INDUSTRIES IN GERMANY

Germany is also one of the leading countries in developing and using green technologies. Companies specializing in green technology have an estimated turnover of €200 billion. German expertise in engineering, science, and research is eminently respectable.The lead markets of Germany's green technology industry are power generation, sustainable mobility, material efficiency, energy efficiency, waste management and recycling, sustainable water management.Regarding triadic patents, Germany is in third place after the US and Japan. With more than 26,500 registrations for patents submitted to the European Patent Office, Germany is the leading European nation. Siemens, Bosch and BASF, with almost 5,000 registrations for patents between them in 2008, are among the Top 5 of more than 35,000 companies registering patents. Together with the US and Japan, about patents for nano, bio, and new technologies Germany is one of the world's most active nations. With around one-third of triadic patents Germany leads the way worldwide in the field of vehicle emission reduction.

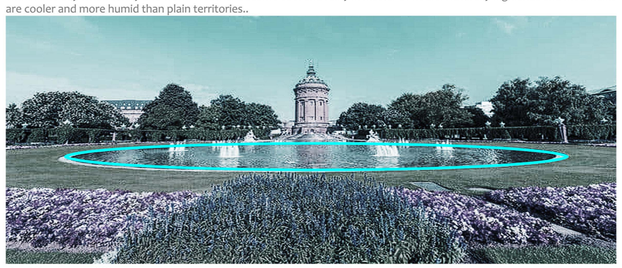
CONCEPTUAL DESCRIPTION

ENERGY

For decades Germany has been the global pioneer in applying renewable energy and environmental technologies. The energy transition continues to be an integral part of Germany's energy landscape with ambitious goals to cut CO2 emissions by 80% and increase the share of renewable energy in total energy consumption to 60% by 2050.Investments in offshore wind, photovoltaics, grid expansion and energy storage projects will be necessary as well as the implementation of a new, smart energy infrastructure that can balance the fluctuating supply of renewable sources. Energy efficiency will play a central role.

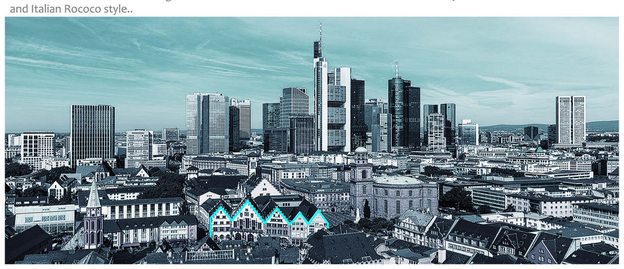
NATURE OF GERMANY

Northern part of Germany is plain. It is washed by the North Sea from west and by the Baltic Sea from East. Central portion lies on foothills of Alps and southern part is mountainous region. Weather conditions of regions vary due to such variety of reliefs.Germany has temperate climate with regions of maritime in northern coasts and continental in southern part. Features of relief, variety of climatic conditions and global location of the country lead to shifty weather. Shift of weather may occur within one day when sunny and warm weather become cool and rainy in matter of hours. Naturally highlands and mountains are cooler and more humid than plain territories..



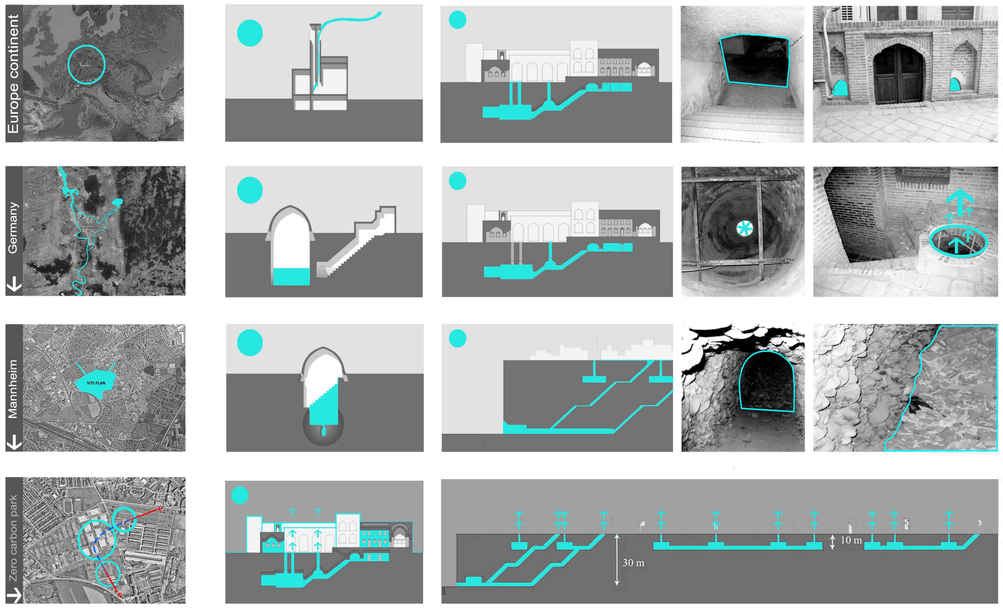
Architecture of Germany

Throughout its history, German architecture combined influences from elsewhere in Europe with its own national character. During the medieval period, the Romanesque style dominated. In the 13th century, as the Gothic style took hold, some of Germany's most notable structures were built, including the cathedrals at Cologne (begun 1248) and Strasbourg (planned 1277). Variations on the Gothic and Renaissance styles predominated through the 15th and 16th centuries, but, after the Protestant Reformation, commissions for elaborate religious structures decreased for a time. A revival of the Gothic began in the 17th century, when an increasing amount of ornamentation became the chief characteristic of churches and palaces; this decorative bent in German design reached a crescendo in the first half of the 18th century with the influence of the French and Italian Rococo style..



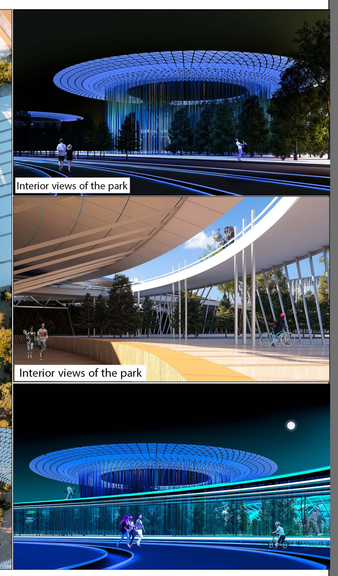
EARTH, WATER, AIR, FIRE. THE FOUR ELEMENTS AND ARCHITECTURE TODAY Whereas in our recent past the paradigm by which architecture was measured was the city, now, the collective reference surrounding our design activity is the relation with nature Sustainability as an economic but also a moral and political argument is clearly a consensus in our societies.

THE USE OF TRADITIONAL RENEWABLE ENERGY METHODS IN ANCIENT

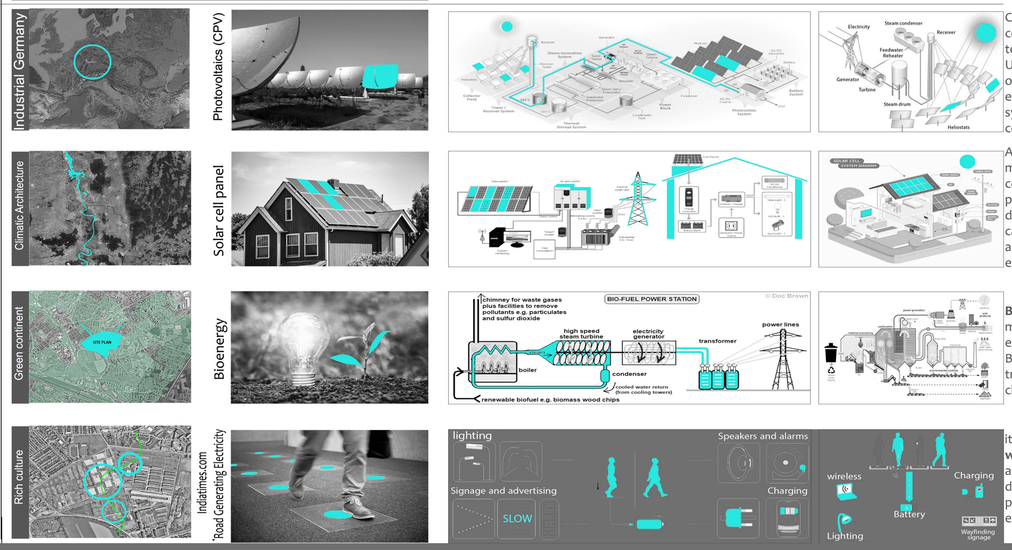


SHOVADAN!

It is a good idea to build part of the space or building inside the ground to establish a proper interaction with the environment. Historic buildings attained sustainable living conditions thanks to the so-called "shabestan" and "Shovadan" which were built inside the earth on two different levels. At a time when electricity and cooling giants were not available, the innovative design of Shovadan made way for the proper interaction and sustainable living conditions in hot and humid and hot and dry climates. **Shovadan's approach requires that the whole or part of the building be covered in the ground in different climates (especially the heatwave that has become a crisis in Europe in the past years).** The soil provides insulation against extreme heat or cold so that the air is cooled in summertime deep in the ground in a depth exceeding nine meters, and the need for mechanical and electrical cooling devices is minimized. In this project, I sought to use both modern and traditional methods to use renewable energy. Therefore, the traditional Shovadan method is used in the underground right beneath the light structures to cool the whole park space and circulate cool air in the north-eastern corridor and facades. In this method, air blowing occurs through the holes that are connected from the depth of the ground to the surface of the ground without need for electricity



THE USE OF MODERN RENEWABLE ENERGY EQUIPMENT



Concentrator **photovoltaics (CPV)** (also known as concentration photovoltaics) is a photovoltaic technology that generates electricity from sunlight. Unlike conventional photovoltaic systems, it uses lenses or curved mirrors to focus sunlight onto small, highly efficient, multi-junction (MJ) solar cells. In addition, CPV systems often use solar trackers and sometimes a cooling system to further increase their efficiency.

A **solar cell panel,** solar electric panel, photo-voltaic (PV) module or solar panel is an assembly of photo-voltaic cells mounted in a framework for installation. Solar panels use sunlight as a source of energy to generate direct current electricity. A collection of PV modules is called a PV panel, and a system of PV panels is called an array. Arrays of a photovoltaic system supply solar electricity to electrical equipment.

Bioenergy is renewable energy produced from organic matter (called "biomass") such as plants, which contain energy from sunlight stored as chemical energy. Bioenergy producers can convert this energy into liquid transportation fuel—called "biofuel"—through a chemical conversion process at a biorefinery.

it is true that you can **generate electricity by just walking** over. The principle is very simple,when you apply a pressure on piezoelectric crystals electricity is developed over the crystal lattice!. When you walk a pressure is applied to the ground ,utilising this pressure electricity is generated.