



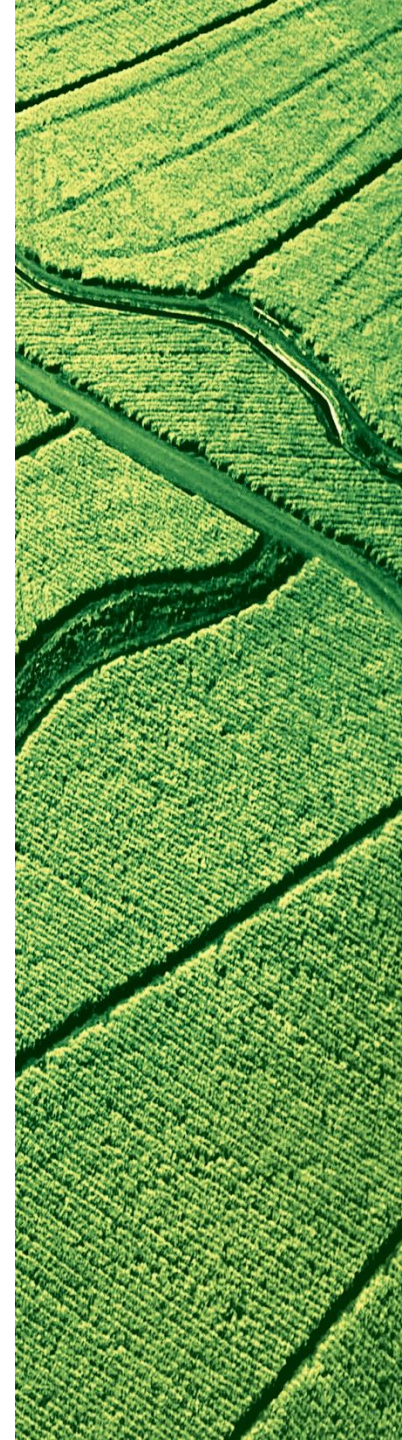
The 61th Meeting of the APEC Expert Group on
Energy Efficiency & Conservation (EGEE&C 61)

Economy Update in Chinese Taipei

16 - 19 October 2023

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

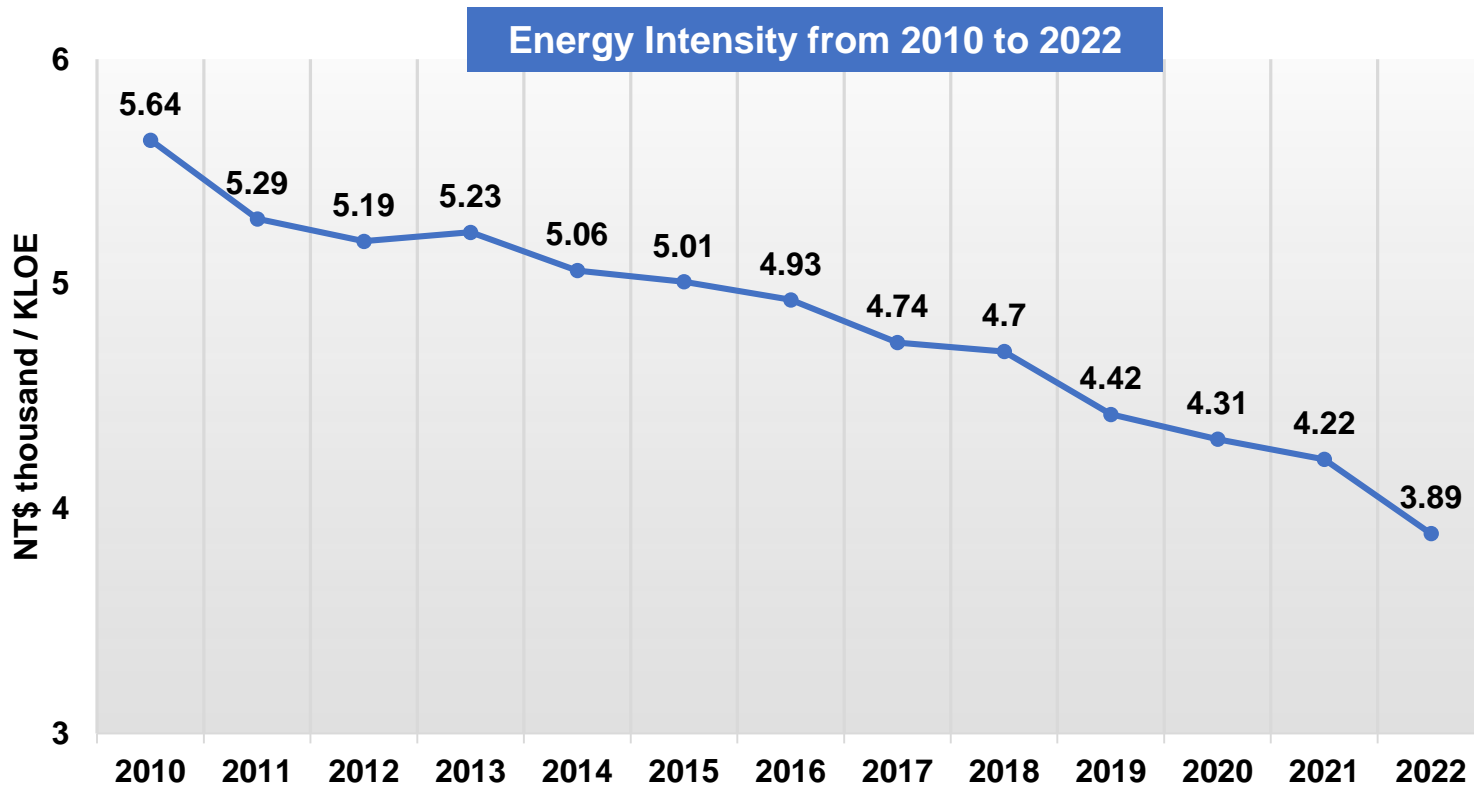
Administrated:  ITRI
Industrial Technology
Research Institute



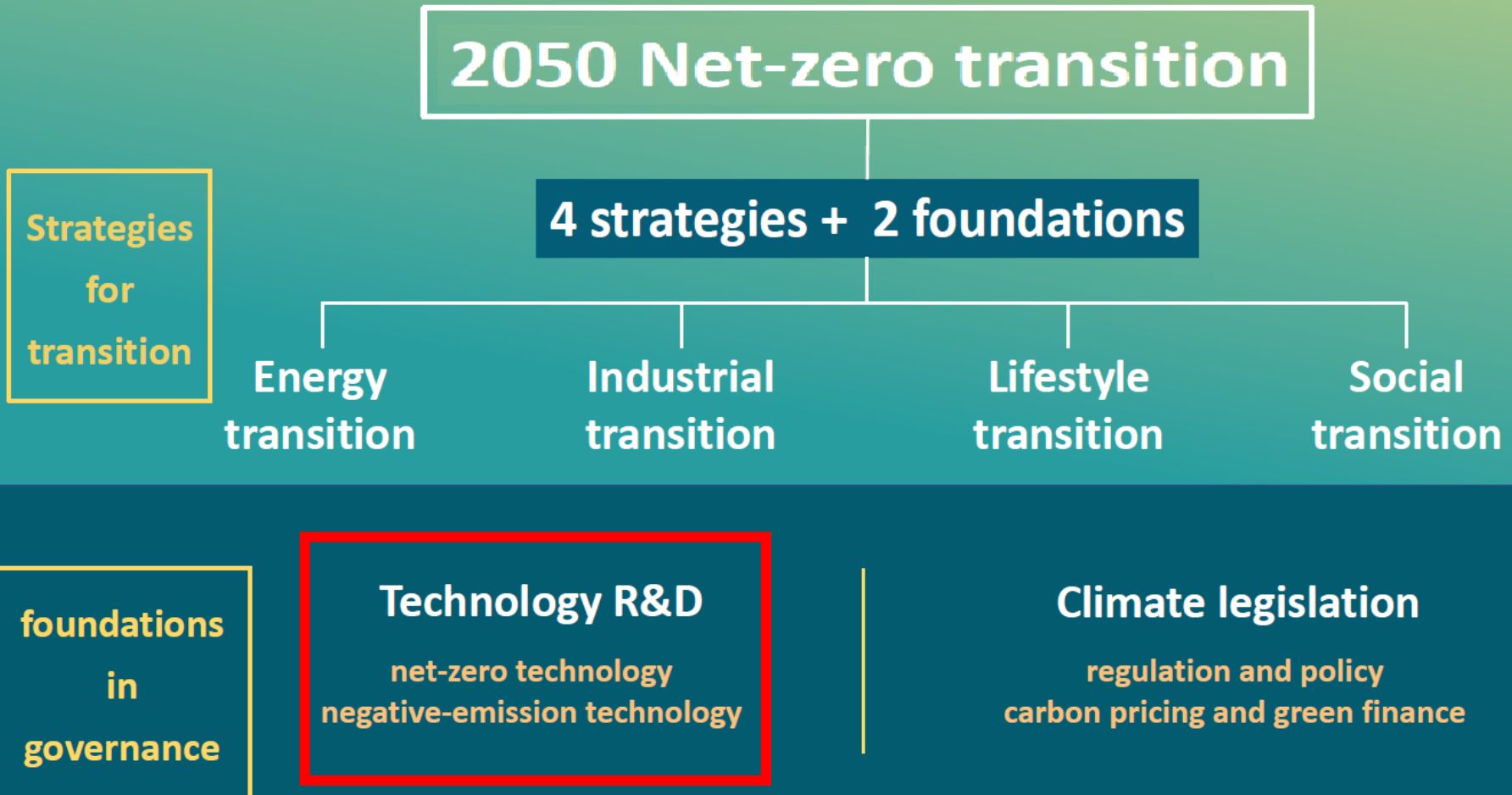
Energy Conservation Goal

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



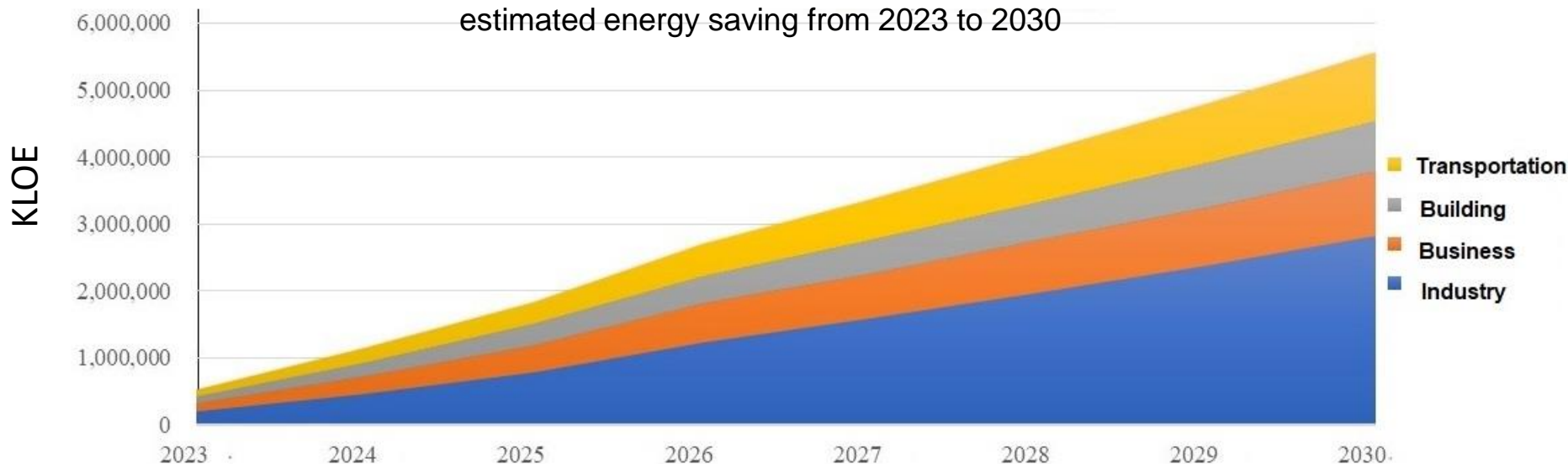
In Two phases

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)

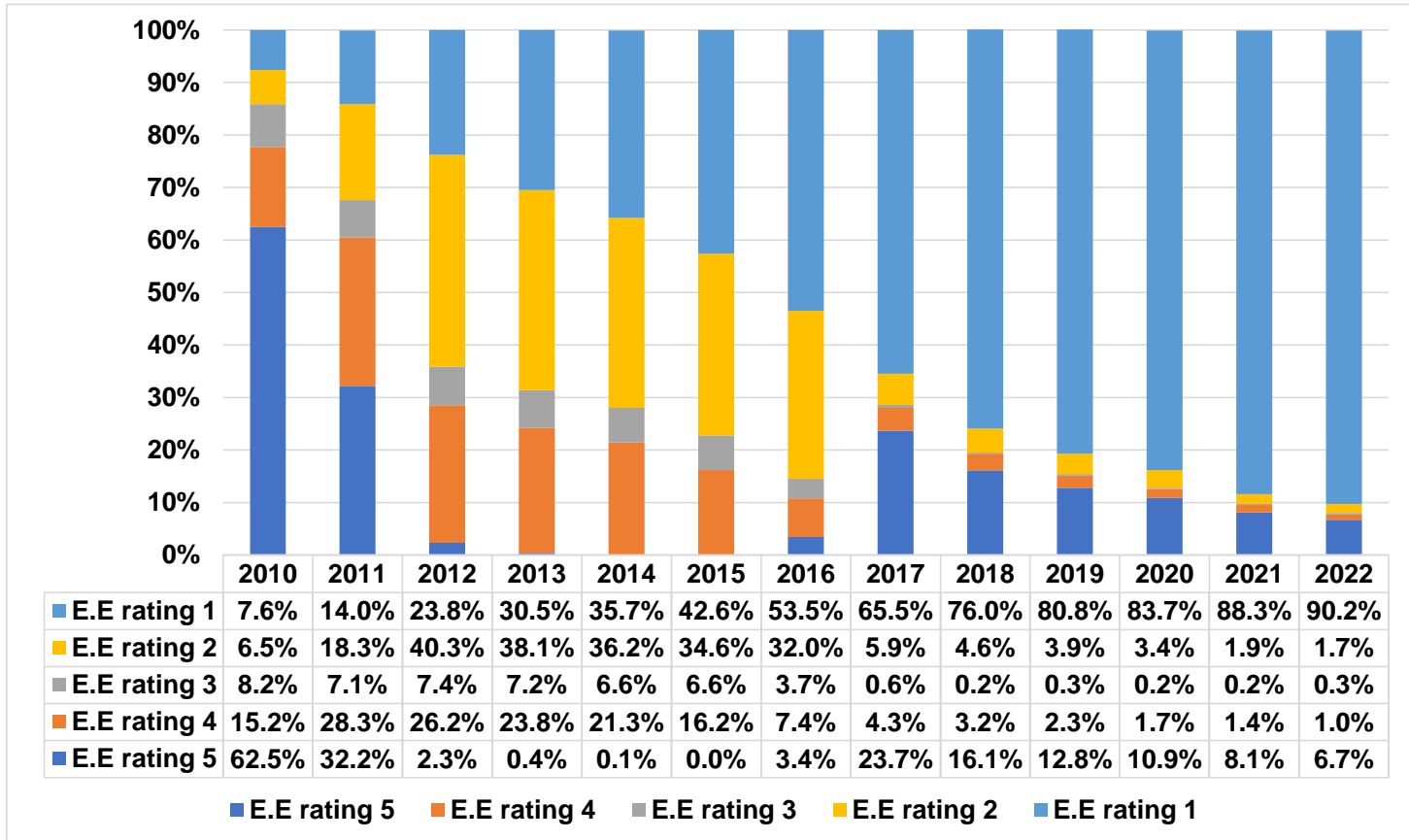
33 Items

83.1% Household Electricity Consumption in Summer

 Promoting Date : July, 2010

Achievements of EE Rating Labeling Program

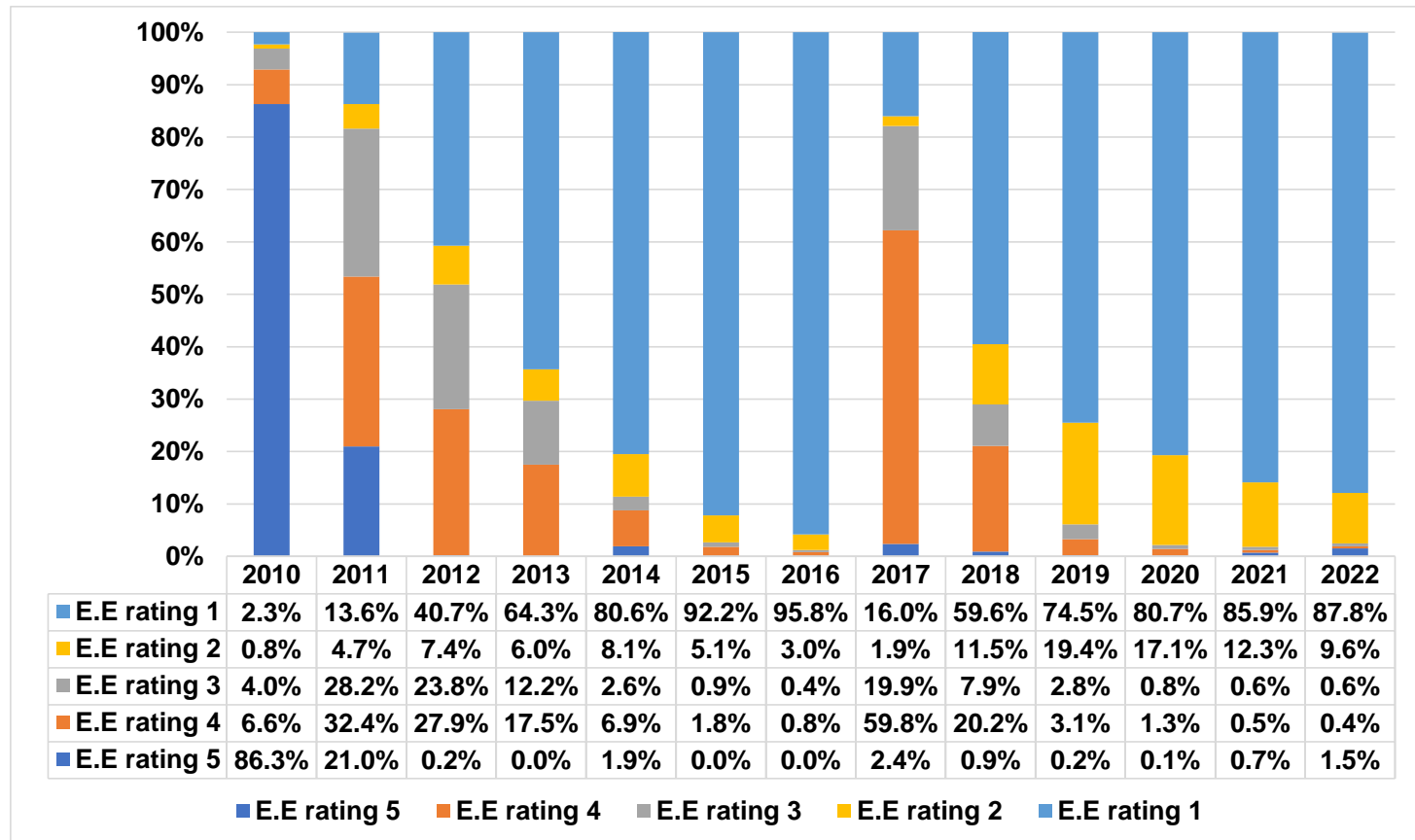
- The rating 1 product's market share for Air Conditioners increase dramatically from 7.6% in 2010 to 90.2% in 2022.
- The subsidy project boosted the market share of high-energy efficiency products.



market share of Air Conditioners

Achievements of EE Rating Labeling Program

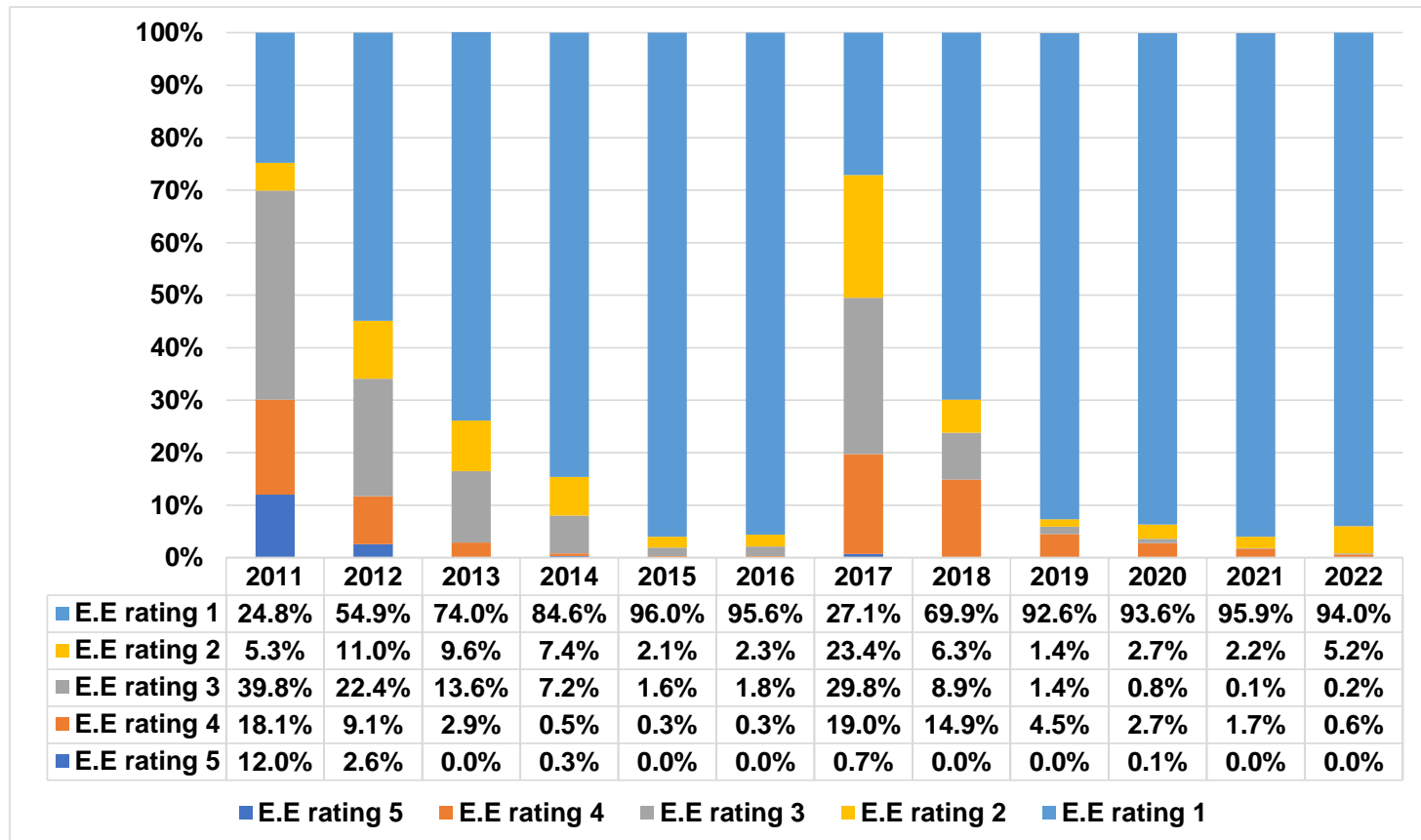
- The rating 1 product's market share for Refrigerator increase dramatically from 2.3% in 2010 to 95.8% in 2016.
- The rating 1 product's market share for Refrigerator remarkable rising from 16% in 2017 to 87.8% in 2022.



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

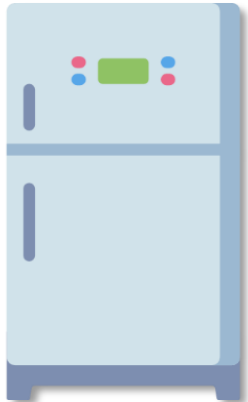


Project goals



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

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
2023/07/20 ZM3300

112年度節能補助受理作業 No. 2023010401000012

掃拍結果:
(僅供提撥掃拍作業, 並非初審結果)

案件編號: 2023010401000012
冷氣數量: 1
冰箱數量: 1
總數量: 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 台電電號: 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 保證書編號: 沒圖/不通過
7-2-0 廢口機: 沒圖/不通過
7-2-1 廢口機結果編號: 不通過
7-2-2 廢口機結果日期: 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

中華民國
能源效率標示
每年耗電量
約 264 度
本產品能源效率為第1級

名稱 電冰箱
型號 NR-C39HV
有效容積 395 公升
內容積
能源 20.6 (20%能源效率) 級
能源效率
經濟部能源局

共 2 台
補助 6,000 元

冷氣機 1台
電冰箱 1台

上一步

節能補助受理作業掃拍系統

宏碁 AI 掃拍系統 Ver. 4.1.0
2023/07/20 ZM3300

112年度節能補助受理作業 No. 2023010401000012

第01台

6-1-0 保證書 拍攝

6-1-2 保證書型號 辨識 NR-C39HV

6-1-3 保證書編號 辨識 08832080047

7-1-0 廢口機 檢異拍攝

7-1-1 廢口機結果編號 AKB0001171182

7-1-2 廢口機結果日期 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 檢異拍攝

數位相機收單

廢口機收單

Real Time OCR Pre-Validation tool

購買的節能補助品資料

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

申請日期: 2023/07/20

申請日期至申請日期止之申請紀錄如下:

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品名	規格名稱	品名型號	發票號碼/發票日期	發票金額/發票日期	數量	補助金額	不通過
第一台	MAI	NA10495308	2023/05/14	2023/05/14	1	3,000	
第二台	MAI	K2055409	2023/05/14	2023/05/14	1	3,000	

文件資料檢核提醒

檢核項目: [REDACTED]

檢核人員: [REDACTED]

【一】申請「新」及「修」設備, 申請書
【二】申請「修」設備, 申請書
【三】申請「修」設備, 申請書
【四】申請「修」設備, 申請書
【五】申請「修」設備, 申請書
【六】申請「修」設備, 申請書
【七】申請「修」設備, 申請書
【八】申請「修」設備, 申請書
【九】申請「修」設備, 申請書
【十】申請「修」設備, 申請書

Multi-vision AI Automated Review Module

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