

# The Emergence of AI in Chinese Smart City Development

Thursday, November 15, 2018 • 4:30-5:50 PM  
Stanford University | [Skilling Auditorium](#)  
494 Lomita Mall • Stanford, CA



**Dr. James Caldwell**  
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Green Energy Council



**Dr. Oliver Yu**  
Founder & CEO,  
STARS Group  
Board Director,  
US-China Green  
Energy Council



**Wenli Yu**  
CEO,  
Archimedes Controls  
Group



**Yang Ming Li**  
Sr. IT Expert  
China National  
Petroleum  
Company  
Global Affiliate  
Visiting Fellow, APARC,  
Stanford University

# Moderator, James T. Caldwell, Ph.D.

- Taught in China for 2 years, Second Foreign language Institute, and lectured at the National Ministry of Foreign Affairs and Beijing U.
- Led tour groups in China, Lindblad Travel
- Chinese Computer Software Representative in China and Hong Kong International Geosystems, Inc.
- Chinese Smart City/Smart Grid Development, Open Systems Control, Beijing 2007-8
- Green Building and Smart City Task Force, US China Green Energy Council, working on and presenting at Conferences/Summits in China and California 2008 - Present.
- Smart Sustainable City Development Planner with Heller Manus Architects for the City of Nansha in 2012.
- In 2018 Smart, Green and Integrated new neighborhood developments in two major Chinese cities with Heller Manus Architects and with Super Computer Developer Steve Chen (original developer of the CRAY Computer). Steve has created and installed integrated Information Supergrid Technologies -- including Health Care and integrated Smart Village Supergrids for Chinese communities. (see following slide)



# Supergrid Cloud Platform SCP For Smart Garden Villages

“A Supercomputer in a Neighborhood”  
“A New Economy for Global Communities”

Dr. Steve Chen

U.S. National Academy of Engineering  
American Academy of Arts and Sciences  
President of The Third Brain Research Institute

2018-8-3

Confidential Information

**United Nations Sustainable Development Goals illustrate the need for an integrated approach. China is a Subscriber and Supporter of this program.**

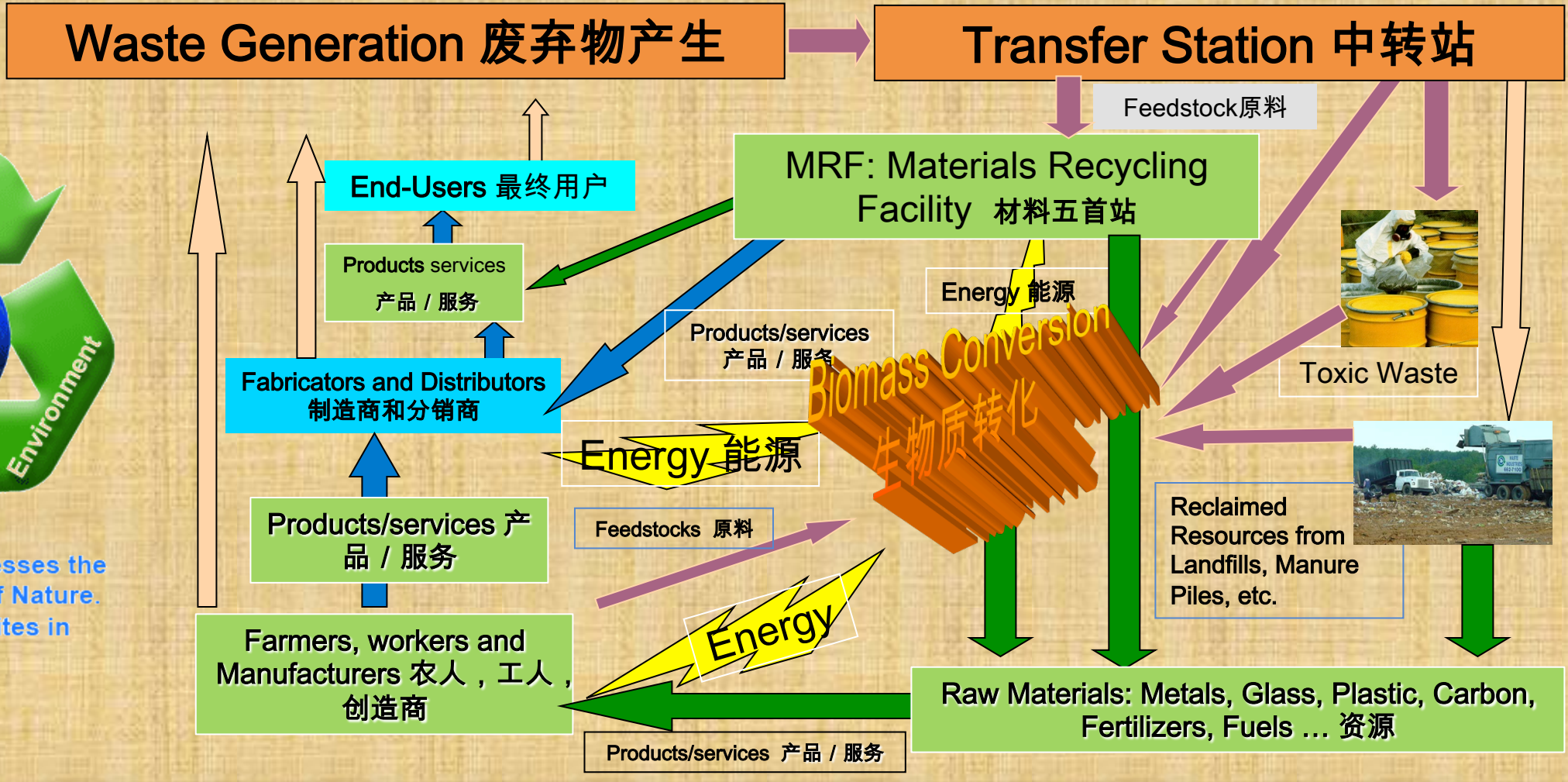


**In September 2015, H.E. Xi Jinping, President of China, attended the United Nations Sustainable Development Summit and joined other leaders in endorsing the 2030 Agenda for Sustainable Development, providing guidance to national development of member states and international development cooperation in the next 15 years.**

# Smart Cities Initiative and Garden Cities are now included in the Current Chinese 5-year Plan etc.

- We did a series of events in China last week on smart cities, one with Tsinghua University, another with the smart cities department at the Tongheng Urban Planning & Design Institute - a 900 strong team of city planners and researchers, a third with Intel and the Beijing government (focused on air pollution) and another with the China Executive Leadership Academy Pudong (CELAP) in Shanghai.
- Nesta is heavily involved in some aspects of smart cities, from [open data](#) to [i-teams](#) and we have been trying to shift the framework for thinking about smart cities.
- The discussion has become polarised between an overly technology-determinist approach pushed by tech companies (which has achieved surprisingly little, relative to the hype) and increasingly vocal critics (who sometimes appear to suggest that none of the smart city ideas will achieve anything).
- We're convinced that digital technologies have a great deal to offer cities, and that China is likely to be a particularly interesting case in the next few years. Over 190 cities are taking part in a government sponsored programme on smart cities, experimenting with new uses of GIS, remote sensing, information infrastructures, cloud centres, data sharing etc.
- Some of the elements are fairly predictable (for example, on improving transport management or city administration), others much less so: like the [Mycity](#) government Wiki in Beijing, or [Qingdao's](#) role as a pioneer of administrative data sharing, or the Mobile Lab in Beijing organising large scale use of PDAs by officials.
- As in the West, the discourse is shifting away from the cruder technology push ideas to an interest in intelligent problem solving and even wisdom. The session with Intel on air pollution exemplified this, bringing together policy makers from the Beijing municipal government, and people from big tech firms, with technology entrepreneurs and social innovators.

# Creative Full-Cycle Resource Utilization and Reuse Systems are Critical. China Desires Central Oversight and Local Management using AI.



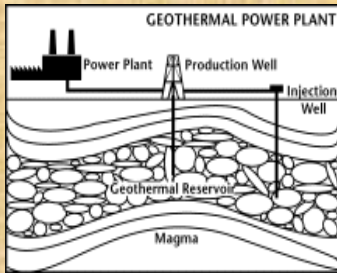
The Yin-Yang expresses the dynamic balance of Nature. The unity of opposites in constant flux.

*Includes measurement, analysis, reporting, education and creativity at every stage!*  
包括每个阶段的测量，分析，报告，教育和创造力

From a System Perspective 在系统观点

# Energy Sustainability and Regeneration is about Optimizing the Mix :

## This requires Central Oversight in China with Local ? Management



Geothermal



Landfills = Energy + Resources



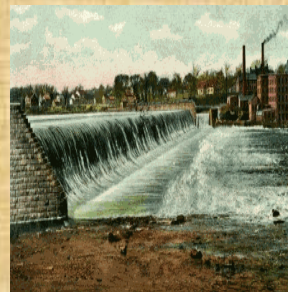
Solar



Wind



Efficiency 节能



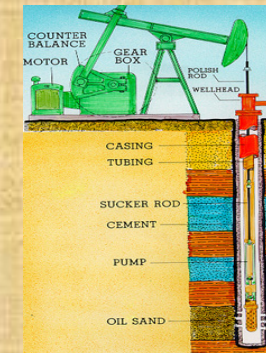
Hydroelectric



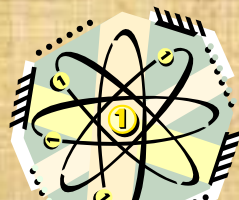
Global Innovation Alliances  
全球创新联盟



Biofuels 生物燃料



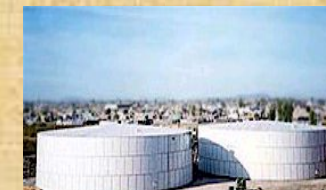
Oil and Gas



Atomic Power



Human & Animal Power



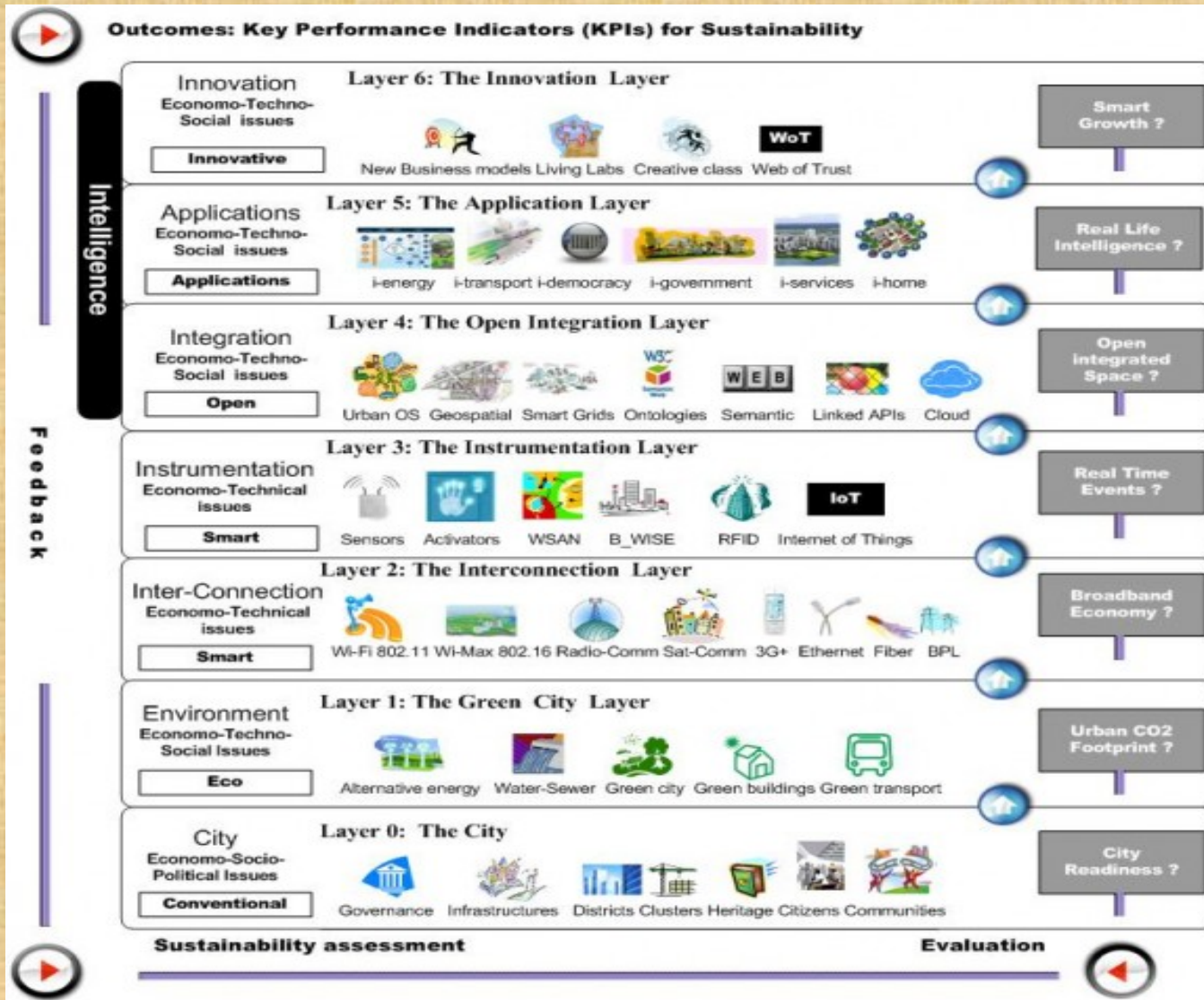
Anaerobic Digestion



Farmed Biomass

# Standards and Key Performance Indicators ( KPI's )

Synchronizing Standards and KPI's is always a challenge (including China)



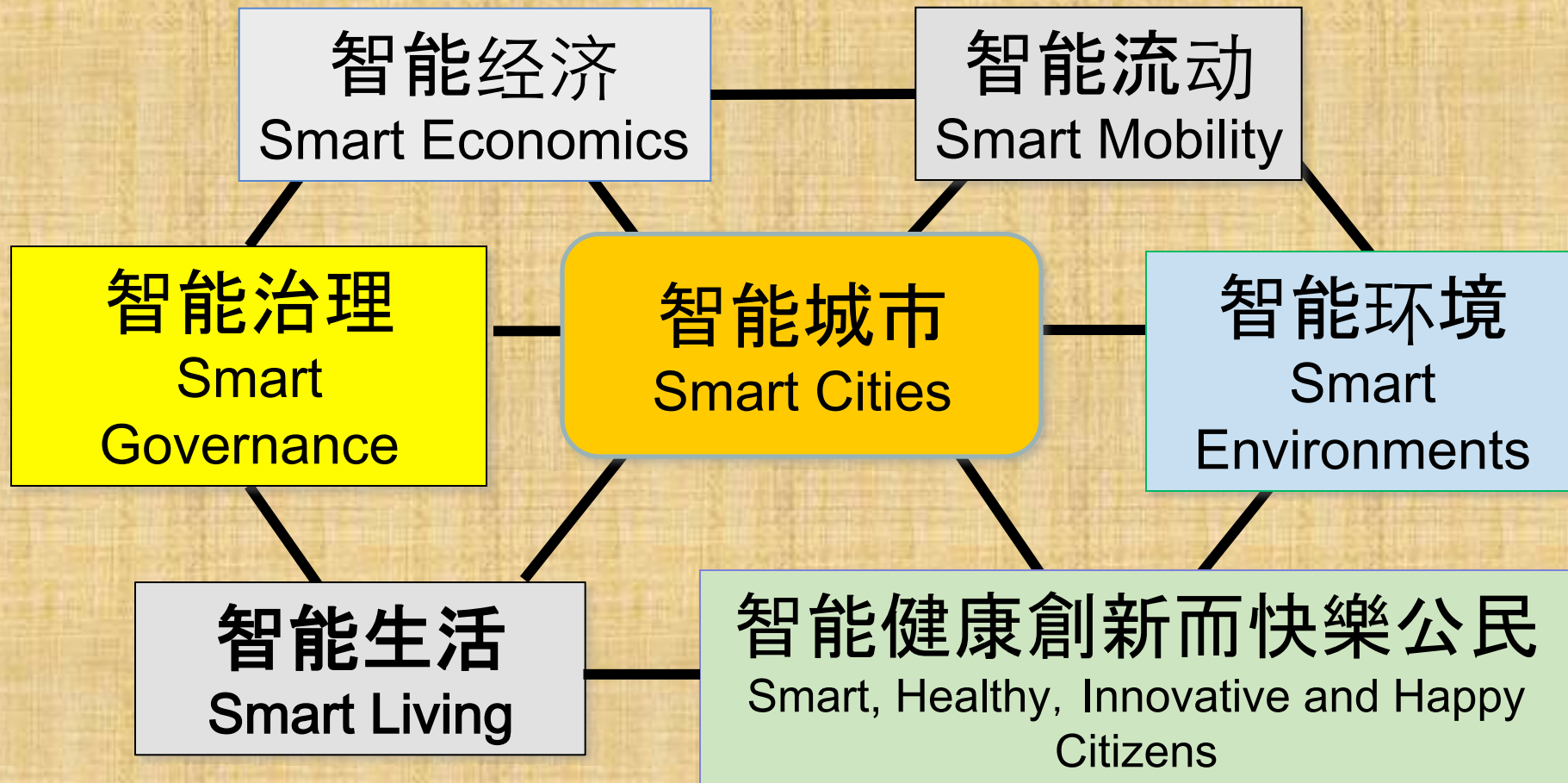
Measurement and Measurement Standards are Critical for collaboration -- Domestically and Internationally. But...

计量和计量标准都关键为了支持合作在国内和国际组织,可是...



# Smart Buildings, Smart Energy, Smart Eco-Communities, Smart People

Not Just Businesses, Investors, Farmers or Governments Alone



# Today's Seminar Plan at US-ATMC

- **Oliver Yu** presentation: ***A Comparison of AI Applications to Power Systems in China and the US***, will set the stage for comparing technologies and political approaches to using AI to create the future.
- **Wenli Yu** presentation: ***The Emergence of AI in Chinese Smart City Development***, will explore his experience in creating AI solutions in China and outside China.
- **Yang Ming Li** presentation: ***AI for Smart Cities***, will explore projects he has done for China Natural Gas Corporation, and for Smart City development in China and beyond.
- **Questions and Discussions** with the audience on what we have learned and what is the outlook for future Smart City development in China and international collaboration for the future of Spaceship Earth.