome

By late 2015, the partnership had successfully fulfilled its contractual KPIs. It had brought in £30 million of outside investment, creating nearly 3,000 jobs, and improving the responsiveness of day-to-day services. In terms of road maintenance for example, 99% of highway damage incidents were repaired within 24 hours.

Following a 23% increase in tourism from 2009 to 2014, £2.8 million were spent to refurbish the Yarborough Hotel in Grimsby. Source: David Wright/Flickr, CC by 2.0





In addition to fulfilling the ambitious, outcome-based KPIs, the NELC and ENGIE partnership was characterised by the collaborative working relationship between public and private stakeholders, which allowed them to bring innovation to borough management. One new measure, a property rationalisation programme, reduced the number of core council-owned office buildings from more than 20 to two main hubs. This helped to reduce office space by 60%, leading to operational cost savings of over £1.1 million a year.

Another innovative project involved the upgrading of 19,000 street lights from sodium lamps to more cost-effective and energy saving LED lights. These provided clearer visibility while using less energy, saving over £540,000 per year in energy and maintenance costs, and reducing carbon dioxide emissions by up to 35%.

ENGIE and North East Lincolnshire Council were winners of both the public sector category and the overall award in the Premises and Facilities Management Awards in 2014. Source: ENGIE



New cost- and energy-saving LED street lamps. Source: ENGIE



In 2015, the partnership also introduced a “flexible basket” strategy for energy procurement, whereby gas and electricity could be purchased in advance for up to three years, reducing cost, and improving access to green energy, and promoting energy conservation.

As a result of regeneration and investment, Grimsby Docks—once full of underused fishing vessels—now hosts operation and maintenance vessels to service the growing renewable energy generation industry in the Humber Estuary.

#### Reference

This chapter was first published in *Urban Solutions*, Issue 9, a biannual magazine by the Centre for Liveable Cities. <http://www.clc.gov.sg/Publications/urban-solutions-issue-9-innovation.htm>

Grimsby Docks is a major car import gateway and serves the offshore wind energy industry.  
Source: ENGIE

Windfarm near Grimsby Docks.  
Source: drgillybean/  
Flickr, CC by-NC-ND 2.0





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## CASE STUDY

# Carbon Bank Programme in Gwangju

## THE CHALLENGE

*Until recently, Gwangju's households and businesses were producing almost half of its Greenhouse Gas (GHG) emissions. To address this, the South Korean city's metropolitan government began a five-year Carbon Bank Programme in 2008. The goal of this pilot project was to change local residents' perceptions of what they could do to tackle climate change, so that households would alter their behaviours and reduce emissions.*

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by Lim Wei Da and Nicholas You

Gwangju takes on  
climate change.  
Source: Jung Yoon/  
Flickr, CC by-NC-ND 2.0





### The Solution

Gwangju's metropolitan authority worked closely with utility providers, a local bank and non-governmental organisations (NGOs) to encourage households to voluntarily reduce their consumption of gas, water and electricity. An integrated approach combining incentives, education and outreach was taken.

Under the Carbon Bank Programme, the Gwangju Metropolitan City established an overall plan and took charge of its administration, including registration and promotion. The involvement of utility companies such as the Korea Electric Power Corporation (KEPCO), the Gwangju Metropolitan Waterworks Authority and Hae Yang City Gas Co., Ltd., and the major local bank, the Kwangju Bank Co., Ltd. These companies provided consumption data to a system managed by the Gwangju Metropolitan City.



Together with these companies, the Gwangju Metropolitan City calculated and tracked reductions in GHG and converted these reductions into carbon points. A household would earn carbon points when there was more than a 5% reduction in their average consumption of electricity, city gas, and drinking water in the past six months, compared against the average of the previous two years.

Participants also earned points when they purchased and registered eco-friendly products, or chose to take public transport. Accumulated points, stored in Green Cards issued by the bank, could be used by participating households to purchase green goods, or to get discounts at national parks, and other benefits.

Households and businesses produce almost half of Gwangju's greenhouse gas emissions.

Source: AI Case/Flickr, CC by-NC-ND 2.0

**Launch of the Green Card.**

Source: Gwangju  
Metropolitan City



The Green Start Network, a local NGO involved in the educational aspect of the scheme, carried out training and promotion, raising general awareness about climate change and encouraging households to sign up for the voluntary programme. This became key to mobilising households and educating them on how to reduce their gas, electricity and water. For example, households were taught to adjust thermostats to lower heating requirements while sleeping, use appliances with energy-saving certificates, purchase green goods, install solar panels, and observe tips on how to conserve water.

By 2015, participation in the Carbon Bank Programme had increased from 20,327 households at its onset to over 330,000 households. The plan is

now to have all 500,000 households in Gwangju participating by 2020. A critical reason for the success of the programme was the involvement of the utility companies, which provided the necessary data and thereby helped to bridge different entities in the public and private sectors, and the community.

The carbon point financing system, another important component of the programme, was the result of a partnership between the Gwangju Metropolitan City and the Kwangju Bank. While the Gwangju Metropolitan City was responsible for managing and operating the system as well as the cost of education and promotion, the financial cost of points earned by consumers was paid for by the Kwangju Bank between 2008 and 2012.



**Participants earn points when they take public transport.**

Source: Richard Lee/Flickr,  
CC by-NC-ND 2.0

Following the success of the pilot stage, South Korea's Ministry of Environment joined the programme and has co-financed the programme since 2012. Interestingly, the bank's funding for the pilot programme came in part from their corporate social and sustainability responsibility budget. At the same time, the bank's support also served as a form of publicity and helped to build up brand loyalty among the bank's customers.



**The programme includes outreach efforts, such as the Carbon Bank Campaign.**

Source: Gwangju  
Metropolitan City

### The Outcome

The Carbon Bank Programme has been quite successful in helping Gwangju respond to climate change. At the end of the pilot phase in 2012, about 66% of the total participating households had reduced their emissions by 84,156 tonnes of carbon dioxide (CO<sub>2</sub>). By 2014, the number of participating households had increased to 347,000, with corresponding reductions amounting to 182,000 tonnes of CO<sub>2</sub>.

#### Annual carbon bank system achievements during the 5-year pilot phase

Year	2008	2009	2010	2011	2012
Participating households	20,327	36,803	60,248	240,350	281,730
Issue of Carbon Points (won)	31 million	64 million	81 million	156 million	263 million
GHG reduction (tonnes of CO <sub>2</sub> )	57	4,752	15,305	25,550	38,492

Source: ICLEI KOREA Case Study Series No. 2

The Gwangju Carbon Bank initiative offers several useful lessons in pursuing low-carbon urban efforts:

- Provide normal, everyday citizens with a tangible means of seeing how their positive actions towards the common good can have a direct personal benefit (e.g., CO<sub>2</sub> reductions reflected on utility bills, and earning points). This virtuous cycle, supported by good educational efforts, is critical to earning the community's buy-in and resulting in real changes in behaviour.
- Establish an innovative public policy, integrating the relevant elements under a single framework (e.g., tying water, electricity and gas together within a single partnership). Such a framework, together with a neutral third party (in Gwangju's case, the commercial bank), helps bridge different entity silos, with each partner taking on a role matching its unique competencies.

*The Gwangju Carbon Bank initiative provides normal, everyday citizens with a tangible means of seeing how their positive actions towards the common good can have a direct personal benefit.*





Participants can exchange points for discounts at national parks.

Source: 영철 이/Flickr, CC by-SA 2.0

Taking an integrated systems approach, Gwangju's metropolitan government was able to develop an ambitious yet successful emissions reduction programme that has not only fostered good habits among its resident households, but also influenced South Korea's national policy. Gwangju's Carbon Bank scheme was also introduced as a good example to many local governments from all around the world at the 2011 Gwangju Summit of the Urban Environmental Accords. Nine other cities globally, such as San Antonio, Texas, have signed a memorandum of understanding (MOU) with Gwangju Metropolitan City for the exchange and cooperation on city-based environmental strategies, including carbon banking.

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## ABOUT THE CONTRIBUTORS

**Khoo Teng Chye** is the Executive Director for the Centre for Liveable Cities. He was previously the chief executive of PUB, Singapore's national water agency, Urban Redevelopment Authority, PSA Corporation and Mapletree Investments.

**Nicholas You** is a veteran urban specialist and thought leader. He is the founder and honorary chairman of the UN-Habitat World Urban Campaign Steering Committee, and Chair of the Urban Strategy and Innovation Council for ENGIE. An Adjunct at the Centre for Liveable Cities, Nicholas is the research advisor for this booklet.

**Lim Wei Da** is Assistant Director at the Centre for Liveable Cities and does research-related work under the Centre's Environment and Resource Cluster.

**Eamon Drumm** is a business development executive in the Decentralized Solutions for Cities and Region line of activity at ENGIE.

**Roman Serdar Mendle** manages the Smart Cities programme at ICLEI-Local Governments for Sustainability and heads the organisation's work on City-Business Collaboration.

**Olga Horn** is Officer at ICLEI's Smart Cities team where she facilitates knowledge exchange and contributes to the organisation's research activities on Smart and Green Cities.

# Transformative Partnerships

*Case Studies on Urban Governance*

How can city governments achieve better results with the same resources? In the face of rapid urbanisation, environmental challenges and other pressures, working with partners can transform a city.

Through a series of case studies, this booklet looks at how innovative partnership models can boost a city's competitiveness, sustainability and liveability. We begin with Singapore, which consolidated all aspects of water management under a single entity to try to 'close the water loop'—a case of partnership across traditional governmental and disciplinary silos. Next, we spotlight a successful 10-year regeneration partnership between the local government and the private sector in North East Lincolnshire, UK. Finally, we examine how public utilities, a local bank, and the community came together to establish a Carbon Bank system in Gwangju, Republic of Korea, in their efforts against climate change. Based on research by the Centre for Liveable Cities and its partners, these studies highlight the transformative impact of innovative urban governance in cities around the world.

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