



建立永續數據平台 打造永續策略第一步

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超過十年的行動

2009-2019的歷史



我們2020-2050的承諾

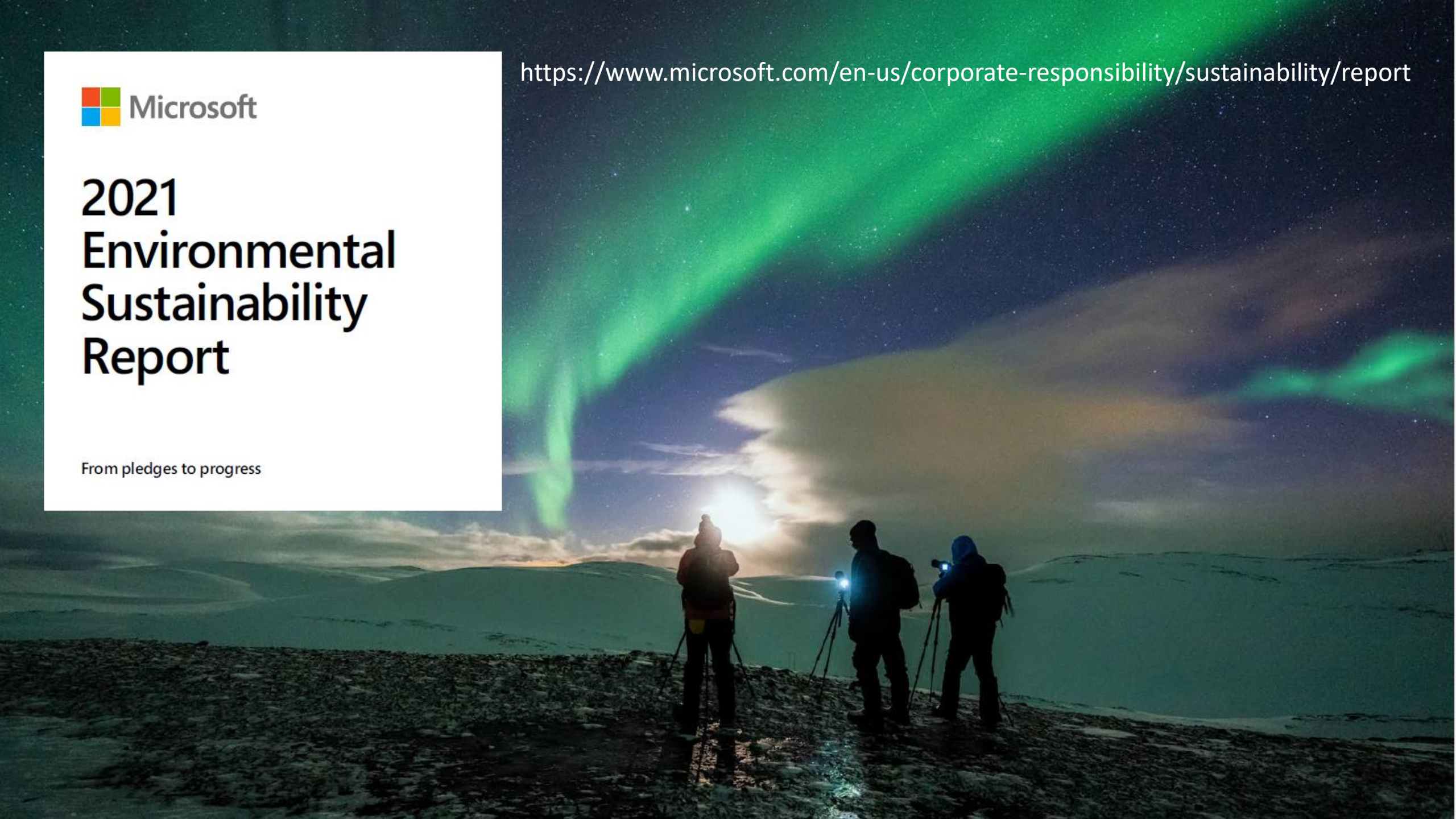




2021 Environmental Sustainability Report

From pledges to progress

<https://www.microsoft.com/en-us/corporate-responsibility/sustainability/report>



Our year of progress

[Overview](#)[Carbon](#)[Water](#)[Waste](#)[Ecosystems](#)[Appendix](#)

2021 progress

\$571M

Allocated \$471 million to date via our Climate Innovation Fund to accelerate our carbon goals, as well as water and waste. We also donated \$100 million to Breakthrough Energy's Catalyst initiative.



Carbon

2.5M tons

In FY21 and FY22, Microsoft successfully contracted to remove 2.5 million mtCO₂, meeting our cumulative two-year goal.

5.8 GW

In FY21, we signed new power purchase agreements (PPAs) for approximately 5.8 gigawatts (GW) of renewable energy across 10 countries around the globe.

87% supplier reporting

In July 2021, 87 percent of our in-scope suppliers reported their emissions to CDP, up 12 percent from 2020.

Microsoft Cloud for Sustainability

In July 2021, we launched the Microsoft Cloud for Sustainability to provide comprehensive, integrated, and automated sustainability management.

Water

1.3M m³

In FY21, Microsoft invested in replenishment projects that are expected to generate over 1.3 million cubic meters of volumetric benefits.

670M

Our programs with Water.org account for over 670 million liters⁹ of water benefit per year.



>95K people

Through our partnership with Water.org, we provided more than 95,000¹⁰ people with access to safe water or sanitation.

U.S. Water Prize

In 2021, Microsoft was awarded the U.S. Water Prize for Outstanding Private Sector Organization for adopting our water positive program and committing to being water positive by 2030.

Waste

Circular Centers

We have planned five Circular Centers, with Amsterdam open, construction underway in Boydton, Virginia, and three more to be added in 2022.

>15,200 tons

In FY21, we diverted more than 15,200 metric tons of solid waste otherwise headed to landfills and incinerators.

Zero Waste

Four datacenters are Zero Waste certified, with new certifications for the San Antonio, Texas and Quincy.

18% reduction

We reduced single-use plastics in our Microsoft product packaging by 18 percent.

Ecosystems

>17,000 acres

In FY21, we contracted to protect more than 17,000 acres of land.



>500 users

The Planetary Computer private preview released as planned in April 2021, with more than 500 users signed up and using the APIs and scalable compute.

24 petabytes

We have made available 24 petabytes of data with more than 30 key environmental and Earth observation datasets to Azure in consistent, analysis-ready format that is freely available for use by anyone.

850+ grants

Since its inception in 2017, our AI for Earth program has provided more than 850 grants to organizations working in 110 countries around the world, granting more than \$20 million in Azure credits.

CxO發展永續戰略的必要認知

- **永續和數位轉型密切相關**

數位和永續轉型計劃須串聯，並深入到戰略、藍圖和行動中，以實現其總體長期價值目標。

- **強化永續發展，數據的共用是關鍵**

數據在永續策略發揮關鍵作用，企業領導者必須找到以合理和標準化的方式收集、處理和共享數據的最佳方式。

- **建立能力來擴大永續機會的範圍**

企業管需建立必要的能力，包括導入新科技，與賦能員工，來為長期更廣泛發展奠定基礎。

- **企業領導者必須為更嚴格的審查做好準備**

隨大眾對企業永續績效的關注增加，企業必須在個人和公司層面採取的所有步驟都可在最高水準審查。

- **企業領導者必須推動與參與監管**

隨著永續發展監管行動的增加，企業不能忽視自己在促進未來政策發展與產業定位上的作用，特別是在數據和科技應用領域。



永續關鍵5R



當前企業永續發展的現況與痛點

永續發展團隊通常需花費數月時間使用品質差的數據和估計值來創建報告。
耗時的手動報告導致 1. 難以為整個企業組織內取得深入的洞察， 2. 大幅減低的永續發展指標的決策性。



外部和內部的分崩離析的數據源，
例如，如下所示：

- ERP 系統
- 電子表格
- 供應商電子郵件
- 感測器

這導致複雜且耗時的數據收集過程。

數據檢查、驗證和清理是手動完成的，這
增加了出錯和延遲的風險。

排放計算採用多種框架、排放係數和計算
過程。

由於報表需要手動操作，因此報告產生的
頻率較低。

有關可持續發展的資訊很快就會過時，不
適合用於敏捷決策。

當需要更多資訊和最新指標時，報告團隊
需進一步手動收集與整理才能創建新報告。

合規和申報體系仍持續演進中，加深永續發展的複雜性

企業需要許多不同的工具、框架和標準，來滿足各種自願和強制性報告和合規要求。



全球或國家設定的目標



2030 Climate Target Plan

78% GHG cut by 2035



HM Government



Peak emissions before 2030

新立法草案與規定



Cap and trade



CO₂ emission performance standards



Industrial Emissions Directive



Gasoline and diesel car sale ban – 2040

申報與登錄框架



Principles for Responsible Investment



TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES



計算及查驗方法



ASSESSING LOW CARBON TRANSITION

ecovadis

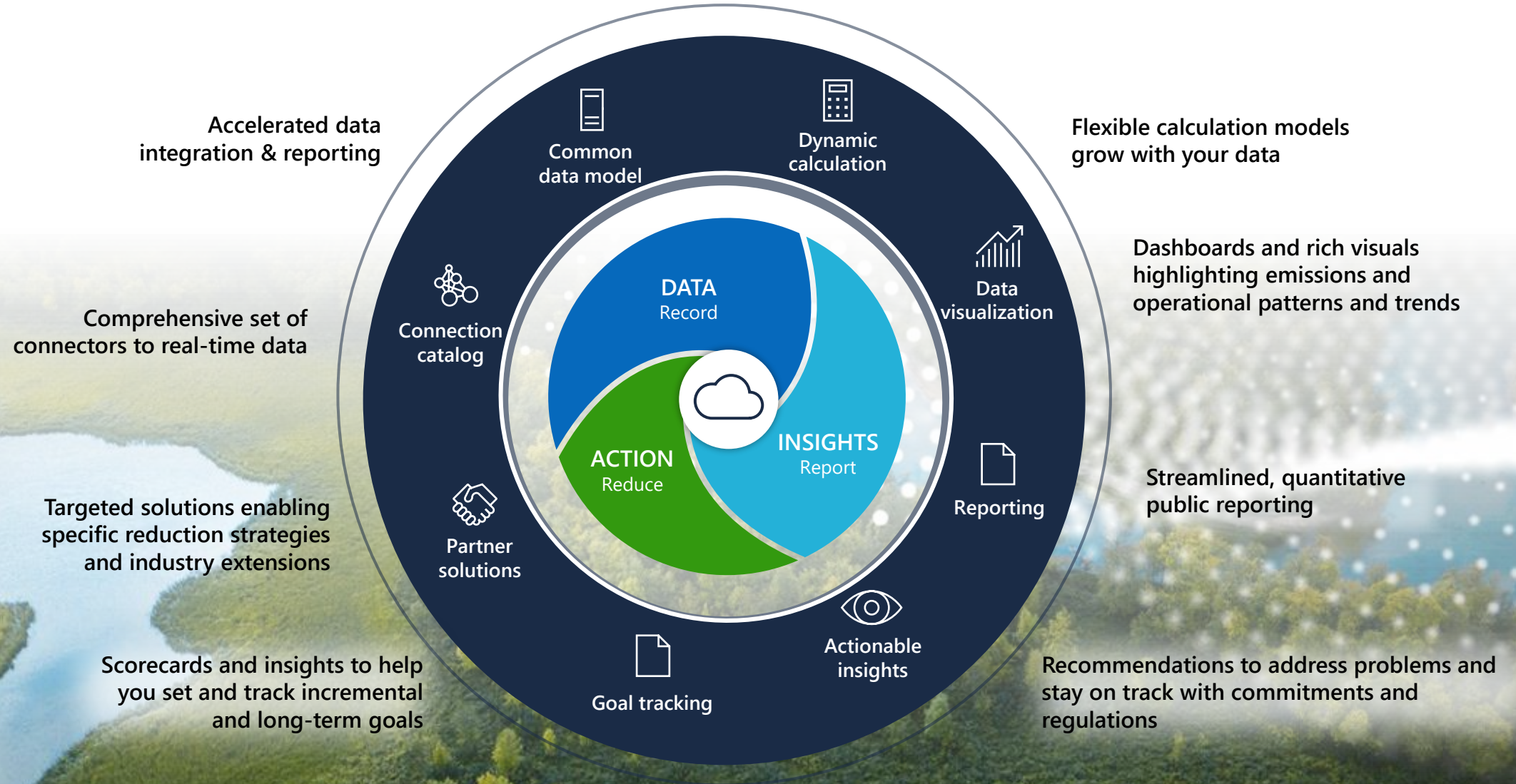
標準與規範



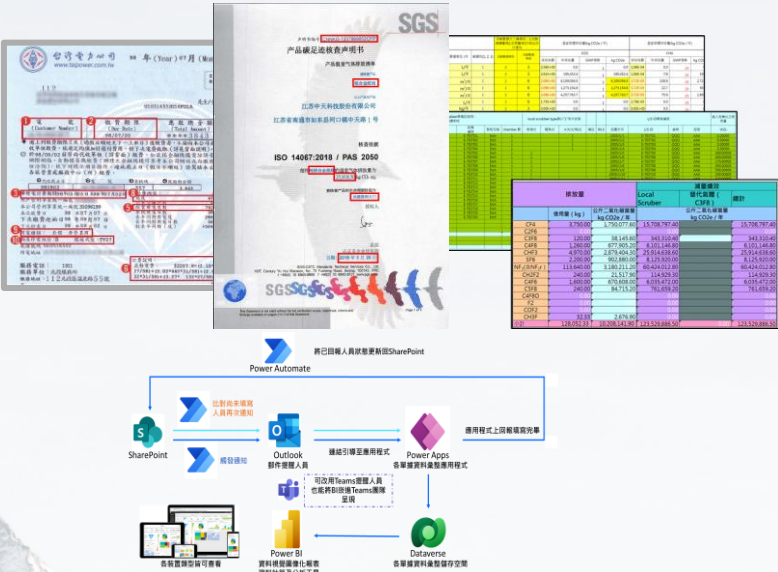
PAS 2050
PAS 2060



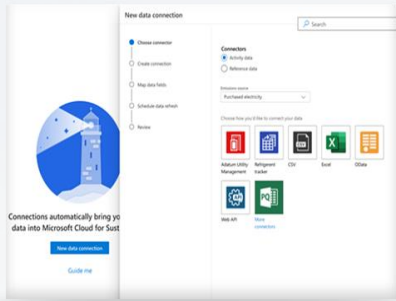
先進的永續發展平台 - Microsoft Cloud for Sustainability



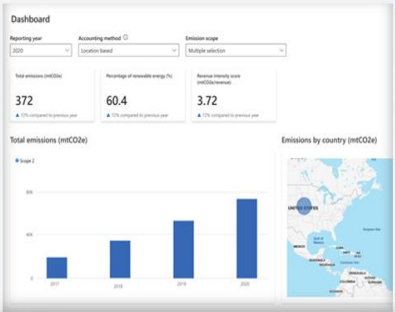
協助企業整合與加速永續發展的平台



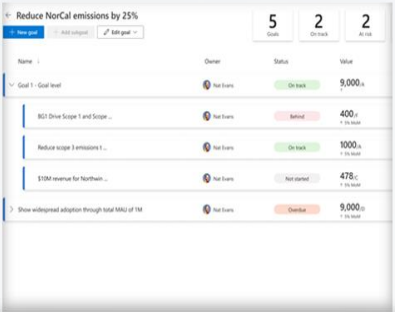
結合Power Automate簡化
企業與供應鏈數據收集及驗證



串連您的數據並計算影響



查看數據分析與洞察



為加速永續發展而展開行動

CHASE Project

WaaS

WASTE MANAGEMENT-
AS-A-SERVICE

ESMS

CHASE SUSTAINABILITY
CLOUD Beta



從電動車充電站轉型為智慧微電網



DeltaGrid® 能源管理系統

- 管理多種電力系統
- 優化能耗，提升管理效率

儲能系統

- 電力調度與調節
- 提高再生能源利用率
- 備用電源

太陽能/再生能源

- 提供清潔能源
- 整合儲能與能源管理打造微電網

電動車充電

- DC、AC充電樁，為電動車供電
- V2X 雙向充放電樁，可作為備用電源、虛擬電廠





了解更多永續資訊



1

微軟永續官網：[Microsoft.com/sustainability](https://microsoft.com/sustainability)
分享微軟領先全球的永續作為與全球客戶案例

2

微軟永續官網>工具與資源<https://aka.ms/AAg3gsq>
此網頁提供[GHG 排放量報告課程](#)，教材與CDP及
enGIE合作，分享Scope 1-3碳排核算法訓練（含繁中
教材）

3

全球永續案例分享：aka.ms/sus-stay-informed

4

下載台灣第一本永續綠色科技指南：
<https://aka.ms/2022sustainability>

