

Session 5:

Innovation EcoSystems: National Level R&D and the Role of Universities

Chair: **Stuart Madnick**, Information Technology Group, Sloan School of Management & Engineering Systems Division, School of Engineering, Massachusetts Institute of Technology (USA)

- **Linas Eriksonas**, Europarama (Lithuania): "Industry-academy partnerships in EU-funded technology transfer projects"
- **Chuck Eesley**, MIT Sloan School of Management (USA): "Innovation (Eco)Systems at MIT"
- **Andre Slowak**, University of Honenheim (Germany): "Open innovation, standard-setting and spatial concentration in biotechnology and mechanical engineering: a cross-disciplinary managerial & economic geography approach"
- **Georgeta Vidican**, MIT and Masdar Institute of Science and Technology (Abu Dhabi): "The Role of Public Research Institutions in the Innovation Process: The Case of Renewable Energy Sector"
- **David Robson & Madeline Smith**, Scottish Enterprise (UK): "Innovation 2.0: Collaborative Innovation"
- **Discussion**

Example of National Level R&D and the Role of Universities

- MIT & MIST (Masdar Institute of Science and Technology of Abu Dhabi) collaboration
- **Masdar Initiative:**
 - Focus: Sustainable Energy
 - Components:



Note: This description of the Masdar Initiative is solely the views of S. Madnick.

The Masdar Cluster

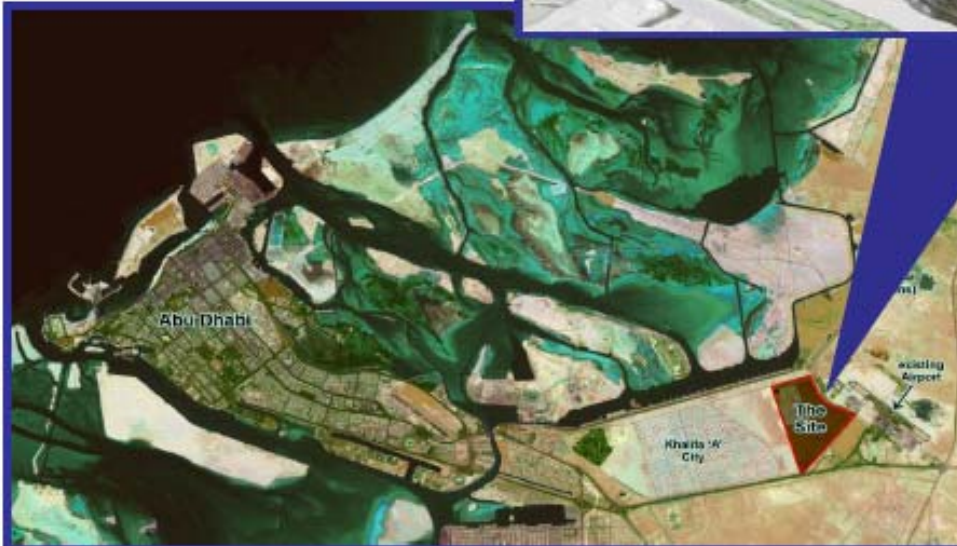
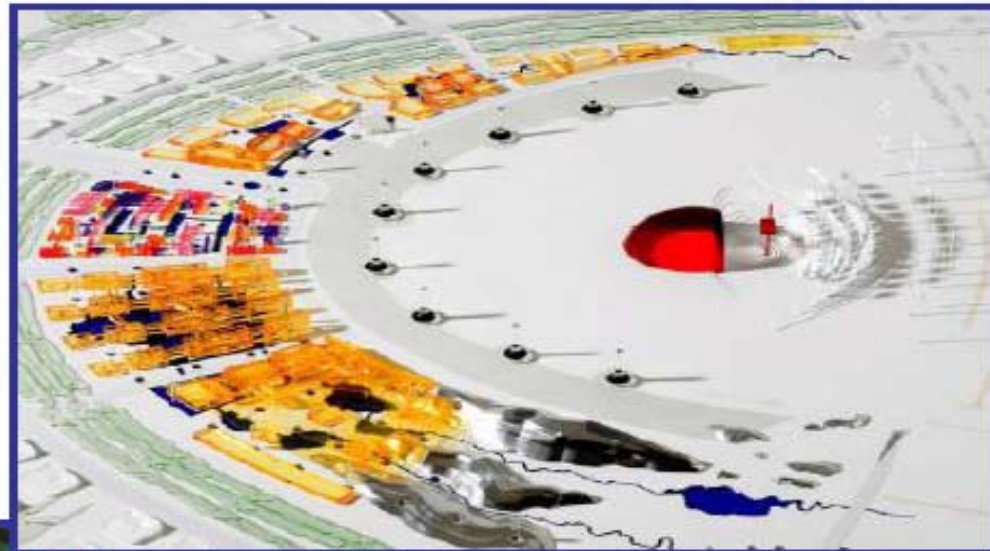


A Special Economic Zone that facilitates business through the synergies forged among member organizations with complementary skills and interests

MASDAR CITY - *first zero-carbon, zero-waste, car-fi*

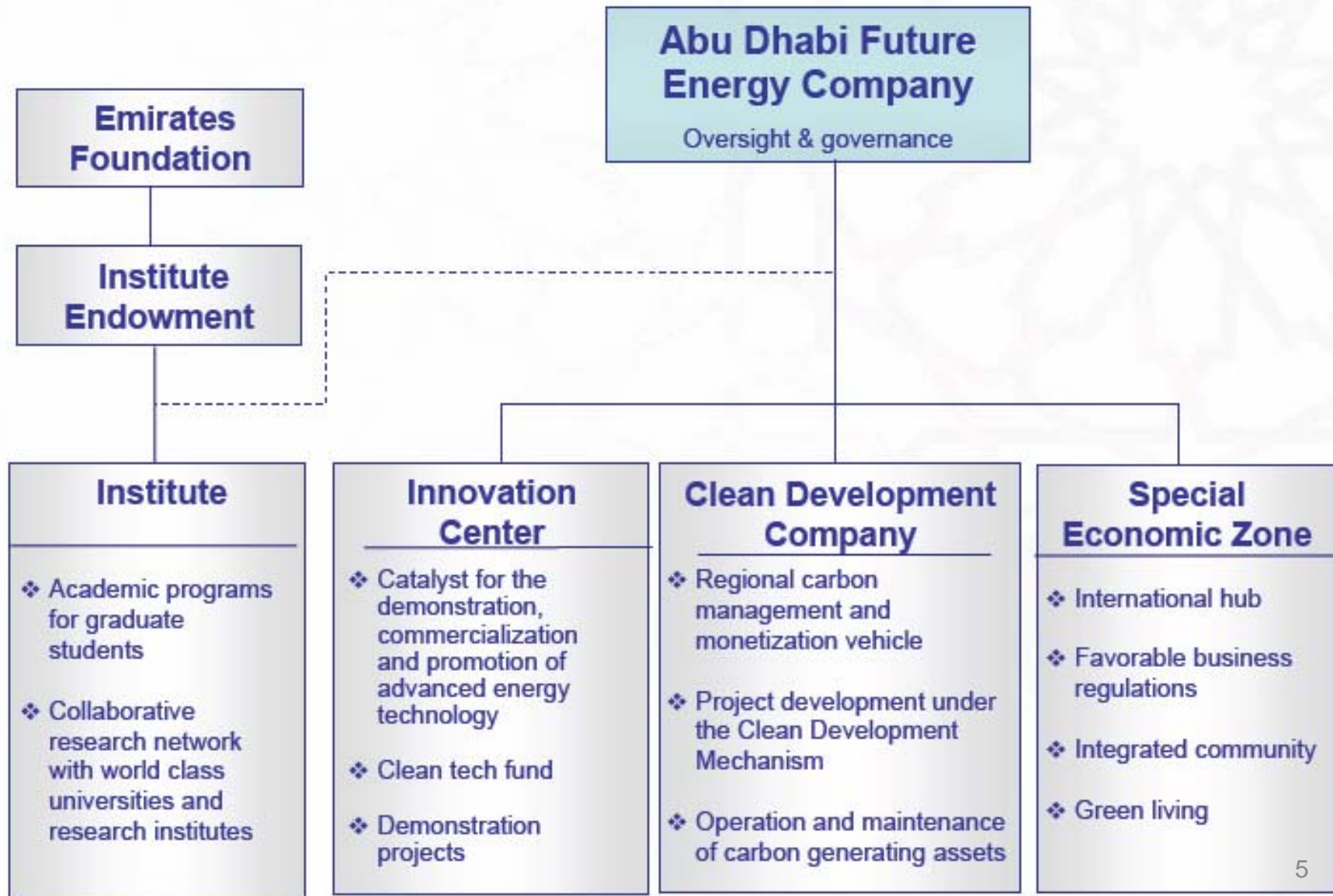
The Special Economic Zone (SEZ)

- ❖ Iconic design embodying a futuristic expression of energy while recognizing the historical Arabic contribution to science
- ❖ Comprising a university with R&D facilities, business park, conference facility, residential village, hospitality, shopping & leisure
- ❖ Phase I will span over 200 hectare (2 km²)



- ❖ Located near Abu Dhabi International Airport
- ❖ At close distance from the beach
- ❖ 10 minutes away from the city of Abu Dhabi

Structure



The Innovation Center

Purpose

- ❖ A **catalyst** for demonstration and commercialization of advanced energy & sustainability technologies
- ❖ An **incentive** program to assist companies in bringing to market technologies required in Abu Dhabi
- ❖ A main **stimulant** for foreign organizations to join the Masdar community

Roadmap

- ❖ Set up Clean Tech Private Equity Funds to invest in companies with promising AE&S technologies
- ❖ Partner with international companies to launch pre-commercial demonstration projects in Abu Dhabi
- ❖ Set-up Business Accelerator to attract startups and entrepreneurs to Abu Dhabi
- ❖ Develop a program for the demonstration and deployment of advanced technologies

Masdar Institute

VISION

"Become a leading worldwide research and academic hub, and a main source for locally generated intellectual property"

A specialized institution integrating research and education:

- ❖ Private, not-for-profit, advancing excellence in research and education and contributing to the development of a knowledge economy
- ❖ Fostering research in advanced energy and sustainability technologies
- ❖ Offering graduate academic degrees in engineering and social sciences
- ❖ Established in partnership with several international world-class universities and research institutes

Magnitude of the Effort

- \$22 billion for Masdar City
- \$15 billion for Masdar Initiative

What is a “billion”? (from Wikipedia) There are two different numerical systems:

“**Short scale**” is from the French term *échelle courte* - a system in which every new term greater than million is 1,000 times greater than the previous term: **“billion” means “a thousand millions”** (10^9), “trillion” means “a thousand billions” (10^{12}), and so on.

“**Long scale**” is from the French term *échelle longue* - a system in which every new term greater than million is 1,000,000 times greater than the previous term: **“billion” means “a million millions”** (10^{12}), “trillion” means “a million billions” (10^{18}), and so on.

For most of the 19th and 20th centuries, the **UK uniformly used the long scale**, whilst the **USA used the short scale**, often referred to as “British” and “American” respectively.

In 1974 the government of the UK abandoned the long scale, so that the UK now applies the short scale interpretation exclusively in mass media and official usage. ***Although some residual long-scale usage still continues in the UK. . . . So a “billion” is ???***

Relates to my research on “context” of information ...

The 1805 Overture

In 1805, the Austrian and Russian Emperors agreed to join forces against Napoleon. The Russians promised that their forces would be in the field in Bavaria by **Oct. 20**.

The Austrian staff planned its campaign based on that date in the **Gregorian calendar**. Russia, however, still used the ancient **Julian calendar**, which lagged 10 days behind.

The calendar difference allowed Napoleon to surround Austrian General Mack's army at Ulm and force its surrender on Oct. 21, well before the Russian forces could reach him, ultimately setting the stage for Austerlitz.

Source: David Chandler, *The Campaigns of Napoleon*, New York: MacMillan 1966, pg. 390.

Now onto to the speakers for this Workshop session . . .

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