



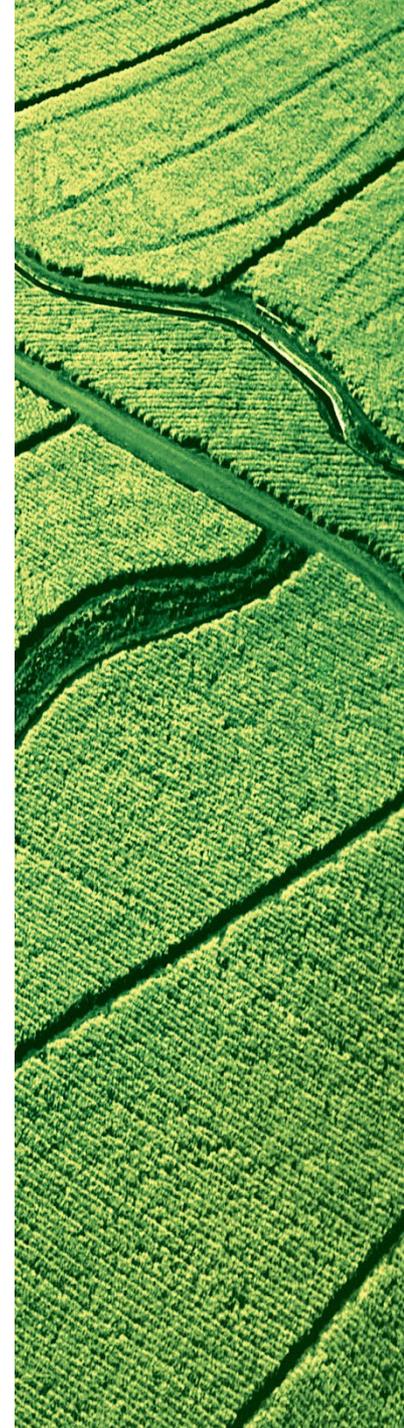
The 61<sup>th</sup> Meeting of the APEC Expert Group on  
Energy Efficiency & Conservation (EGEE&C 61)

# Economy Update in Chinese Taipei

16 - 19 October 2023

Directed:  經濟部能源署  
Energy Administration,  
Ministry of Economic Affairs

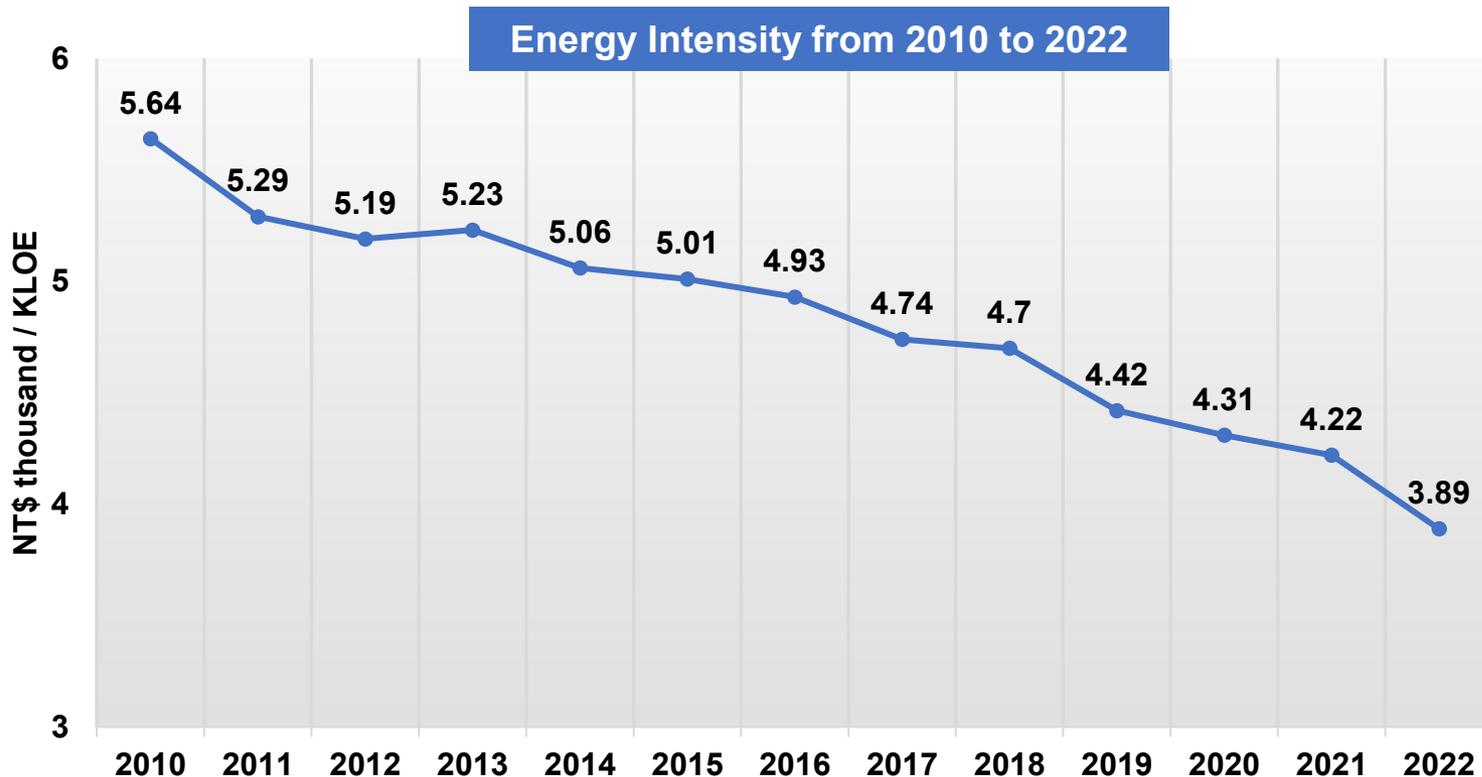
Administrated:  ITRI  
Industrial Technology  
Research Institute



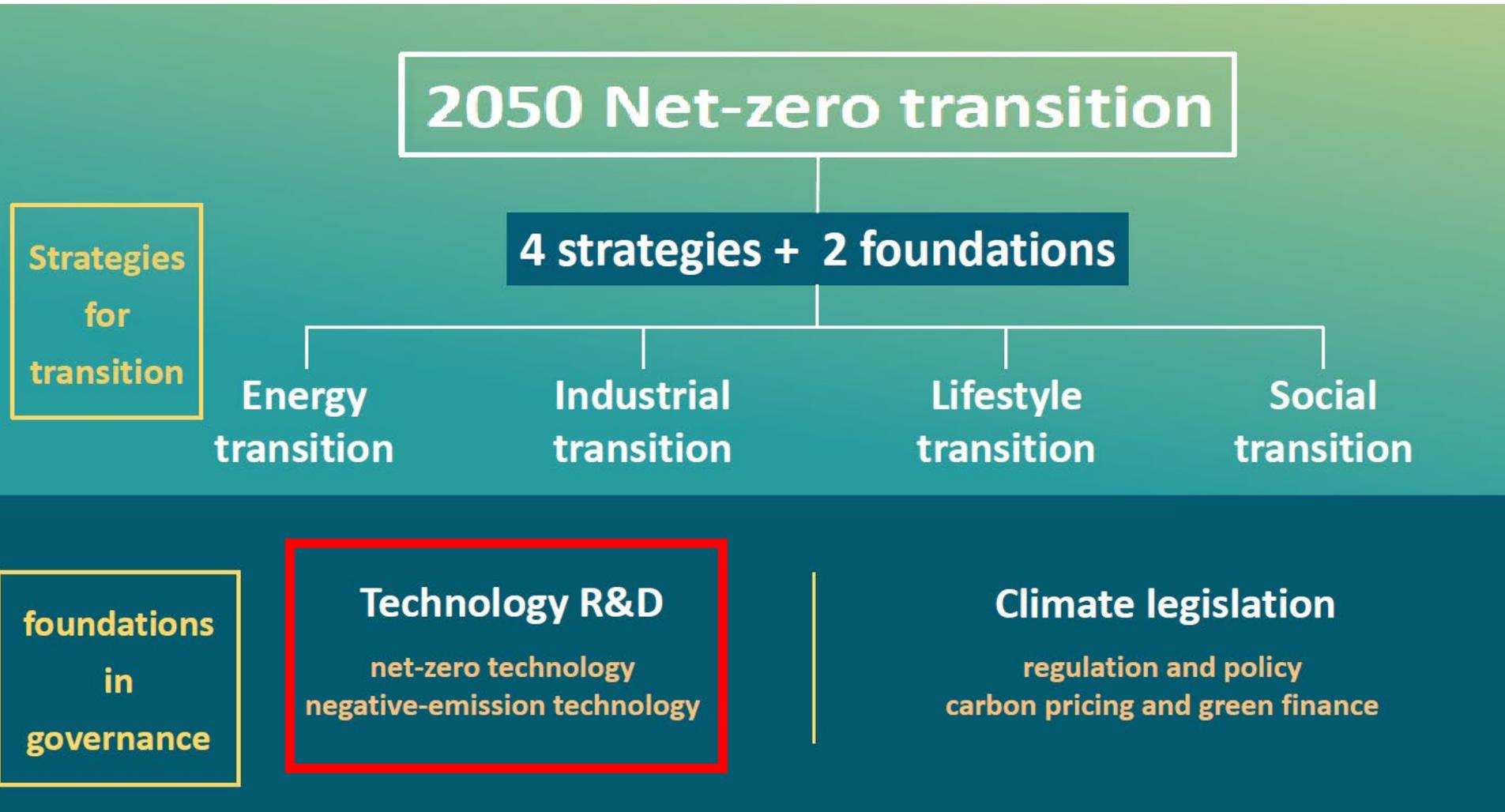
# Energy Conservation Goal

Policy goals of Average Energy Intensity and Electricity Intensity improvement from 2017 to 2025:

- Energy Intensity : **-2.4%** annually
- Electricity Intensity : **-2%** annually



# Pathway to Net Zero Emissions in 2050



# Actions Toward Net-Zero Transition

Improve Energy efficiency in Four areas

Industry  
Business  
Buildings  
Transportation



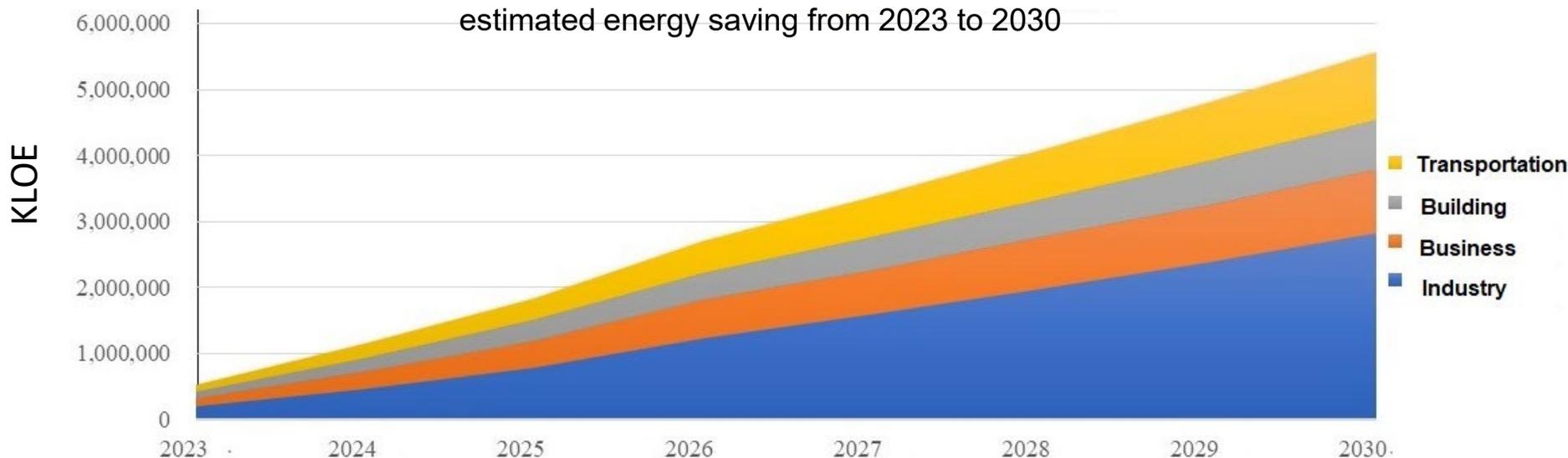
In Two phases

**2023 - 2030**

implementing practical existing technologies and laying out technical innovation

**2031 - 2050**

expanding the application of innovative technologies



# **Comprehensive Approach to Energy Efficiency and Conservation**

# Mandatory & Voluntary Policy

**Three principal policies** to promote energy efficiency management for equipment and apparatuses

## Voluntary Policy

### Energy Conservation Labeling



**48** Items

**>10,000** Products

**93.7%** Household Electricity Consumption in Summer

Promoting Date: Dec, 2001

## Mandatory Policy

### Energy Efficiency Rating Labeling (EEL)



**18** Items

**> 50,000** Products

**82.4%** Household Electricity Consumption in Summer

Promoting Date: Dec, 1981

### Minimum Energy Performance Standard (MEPS)

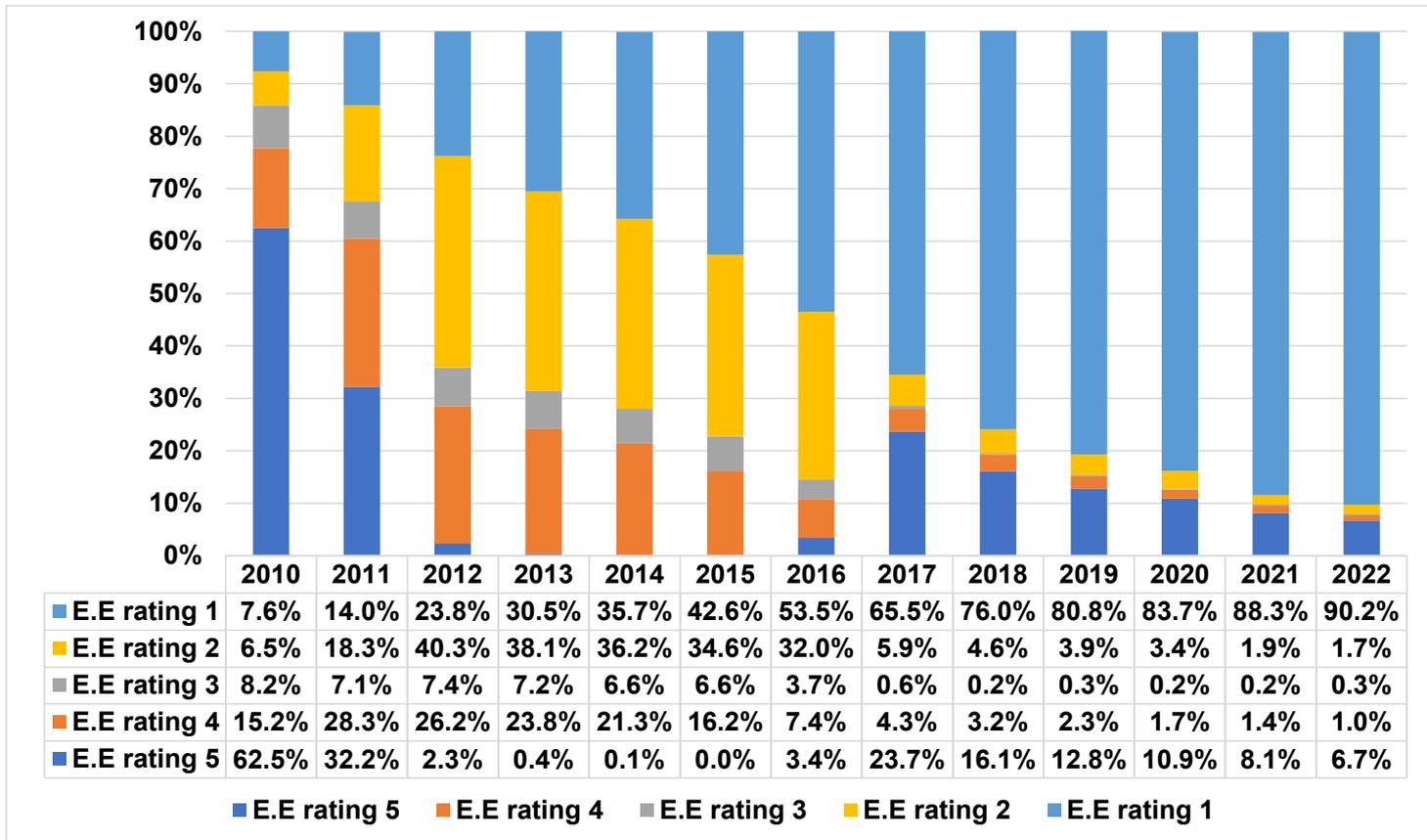
**33** Items

**83.1%** Household Electricity Consumption in Summer

Promoting Date : July, 2010

# Achievements of EE Rating Labeling Program

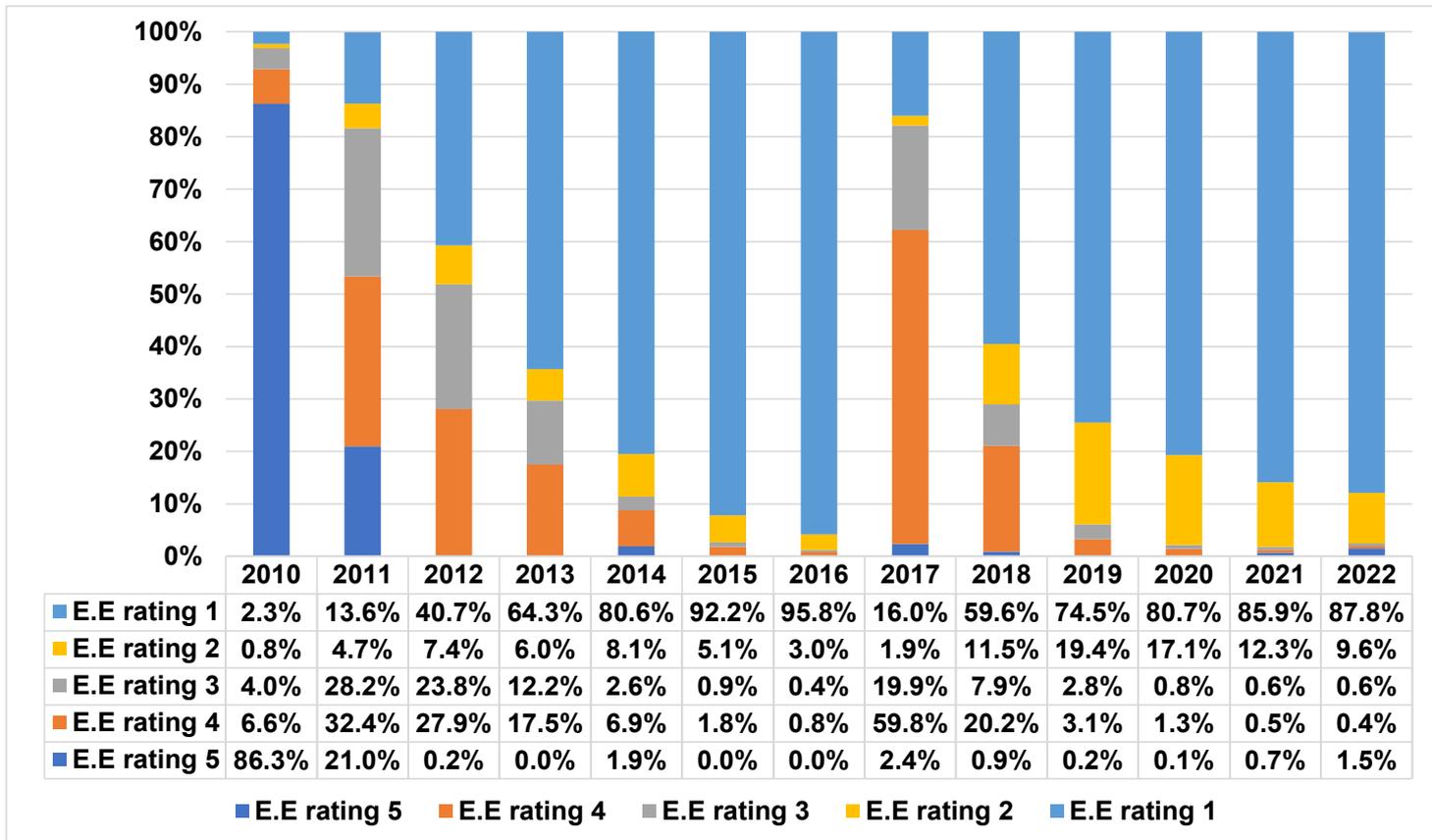
- The rating 1 product's market share for Air Conditioners increase dramatically from 7.6% in 2010 to 90.2% in 2022.
- The subsidy project boosted the market share of high-energy efficiency products.



market share of Air Conditioners

# Achievements of EE Rating Labeling Program

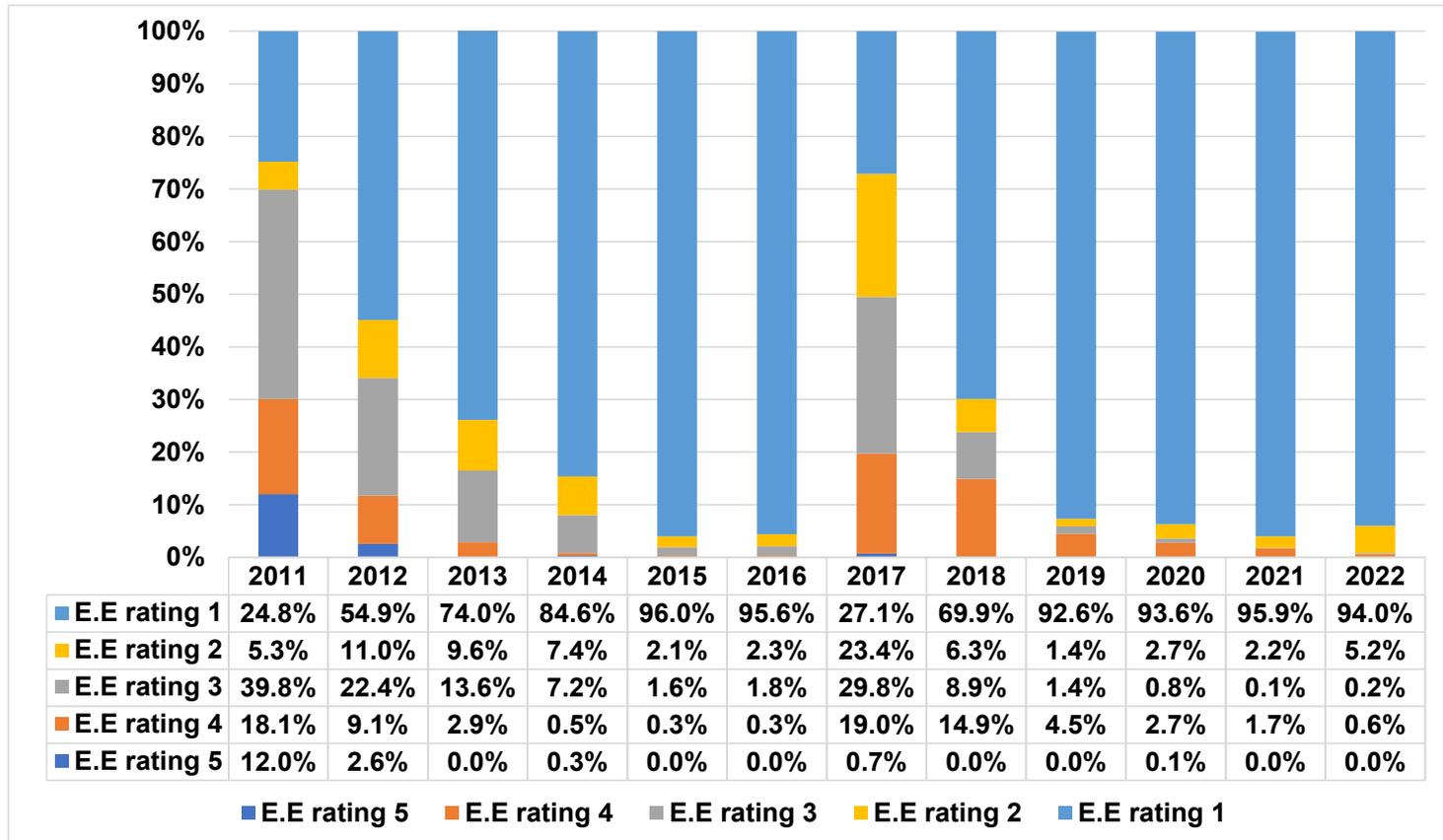
- The rating 1 product's market share for Refrigerator increase dramatically from 2.3% in 2010 to 95.8% in 2016.
- The rating 1 product's market share for Refrigerator remarkable rising from 16% in 2017 to 87.8% in 2022.



market share of Refrigerators

# Achievements of EE Rating Labeling Program

- The rating 1 product's market share for Dehumidifier increase dramatically from 24.8% in 2011 to 95.6% in 2016.
- The rating 1 product's market share for Dehumidifier remarkable rising from 27.1% in 2017 to 94% in 2022.



market share of Dehumidifiers

# Subsidies for green appliances

# Introduce



The residential electricity consumption in Chinese Taipei has increased from 44.4b kWh to 52.7b kWh in recent 10 years  
(**annual growth 1.9%**)



Air conditioner and refrigerator consumes over **40%** of the household electricity usage annually



About **7.07m** residential air conditioners and refrigerators are **more than 10 years old**



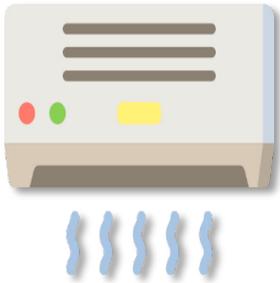
To accelerate the reduction of older, energy-consuming appliances, when **replacing** outdated home appliances **and buying new** refrigerators and air conditioners rated Level 1 by EEL certification, consumers can apply for a **NT\$3,000 (US\$94)** subsidy per appliance



receive a commodity tax reduction of up to **NT\$2,000 (US\$63)** from a tax incentive program

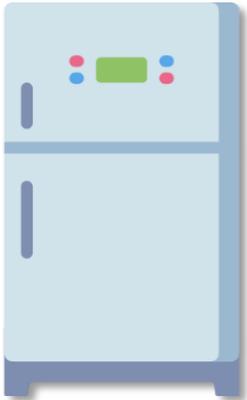


# Project goals



Replace air conditioners over 10 years old with rated Level 1 units

→ Save **52%** electricity usage per year



Replace refrigerators over 10 years old with rated Level 1 units

→ Save **67%** electricity usage per year

The estimated goals through the subsidy project :

- Get rid of **2.56m** outdated refrigerators and air conditioners
- Stimulate the consumption in house appliances industry
- Save electricity consumption **1.5b kWh**
- Reduce **0.78m tons** of carbon emission
- Accelerate to attain the target of **Net-Zero Emission in 2050**

# Optimization of the application procedure

- Introducing the “**Digitization and Automated Review System**” and apply multiple **OCR** (Optical Character Recognition) to accelerate data validation and improve data accuracy, in order to shorten examination procedures case of online applications
  1. **OCR Scanning and Archiving**
  2. **Real Time OCR Pre-Validation**
  3. **Multi-vision AI Automated Review Module**
- By make online applications more convenient, the expected proportion of online applications has increased. Therefore, paper documents have diminished and carbon emissions have reduced
- Review and examine efficiency : 2000 cases improve to **6000 cases**

# Optimization of the application procedure

Intelligent document processing

節能補助受理作業掃拍系統  
宏碁 AI 掃拍系統 Ver. 4.1.0  
112年度節能補助受理作業 No. 2023010401000012  
2023/07/20 ZM3300

拍拍結果: (僅供提報掃拍作業, 並非初審結果)  
案件編號: 2023010401000012  
冷氣數量: 1  
冰箱數量: 1  
掃數量: 2  
補助金額: 6,000  
花費時間: 438.18秒

基本資料:  
1-0-3 身分證字號: 不通過  
1-0-5 電子郵件: 不通過  
2-0-1 證件正副: 沒圖/不通過  
2-0-4 證件號碼: 不通過  
3-0-3 戶名: 不通過  
4-0-1 台電電話: 沒圖/不通過

第01台:  
5-1-2 發票日期: 沒圖/不通過  
6-1-2 保證書型號: 沒圖

第02台:  
5-2-2 發票日期: 不通過  
6-2-0 保證書: 沒圖/不通過  
6-2-2 保證書型號: 沒圖  
6-2-3 保證書機號: 沒圖/不通過  
7-2-0 廢四機: 沒圖/不通過  
7-2-1 廢四機組單編號: 不通過  
7-2-2 廢四機組單日期: 沒圖/不通過  
7-2-3 回收項目是否合規: 不通過  
8-2-0 能效標示: 沒圖/不通過

共 2 台 補助 6,000 元

Robotic process automation

AI machine learning

節能補助受理作業掃拍系統  
宏碁 AI 掃拍系統 Ver. 4.1.0  
112年度節能補助受理作業 No. 2023010401000012  
2023/07/20 ZM3300

第01台

- 6-1-0 保證書 拍攝
- 6-1-2 保證書型號 辨識 NR-C399HV
- 6-1-3 保證書機號 辨識 08832080047
- 7-1-0 廢四機 拍攝
- 7-1-1 廢四機組單編號 AKB0001171182
- 7-1-2 廢四機組單日期 2022/09/30
- 7-1-3 回收項目是否合規  回收項目合規
- 8-1-0 能效標示 拍攝

購買的能源補助產品資料

申請日期: 2023/07/20 申請單號: 2023010401000012

申請人姓名: [REDACTED] 申請單位(營業單位): [REDACTED]

申請日期: 2023/07/20

申請日期: 2023/07/20

品名	規格名稱	品名型號	發票日期/日期	發票金額/原價	補助金額	補助率	備註
馬士德 (MAXE)	55M132	NA1049308	2023/05/14	42955409	1	3.000	不通過
			2023/05/14	21090436	0		

文件資料檢核提醒

檢核項目: [REDACTED] 檢核人員: [REDACTED]

MAXE 馬士德冷氣 商品實用檢核卡

Multi-vision AI Automated Review Module

Real Time OCR Pre-Validation tool

# Conclusion

- Under the framework of **2050 Net-Zero Emission pathway**, the **Actions Towards Net-Zero Transition** is proposed in the end of 2021. The primary objective is to **maximize energy efficiency**
- To attain the target, we have recently updated the energy efficiency standards for various residential appliances(**Fluorescent Light Sources, Electric Pots, Electric Storage Tank Water Heaters and Dehumidifiers**) to phase out inefficient products
- Chinese Taipei has been diligently devising and executing energy saving strategies to achieve **Net-Zero Emission in 2050**. We are eager to strengthen **collaboration with APEC member economies** and working together towards net-zero carbon emissions

**Thank You**