

Turning grimy waterfronts into sustainable living spaces worldwide

In major cities worldwide, city waterfronts built for bygone 19th- and early 20th- century commerce and industry, are transforming for 21st-century living.

They're being re-imagined for sustainability to mesh culture, commerce, urban living and greenspace.

"I consider the waterfront to be a strategic urban resource," says Rinio Bruttomesso, director of the International Centre Cities on Water (ICCW). "Public entities increasingly consider waterfront development as mandatory for the revitalization of the economy and the image of the city."

Bruttomesso adds, "Revitalization of the waterfront involves 'rediscovering' a fundamental heritage of natural spaces, infrastructure and architecture that can be adapted to new functions and fresh uses."

One of the biggest — and unique — waterfront transformation projects well underway is Hudson Yards in New York City.



It's a joint venture between the city's planning department and transportation authority to spur Manhattan development along the Hudson River. The planning department calls Hudson Yards the "one last frontier available" to build 111 million square feet of new commercial and office space needed by 2025.

The developers are Canada's Oxford Properties Group in partnership with

Related Companies of Manhattan. There hasn't been a development in New York this big since the Rockefeller Center in 1931. Hudson Yards is also the largest private real estate development in U.S. history, Oxford Properties Group notes.

When it's complete, there will be 17.4 million square feet of commercial and residential space. This includes five, state-of-the-art office towers; more than 100 shops; numerous restaurants; about 5,000 residences; a 175-room luxury hotel; a new public school for 750 students; cultural spaces; and 14 acres of open areas.

This is what makes the new community unique: it's being built on pillars and a platform above one of the world's busiest, active railroad yards. The Hudson Yards are staging racks for the Long Island Railroad. Kohn Pedersen Fox Associates (KPF) developed the master plan.

According to the firm, "The plan...is not just about erecting tall buildings or bricks and mortar; it is about creating dynamic spaces to be used and enjoyed...Hudson Yards will be a distinctive community characterized by world-leading sustainability, affordable housing, and diverse architectural styles."

Embracing historic identity is one of the 10 principles for sustainable development of urban waterfronts. They were established by Berlin's Wasserstadt GmbH in collaboration with the ICCW. The principles were approved in 2000 at the Global Conference on the Urban Future, in Berlin.

Toronto has preserved some of its historic waterfront past in redevelopment. In 1983 the Terminal Warehouse — built in the 1920s and the first poured-concrete edifice in Canada — was converted into the Queen's Quay Terminal. The complex is a mix of high-end shopping, offices and condominiums. It was one of Toronto's first mixed-use conversions of an industrial building.

Waterfront Toronto was established in 2003 to oversee transformation of Toronto's portlands and harbourfront. "Our vision has been to revitalize Toronto's waterfront into a spectacular public destination with vibrant public and cultural spaces and beautifully designed sustainable mixed-use neighbourhoods inspired by their unique locations," says John Campbell, CEO. He adds, "Our approach right from the start has been strategic revitalization as opposed to simple real estate development."

The agency is committed to creating "a revitalized waterfront that sets a national and global model for sustainability," he says.

However, in a published 2008 interview, Campbell acknowledged there's no continuity of design, public access or public ownership. He described the redevelopment as "hodgepodge and choppy." Waterfront Toronto takes an economic, environmental and social "three pillars" approach. There are parks and public spaces such as Sugar Beach and Sherbourne Common.

There are theatres, art galleries, restaurants, residential condominiums, hotels, commercial buildings and college campuses. The latest unveiling is the 350,000-square-foot Waterfront Innovation Centre in the new East Bayfront community. It's to be uniquely designed, built and owned, by Menkes Developments Ltd.

In Europe, the largest urban redevelopment project is HafenCity in Hamburg, Germany. Announced in 1997, construction began in 2003. The initiative won't be complete until 2025. The area is being built up in all four compass directions. HafenCity is balancing modern urban living with Hamburg's history as a major port city on the River Elbe. The first major new neighbourhood, Am Sandtorkai/Dalmannekai, was completed in 2009. To date, 56 projects have been completed. Another 49 are under construction.

The highlight is the new Elbphilharmonie Concert Hall. When complete in 2017, it will feature two concert auditoriums, a five-star hotel and about 45 apartments.



Already, about 1,500 living spaces have been built in HafenCity. As well, more than 450 companies have moved into the area. "HafenCity has become established as a popular place to live and work. The new district's urbanity is already very noticeable in the western neighborhoods," the district says on its website. In 2011, Hamburg received the European Green Capital Award. "What provides the basis of high quality urbanism after 10 years of development also offers an example of best practice for sustainable city development...And HafenCity is already featuring some of the best international buildings planned and certified to specific and demanding criteria for green buildings," said the European Commission in Hamburg: European Green Capital 2011.

In Denmark, Copenhagen's waterfront has been undergoing revitalization since the mid-1990s. The city developed a strategy and invested in building canals to drastically reduce wastewater heavily polluting the harbour. In 2002, a public harbour bath opened on Islands Brygge.

"Today, the harbour bath is a striking urban oasis that marks Copenhagen's position as a clean and liveable city," says the Danish Architecture Centre. Copenhagen has elevated brownfield revitalization to a gold-standard level with its Nordhavn district. Development of the new community took root 25 years ago.

"In late 1990, Copenhagen was nearly bankrupt. The lord mayor wanted to have more international offices coming to Copenhagen, have young people stay in Copenhagen, and have family apartments (because many residences in the inner city are too small for families)," explains Kirsten Ledagaard, project manager for CPH City and Port Development.

The private developer is charged with transforming the industrial port area into a vibrant, sustainable community of residences, commerce and culture. The first development in Nordhavn is the Arhusgade Quarter. Arhusgade has 165,000 square metres of residential and 140,000 square metres of commercial space.

"We spent about \$3 million just making an area to show young people — because it's the young people who are going to live there — what's going on in the development area," says Ledagaard. The objective is, build a sustainable community with plenty of greenspace, and short walking, cycling and public-transit commutes for the people who live in Copenhagen. Revenues from property sales in Nordhavn finance new metro lines in the City Ring. As well, new buildings in Nordhavn are engineered to be green and energy efficient.

Nordhavn is the only new urban development that has received gold certification for sustainability under Germany's DGNB Certification System.

"The gold certification indicates that Nordhavn will be a beacon for sustainable urban development, both nationally and internationally," says CPH.

Brazilian architect and urban designer Pablo Lazo says, "Successful waterfront redevelopment in cities...contain an element of public space that attracts people to spend time by the water. If you mix this with high-end residential and commercial property you can ensure the economic sustainability of the project. And if you add in cultural activities and retail, you get the perfect mix to ensure healthy development."

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