Sustainable urban planning is a challenge for planners and city managers. It fits in well with other goals and objectives in the field of urban planning, urban design and urban management, such as preserving and improving a city’s identity and values while, at the same time, making it attractive to its inhabitants, visitors and talents as well as businesses, developers and investors. This goal is common to all contemporary and competitive cities around the world and it is not only a basis for their local economy. It is also crucial for their survival. Amsterdam, The Hague and Rotterdam are cities that combine sustainable urban development while focusing on their identity and values, and simultaneously contributing to the development and prosperity of towns and cities. In the near future, cities will be deemed successful when they are capable of coping with climate change and energy transition.

A wide variety of conditions, contexts and processes determines the resilience, adaptability and sustainability of cities. A sustainable city is a city that is able to work effectively on energy efficiency, can make the transition to sustainable energy and water management, can reduce or reuse waste products and can reduce the effects of climate change. However, sustainable urban planning is more than just a technical approach and there are other equally important values besides sustainability. The values of a sustainable city are closely related to the values of an inclusive city, a competitive city and a liveable city. An inclusive city gives people a sense of place, of belonging, an identity and the security of social networks. It provides identification and makes one proud of its history, community, culture, traditions, heritage and education. Identity, together with attractiveness, is also a major driver for a competitive city. A competitive city is characterized by success, prosperity, trial, and full of opportunities for businesses, investors and institutions. A liveable city provides its residents and visitors with interesting, pleasant and safe public areas, an efficient public transport system and a healthy and green environment. Combining the values of sustainable, inclusive, competitive and liveable cities is a major challenge for planners and city managers. Throughout the centuries, our countries and towns have been shaped by the availability of energy, raw materials and food. The Netherlands were much an ‘energy landscape’. The landscape and towns here have developed as a result of the exploitation of timber, water power, fish, land, moorland and through the drainage by inland waterways, using windmills and steam power. By making good use of farmland, roads and the availability of local energy and raw materials, agriculture and horticulture developed. Products were manufactured, goods were traded, taxes were charged and armies were equipped. Towns became increasingly specialized in the manufacture of certain goods, in trade, land defence, governing, religion, education and science or culture, and in the past decade tourism, sports and media. The most successful towns are not only capable of repeatedly attracting new functions and identities, but they are also good at combining and including old and new values, functions and identities.

Sustainable towns are flexible. The position and identity of towns can change, sometimes even within a single generation. For example, for a long time Franschhoek was the second university town after Leiden, while Hoogervorst was the largest inland harbour in the Netherlands on account of the transport of peat. Other towns, on the other hand, remain unchanged for centuries or even longer. After some millennia, the enormous Sri Meenakshi temple in Tamil Nadu remains the geographic and religious centre of Madurai, a city with more than a million inhabitants. The Sri Meenakshi temple was in use even before the start of this era, and long before the construction of the Pantheon in Rome, the temple dedicated to all Roman gods.

Successful, i.e. sustainable or durable, towns and cities display flexibility. Town and city plans last for a long time, and develop again and again over decades and centuries to accommodate new functions and to meet new requirements. Changes throughout time and changes in identity and functions are necessary to retain the vitality and competitiveness of towns and cities. Sometimes drastic measures are called for, such as the Hausmann boulevards in Paris (1850), the harbour front of Oslo (1886) or Kop van Zuid in Rotterdam (1996). The most remarkable example is the redevelopment of the shipyards and industrial centre of Bilbao into a fabulous city district that houses the Guggenheim museum (1997), the icon of its transformation. Towns and cities change. In the twentieth century, their existence was based upon the production of goods, upon a trade or services. These days, a creative and recreational economy is required to safeguard the development and prosperity of towns and cities. In the near future, cities will be deemed successful when they are capable of coping with climate change and energy transition.

Not all drastic interventions in cities are a permanent success. The transformations of Hvidovre by Urkell (1975) and the seaside resort Bremerhaven (1959) were never really successful, and are both once again on the verge of radical re-testing. For urban developers, a sustainable city is not just about the environment; it is more about a city’s plan’s resilience in combination with the quality of the planning of its public areas outside, of its buildings and its infrastructure. Not all cities are equally resilient. Some towns in the old and the new world are slowly depopulating after thriving for centuries, sometimes within the space of just a few years. Water supplies dry up, soil and raw materials become exhausted, the climate changes, trade moves on to other routes and towns, towns become run down or industry becomes outdated. One example of this is Eisenhüttenstadt (1935), located on the border between Germany and Poland.

City concepts

This year it is exactly 150 years ago that Ignatius Gardi drew up the expansion plan for Barcelona. This plan comprised a grid of streets and construction blocks around Barcelona’s centre. Gardi’s city plan was partly inspired by sunlight, fresh air, spacious public areas and public transport for the inhabitants, combined with the efficient supply and removal of water, energy, goods and waste. All these obvious benefits, but was a huge leap forwards compared to the living environment in the old city. Barcelona seized the opportunity of the 1992 Olympic Games to relocate the harbours and to give the city a waterfront character. By doing this, an old identity was discarded and a new identity was taken on. It was the second great leap forwards for this city. The well thought-out city plan that Gardi made for Barcelona was by no means unique, but...
Barcelona; Cerda’s city, and the new sea side character.

The Tempel of Sri Meensakshi in Madurai: a geographic and religious centre since the first century.

A climate neutral landscape for Amsterdam.

Beemster in the Netherlands, an examples of reclamation settlement in energy landscapes dating back to the seventeenth century.
economy and increasing the use of sustainable energy in the urban environment, stimulating changes in attitude and sustainable mobility and innovation. In addition, Rotterdam presents itself as an energy port and a leader in the field of mitigation (reducing greenhouse gas emissions) and adaptation (reducing the vulnerability to climate change). The Rotterdam Climate Initiative (2006) is the city’s climate programme. Its aim is to achieve a 50% reduction in CO2 emissions by 2030 compared to 1990, preparing for a future change and reinforcing the competitiveness of Rotterdam, one of the gateways of Europe. The Rotterdam Climate Initiative is founded on several pillars dealing with the use of sustainable energy, mobility, attitude and innovation.

One of the achievements of the Innovation Lab is a new methodology that enables designers and clients to develop a CO2-neutral city. The Rotterdam Energy Approach and Planning (REAP) project propagates the optimum use of residual heat and waste products. Its methodology interlinks houses, shops, offices, sports facilities, schools and other amenities located in one neighbourhood in order to utilize residual heat and cooling. One example is the utilization of residual heat from a supermarket or office block for heating adjacent apartments. The project also investigates the possibility of producing biogas from residual waste or waste streams of homes and gardens. According to the REAP methodology, achieving an energy-neutral built environment is a simple and cost-effective way to tackle the climate issue – cheaper even than CO2 sequestration for example. The methodology provides a step-by-step procedure to make all housing estates in the Netherlands energy neutral.

‘Sustainable Global City by the Sea’

Global city The Hague puts itself on the map with internationally trend-setting projects in the field of ecology, energy and urban development, and is intent on utilizing its coastal position and the surplus availability of geothermal energy. The Municipality of The Hague is on the verge of a large-scale operation to ensure that the city will become climate neutral by 2025. The Hague has perhaps better prospects than other cities in the Netherlands to become climate neutral, because it is situated on the coast, has the most hours of sun and wind and has no polluting industries. Underneath the city there are endless streams of sea water. According to the REAP methodology, achieving an energy-neutral built environment is a simple and cost-effective way to tackle the climate issue – cheaper even than CO2 sequestration for example. The methodology provides a step-by-step procedure to make all housing estates in the Netherlands energy neutral.

The achievements of the REAP project led to an encyclopaedic and visionary report on opportunities and possibilities for sustainable and self-supporting environments. Atelier 2T Architects believes that strong ambitions in the area of sustainable spatial planning can only be implemented in cooperation with new visions involving the ecological infrastructure, energy, water as well as waste. The numerous inspirational examples of the International Congress of Landscape Architecture (ISOCARP) worldwide are of global interest and are testament to the growth of sustainable thinking. Examples, which will be published in January 2010.

Delindoop in The Hague: temperature of sea water is used for heating.