



# Beyond oil: Shanghai

**Resources.07** will pose the question if Form Follows Fuel? Or is it Fuel that will have to follow us? *Resources.07 kommer att undersöka om Form Follows Fuel? Eller är det Fuel som skall följa Form?*

## RESOURCES.07



# Beyond oil: Shanghai

In the western world, societies and lifestyles have been predicated on access to cheap oil. The expanding economies of the East have heedlessly copied this fossil fuel based model. In the Middle East, gasoline is presently cheaper than water. Experts now predict that at the present rate of consumption, our reserves of politically and geographically accessible oil will be exhausted within 20 years. Some researchers maintain that we are already there; that we have already reached the moment of Peak Oil and that we have left the age of flowing oil behind us.

Must architecture, urban planning and our own lifestyles radically change as the flow of oil ebbs out? What is the correlation between energy and architectural form? **Resources.07** will pose the question if **Form Follows Fuel**? Or is it Fuel that will have to follow us? Is it simply a matter of replacing our Hummer's gasoline engine with a hydrogen fuel cell, as the governor of California, Arnold Schwarzenegger has already done, or should we invent a new vessel for our journey?

## Cities and Energy

We now live on an urban planet. The earth's cities presently grow at the rate of one Stockholm per week.

What will our expanding urban environments look like when oil dependency is no longer an alternative? New-urbanists have long predicted that oil depletion will end the age of Motopia and Suburbia. They consider the density of cities to be synonymous with energy effectiveness. Others look toward decentralized, traditional models, such as those proposed by Ebenezer Howard and Frank Lloyd Wright, or tout Ecotopia as yet another utopian vision. Can those of us imbedded in the western tradition ever see past those urban patterns so well established – that same model we so eagerly sell as an export commodity to Asia? Will Peak Oil counteract the globalization and homogenization we have just recently become accustomed to, thereby allowing local initiatives to supplant them on a global and national level? Should we be searching for new utopian visions, or is it a plethora of small solutions that will create a serviceable patchwork pattern for the post-fossil city?

The cities of the world consume 75% of our global energy production and our built environment is responsible for half of our carbon emissions. Conversely, urban environments, by nature of their intensities are fertile testing grounds for rapid paradigm shifts. Cities could be the seeds to a new strategy.

**Resources** now begins a three year program; **Cities and Energy**, in which we will examine the potential of cities as test beds, and how changes in our urban environment and in our living patterns can have a global impact. During the past two years we have examined Phoenix and its sprawl, as well as Dubai and its guileless oil culture. Now, we go into a new phase in which we will study global cities that are taking decisive environmental initiatives. First stop – Shanghai.

### **Shanghai – the last fossil city, the first renewable one?**

China's cities are the fastest growing in the world. During the two coming decades 400 million people are expected to move from the rural to urban environment. To the Shanghai region alone, one million people move each year. In order to meet this immense societal shift, China must change its manner of urban development. Right now, large-scale initiatives are being taken to find answers to this pressing crisis. With its seemingly contradictory combination of communism and unregulated market forces, China can paradoxically become that country which finds an alternative form for urban development.

A city of 18 million people and unique in Chinese history as a place of epoch making changes – Shanghai is on the precipice of becoming the leading city in the world when it comes to renewable energy resources and low carbon emissions. It is here that the world's first sustainable city, Dongtan on Chongming island is being built. Designed by Alsop Architects and Arup, it will be ready for the World Expo in 2010 and is intended as a model for future Chinese cities. With unrivaled aspirations, China intends on making Shanghai the sustainable center of the world.

**Resources.07** during the year will study Shanghai, both in Stockholm and on site. This will be conducted in conjunction with Chinese students in Stockholm and Shanghai, as well as with the Department of Urban Planning and Environment at the Royal Institute of Technology in Stockholm (KTH). Within a specific urban context and across the historical layers of the city, we will examine physical, cultural, social, economic and ecological parameters. We will explore the possibilities of a pro-active and sustainable development, post-oil.

**The specific goal and destination of the course is, upon invitation of the Ministry of the Environment, to**

**present a coherent but multifaceted, substantive and innovative proposal for *Shanghai – The City Beyond Oil till World Urban Forum IV* in Nanjing, 2008.**

### **Perspectives**

In **Resources.07** we will study architecture and urban planning in relation to energy, climate, geopolitics, resource theory, mobility, production and consumption. We will excavate the history of the sustainable city and see how their varying ideologies and utopias have been affected by politics and ethics. We will look at urban agriculture and visualize how the future city-/ landscape could change if local production of food and energy, as well as water and waste were given an intentional architectural form. We will study mobility and transportation and how they will take form when oil is no longer an alternative. With examples ranging from low- to high-tech, we will explore the potential of zero carbon and intelligent architecture. We will pose the question – can architecture literally generate its own energy? During the course of the year, we will also delve into the principles of biomimetics in order to apply them on architecture and urban planning.

We will meet architects, designers, artists and engineers, from both Sweden and abroad, who have already probed these questions and have incorporated them in their design strategies. We will find a foundation in architectural and planning theory, as well as philosophy, sociology, information science, economy and ecology. Underlying all aspects of the course is a focus on visualization and communication.

### **Program**

**Resources.07** consists of three consecutive day study periods, occurring every other week. These periods are complemented with two or three weeklong workshops, spread throughout the study year. Five fields of study structure the year. Each field will be investigated by means of lectures and seminars. The fall term will begin with attending the conference, Sustainable City Development in Malmö, held from the 12th to the 14th of September and will be followed by a workshop during week 39. The spring term will begin with a longer study and workshop trip to Shanghai.

**Resources.07** commences week 37 and concludes week 20, 2008. Winter break is between weeks 50 and 3. The course gives 60 credits according to the new academic system. Each student is responsible for paying 10.000 sek for the obligatory study trips (Malmö and

Shanghai). Payment will be divided into two installments. The project produced during the course of the year will be presented, first in Stockholm at the conclusion of the spring term and subsequently at the **World Urban Form IV in Nanjing, 2008**. Long-term plans include a publication documenting material from the coming three years. Those responsible for the course are professor and architect Henrietta Palmer and assistant and architect Michael Dudley. Fredric Bedoire, professor in architectural history, will also participate, as well as various other teachers from the school of Fine Arts. Per Hultén, PhD, architect and senior researcher in Sustainable Urban Development and initiator of the Beyond-Oil project will help facilitate. The course is held in cooperation with professor Göran Cars and architect and researcher Bosse Bergman at the Department of Urban Planning and Environment, Royal Institute of Technology in Stockholm (KTH).

## Applications

**Recourses.07** is looking for engaged individuals who are interested in investigating these issues and developing proposals within a team. Applicants should be able to demonstrate design ability, or have knowledge relevant to the subject, as well as describe an idea they wish to develop pertinent to the themes presented above. You should be an architect, landscape architect, urban or regional planner, or from a related design discipline such as; photographer, filmmaker, designer, artist or journalist – with a specific interest in architecture and urban planning issues. This year, we are even looking for microbiologists, biochemists, material scientists and civil engineers working with energy systems, who are interested in working together with designers on these issues. Applicants should have a college degree. An application should consist of a CV, a concise written reflection on the subject for this year, as well as a passport-sized photograph of the applicant. **The application should be postmarked, or left at the school no later than the 21st of May, 2007.**

## Additional courses, grants and economic support

As a student at the Royal University College of Fine Arts, Department of Architecture, you are entitled to attend open lectures within the other courses within the department, including Restoration Arts (theme: the Opera house in Stockholm) as well as Art & Architecture, in addition to those within the Fine Arts program (for additional information about these courses, please see [www.kkh.se](http://www.kkh.se)). At the conclusion of each year, the school awards a number of grants based on a project application and/or individual achievement. In the beginning of the spring term, students are encouraged to apply for grants from the Research and Development in the Arts program (KU-medel). These applications can be based on ideas developed during the course of the study year and that the student wishes to continue exploring during the consecutive year.

### Additional information:

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