

# ***Sustainable Cities Project between Shanghai and Chicago***

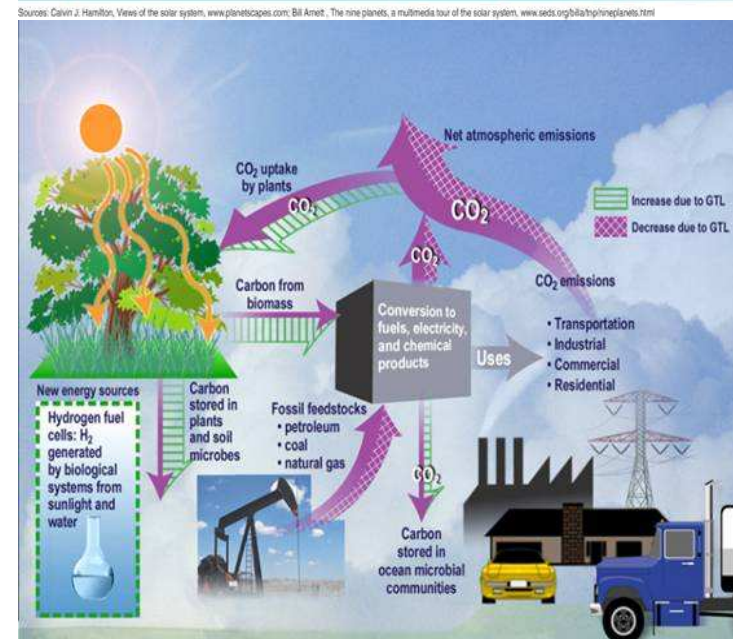
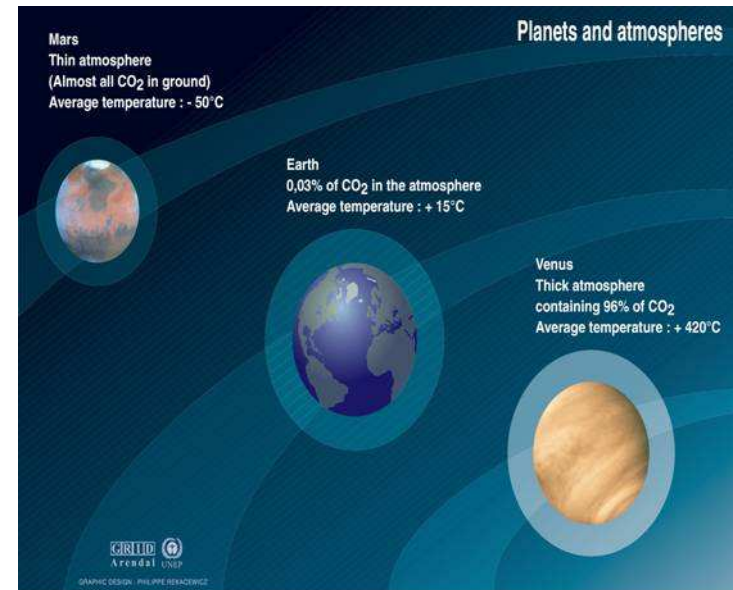
可持续发展城市合作项目  
上海/芝加哥

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# The Global Sustainability Issue

**Continued use** of oil, gas, coal at current levels, plus the rapid growth of the world population will lead to **increased global warming**.

If left unchecked, climate change will **further disrupt** the earth's normal cycles, leading to **natural disasters and shortages** of basic human resources such as **food and water**.



# City-based solutions

- Adopt and develop clean / renewable energy resources
  - Solar
  - Wind
  - Geothermal
  - Clean Coal, etc.
- Develop ways to conserve energy usage while maintaining a high quality of life:
  - Buildings
  - Transport
  - Manufacturing



Spertus  
Institute of  
Jewish  
Studies,  
Chicago,  
Krueck &  
Sexton



Pearl River  
Tower,  
Guangzhou,  
China, SOM



# Challenges Common to Chicago and Shanghai

- High population & building densities
- Transportation issues
- High energy density utilization
- Quality of life issues
  - Environment
  - Communication
  - Safety



# Unique Solution: Joint Chicago-Shanghai R&D and Investment



The Illinois Institute of Technology and the University of Illinois (Chicago) and Tongji University (Shanghai) are performing joint R&D on geothermal and fuel cell research.



At Northwestern, a new NSF-funded International Materials Institute for Solar Energy and Environment has a network of multi-sector partners in the U.S and China. Joint R&D areas include:

- Solar-electric conversion
- Solar to fuel conversion
- Control of air pollutants, combustion, aerosol processes, nanotoxicology
- CO<sub>2</sub> reduction

# Chicago-Shanghai Building Energy Efficiency Program

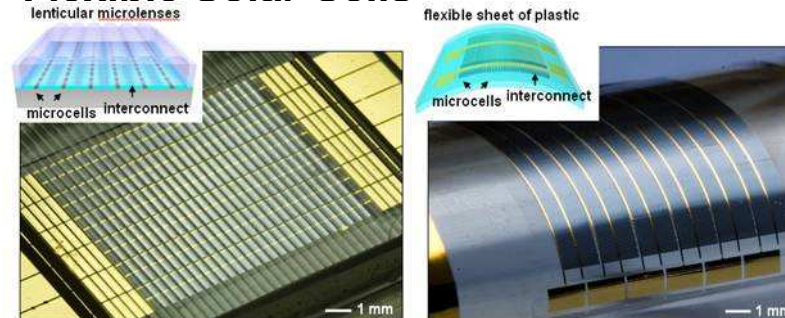
Initiated this year by Northwestern University in partnership with:

- Chicago architecture firms and engineering companies,
- University of Illinois (UIUC), and University of Cincinnati,
- Tongji University Shanghai Jiao-Tung University, and Suntech Power in Shanghai
- Other Chinese Universities

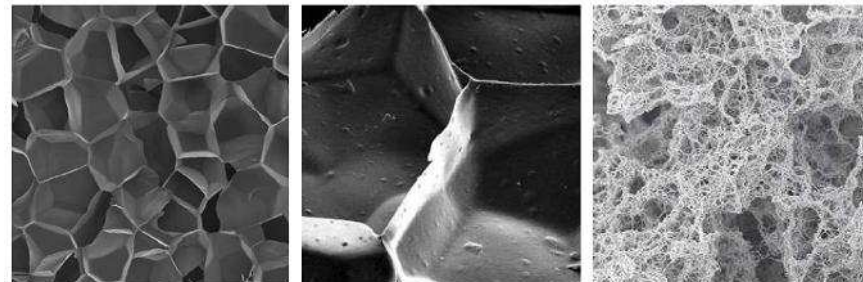
## Intelligent Windows



## Flexible Solar Cells



## Advanced Insulations Materials



谢谢

**Thank you for your attention!**  
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