A sustainable income: fiscal policies for a green economy

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Green Recovery – rhetoric or reality?

Source – Global Recovery Observatory
• FFS ranges from USD 370 bn to USD 6 trillions (IEA, IMF)

• FFS reform is a key building block to achieve the international goal of limiting global warming to below 2°C (IEA, 2015)

• The removal of FFS would lead to a global decrease in carbon emissions of 6.4% to 8.2% in 2050 (Burniaux and Chateau, 2011; Schwanitz et al., 2014)
Fossil Fuel Subsidy Reform and the Pollution Crisis

- Air pollution claims the lives of **1 out of every 9 lives** lost every year and is the single biggest health risk facing people across the world ([State of Global Air, 2020](#))

- Eliminating fossil fuel subsidies and taxing fossil fuels could **cut pre-mature air pollution deaths** by more than half ([Coady et al., 2015](#))

- Untargeted fossil fuel subsidies promote **wasteful consumption** and exacerbate environmental pollution ([Solarin, 2020](#))
Creating fiscal space by reforming FFS

• Reform could free up to US$ 3 trillion of public revenue (IMF)

  ▪ Nigeria’s June 2020 decision to phase out petrol subsidies will save the country USD 2 billion annually (if maintained)

  ▪ Indonesia’s 2014 announcement of the complete removal of its gasoline and diesel subsidies saved the equivalent of 10% of government expenditure

  ▪ Morocco: FFS reform increased fiscal space, allowing investments in clean and renewable energy (UNEP, 2019)
Reforming agricultural subsidies for sustainable food systems

- Costs **US$650 billion a year**, including **US$ 540 billion** to agricultural producer support, of which **87% is price distorting or harmful to nature and health** (UNEP, 2021)

- US$240 billion as budget transfers to farmers, some of them are coupled with specific inputs such as chemical fertilizers and pesticides or products that are carbon intensive.

- Repurposing subsidies could allow restoration of about 105 million ha. of land to natural habitats, with large potential biodiversity benefits (WB)
Potential revenues generation through environmental taxes

- Resources are urgently required to **fund recovery** and stimulus measures for economies battered by the COVID-19 crisis ([G20, 2021](#))
  - *Costa Rica and India have increased tax on transport fuels towards raising funds for COVID-19 recovery programs*

- Carbon taxes generated US$ 29.5 billion in 2019 ([IECE](#)) and can potentially raise revenue amounting to 1–2% of GDP by 2030 (IMF)

- **Chemicals’ pollution taxes, charges or fees** (e.g. fertilizer and pesticide taxes)

- Yet challenges remaining….
  - Optimal tax rate
  - Administrative capacity
Fiscal policy measures in NDCs

- Over 80 countries included some form of FP in their NDCs
- Carbon taxes are in place or planned in 27 countries
- FFS reform is included in 14 Nationally Determined Contributions (UNEP, 2019)

Carbon tax implemented or scheduled for implementation

Source: World Bank Carbon Pricing Dashboard
Sustainable budgeting for an inclusive green recovery and transition

• Ultimate objective: to understand and improve the alignment of national economic policymaking with national sustainable development strategies

• Enabling more targeted and efficient allocation of scarce public resources

• Sending a powerful signal to Development Finance Institutions and investors about a country’s long-run growth prospects.

• The Sustainable Budgeting Approach (SBA), jointly developed by UNEP and the University of Oxford, aims to provide decision makers with a customisable and accessible tool
A growing number of fiscal instruments to accelerate the transition to a green economy

<table>
<thead>
<tr>
<th>Expenditure</th>
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<tbody>
<tr>
<td>Removal/repurposing of harmful subsidies</td>
<td>Frees fiscal resource and remove negative incentive on producers and consumers</td>
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<tr>
<th>Revenue</th>
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<tr>
<td>Environmental tax</td>
<td>Include <strong>energy tax</strong> (on the use of energy products for transport, cooking, heating, etc.), <strong>pollution tax</strong> (on pesticides, waste, noise, etc.), <strong>carbon tax</strong> (on producing and consuming fossil fuels), <strong>transport tax</strong> (import and sales of motor vehicles, city tolls, flight tickets..), <strong>resource tax</strong> (on extraction and use of water, minerals, wood, etc.)</td>
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<tr>
<th>Funds, Revenue Management and Other Instruments</th>
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<tr>
<td>Sovereign Wealth Funds</td>
<td>Investment fund owned by a State financed by natural resources, which can be used as a green investment instrument</td>
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<td>Revenue management for green investment</td>
<td>Channel resources from extractive sector towards green investment</td>
</tr>
<tr>
<td>Green bonds/blue bonds</td>
<td>Enabling policy environment for private finance</td>
</tr>
<tr>
<td>Debt swaps for climate/nature</td>
<td>Debt if forgiven and outstanding debt service payments is invested in national climate action programs</td>
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Thank you

www.greenfiscalpolicy.org
Sustainability for the Public Finance

Valentina Ion
Director Strategy
Worldwide Government
World is using up the remaining carbon budget quickly.

At currently rate we only have ~ 10 years.

Remaining Carbon Budget
440 Gt CO₂ *

* or average of 440 GtCO2 or 120 GtC
source: Matthews et al 2021, Nature Communications
The Opportunity

Governments, Companies, and Civil Society are beginning to see the urgency and see the opportunity.
Digital sustainability opportunities for Greener Public Finance

- **Data strategy & foundations**
  - Measurement, accounting & insights
  - Carbon markets
  - Climate risk

- **Sustainable smart spaces**
- **Sustainable supply chain**
- **Sustainable transportation**
  - Green cloud migration
  - Remote work

- **Public Finance industry interventions**
  - Implement new policy: e.g., Green Tax Systems, Carbon credits etc.
  - Climate Finance funding and incentives management
  - Climate Finance Standards and Common Data taxonomy
  - Risk & regulatory reporting including ESG/CSR
  - Evaluate and improve insurance/reserve models
  - Create unique research and investment insights

**Compliance focused**
- **Record**
- **Report**
- **Reduce**
- **Replace**
- **Remove**

**Strategy focused**

**Transparency & visibility lead to** horizontal, and industry-specific interventions based on clear insights
Microsoft is committed to harnessing the power of technology to help everyone, everywhere build a more sustainable future.
Microsoft’s operational targets & timeline

**CARBON**
- Nearly eliminate direct emissions by 2025
- Carbon negative by 2030
- Reduce Scope 3 emissions by half by 2030
- Remove historical emissions by 2050

**WATER**
- Ensure greater access to water
- Water positive by 2030
- Reduce intensity of water operations
- Replenish water-stressed regions
- Digitize water data
- Invest in new partnerships

**WASTE**
- Zero waste by 2030
- Increase our reuse of servers and components up to 90% by 2025
- $30 million circular economy investment
- Eliminate single-use plastics
- Transform waste accounting

**ECOSYSTEMS**
- Build and deploy a planetary computer
- Protect more land than we use by 2025
- Speak out on policy issues
Microsoft’s Planetary Computer protecting and restoring ecosystems through geospatial analysis and AI

Some of our launch applications

- Conservation planning
- Water availability forecasting
- Land cover mapping
- Forest carbon offset risk
- Deforestation prediction
- Flood risk assessment
- Human footprint mapping
- Accelerating biodiversity surveys
- Shipping emissions estimation
Helping our customers
Microsoft Cloud for Sustainability

Accelerated data integration & reporting

Common data model

Dynamic calculation

Flexible calculation models grow with your data

Connection catalog

Data visualization

Dashboards and rich visuals highlighting emissions and operational patterns and trends

Partner solutions

Reporting

Streamlined, quantitative public reporting

Targeted solutions enabling specific reduction strategies and industry extensions

Actionable insights

Scorecards and insights to help you set and track incremental and long-term goals

Goal tracking

Recommendations to address problems and stay on track with commitments and regulations
The Met Office is working with Microsoft to build a weather forecasting supercomputer in the UK

The Met Office, the UK’s national weather service, wanted to reinvent its Weather Observations Website to encourage academics, enthusiasts, and students around the world to participate in a public online weather community.

By building an Internet of Things solution on Microsoft Azure, the Met Office can double the nearly 9,000 remote sensors across the UK, New Zealand, and Australia—including, for the first time, mobile sensors—that it uses to collect and analyze data for tracking weather conditions and improving weather forecasts.

This new supercomputer – expected to be the world’s most advanced dedicated to weather and climate - will be in the top 25 supercomputers in the world and be twice as powerful as any other in the UK.

The supercomputer will be able to:
• provide more detailed weather models
• run more potential weather scenarios
• improve localised forecasts
• better predict severe weather

It will run on 100% renewable energy and will have more than 1.5 million processor cores and more than 60 petaflops - or 60 quadrillion (60,000,000,000,000,000) calculations per second.
Forecasting demand to support decarbonization and improve service

Ontario Power Generation (OPG) built an energy forecasting tool using Microsoft Azure to support data strategy, analytics, and modeling.

“If we can predict prices in jurisdictions other than our own a day or two ahead, we can identify arbitrage opportunities and be in a position to help other markets lower their carbon footprint, taking advantage of the low carbon generation here in Ontario.”

—Goce Jankuloski, OPG Data Scientist and Model Developer
Ontario Power Generation

Looking to a sustainable future
The OGP Energy Market team’s initiatives are aligned with OPG’s larger priorities outlined in the company’s recent Climate Change Plan and supports its goal of becoming a net-zero carbon company by 2040, while advancing clean tech solutions that help surrounding markets achieve net-zero carbon economies by 2050.
Green Assets as a Service (GrAaaS) for Citi

Leverage AI to better understand balance sheets and identify green assets

The challenge
We don’t know the complexion of our assets; green instruments are difficult and expensive to create.

The solution

- **Use analytical tools** to visualize opportunities to structure green bonds.
- **Tagging Tool** to identify and tag an asset, according to their green credentials (e.g., carbon emissions).
- **Data Explorer Tool** to track the use, alteration and classification of any asset automatically over time, automatically updating properties.
- **Easier, faster and more profitable issue of green assets**.
- **Standardized and ad hoc reporting**.

The sample demonstrator built on PowerBI gave us the ability to envision multiple aspects, uses, and outcomes.
Investment decision support tool for BNY Mellon

The challenge
Investment managers need to manage their data, improve the success of US-listed fund launches, and support the customization of investment portfolios to preferred ESG factors.

The drivers
• Need for flexibility
• Need to stay up-to-date with client and regulatory changes

The solution
• Data Vault
• Distribution Analytics
• ESG Data Analytics
THANK YOU!

Q&A
Fiscal policies for a green future

- an energy perspective

8 March 2022
The EU Green Deal

- Our strategy for sustainable economic growth and for reaching climate neutrality by 2050.
- Energy and climate targets: min. 55% GHG emissions reduction by 2030
- Green national budgets to send the right price signals:

National budgets play a key role in the transition. A greater use of green budgeting tools will help to redirect public investment, consumption and taxation to green priorities and away from harmful subsidies. The Commission will work with the Member States to screen and benchmark green budgeting practices.
The Case for Sustainable Finance

The EU committed to **ambitious climate and energy targets for 2030**
In its **long-term strategy**, the EU strives for **net-zero GHG emissions by 2050.**

- **Minimum 55% cut in GHG emissions compared to 1990 levels**
- **At least a 40% share of renewables in final energy consumption**
- **Binding annual target for reducing energy use**

**Average annual investment need to reach the 2030 targets:** **+ EUR 390 billion compared to investments in the decade up to 2020**

Public support alone will not be sufficient to meet those investment needs. The private sector will have to play a huge role and a smart policy framework is needed to incentivise private investment.
Green Budgeting practices

… across responding EU Member States

Yes, environmental impact assessment (5)

Have plans for green budgeting (6)

Yes, green budget tagging (6)

No plans for green budgeting (10)

*Finland is performing both green budget tagging and environmental impact assessments.

Source: 2021 European Commission survey on green budgeting