

ITRI

Industrial Technology
Research Institute

Sustainable Green City 打造循環永續的綠色城市

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The Observation

Power of Mother Nature

2005 Hurricane Katrina



Power of Mother Nature

2011 The Great Tōhoku Earthquake



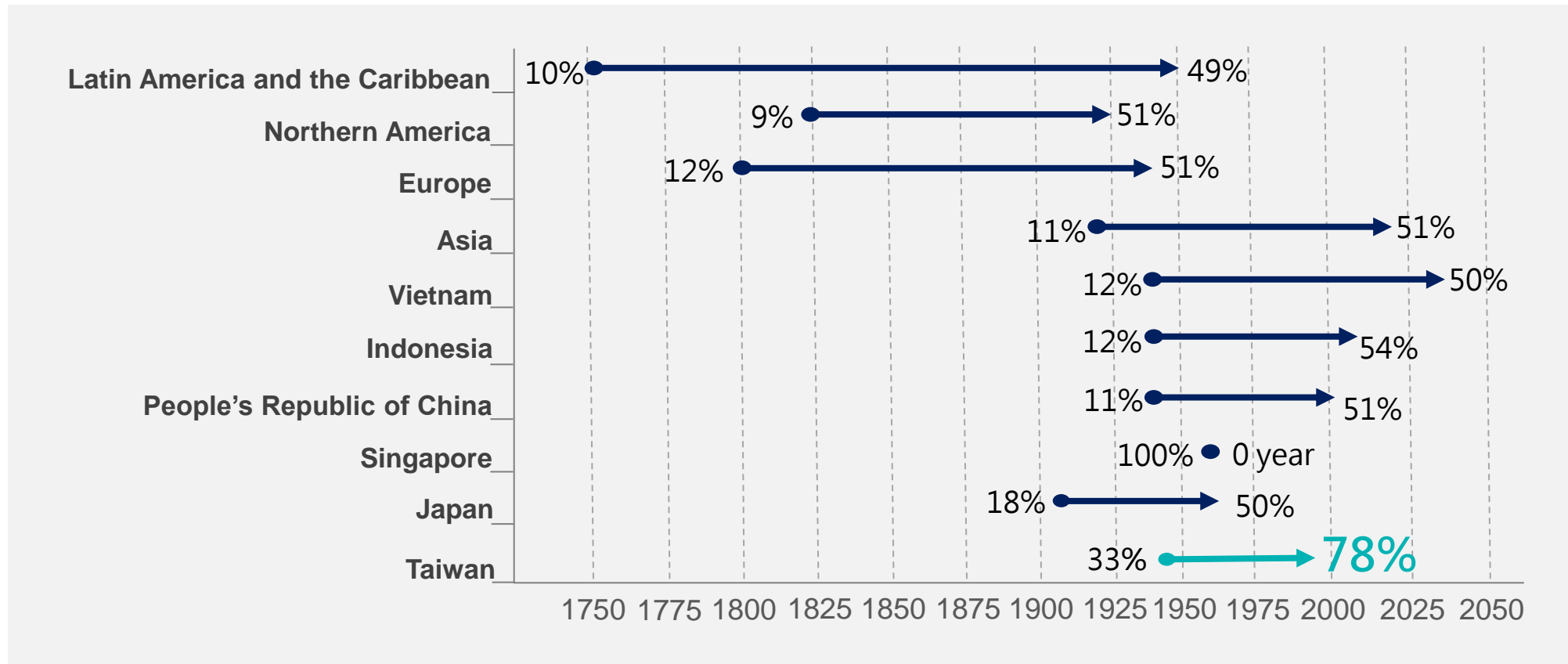
Power of Mother Nature

2018 California Wildfires



Speed of Urbanization

- Urbanization in Asia: **2-3** times faster than that in USA or Europe
- **68%** of the world population projected to live in urban areas by 2050



Source: Reports from Asian Development Bank, United Nations & National Taiwan University

Excitement of Digitalization

- Digital solutions for a more livable future

New York—Smart Garbage Bin

Reduce city's rat population by **70%**



Taiwan—Electronic Toll Collection (ETC)



Copenhagen—Data-Driven Traffic Management to Improve Air Quality



Source: ITRI/ISTI (2017/11)

Helsinki—Automated Waste Collection System

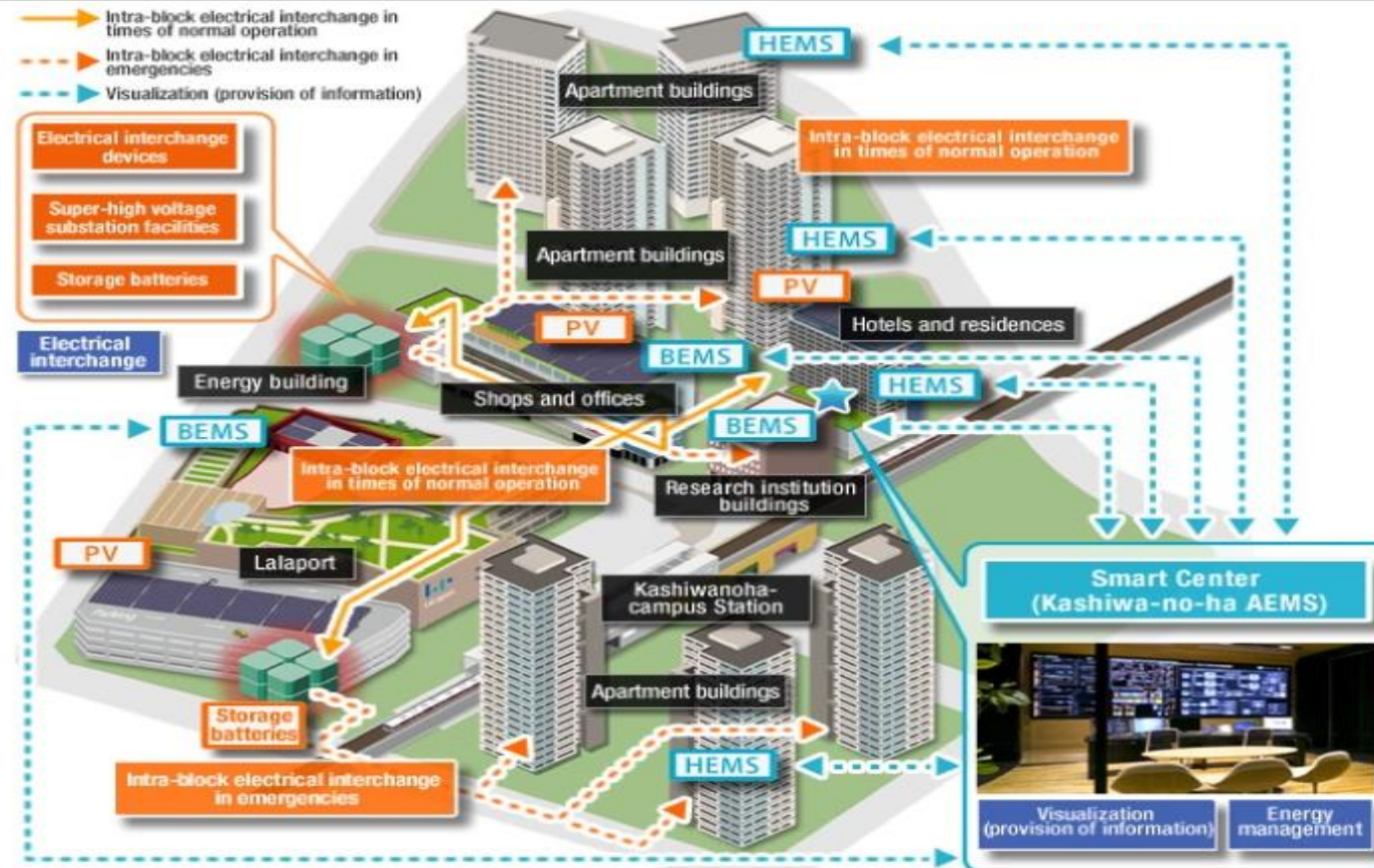
80-90% less garbage truck traffic



Excitement of Digitalization

- Digital solutions for a more livable future

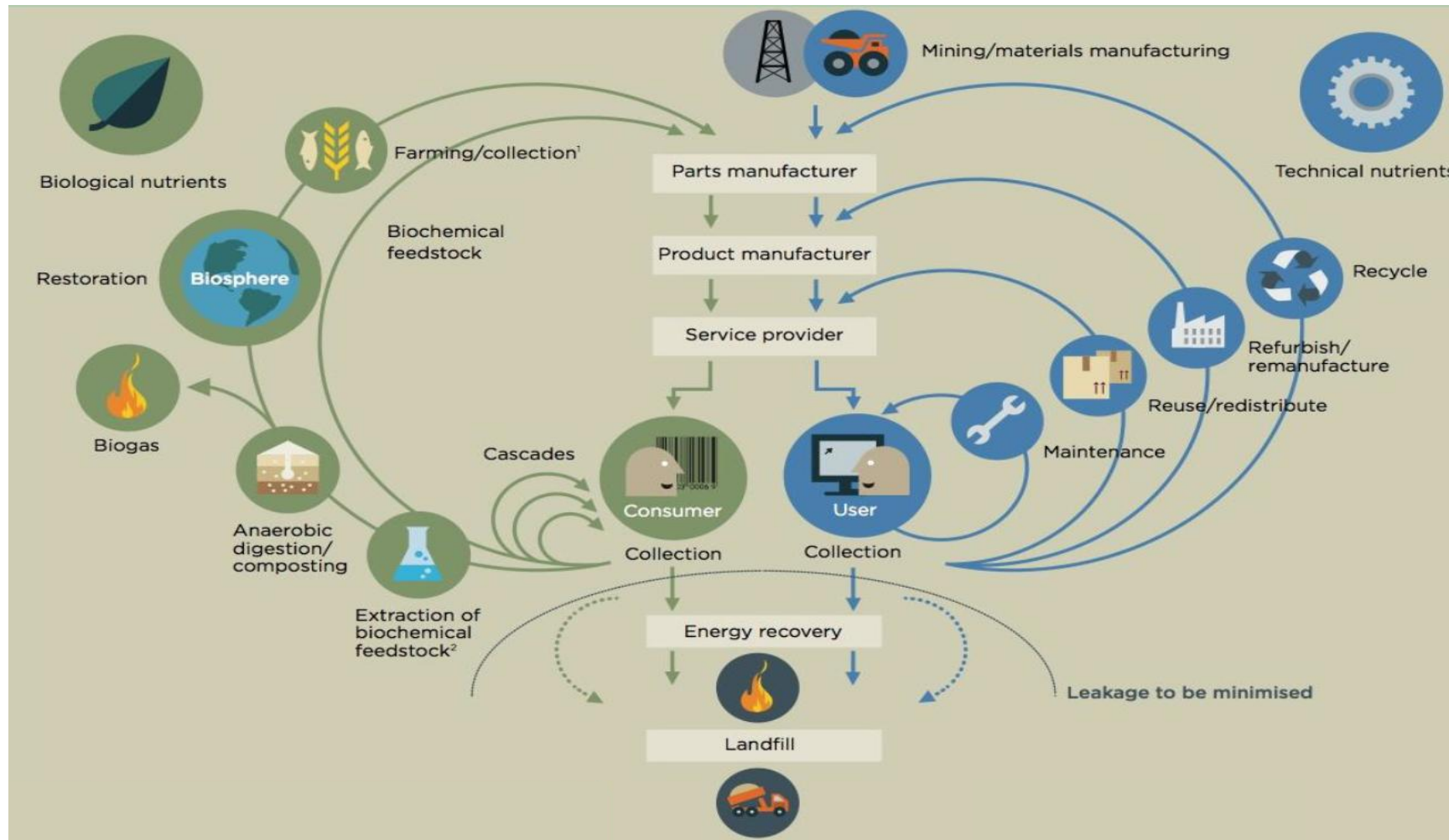
Japan—Kashiwa-no-ha Smart City



Source: ITRI/ISTI (2017/11)

Awareness of Sustainability

Circular Economy is replacing Linear Economy



Source: Towards the Circular Economy Economic: Business Rationale for an Accelerated Transition - Ellen MacArthur Foundation

Migration to Futuristic Society

- Balance economic advancement and societal problem solving
- Move towards customization, personalization, individualization
- Take advantage of natural resources and technology innovations
- Offer smart living, quality health, and sustainable environment
- **Restructure the foundation for positive energy districts**





The Initiatives

Smart Green Energy Science City (SGESC)

- Build a low-carbon, energy efficient, and sustainable community
- Link with industrial parks within a 45 km radius of Shalun to form a new “smart living” cluster
- Green Energy Demonstration Field
 - Establish a platform for co-creation
 - Demonstrate energy creation, storage, conservation, and system integration



Green Circular Village

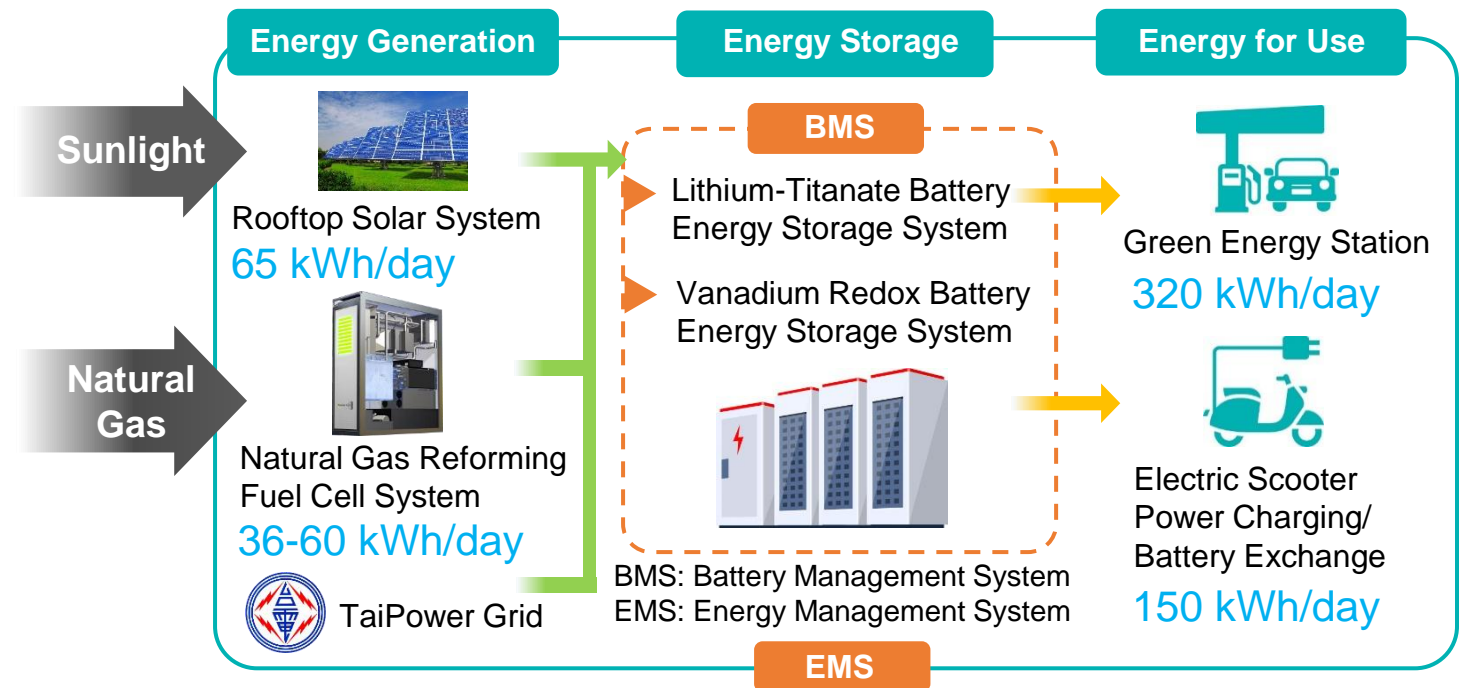


Intelligent Green Energy Demonstration Station

- The era of electric vehicles is coming. The future charging peak will affect the city's power supply.
- CPC transformed the gas station into an intelligent green energy station, a regional energy dispatch center that expands the service market.



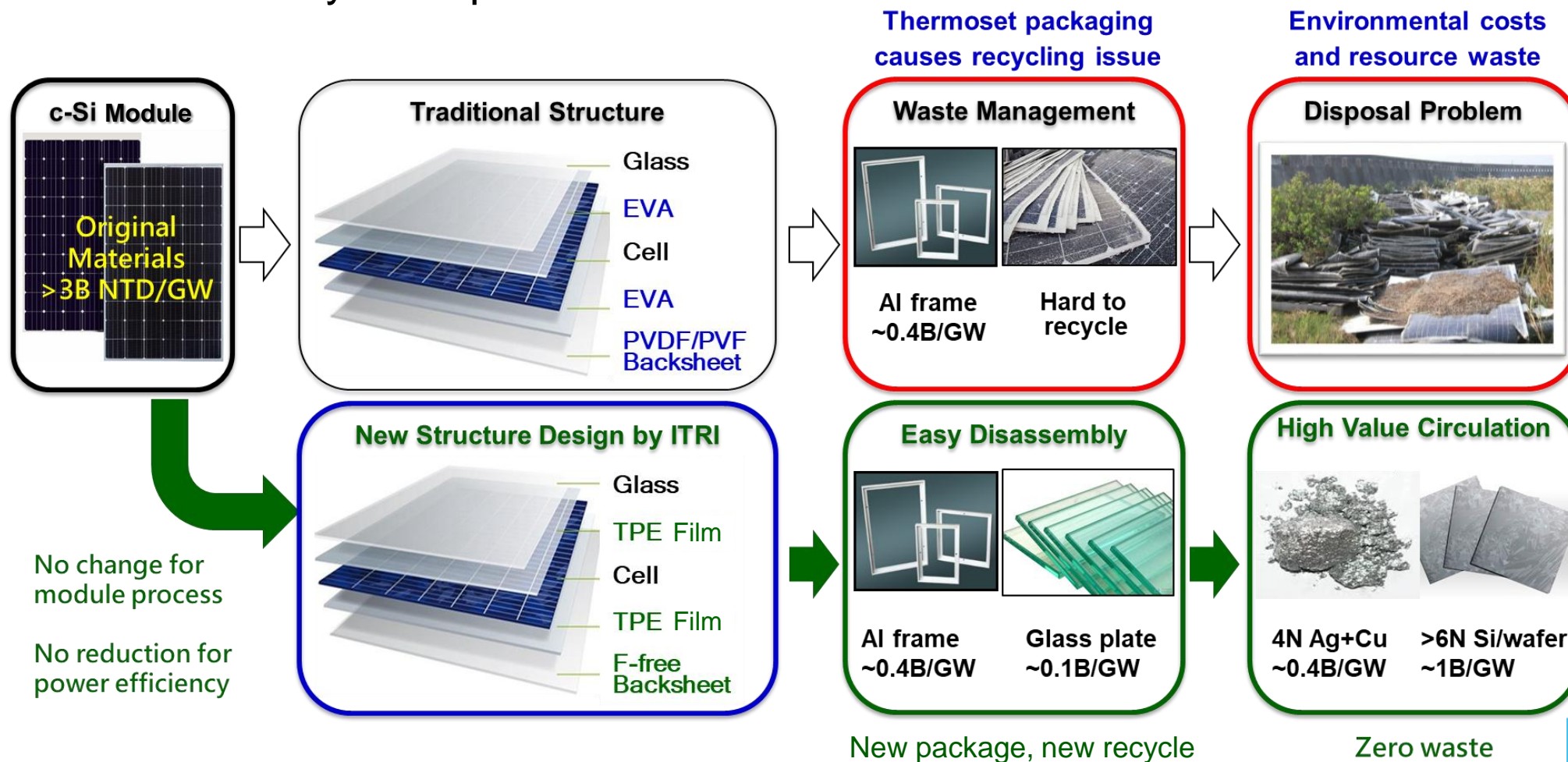
CPC Intelligent Green Energy
Demonstration Station in Tainan City



Source: CPC & Tainan City Government

PV Module Redesign

- Redesign with new materials that allow PV modules to be recycled easily
- Establish industry R&D promotion alliances



Innovating a Better Future

Human beings are to seek for
co-existence with Mother Nature !

