

# Circular Economy and Mining Industry

## Case of Chinese Taipei

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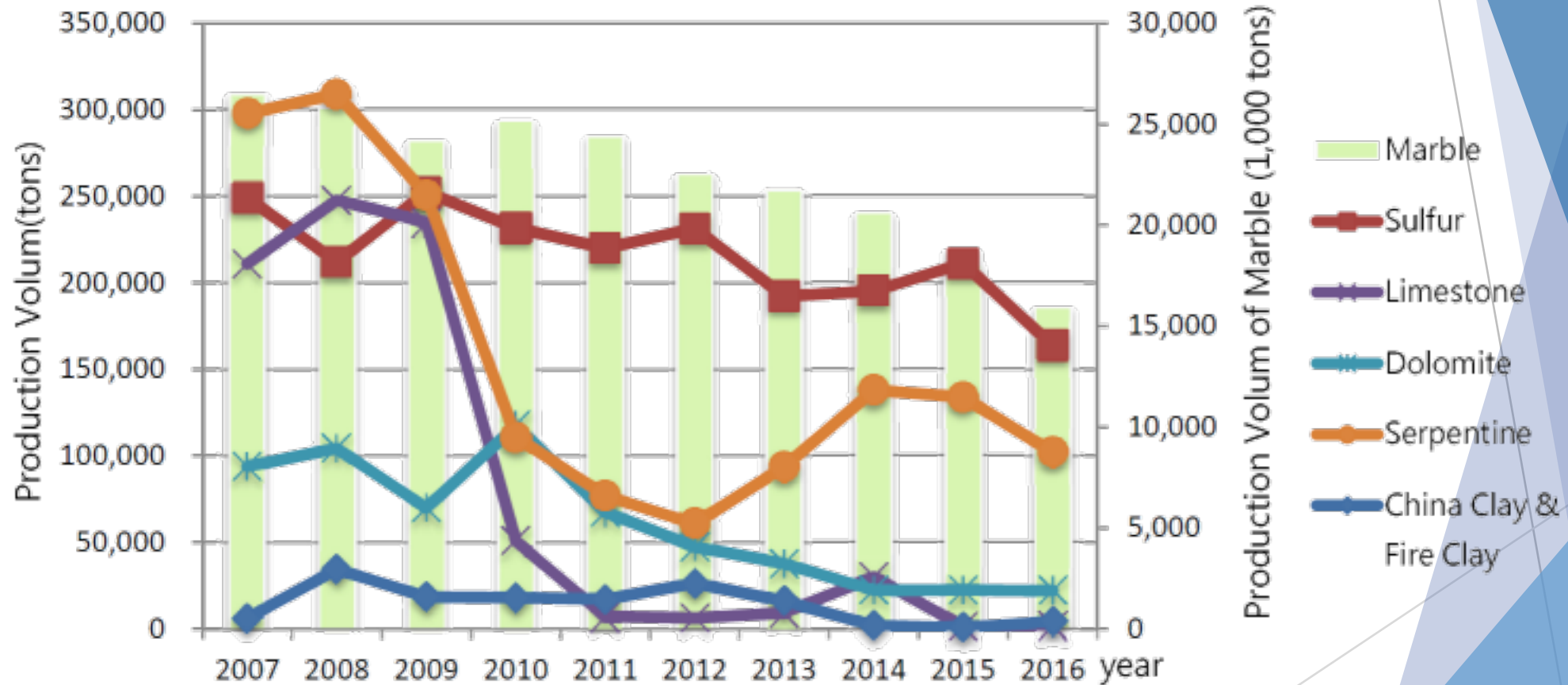
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## The Production Volume of Major Mineral Products in Chinese Taipei, 2007-2016



Source: Bureau of Mines, Ministry of Economic Affairs, Annual Statistical Report of Mineral 2016, May 2017.

# Chinese Taipei: Case of Circular Economy

## *Taiwan Cement Corporation*



- ▶ Established in 1946.
- ▶ It believes in “taking from society and giving back to society.”
- ▶ It aims to provide cement products of steady quality.



Source: Taiwan Cement Corporation



# Chinese Taipei: Case of Circular Economy

## *Taiwan Cement Corporation*



- The company began developing carbon capture techniques with the Industrial Technology Research Institute (ITRI) in 2011. They discovered that captured carbon dioxide can be used to grow microalgae, an important constituent of biofuels.
- Microalgae farm was expanded to produce astaxanthin for decreasing carbon dioxide levels by 4,800 tons per year.

# Asia Cement Corporation - Environmental Policy

- ▶ The Hualien Plant was awarded the first ISO-14001 certification by the Bureau of Commodity Inspection & Quarantine.
- ▶ **Prevention of air pollution:** Nine electro-static precipitators and seventy-five bag filters has been equipped, worth over NT\$950 million.
- ▶ **Revegetation of quarry areas:** Special efforts to re-vegetation have been made. Over the years, it has channeled sizable manpower and funds into greenifying its mined areas and has been highly successful.
- ▶ **Environmental conservation and energy saving:** the standard of CNS 61 Portland Cement had been revised in 2004 and already executed in 2005 to reduce the consumption of raw material and the consumption of power.





# Asia Cement Corporation

## *Challenge: Mining Rights Extension*



- Protesters, including 150 residents from Fushi village near the mining zone and more than 20 civic groups, called on the government to withdraw Asia Cement's mining rights' extension and reform of the mining industry.

# Asia Cement Corporation Dispute: Extension of Mining Rights

The Ministry of Economic Affairs in March approved a 20-year extension to Asia Cement's mining rights in Sincheng without requiring an environmental impact assessment.

In mid-June, Asia Cement announced that it will reduce its mining operations in Hualien by 40 percent to 250 hectares, 150 hectares less than the 400 hectares approved by the government.

The Executive Yuan has frozen 42 mining license applications until the government revises the Mining Act in the present legislative session, which begins in September.

# Revision of Mining Act: Main Points

Cannot seek compensation if mining rights' extension is not approved.

On private land, 2/3 of the owners must agree before mining. The government will assist in negotiations.

Extension needs the permission of indigenous peoples.

- Ministry of Economic Affairs: Not necessary
- Council of Indigenous Peoples: Must do so

Mining rights and environmental impact assessment (EIA)

- Ministry of Economic Affairs: Only one EIA needed.
- Environmental Protection Administration: Every mine and an extension need an EIA.





# 礦業法修法重點



## Protect Land

## Safeguard Communities Rights

## Improve the mining Environment

- Mining rights without EIA needs to get one
- Set the limit for mining rights
- Extension rejection: no compensation

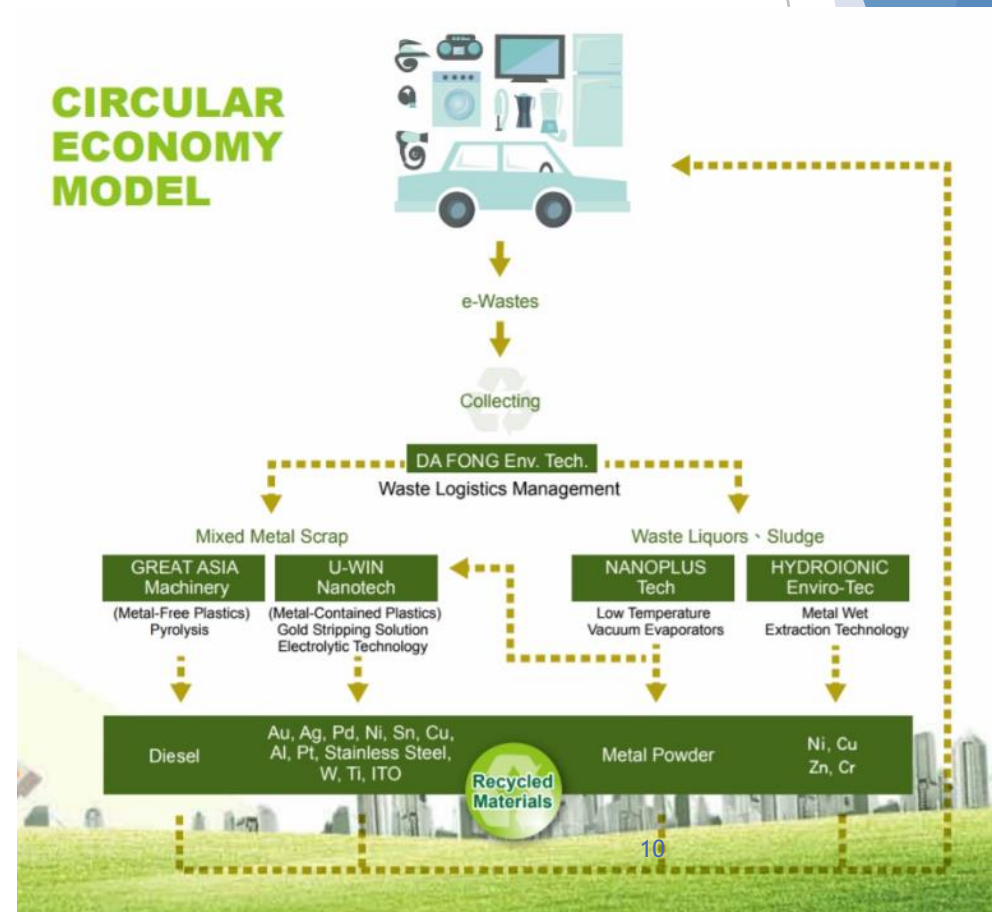
- Involve the communities
- Provide funds for communities
- Majority of land owners must agree

- Need approval of environmental specialist
- Enhance mining self-management
- Increase penalty

# Circular Economy: Urban Mining

## Taiwan Hsinchu Green Industry Association (THGIA)

- The Hsinchu County Government has called on the national green industry to establish THGIA.
- THGIA has established an “Urban Mining Union” team formed by companies with excellent urban mining capacity to provide domestic and international urban mining services in a strategic alliance.

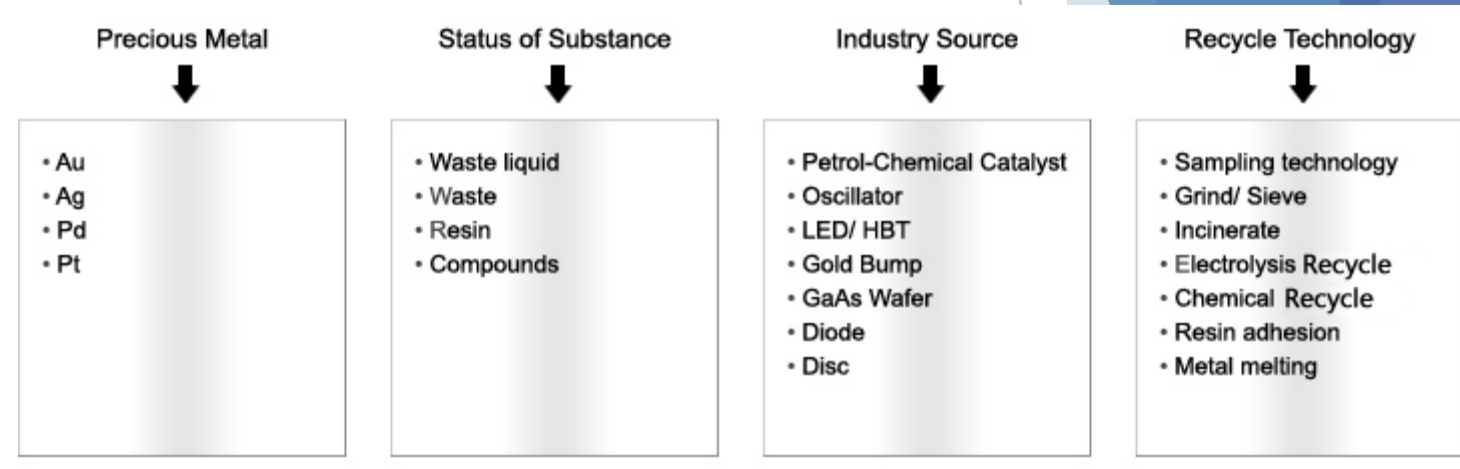


Source:THGIA

# Circular Economy - Urban Mining

## Solar Applied Materials Technology Corp.

- ▶ Established in 1978, Solar is now the largest reflective-layer sputtering target manufacturer worldwide.
- ▶ SOLAR, combined with parts cleaning technology of HTCSOLAR and its own metal recycling and refining technology, have provided metal-contained products by reusing the raw material obtained by recycling.



# Circular Economy - Urban Mining

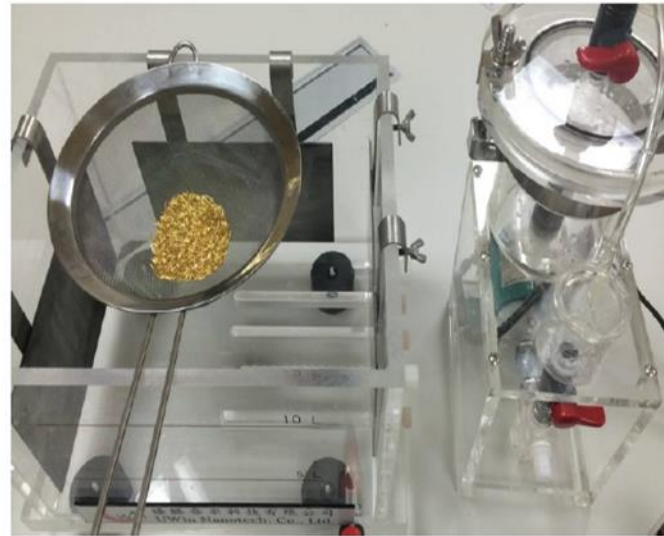
## UWin Nanotech

- UWin Nanotech provides specialized consultation and customized planning of metal stripping technology.
- It is the world's most complete supplier of environmentally friendly precious metal stripping agent and equipment.
- In 2012, Uwin obtained the exclusive patent for the only environmentally friendly gold stripping technology and won a gold medal in international competition.


Source: UWin Nanotech

### Catcher One

**Portable Stripping Machine** – UW-700 electrolyte Gold stripper  
UW-602 electrolyte Ag stripper  
UW-400 electrolyte Pd stripper



- Size : 30 cm x 25 cm x 25 cm
- Volume : 10L

 優勝奈米科技有限公司  
UWin Nanotech. Co., Ltd

Before Gold stripping After Gold stripping



Before Gold stripping After Gold stripping





# APEC Mining Task Force (MTF)

Strategic Plan 2016-2018

► MTF seeks to promote:

Open trade and  
investment

Sustainable  
mining  
activities

Cost-effective,  
evidence-based,  
transparent  
regulations

Regional  
integration and  
corporate social  
responsibility

Source: [www.apec.org](http://www.apec.org)

# APEC Mining Task Force: Workplan for 2017

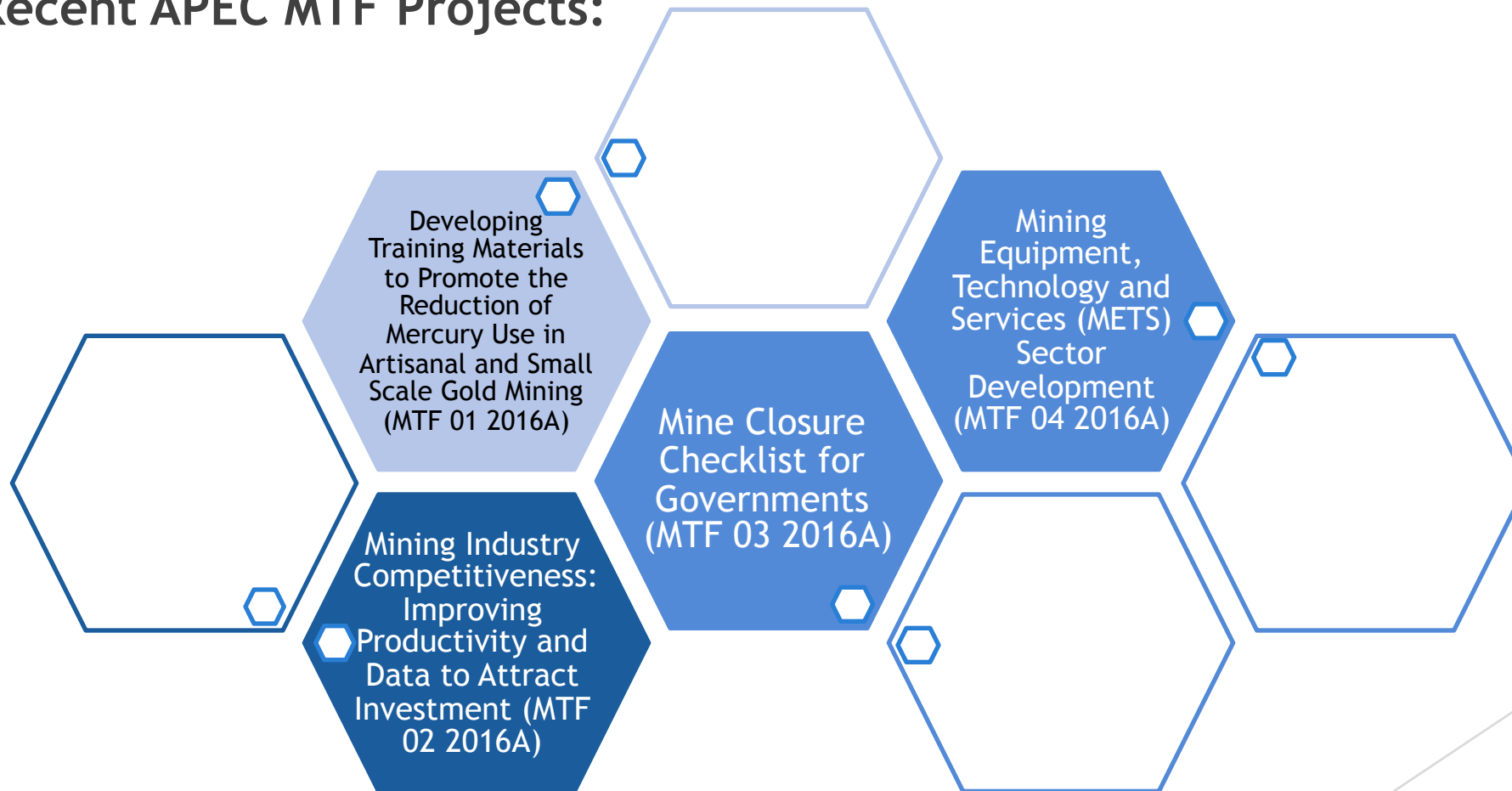
## *2017 Tasks:*

- |   |
|---|
| ❑ Action Plan for Mining as directed by Ministers Responsible for Mining in 2014. |
| ❑ Application of 10 APEC Mining Policy Principles in MTF activities.              |
| ❑ Project-related capacity building workshops during 2017.                        |
| ❑ MTF11 Meeting during APEC SOM2 (May 2017).                                      |
| ❑ Public-Private Dialogue (PPD) with ABAC in MTF11.                               |
| ❑ 2017 SCE Fora Report for the Mining Task Force                                  |

Source: [www.apec.org](http://www.apec.org)

# APEC Mining Task Force: Workplan for 2017

## Recent APEC MTF Projects:



# 2017 APEC Business Advisory Council (ABAC) Report to APEC Economic Leaders (1)

## *V. Sustainable Development:*

### D. Strengthening the inclusive development of the mining sector:

- ❑ Extend the MTF's mandate through 2020.
- ❑ Continue the MTF's strong engagement with private sector stakeholders through public-private dialogues and capacity building projects in 2018-2020.
- ❑ Re-commit to the 10 APEC Mining Policy Principles.
- ❑ Engage closely with the private sector on a potential Mining Ministerial in 2018.



# 2017 ABAC Report to APEC Economic Leaders (2)

- ❑ Align stakeholders to explore the creation of an APEC Inclusive Business Center of Excellence for the Extractive Sector.
- ❑ Encourage extractive companies to develop and implement economic empowerment plans that center on building inclusive businesses for host communities.
- ❑ Adopt, voluntarily and in principle, the G20 Framework on Inclusive Businesses as a way to support and encourage inclusive business activity in the region.

Source: [www.abaconline.org](http://www.abaconline.org)

# Concept Paper on Hosting of 2018 APEC MRM

Meeting of the Ministers Responsible for Mining (MRM)



Source: APEC

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# Thank You