



YEARBOOK 2018



THE AFFORDABLE METROPOLIS *INITIATIVE*

A Global *Dialogue* on Affordable Housing:
Policy, Finance, Technology and Shelters

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The Affordable Metropolis Initiative.
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Policy, Finance, Technology and Shelters
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GAP- General Assembly of Partners is a voluntary stakeholder
engagement group set up to support the implementation of the
Habitat III New Urban Agenda and of the SDGs. It is a network
of organizations and individual members.

<http://generalassemblyofpartners.org>

FIABCI-International Real Estate Federation is a global
professional organization for all professionals associated with the
real estate industry.

www.fiabci.org

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The content of the present report only engages the responsibility of its authors.

NB / DG, Dec. 2018

“ (...) Traditional civic leaders are ill equipped to manage the new complexity brought by megacities. There must be significant investments in training and in leadership mentoring. Megacities should be an opportunity to invent a new generation of competence clusters that leverage new civic capabilities. Universities, businesses, government agencies need to combine forces to attract and keep talent and support robust civil society.

City leaders might also be coached to consider hosting interdisciplinary workshops to address common issues such as housing shortages, infrastructure etc. While each city needs to establish its own strategic plan, most of the elements are the same for all cities. This sort of playbook approach is very effective in change management.

Each city has a roadmap to guide investments. Sustainability metrics should be incorporated into their decision process if it's not already there. Incentives go a long way to encouraging proper behaviors. A city official for example is not usually rewarded for taking risks nor for long term thinking. Chambers of Commerce, community centers and other resources all need to get on the same page as well. (...)

Lin FANYU, CEO, Fluxus LLC

Bloomberg New Economy Forum, Singapore, Nov. 2018. Closing session “ A year ahead”

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1. INTRODUCTION: DENSITY, PROSPERITY, AFFORDABILITY?

An Initiative and a Global Dialogue

The present Yearbook is the outcome of *The Affordable Metropolis Initiative*, a process launched in February 2018 in Kuala Lumpur (Malaysia) at the World Urban Forum 9 (WUF9). It is a joint effort by the Grand Paris Alliance for Metropolitan Development, the International Real Estate Federation (FIABCI) and the General Assembly of Partners (GAP). It is a voluntary contribution to the implementation of the Habitat III New Urban Agenda (NUA) and to the territorialization of the Sustainable Development Goals (SDGs), also meant to support the realization of UN Habitat 2020-2025 Strategic Plan.

As real estate markets are expected to represent a total of more than 4,2 trillion USD of investments globally by 2025, our urban world is plagued by rapidly growing imbalances severely affecting housing affordability and as a consequence, threatening long term sustainable development and the realization of the UN Agenda 2030.

The Affordable Metropolis Initiative aims at understanding, through dialogue and research, why urban inequalities are rising so much and so quickly. It aims at providing and showcasing concrete solutions to respond to such systemic risks affecting all efforts towards more sustainable livelihoods. We believe *housing* to be a crucial part of the equation towards more affordable and therefore more sustainable metropolitan systems and cities throughout the globe.

Turning housing as a driver for social, economic and environmental sustainability is the goal of the *Global Dialogue on Affordable Housing*, the first project under the *Affordable Metropolis Initiative*, focusing on *Policy, Finance, Technology and Shelters*. It is also about contributing to the implementation of a more effective *Right to the City*, as the world is celebrating the 70th anniversary of the *Universal Declaration of Human Rights*.

The first results of a year of action and mobilization

In 2018, many new global initiatives have been launched to tackle widening economic gaps in cities around the world such as the *Bloomberg New Economy Forum* or the *Coalition on Urban Transition*. These initiatives convened undisputed power and focused mainly on macroeconomic issues.

In contrast, the *Affordable Metropolis Initiative* builds on real urban economics and metrics. The world over, there are over 1,000 metro areas of 500,000 inhabitants or more, and over 4,500 cities of 100,000 inhabitants or more. As illustrated by *Steering the Metropolis* (2017), governance of contemporary urban systems is often scattered and weak, making it all the more difficult for integrated, robust urban and housing policies to be actually implemented.

The *Affordable Metropolis Initiative Global Dialogue on Affordable Housing* is a voluntary effort that has mobilized several dozens of policy makers, experts, government representatives, international institutions, professional organizations, civic groups, start-ups and cooperatives, urban planners, bankers, investors, architects, designers and brokers... on all continents. May we take the opportunity here to extend our warm and sincere thanks to all of them.

Started at the WUF9 in Kuala Lumpur and exploring the connectivity between density, prosperity and affordability in metro areas, the *Initiative* took the form of a second *Dialogue* series for the World Habitat Day 2018 (Oct. 1), with meetings held upon the same agenda, in Paris at the French Builders Federation (FFB), New-York at the headquarters of Bank of America, Taichung (Taiwan), Philadelphia and Honolulu (Hawaii), and in several other cities around the world during the whole *Urban October* month. A third *Dialogue* series took place in Paris in November 2018 at the annual general assembly of the Grand Paris Alliance.

The present yearbook also builds on the principles explored in the project of a *Metropolitan Compact* (see annex). It highlights numerous solutions gathered through FIABCI's contribution to UN Habitat World Urban Campaign "*The City We Need is Affordable*" and consolidated in three handbooks. Building on the above mentioned complementary sources, the *Initiative* will continue its rapid development in 2019, combining advocacy, outreach and the quest for relevant and concrete case studies and best practices across different legal contexts and urban cultures.

More to come in 2019

The present activity report showcases a number of relevant case studies and illustrations in four complementary areas:

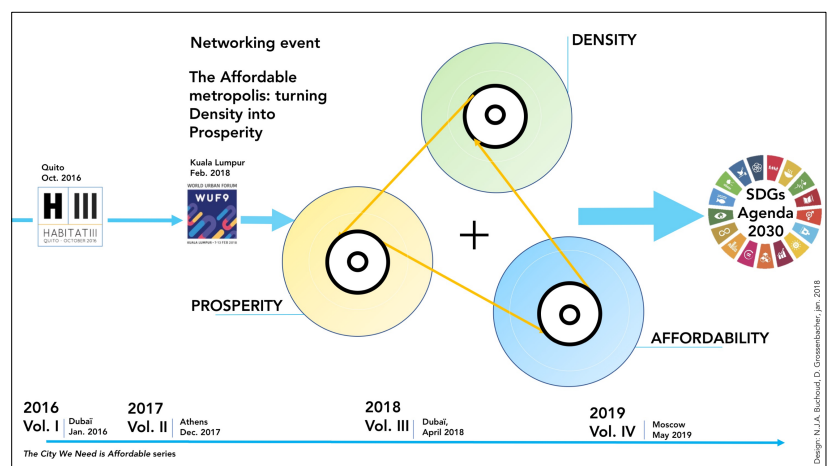
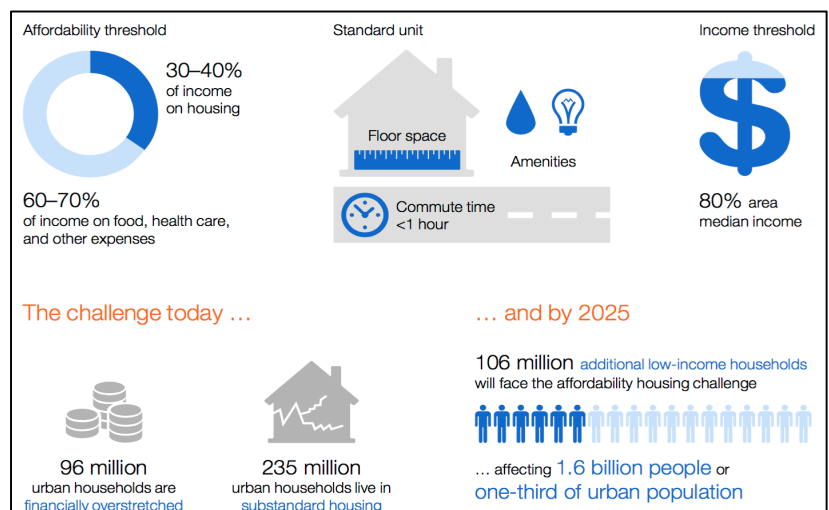
- Local, regional and national policies encouraging construction and renovation of affordable housing for rent or for sale.
- Financing solutions for developers and users.
- Technologies, construction techniques and materials making it quicker, less expensive and better to build affordable housing.
- Shelters for victims of natural catastrophes, migrants and homeless people.

We believe the *Dialogue* on housing deserves to be continued on all continents, especially throughout Africa. We believe practical solutions for housing need to be connected with the other key dimensions of sustainable urban / metropolitan development, such as mobility, innovation, inclusion. We wish to share our ambition to further improve and expand the *Dialogue* in 2019.

We hope that after going through the next pages, readers will engage with us in 2019!

Although affordability varies from city to city and is usually measured as a percentage of the Area Median Income (AMI), it is generally admitted that housing is affordable if its cost is covered by no more than 30% to 40% of the monthly income of the resident (s).
Graphic source: [Mc Kinsey Global Institute](#) *A blueprint for addressing the global affordable housing challenge* (2014)

Connecting Affordability with Density and Prosperity: a systemic approach to affordable housing. *The principles of the Affordable Metropolis Initiative*. Source. Buchoud / Grossenbacher, 2018



2. SOLUTIONS

THE NEED TO RESPOND TO A UNIVERSAL DEMAND FOR AFFORDABLE HOUSING

National and local Governments recognize that they cannot generate enough revenues alone to subsidize the construction of affordable homes for rent or for sale. Demand is much too high in most countries to be met in a reasonable time span. To quickly and significantly enlarge the supply of such urgently needed properties developers, lenders, architects, designers and construction professionals must come to the rescue. A major way to speed up the process is to create substantial incentives motivating them to build that type of housing and not only high-end units. Below are some of the most successful ones, with mention of the city or country where it is offered and a reference to find more information either by clicking on hyperlinks in the text below and on references at the end of the report.

The Affordable Metropolis Initiative was initiated building on the outcomes of “*The City We Need is Affordable*” World Urban campaign, with a number of concrete solutions supporting the development of affordable housing summarized in three handbooks issued in Dubai (2016, Athens (2017 and New-York (2018).

Source: FIABCI publications featuring innovative solutions fiabci.org/en/project



City We Need Is Affordable Vol. I



City We Need Is Affordable Vol. III



City We Need Is Affordable Vol. II

2.1 POLICIES

ZONING

Increased building rights are a key incentive for developers. On average, the units sell or rent quickly so lenders and investors can be reimbursed much sooner than for investments in higher end units, although at a lower rate of return.

Increased density granted to buildings offering a fixed percentage of affordable units. In 2017, the Lincoln Institute of Land Policy and the Grounded Solutions Network reviewed inclusionary housing programs in 886 jurisdictions in the USA and reported that the most popular incentive is to grant additional density in exchange for inclusion of affordable units. *Lincoln Institute of Land Policy (Thaden & Wang, 2017)*

Mandatory fixed percentage of affordable units for rent or for sale to be included in all market-rate residential building to be built. In New York City, that percentage is generally 20% affordable units and 80% free-market in new multi-family buildings. *New York City Zoning (FIABCI, 2018, p.24)*

Zoning derogation authorizing people to create affordable housing in their homes and-or divide their current single home into condos. This solution is particularly interesting to increase density in neighborhoods zoned for single-family residences where large portions of homes have become unused. *Toronto (Evergreen, 2018)*

Developers building affordable units receive transferable building rights purchased or transferred at a fraction of the normal cost to build commercial developments elsewhere. In Pune, India, a developer is rehabilitating a slum under this scheme. It will provide affordable housing to 1,200 to 1,400 households. *Pune, India (FIABCI, 2017, p.16)*

USE OF PUBLIC LAND

Unlocking unused public and private land and making it available for construction at zero cost, below market rate or through a long-term lease represents a first winning step in ensuring lower cost of building.

City owned greenfields and brownfields are provided free or at low cost to developers to build affordable units. Most cities own unutilized land. Berlin has a serious housing deficit, leading it to use public green spaces and former contaminated land to build affordable complexes. *Berlin (O'Sullivan, 2018)*

Public land is sold to developers for market-rate units and the profit is used by local authorities to finance construction of affordable housing. *(State of Hawaii, 2018, p.35-37)*



Illustration: Affordable housing development in Hawaii. Source: State of Hawai, 2018

Land Trusts or Municipalities provide land under a long term lease agreement (generally 99 years with fixed terms for the length of the lease) for affordable housing construction. In Luxembourg, for instance, before granting a land lease, the city holds a competition to decide which developers have the best design, materials, and ability to get additional financing to build a variety of affordable housing. Taichung (Taiwan) and New York City also have programs of leasing publicly owned land for long terms, substantially reducing construction costs.

Luxembourg (FIABCI, 2016, p.30)

Taichung (Chang, 2018)

New York land leased to nonprofit associations (New York Report, 2018)

Purchase by the private developer of unutilized public land below market rate in exchange for providing specific infrastructure or public services.

Panama, Ciudad del Este (FIABCI, 2016, p.19)

New York City's Essex Crossing- 2 million square feet (FIABCI, 2016, p.17)

Land and infrastructure provided free by the government so that affordable units buyers pay only for construction costs. In Taichung, the units are purchased for 80% of the market price and cannot be sold for 10 years. *Taichung (FIABCI, 2017, p.13)*

REAL ESTATE TAX ABATEMENTS

Real Estate tax reduction for builders of affordable units. *Taiwan (Chang, 2018)*

SIMPLIFIED REGULATION

Planning and development approval processes are streamlined and shortened. In many cities the permit approval process is very complex, unnecessarily long and discouraging for developers anticipating lower levels of profit. Simplifying and speeding up the process is a must to interest more developers. *Toronto (Evergreen, 2018)*

Privatizing construction permits and contracts by authorizing private urban curators to issue permits under government-defined standards. *Columbia (Endsley, 2018, p.13)*

PROTECTION OF EXISTING AFFORDABLE UNITS

Subsidies for owners who renovate affordable units and commit to keeping them in the affordable pricing range for a fixed number of years. *(Philadelphia, 2018)*

Permits for renovating affordable housing with provisions to privilege existing tenants so they are maintained in place. *(Philadelphia, 2018)*

Free legal representation for tenants in eviction procedures. *(Philadelphia, 2018)*

GOVERNANCE

The development of affordable housing can be accelerated in city areas under conversion and regeneration, providing opportunities to think differently and innovate. There are many relevant examples of new developments, such as across Europe, where developers and municipal governments, together with construction companies and civic groups manage to work together to respond to affordable housing needs combined with social and environmental priorities.

City scale. The *Futura EcoFabourgs* project developed in the district of Schlieren in Zürich metro area by an independent developer, HKA, with ETH University, the *2000 Watts Society* and others, is composed of 94 dwellings and includes community services (gardening, coop shop, guest apartment, laundry, bike and car sharing) along with advanced energy saving features. The developer has also provided a coach to work with residents and ensure a successful long term management of shared facilities.

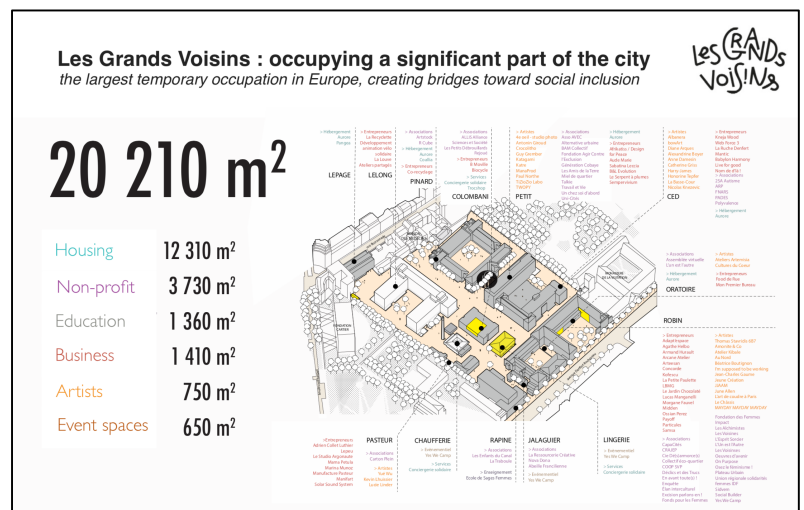
Illustration: The *FUTURA EcoFabourgs* project is located near a public transportation hub and its success comes from a number of community managed amenities integrated in the initial business plan.
Source:
www.ecofabourgs.com



Metro scale. In large metropolitan areas, housing and especially affordable housing issues cannot be tackled through qualitative solutions only. The production of mass quality affordable housing is the holy grail of any metropolitan government and there is no easy way. Yet, progress can be made through voluntary commitments of public, private and civil society. A good illustration is provided in the Paris Region (12 million inhabitants), with more than 4 million sqm of vacant office buildings, with 800,000 sqm vacant for over 4 years. In that context, a not for profit company, *Plateau Urbain*, then turned into

a coop has sought to activate brownfields and empty office buildings and elaborate long term conversion plans based upon future mixed use through temporary activities. By creating bridges towards social inclusion, they managed to launch such projects as *Les Grands Voisins*, known as Europe's largest temporary occupation site, in Paris 14th district. Showcased during WUF9, the project has gained a lot of attention and traction, and the site is now subject to a 20,000 sqm development combining housing, affordable and social housing, education space, business space, community and artist space...

Illustration: simplified masterplan of *les Grands Voisins* conversion and activation project. Source: Plateau Urbain, 2017



Mass production. When it comes to the massive production of affordable housing in globalized real estate markets, combined public and private efforts are required, involving along with local governments, national government support and the mobilization of the how value chain of the real estate industry. Typical of this new trend is the competition *Inventing Greater Paris Metropolis* (*Inventons la Métropole du Grand Paris*), launched in 2016 by the Grand Paris Metropolitan authority (Métropole du Grand Paris), Société du Grand Paris, the public company in charge of building the future regional orbital metro system (200km) and the national government (Préfecture de la région Ile de France). As part of the competition, over 50 different locations have been selected in

2017 in the central part of Paris Ile de France Region, with consortia of investors, developers, architects, engineering companies submitting their projects. This represents a total of over 7 billion euros investments, including the production of 14,000 housing units, with over 50% located near the future metropolitan transportation hubs and a significant portion of them in the form of social and affordable housing. Given the success of the first competition, A second round of the competition has been launched in 2018. In parallel, the Regional government has engaged in a reform of affordable housing finance targeting lower income households, while the national government has adopted a new bill meant, among others to facilitate the conversion of vacant offices into social and affordable housing.

Illustration: one of the 51 projects selected as part of Invention la Metropole du Grand Paris process, in the suburban city of Kremlin Bicêtre in Paris metro area. It combines green construction with modular building techniques. Developer: Altarea Cogedim. Source: Altarea Cogedim / Inventons la Métropole du Grand Paris



Illustration: *Xing-Long* Public Housing in Taipei, Taiwan will include 3,000 units targeting newlyweds and includes a sports complex, Public Park, mass transit and bus station, and is close to public schools.



2.2 FINANCING

PRIVATE-PUBLIC PARTNERSHIPS

This type of cooperation is often essential to guarantee the success of affordable developments, each partner bringing its firm commitment and appropriate experience.

Government provides public land free to builders in exchange for them to design, build, sell, and manage all the affordable units. *Taiwan (Chang, 2018)*

Housing Authority commits to purchase unsold units or find tenants for empty rental ones, therefore reducing the risk and financing costs of the developer. It is one of the features of the very successful Minha Casa Minha Vida Brazilian program which has already enabled construction of almost 5 million affordable units. *Brazil (FIABCI, 2017, p.23)*

TAX CREDITS AND SUBSIDIES

Low-income tax credits. Tax credits are offered by the US Internal Revenue Service and are very desirable to high income entities to reduce their tax liability for 10 years with a dollar for dollar credit on the money invested in development sites. It is the primary funding source of affordable housing projects in the USA. *San Francisco (FIABCI, 2016, p.23)*

Mortgages subsidized by the government. The residents in the low-rise complex of Kaskad Park in Moscow, benefit from reasonable mortgage options and appreciate the many amenities such as kindergarten, schools, clinics, sports grounds, banks and shops. *Russia (FIABCI, 2016, p.21)*

Government-backed mortgages. In Indonesia, for the very successful 1 million new affordable homes per year program, the government backs

the buyers 90% mortgage at a fixed interest rate of 5% for 25 years and also provides mortgage insurance. *Indonesia (FIABCI, 2017, p.22)*

RENT-TO-OWN

With the financial support of the State Government, first-time buyers make a 5% down payment upfront, then pay the rest in monthly installments for 10 years. *Lagos Affordable Housing Program (FIABCI, 2017, p.8)*

Flexible mortgage terms for buyers who make the down payment they can and pay the rest monthly during the period agreed to when purchasing. *Ghana (FIABCI, 2017, p.10)*

SOCIALLY-ORIENTED FUNDS AND SOCIETAL INNOVATION

Crowdfunding to raise the equity amount needed by developers building or renovating affordable units. For example, the Italian Città del Vetro (City of Glass) was renovated thanks to funds raised through crowdfunding which gave it access to international funds. *Italy (FIABCI, 2016, p.29)*

Mandatory or voluntary contributions from socially-oriented funds. The very successful Brazilian housing program Minha Casa, Minha Vida (My home, My life) is 60% funded by the Federal budget and 40% by a Brazilian Employers Fund. *Brazil (FIABCI, 2017, p.23)*

Combining limited state and local support including tax abatements, grants with contribution from social funds. In the USA, the social purpose real estate investment fund HPET acquires affordable housing complexes in need of capital and management, keeps them affordable for the long-term, delivers returns to investors and improves the quality of life for residents. *USA (FIABCI, 2017, p.26)*

Lines of credit. In 2019, the European Bank of Investment will provide a line of credit of 100M euros to *SEM Energie Positif*, a public company from Paris Ile de France Region (Région Ile de France) to upgrade affordable housing complexes and support energy saving projects. *Paris (B. Choukroun, C.Armand, Cercle Grand Paris, 2018)*

Financial innovation and new economic dimensions. In the context of metropolitan economic systems, new financial solutions supporting innovation, social inclusion and environmental preservation arise but they are generally difficult to scale up. The real estate industry is currently boiling with new skills and new jobs to manage innovation across existing business lines. Despite being the size of a start-up, *Redman* group has created the job of asset developer and is providing high-end know-how to set up financial models supporting unusual projects. <http://redman.fr/business-model>

Together with developers, investors, builders and experts, Deloitte Real Estate Advisory in Paris has supported the launch and development of actively innovative business communities to include biodiversity in real estate residential and mixed use projects and set up a new standard. *CIBI-Biodiversity* is growingly recognized by professionals and local governments as an efficient tool. Focusing on resources and materials, another community, *CircoLab*, has been launched to promote better lifecycle assessments of projects and resilient developments. Those interconnected voluntary communities are a cradle for the dissemination of innovation and awareness, also a way to lower the costs of accessing better products, starting with housing. <http://cibi-biodiversity.com> / <http://circolab.eu>

STATE BONDS

Bonds to finance for-profit and not-for profit developers building or preserving affordable housing. The New York Housing Finance Agency issues such bonds. *New York State Housing Finance Agency (New York State Housing Finance Agency, n.d.)*

Bonds sold by the government to subsidize the interest rate of affordable unit buyers. Solidary Bonds from the Panama government subsidize interest rates for mortgages issued to families earning up to \$1,200/mo. The Ministry of Housing also gives \$10,000 as down payment to families that qualify. There are over 400 private developers using the Solidary Bonds program. *Panama (FIABCI, 2016, p.19)*

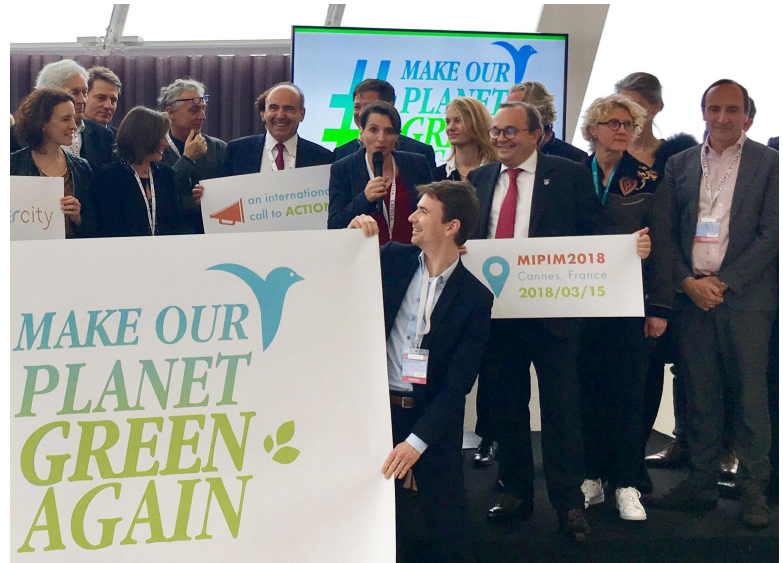


Illustration: The pledge #MakeourPlanetGreenAgain during the 2018 of MIPIM, supported by CIBI-Biodiversity, has met a wide and enthusiastic audience from professionals in public and private spheres all alike. Source: CIBI, 2018



Illustration: The government of Panama has a program to renovate housing units in the city of Colon. Source: Government of Panama, 2017

2.3 TECHNOLOGIES, DESIGN, CONSTRUCTION TECHNIQUES AND MATERIALS

TECHNOLOGIES

Technology can revolutionize construction by making construction processes quicker, easier, cheaper, more eco-friendly and of better quality.

The newly developed iBuild app, recently launched in Africa and in India, could be a game changer in construction processes. From a mobile phone, a customer or a developer can hire professionals at the best cost, based on online recommendations from past customers, follow each step of construction, make or receive secure payments at milestone completions and keep complete track of all money spent or received for a particular project. iBuild addresses 11 of the 17 SDGs and is a solution that puts the power in the hands of the individuals. *iBuild app (iBuild, n.d. and FIABCI, 2016, p.32)*

Illustrations: World Bank executive presents iBuild app at FIABCI's meeting in Bali, Dec.6, 2018.



Technologies making buildings eco-friendly. In Chennai, India, technologies using glass fiber, reinforced gypsum and solar power enable affordable housing units to generate drinking water out of condensation, recycle gray water and bio-degrade waste. *Chennai, India (FIABCI, 2018, p.19)*

DESIGN

Affordable housing is no longer about simply providing 4 walls and a roof. The mindset has evolved substantially. Through creative design, housing is now expected to help occupants create a real community and integrate them smoothly in their neighborhood. The hope is that, in time, new affordable housing complexes will make neighborhoods more visually and economically attractive. Residents will no longer fight to delay or deny affordable developments with NIMBY (Not In My Backyard) protests.

Free design for affordable housing is available online. 2016 Pritzker Prize winner Alejandro Aravena from Chile released a number of his residential designs as an open- source resource to help tackle the affordable housing crisis. *Chile (McKnight, 2016)*

Design facilitating community building. In New York City, the new Waterline Square development on the Upper West side, conceived by 3 major architects, benefits from extraordinary underground amenities: tennis court, soccer room, music recording studio, floral arrangements space, painting and sculpture studio, pools, gyms. 269 units are affordable rentals invisibly mixed among the free market rentals. There are also several hundred luxury condos in the complex. When practicing sport or devoting your free time to art, only talent and creativity are visible, not anyone’s lean or fat bank account. Friendships can flourish in spite of economic discrepancy. *New York (New York Report, 2018)*



Illustrations: The New York City Waterline Square benefits from varied innovative underground amenities.

High quality design making residents proud. The trend in design is to build affordable housing of quality so that residents feel proud when entering their building and benefit from a good quality of life once inside. By reducing the amount of amenities but providing high quality, the Kapiolani residence in Hawaii provided 282 affordable units mixed with 203 free-market one, amazing residents and the housing authorities. *Honolulu (Kapiolani Residence, 2018)*



Illustration: Interior design of affordable units in Kapiolani Residence in Honolulu, Hawaii.

CONSTRUCTION TECHNIQUES AND MATERIALS

Industrial construction is becoming the favorite method to build safely, quickly and at lower cost. Printed concrete is gaining ground for single family and low-level buildings.

Precast concrete and reinforced panels built in factories and assembled onsite. In the Philippines, this method enables home building in 8 to 10 days instead of 45-60 days. *Philippines (FIABCI, 2018, p. 18)*

Mass timber construction in countries where wood is abundant reduces time and cost. In Canada, prefabricated wood can be used for floors, walls and roof providing more uniform building materials and significant time gain. *Toronto (Evergreen, 2018)*

Modules built in factories enable cheaper, quicker and higher quality building. An example is the *B2 Brooklyn*, the tallest complex in the USA using modular construction, built in only 18 months. 50% of the units are affordable and distributed evenly throughout the building. 60%

of the complex was prefabricated off-site, generating 70- 90 % less waste and a 67% less energy consumption during construction. *New York City (New York Report, 2018) / Malaysia (FIABCI, 2018, p.13)*



Illustration: the B2 Brooklyn is the tallest modular constructed complex in the USA. Source: Affordable Metropolis Dialogue Series #2, New York, Oct. 2018

2.4 SHELTERS

The increasing number of natural catastrophes leaving thousands of people homeless overnight, the conflicts, the everlasting migrations and the exploding number of homeless make it urgent to find new ways to quickly house people at an affordable cost.

Eco-friendly building kits. The US company Astra Plus manufactures high performance energy-efficient buildings and panel systems made from eco-friendly materials. It produces over 500 structural insulated panels per day and 3,000 energy-efficient building kits per year. *Florida Astra Plus (FIABCI, 2016, p.14)*

Complex built with containers on used sports fields- In Amsterdam, where such a complex was built, 50% of residents are young Dutch citizens and 50% are refugees. It was designed to create a community and facilitate the integration of young migrants in the Dutch society. *Amsterdam (FIABCI, 2017, p.20)*

Industrially made containers to quickly lodge migrants. Bastion de Bercy, in Paris, was built with this method to lodge migrants camping in tents along the Seine. Luckily they moved in a few weeks before the River inundated the banks for several weeks in December 2017. The smart design facilitates the integration of migrants. On the rooftop, sport space attracts young people from the neighborhood who come and play with the migrants. On the ground floor, a computer center facilitates job searches and also enables the residents to teach older people in the area how to use computers. *Bastion de Bercy (FIABCI, 2017, p.21)*

Construction materials airlifted to devastated areas. Medair, a Swiss company began transporting 4-ton loads of crucial building materials after landslides in Nepal. Demand far exceeded the available supplies. It encouraged families to borrow each others materials and work closely together in order to rebuild as quickly as possible before the start of the Monsoon. *Nepal (FIABCI, 2018, p.27)*

Involvement of homeless in the design and construction of their housing community. After the nuclear center explosion in Japan, Hawaii sent material to build shelters in Japan. Once the residents moved into permanent housing, the Japanese returned the construction materials to Hawaii. These were then used in Hawaii to build a new community mostly for homeless women with children. designed and partially built by themselves. *Kahauiki Village Hawaii (Hawaii Kahauiki Village Report, 2018)*

Citizen involvement in building their own home. Taiwan has launched a simple construction open public framework where citizens are building their affordable unit autonomously using Building Information Modeling (BIM). *Taiwan (Chang, 2018)*

Selection of good location when building shelters. The International Housing Coalition (IHC) has been involved for a long time in sheltering victims of natural catastrophes. It has concluded that shelters must be built close to the area affected and to economic centers, otherwise they quickly empty. *USA (New York Report, 2018)*

Temporary tiny home. The Netherlands has launched such a project to respond to its overwhelming housing deficit. The units are approx. 350-450 square feet and can house 1 to 2 adults. The lifespan is set at 10 years maximum- during which the residents should improve their situation enough to move to permanent housing. *Netherlands tiny home village (O'Sullivan, 2018)*



Illustration: The Heijmans One "Tiny House" prototype has been installed at sites across The Netherlands.

3. CONCLUSION: RE- COUPLING URBAN DEVELOPMENT AND INCLUSION

HOUSING IN A WORLD UNDER PRESSURE: CARING MORE ABOUT AFFORDABILITY

The lack of housing supply is huge and while the need is universal, it is even more pressing in global cities and metro areas. Yet, as hundreds of millions of households in emerging countries are becoming middle-class consumers, the concern is no longer to simply put a roof over some heads. Improved housing should make people proud and determined to improve their economic situation. Access to affordable housing is becoming a critical livability issue. And yet, the mass production of more affordable quality housing is more than just about building and selling housing units.

Building in appropriate locations to limit urban sprawl, favoring community development to support social inclusion, developing new design and building processes to limit construction costs and upgrade energy and CO2 efficiency during the buildings lifecycles are pieces of a systemic and integrated approach to produce quality affordable housing and tackle existing trends towards less inclusion and more inequalities and imbalance in cities.

In the US, Philadelphia has long been known as the “poorest big city in the country” with more than 125,000 severely cost burdened renters who pay 50 or more of their income to rent and an overall rate of poverty of over 25%. Yet, in recent years, the city has lost 13,000 affordable housing units and gained 6,000 at the top of the price spectrum.

In Paris, the cost of living has been exponentially rising in the last decade and while it is not uncommon to reach selling prices of over 25,000 euros / sqm in central districts, vacancy rates are nearing 20% in the same areas. Meanwhile, despite a long negotiated regional masterplan, urban sprawl is accelerating as households relocate sometimes very far from the main job areas.

In Mexico City, semi-formal communities have been created in the 1960s with a residential typology known as *colonias populares*. In the last decade, the federal government has developed a large number of housing units in the agglomeration outskirts, now subject to abandonment as they are too far from job locations. Meanwhile, more central areas with *colonias populares* are subject to intensive real estate speculation. Pricy high-rise condos and office buildings are springing up without efficient policy to regulate the process. In San Francisco, homelessness has more than doubled since the years 2010's as real estate prices have been reaching new peaks.

In Taiwan, the issue of living justice and social housing has been a major controversial issue in the last twenty years. With a total population of 23 million inhabitants and more than 9,000 developers, the business community is now taking the lead to rebalance profit sharing in the general interest and to respond to rising unaffordability of urban development.

In Germany, combined efforts from the federal government, Länder, cities, housing and constructions companies, have allowed an unprecedented production of housing to host dozens of thousands of migrants and refugees since 2015 while connecting them to urban life and amenities.

These are only a sample of the case studies gathered throughout the Affordable Metropolis Global Dialogue on Housing series. Very different legal and cultural contexts exist across the globe, yet rather similar patterns can be discerned.

The recently edited *Global Atlas of Urban Expansion* (Lincoln Institute for Land Policy +NYU), shows that the current forms of urban growth are up to three times more land consuming now than in the 1990's, fueling a negative systemic chain of effects ranging from road system expansions, growing fuel consumption and therefore CO2 emissions, to the rising exposure of expanded urban areas to climate risks.

As urban systems are rising in size, they do not only become more vulnerable but also more costly to manage. This trend goes with another process of rapidly rising housing costs in core metro areas, making *density* less and less affordable. Affordable housing is not just about housing as yet another sectoral policy and not just about spending more on 100% subsidized social housing. It is a cornerstone of sustainable urban development. *The Affordable Metropolis Initiative* is bound to continue and expand in 2019, combining qualitative and evidence based solutions with global and local networking and outreach.



Illustration: meetings throughout the globe during Urban October as part of the Affordable Metropolis Initiative Global Dialogue on Housing

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