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State Sector Finance

The State Sector Financial Management System and Appropriations

Workbook

Table of Contents

Introduction

Welcome

Welcome to 'State Sector Finance - The State Sector Financial Management System and Appropriations'.

By the end of this session, you will:

- Have gained an overview and understanding of the State Sector Financial Management System and how it works in New Zealand
- Be able to demonstrate your understanding of the concepts that are central to interpreting and understanding the Public Finance Act and the NZ legislation governing the use of public financial resources
- Understand Treasury's role in the State Sector Financial Management System and as guardians of the PFA
- Be able to demonstrate understanding of inputs, outputs and outcomes
- Be able to demonstrate your understanding of the difference between departmental and non-departmental activity
- Be able to draw up an annual timeline of appropriation related legislation.

History and Context

How has the State Sector Financial Management system developed to its current state?

The History of Public Finance is the history of democracy. A centuries long struggle to wrest the power of taxing spending public money from the Crown, to separate public money from the ruler's own money, and to create checks and balances on the use of power. State Sector Finance is the product of the political contest in Parliament, the management of the public service, and the jurisprudence of the courts.

The Magna Carta 1215 and the Power to Tax

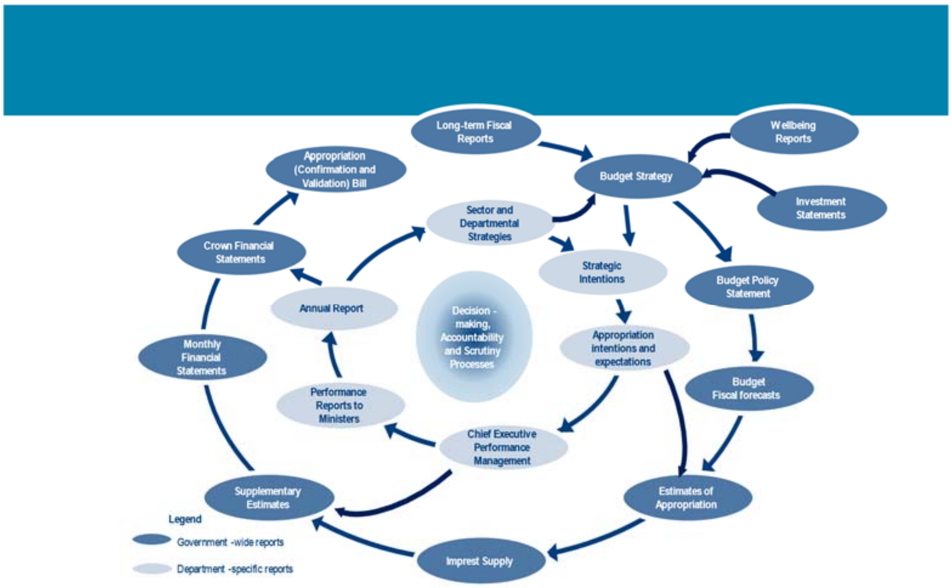
Act of Settlement Act 1701

Bureaucratic Development

Overview of the State Sector Financial Management System

How does the State Sector Financial Management system achieve its aims?

The State Sector Financial Management system achieves its aims through the planning, decision-making and scrutiny processes that culminate in the delivery of the Government's Budget, incentives for managing efficiently, and reporting and feedback processes. These processes, as shown in the diagram below, run in parallel for the whole government reporting entity (outer cycle, below) and for individual agencies (inner cycle).



Government-wide reports include:

Long Term Fiscal Reports

Budget Strategy

The Budget Policy Statement

The Budget Fiscal Forecasts

Estimates of Appropriations

Imprest supply

Supplementary Estimates

Economic and Fiscal Updates

Monthly Financial Statements

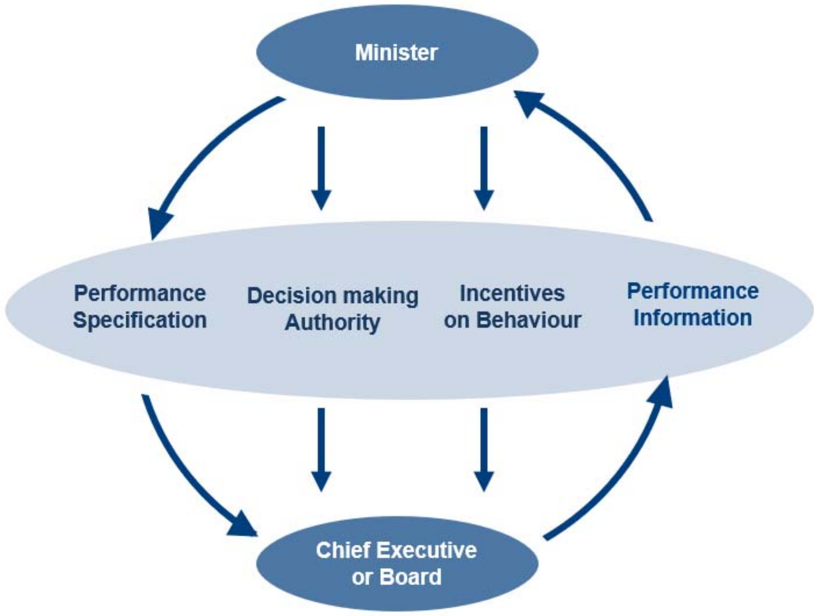
Crown Financial Statements

The Parliamentary Annual Review and the Appropriation (Confirmation and Validation) Bill

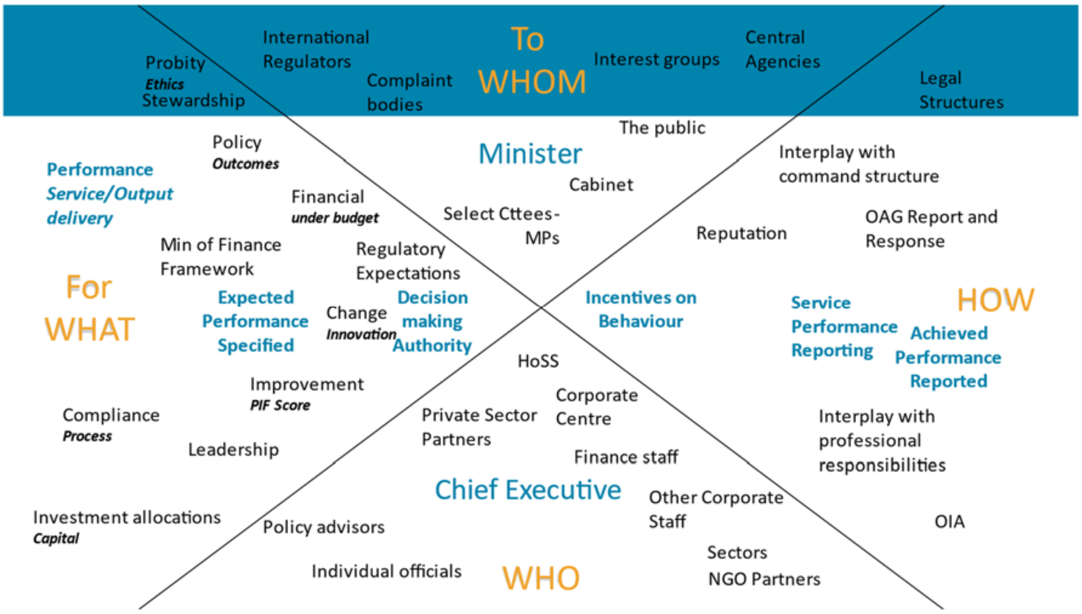
Performance Based Accountability Framework

Key concepts in the Financial Management System

State Sector Accountability



Notes


To
WHOM
International
Regulators
Probity
Ethics
Stewardship
Complaint
bodies
Interest groups
Central
Agencies
Legal
Structures
The public
Minister
Cabinet
Policy
Outcomes
Performance
Service/Output
delivery
Financial
under budget
Select Cttees-
MPs
Interplay with
command structure
OAG Report and
Response
Reputation
Min of Finance
Framework
Regulatory
Expectations
For
WHAT
Expected
Performance
Specified
Change
Innovation
Decision
making
Authority
Incentives on
Behaviour
Service
Performance
Reporting
HOW
Achieved
Performance
Reported
HoSS
Improvement
PIF Score
Compliance
Process
Leadership
Private Sector
Partners
Corporate
Centre
Finance staff
Interplay with
professional
responsibilities
Chief Executive
Other Corporate
Staff
Investment allocations
Capital
Policy advisors
OIA
Individual officials
WHO
Sectors
NGO Partners

Notes

Success: But 2020's problems replacing 1980's problems

Notes

Accrual Accounting

Notes

Key dates

- **1989:** The Public Finance Act 1989 specified requirements for accrual budgeting and financial reporting by departments. Government departments began to report in accordance with accrual accounting. Whole-of-government flows (for example, taxes and transfer payments) were still budgeted and forecast on a cash basis.
- **December 1991**: New Zealand became one of the first governments in the world to prepare consolidated financial statements on the accrual basis.
- **1994:** The Fiscal Responsibility Act 1994 required accrual-based budgeted and actual information at the whole-of-government level. The government's first accrual-based fiscal forecasts based on GAAP were published in June 2004.

Generally Accepted Accounting Practice

Notes

The Public Finance Act defines GAAP as:

- Approved financial reporting standards (within the meaning of section 2 of the Financial Reporting Act 1993) so far as they apply to the Crown, department, Office of Parliament or Crown entity, and
- Where no provision is made in the above standards accounting policies that:
  - Are appropriate to the Crown, department, Office of Parliament or Crown entity, and
  - Have authoritative support within the accounting profession in New Zealand.

Appropriations

Appropriations are legal authorities granted by Parliament to the Crown or an Office of Parliament to use public resources.

Notes

Independent Audit

Notes

Legislation supporting the State Sector Financial Management System

Notes

Treasury's role in the State Sector Financial Management System

Notes

The Public Finance Act

Introducing the Public Finance Act

The Public Finance Act 1989 (PFA) establishes the core principles of fiscal responsibility, governs the allocation and use of public money and establishes mandatory reporting and transparency requirements.

The PFA consists of eight parts:

Appropriations (Part 1)

Fiscal Responsibility (Part 2)

Reporting by the Government and Departments (Parts 3-5)

Loans and Securities (Part 6)

Trust Money (Part 7)

General Provisions (Part 8)

Understanding appropriations

Background to Appropriations

An appropriation is the legal means by which Parliament gives legal authority to the Crown and Offices of Parliament to use resources. The Public Finance Act explains the legislative process required for appropriations and the requirement for using accrual based, output focused appropriations.

The importance of appropriations

In common with all other democratic governments based on the Westminster model, Parliament is established as the supreme body with responsibility to make laws, raise taxes and determine how public funds are to be spent.

The role of Parliament in exercising ultimate control over public finances and holding the Government of the day to account for the use of powers bestowed upon it by law and the use of resources, is pivotal to the proper functioning of our system of democracy.

Parliament, through the authority of Appropriation Acts, authorises the Government to apply the revenues of the Crown towards funding the delivery of Government programmes and services.

This process involves having Members of Parliament annually debate and vote on the Government's funding requests, which are specified in annual Appropriation Acts and supported by supplementary information provided in the Government's Budget papers.

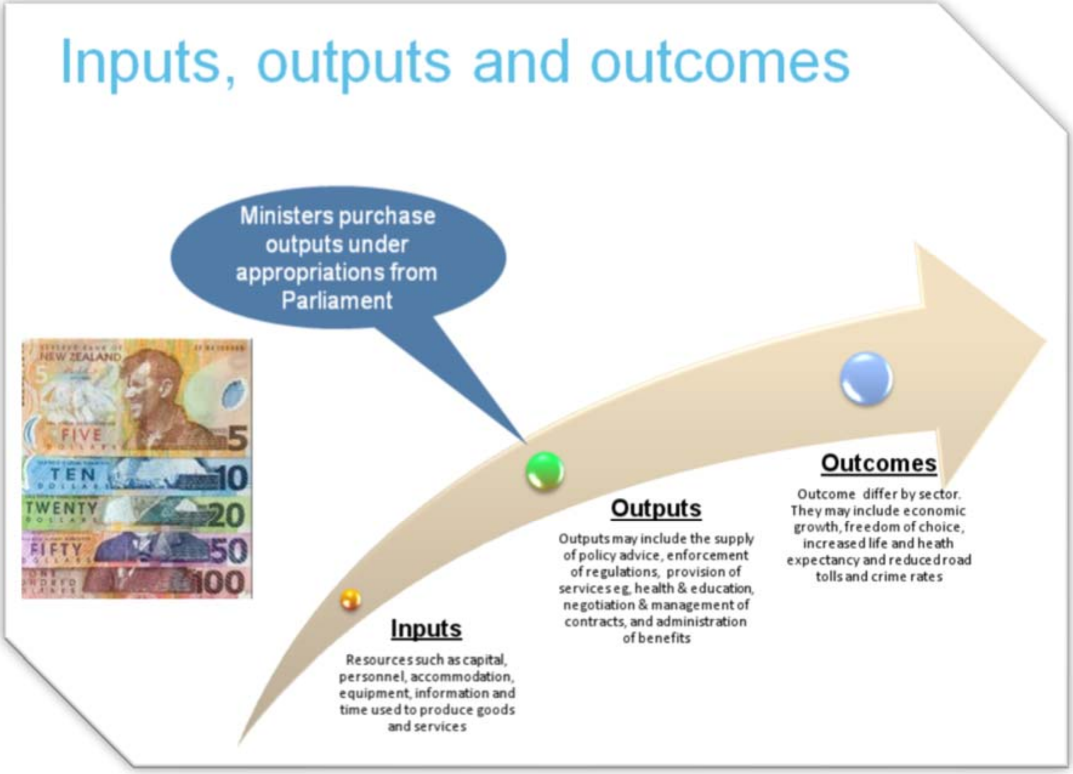
Therefore, the reporting and associated scrutiny of appropriations is a fundamental process to facilitate effective transparency and accountability to Parliament over public spending.

Appropriations and accrual measurement

Notes

Inputs, Outputs and Outcomes

Notes



Exercise – Inputs, outputs, and outcomes

Group discussion

Decide if each of the following is an example of an input, output, or outcome.

1. **Young New Zealanders develop skills to enter the workforce.**

2. **The three central agencies (PSC, Treasury and DPMC) partner together to design a programme.**

3. **The Ministry of Social Development helps a number of community groups assess the needs of families.**

4. **The Ministry of Health educates restaurant owners about health and safety in their restaurant kitchens. As a result, the incidence of food poisoning is expected to be reduced by 10% next year.**

.

Value for Money for money

Inputs **Outputs**

Cost-effectiveness **Outcomes**

Value for Money

Value for money

Notes

Responsible Ministers and Votes

Notes

Departmental and Non-departmental

The Crown and its departments are legally indistinguishable, as a department is part of the Crown. Despite this, departments are treated as distinct entities for management purposes. Distinguishing between the Crown and departments enables departmental chief executives to be held accountable for things over which they have direct responsibility and reasonable control.

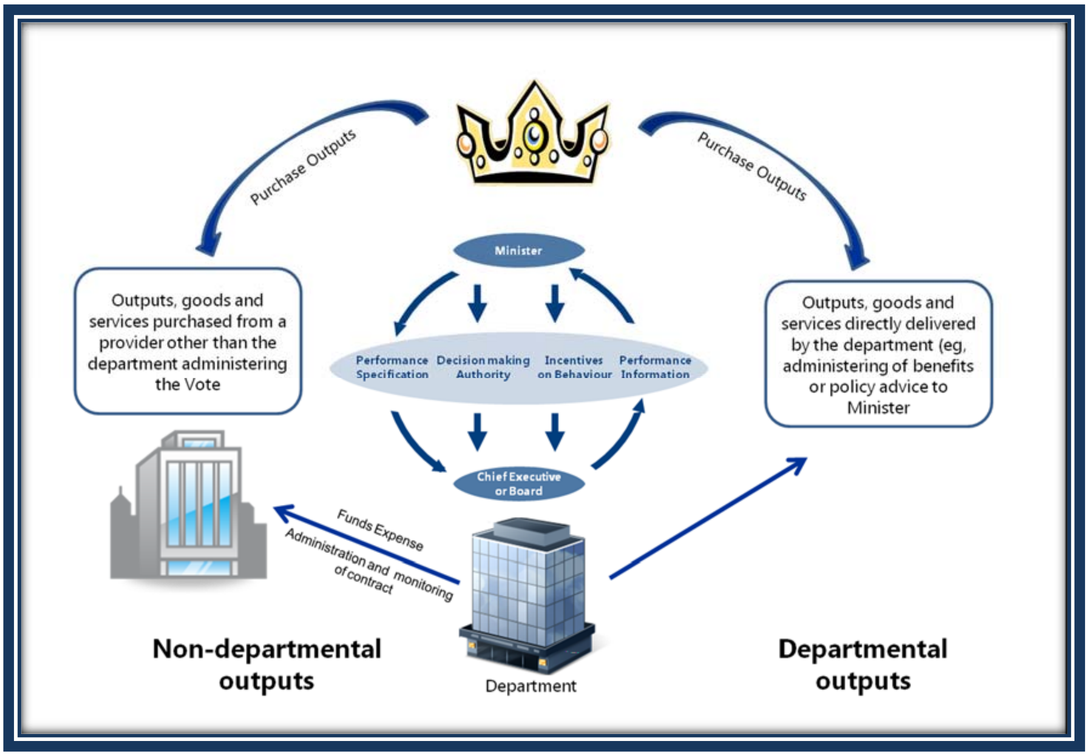
Departmental outputs

In New Zealand, chief executives are accountable for producing outputs because departments are provided resources to produce outputs and control their production. As chief executives cannot control outcomes, the primary responsibility for outcomes still sits with the Crown. However, chief executives are responsible for knowing what their outcomes are, knowing how well their outputs improve those outcomes, and taking sensible steps to improve both their output mix and outcomes.

Similarly, a department's chief executive is accountable for managing a contract for non-departmental outputs of behalf of the Ministers, ensuring the contract's terms are clear and verifiable, and monitoring performance against them. They are not responsible for the delivery of the services being contracted for.

Non-Departmental outputs

Non-Departmental outputs are outputs (goods and services) purchased from a provider other than the department administering the Vote. The provider may be a government agency, a non-governmental organisation or a private sector organisation



Departmental vs. non-departmental

Notes

Exercise—departmental and non-departmental activity

Second group discussion

Decide if the example is departmental or non-departmental activity and why?

Example 1

Vote Housing and Urban Development:

The Ministry of Housing and Urban Development subsidizes housing and related services delivered by Housing New Zealand Corporation (HNZC) and other registered social housing providers to individuals who are eligible for an income related rent, assessed as the difference in price between the amounts of market rents for the housing provided and the income related rents charged.

Example 2

Vote Housing:

MBIE assesses the eligibility of weather-tight homes claims; independent technical assessment of claims, including reports on actual and probable damage with estimated costs of repair; administration of the financial assistance package; claim management until repair or claim lodged with the Weathertight Tribunal; provision of mediation services; and advice, information and education to support more informed consumer decisions.

Example 3

Vote Maori Affairs:

In 2019/20 the department Te Puni Kōkiri (TPK) has approved expenses for activities associated with implementing, developing and evaluating the whānau ora service delivery approach ($9 million) and also has approval to purchase from other whānau ora providers, service delivery capability and whānau support ($40 million).

Example 4

Vote Tourism:

Under this vote an appropriation exists for collection, processing, analysis and dissemination of data on tourism; development of operational policies in relation to Tourism issues, research support, services to support the Minister, monitoring the performance and compliance of Crown Entities, and administering grants programmes.

Example 5

Vote Revenue:

Under this vote an appropriation exists to enable the payment of a tax credit to KiwiSaver members and the payment of residual tax credits to employers as set out in the Income Tax Act 2007.

Distinguishing Between Departmental and Non-Departmental Activities

The following criteria can be used to distinguish whether assets and associated revenues should be classified as departmental and non-departmental activities.

CRITERIA	Departmental	Non-Departmental
CONTROL		
CONDITIONS	Department has the ability to set conditions for the utilisation of an asset	***Ministers*** set conditions for the utilisation of an asset
TIMING	Department is able to determine when an asset is to be used	***Ministers*** decide when an asset is to be used
AMOUNT	Department may negotiate value in exchange	***Ministers*** negotiate value in exchange
USED IN THE PRODUCTION OF OUTPUTS		
PURPOSE	Department has the ability to determine the purpose to which an asset is applied	***Ministers*** decide the purpose to which an asset is applied
BENEFICIARY	Department is the beneficiary of the asset utilisation	***Department*** is ***not*** the beneficiary of asset utilisation

The same five criteria can be applied to distinguish departmental and non-departmental activities in regard to liabilities and associated expenses.

CRITERIA	Departmental	Non-Departmental
CONTROL		
CONDITIONS	Department has the ability to specify performance standards and to determine whether an amount should be paid	***Ministers*** specify performance standards and determine whether an amount should be paid
TIMING	Department is able to determine when an amount is to be paid	***Ministers*** decide when an amount is to be paid
AMOUNT	Department may negotiate how much and on what terms the payment is made	***Ministers*** negotiate how much and on what terms the payment is made
USED IN PRODUCTION OF OUTPUTS		
PURPOSE	Department has the ability to specify the reason a liability is incurred or a payment is made	***Ministers*** specify the reason a liability is incurred or a payment is made
BENEFICIARY	Department benefits from the settlement of the liability	***Department*** is ***not*** the beneficiary of settlement

The Legislative Process

Appropriations Bills and Imprest Supply

Key activities in the legislative process include:

Appropriations (Estimates) Bill introduced

1st Imprest Supply Bill introduced

1st Imprest Supply Bill passed

Appropriations (Estimates) Act passed

1st Imprest Supply Bill repealed

2nd Imprest Supply Bill introduced and passed

Appropriations (Supplementary Estimates) Bill introduced

Appropriations (Supplementary Estimates) Act passed

Appropriations (Confirmation and Validation) Bill introduced

Appropriations (Confirmation and Validation) Bill passed

Conclusion

Conclusion

By now you should:

Have gained an overview and understanding of the State Sector Financial Management System and how it works in New Zealand

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Thank you for attending State Sector Finance - The State Sector Financial Management System and Appropriations.

Support and further information

This training course has focussed on introducing you to the State Sector Financial Management System. There is a wealth of further information available from:

- Putting it Together: An explanatory guide to New Zealand's State Sector Financial Management System (2011)
  https://treasury.govt.nz/publications/guide/putting-it-together-explanatory-guide-new-zealands-state-sector-financial-management-system

- A Guide to the Public Finance Act (2005)
  https://treasury.govt.nz/publications/guide/guide-public-finance-act

State Sector Financial Management System and Appropriations Training Course

Finance Professional in Government

GFP

Finance
Development
Programme

HEALTH AND SAFETY

- In the event of a fire alarm activation, please follow me to the nearest exit and progress down the stairs and evacuate the building
- In the event of a Duress Alarm activation please remain where you are until the all clear is provided
- Bathrooms are located through the door labelled Wharepaku to the left of the kitchenette
- In the event of an earthquake…. Drop, Cover and Hold

Finance Development Programme

TE TAI ŌHANGA
THE TREASURY

State Sector Finance

Ken Warren

Learning objectives

By the end of the session you will:

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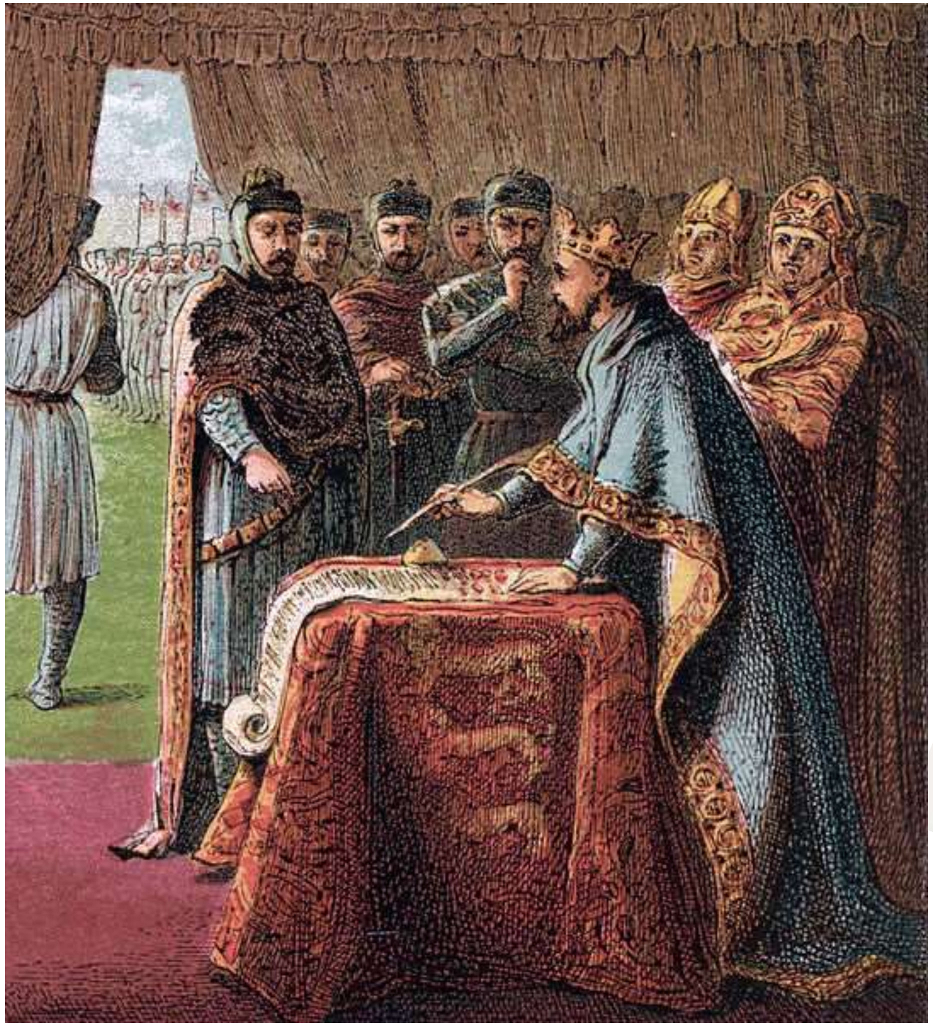
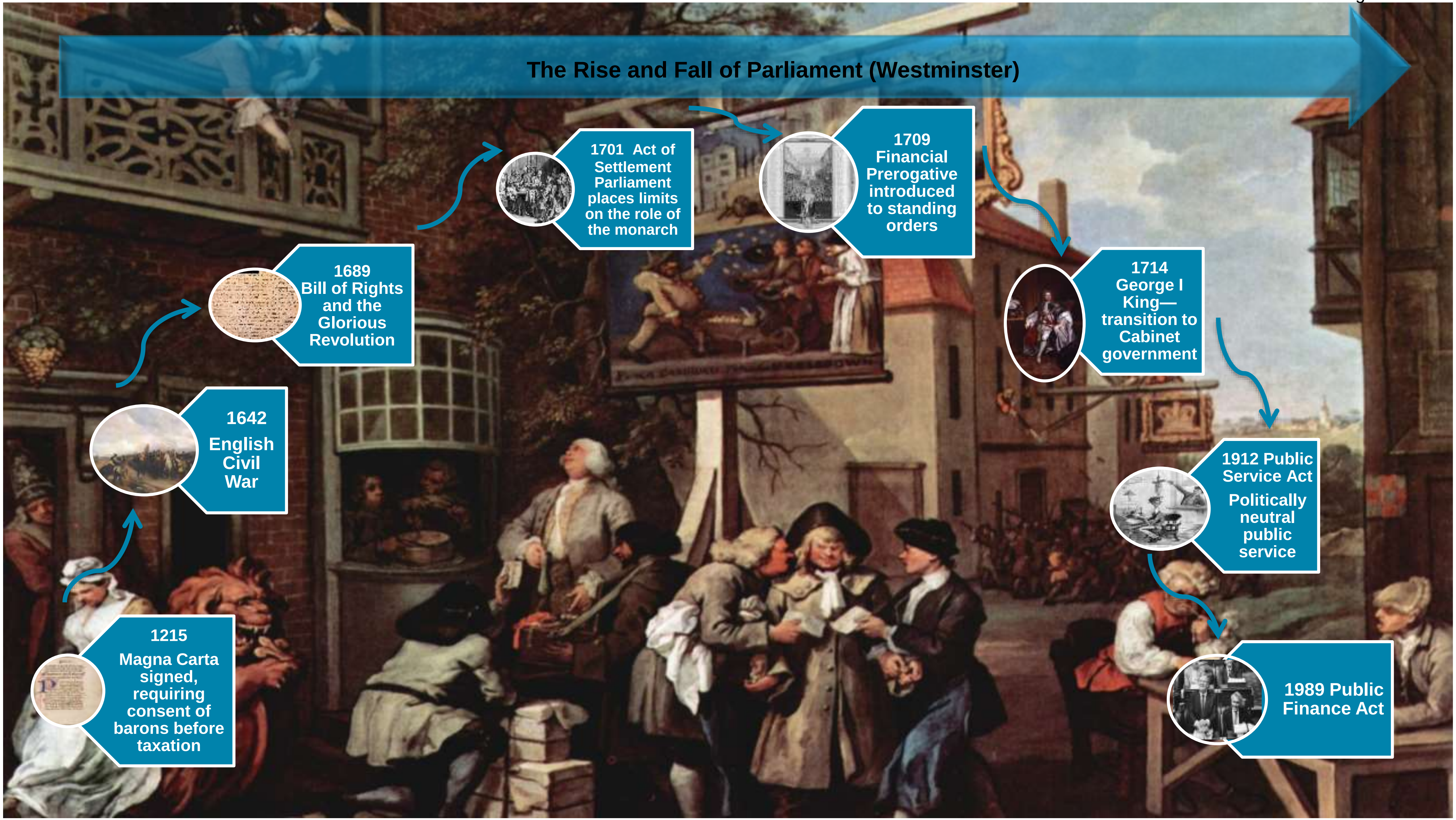
Magna Carta (1215)




The Rise and Fall of Parliament (Westminster)
1215 Magna Carta signed, requiring consent of barons before taxation
1642 English Civil War
1689 Bill of Rights and the Glorious Revolution
1701 Act of Settlement Parliament places limits on the role of the monarch
1709 Financial Prerogative introduced to standing orders
1714 George I King— transition to Cabinet government
1912 Public Service Act
Politically neutral public service
1989 Public Finance Act

Sir Geoffrey Palmer, Deputy PM 1984-88, PM 1989

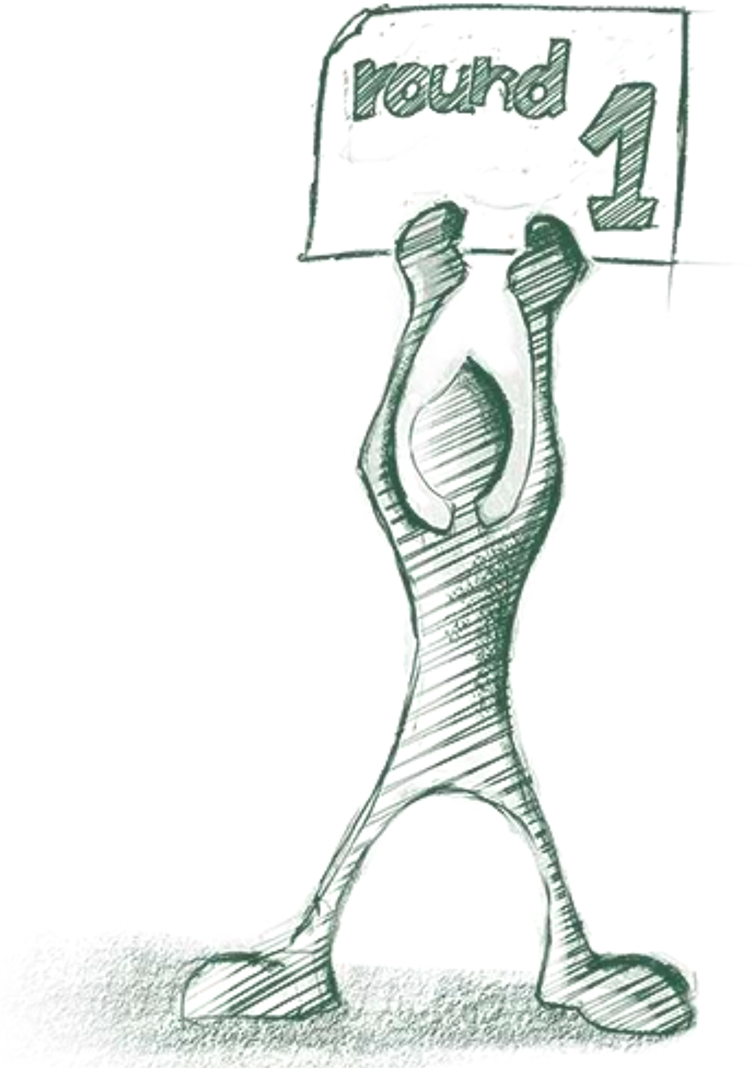
“I shall never forget the experience of being a new Minister of a reformist Government in 1984 when we were confronted with a whole range of economic problems which demonstrated the Government was not really in command of the public policy of the country at all.

Expenditure was driven by forces beyond the Government’s control. We were elected to be the Government. We thought we should be.

We set about bringing about the conditions that allowed us to control the levers of Government expenditure and the priorities.

The feeling I have just described had a great deal more to do with the reforms engaged in by the Fourth Labour Government than people have been prepared to admit.

The State-Owned Enterprises Act 1986, the Public Finance Act 1989 and the State Sector Act 1988 were all driven by that imperative.”


round 1

Questions

Which of the following is NOT an aim of the State Sector Financial Management System?

A. Encourage a responsive, prudent, efficient and effective state sector

B. Focus spending on outputs sought by the Government

C. Promote informed decision-making and accountability

Answer: B

The PFA works with which 4 other pieces of legislation to govern the use of public financial resources?

Answer:

Public Service Act

Crown Entities Act

State-Owned Enterprises Act

Public Audit Act

Where would you look for information about the minimum financial and non-financial reporting obligations of Ministers and departments?

Answer: The Public Finance Act

KiwiRail, NZ Post and Airways New Zealand are all examples of what type of organisation?

Answer: State-owned enterprises

Which of these is NOT a function of the Controller and Auditor General?

A. Examination of government spending to ensure it is lawful and has been properly authorised

B. Provide non-mandatory advice on auditing procedures in government agencies

C. Mandatory audits of the financial reports of state sector agencies

Answer: B

Who manages the Public Debt?

Answer: The Treasury
(Capital Markets, previously Debt Management Office - DMO)

The Public Finance Act provides a core legislative framework within which the Government can do what with public money?

Answer: Borrow and spend public money

The Public Finance Act exists to govern the use of public financial resources. Describe two notable benefits of the PFA legislation:

Answer:

- Provide a framework for parliamentary authorisation and scrutiny of the Government’s expenditure proposals and management of the Government’s assets and liabilities
- Establish lines of responsibility for effective and efficient management and use of public financial resources
- Specify the principles of responsible fiscal management in the conduct of fiscal policy, and require regular reporting on the extent to which the Government’s fiscal policy is consistent with those principles
- Specify the minimum financial and non-financial reporting obligations of Ministers, departments, Offices of Parliament and certain other agencies
- Provide for the application of financial management incentives and for the accountability of specified central government organisations
- Safeguard public assets by providing statutory authority and control for the borrowing of money, issuing of securities, use of derivative transactions, Investment of funds, operation of bank accounts and giving of guarantees and indemnities.

ROUND 2™

Is the NZ Lotteries Commission an SOE or Crown Entity?

Answer: Crown entity

It wasn’t until after Magna Carta that the convention arose that the monarch would consult who/what before raising taxes?

Answer: Parliament

Name the current Controller & Auditor-General

Answer: John Ryan

Which monarch lost his head for going against Parliament?

Answer: Charles 1

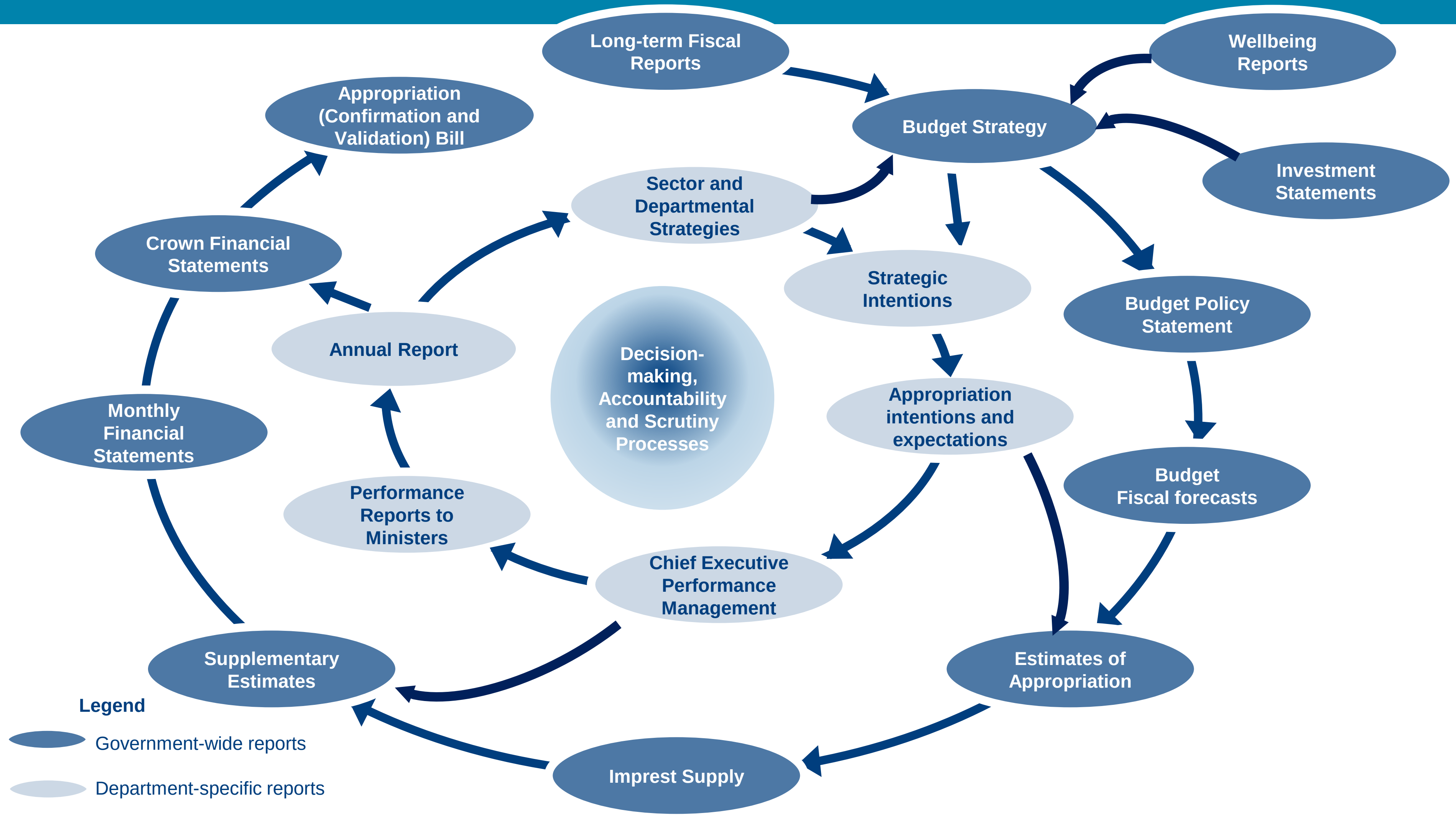
Who is the Minister of Finance, and the Associate Ministers of Finance in the current government?

Answer:

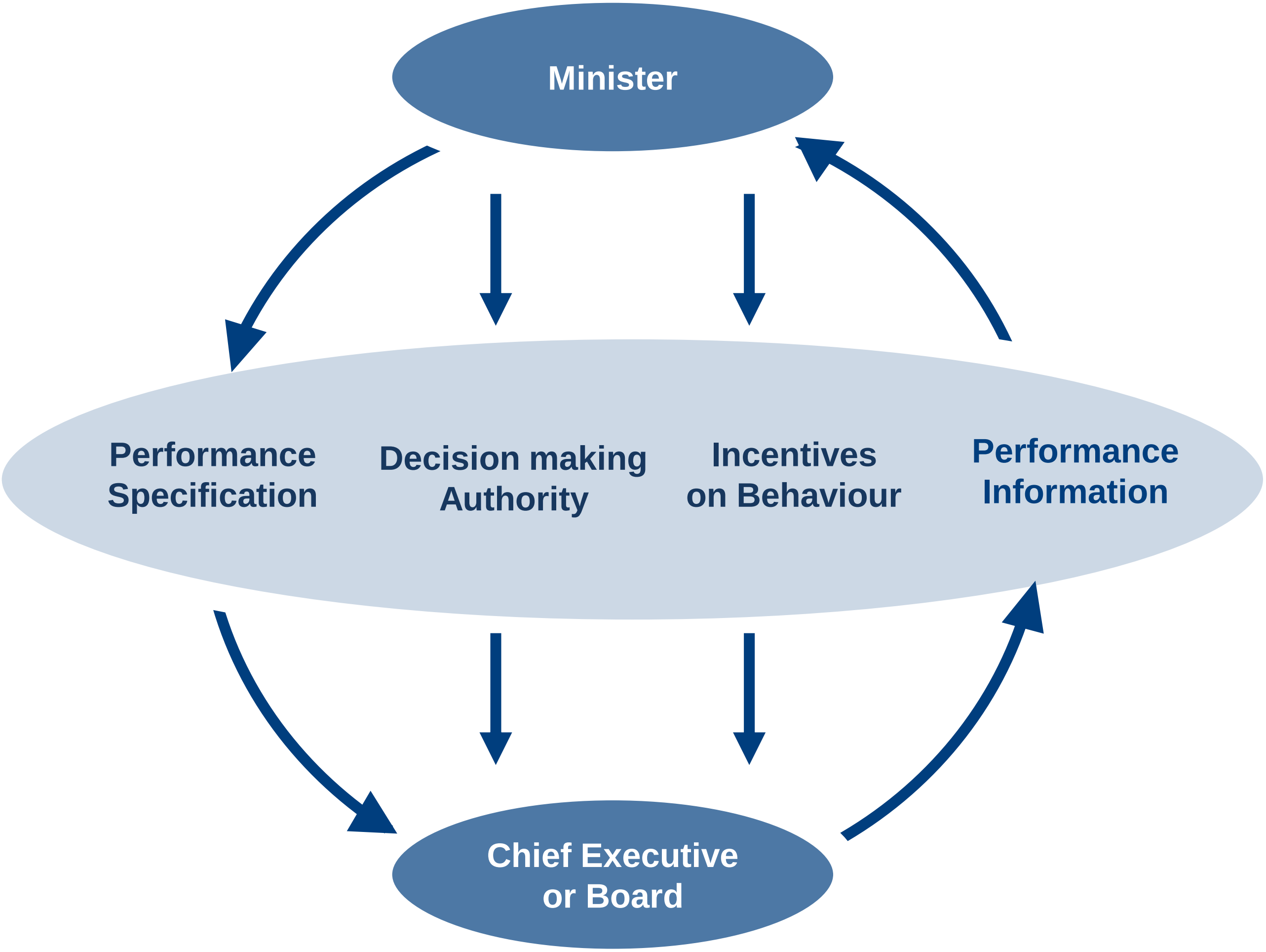
Minister of Finance:	Grant Robertson
Associate Ministers of Finance:	Dr Megan Woods David Parker, Kiri Allen

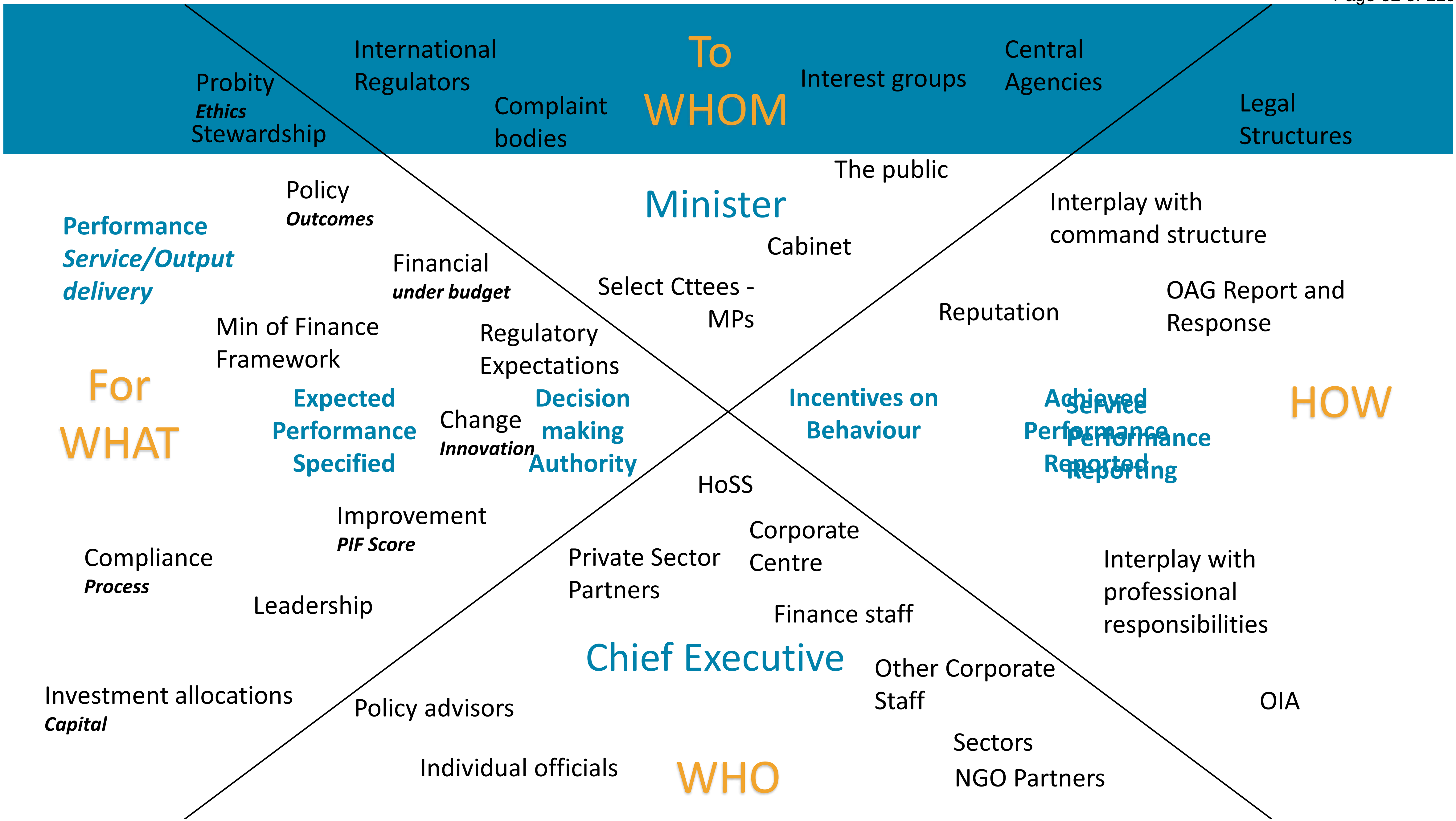
The period in which departments have to present their SOI to Parliament has recently been changed to ‘at least once in every 3-year period’. Under which Act is this requirement stipulated?

Answer: The Public Finance Act

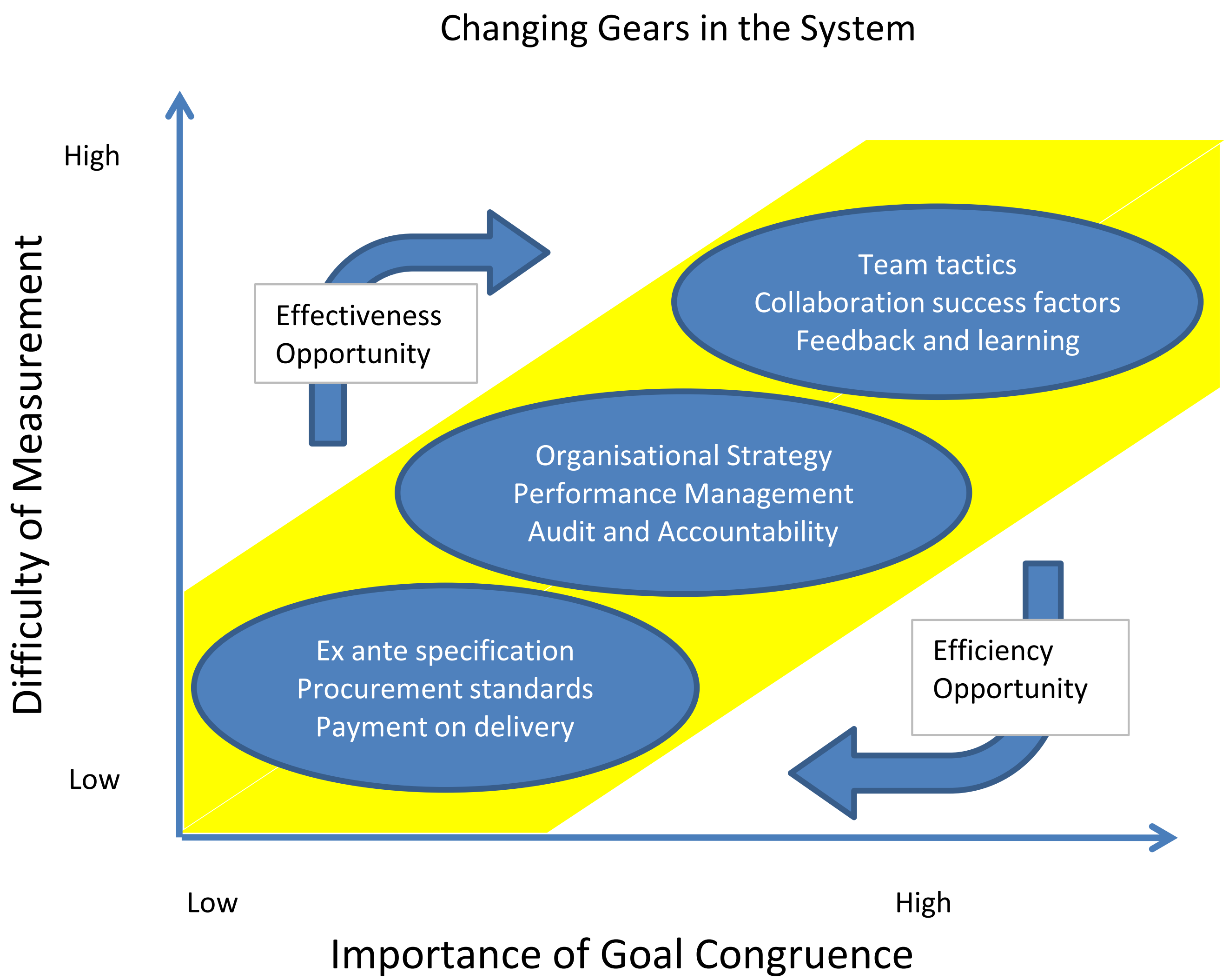

Long-term Fiscal Reports
Wellbeing Reports
Appropriation (Confirmation and Validation) Bill
Budget Strategy
Investment Statements
Sector and Departmental Strategies
Crown Financial Statements
Strategic Intentions
Budget Policy Statement
Annual Report
Decision-making, Accountability and Scrutiny Processes
Appropriation intentions and expectations
Monthly Financial Statements
Budget Fiscal forecasts
Performance Reports to Ministers
Chief Executive Performance Management
Supplementary Estimates
Estimates of Appropriation
Legend
Government-wide reports
Department-specific reports
Imprest Supply

Performance Based Accountability Framework




To WHOM
Probity
Ethics
Stewardship
International Regulators
Complaint bodies
Interest groups
Central Agencies
Legal Structures
The public
Minister
Cabinet
Select Cttees - MPs
Policy
Outcomes
Performance
Service/Output delivery
Financial
under budget
Min of Finance Framework
Regulatory Expectations
For WHAT
Expected Performance Specified
Change
Innovation
Decision making Authority
Interplay with command structure
OAG Report and Response
Reputation
Incentives on Behaviour
Achieved Performance Reported
Service Performance Reporting
HOW
HoSS
Improvement
PIF Score
Compliance
Process
Leadership
Private Sector Partners
Corporate Centre
Finance staff
Interplay with professional responsibilities
Chief Executive
Other Corporate Staff
Investment allocations
Capital
Policy advisors
OIA
Sectors
NGO Partners
Individual officials
WHO

Success: But 2020's problems replacing 1980's problems



Accrual Accounting and GAAP

- Applicable Accounting Standards and Authoritative Support

- When to recognise: an asset, liability, revenue and expense
- How to measure: an asset, liability, revenue and expense
- What to present on: an asset, liability, revenue and expense

Appropriations

- Parliamentary Authority:

- Key Characteristics:
  - Scope
  - Timing
  - Amount
  - Type

The Public Finance Act

- Part 1: Appropriation
- Part 2: Fiscal Responsibility
- Parts 3 - 5: Reporting by Governments and Departments
- Part 6: Loans and Securities
- Part 7: Trust Money
- Part 8: General Provisions

Inputs, outputs and outcomes

Ministers purchase outputs under appropriations from Parliament

Inputs

Resources such as capital, personnel, accommodation, equipment, information and time used to produce goods and services

Outputs

Outputs may include the supply of policy advice, enforcement of regulations, provision of services eg, health & education, negotiation & management of contracts, and administration of benefits

Outcomes

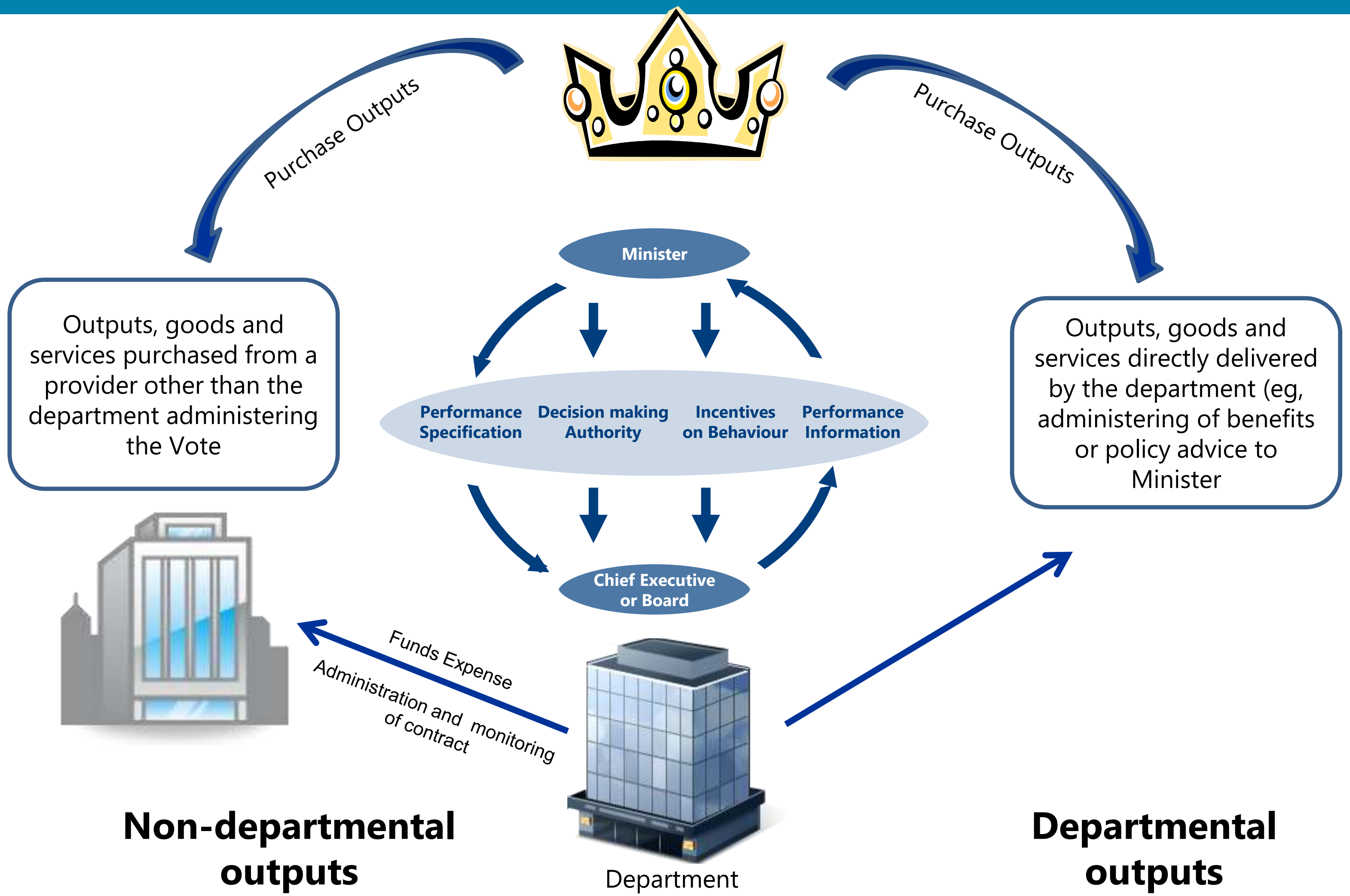
Outcome differ by sector. They may include economic growth, freedom of choice, increased life and heath expectancy and reduced road tolls and crime rates

Value for Money for money

Inputs **Outputs**

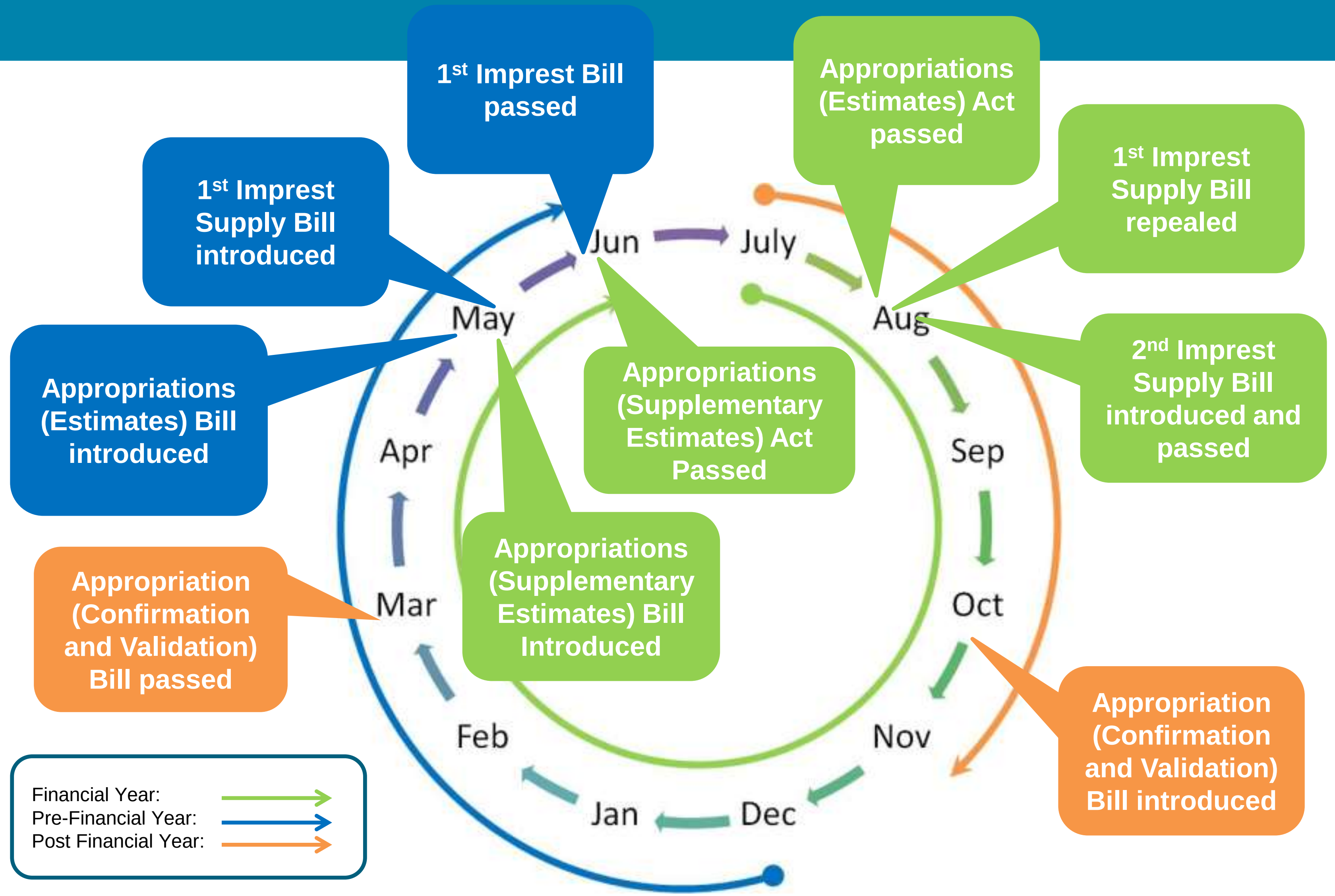
Cost-effectiveness **Outcomes**

Value for Money


Purchase Outputs
Purchase Outputs
Minister
Performance Specification
Decision making Authority
Incentives on Behaviour
Performance Information
Chief Executive or Board
Outputs, goods and services purchased from a provider other than the department administering the Vote
Outputs, goods and services directly delivered by the department (eg, administering of benefits or policy advice to Minister
Funds Expense
Administration and monitoring of contract
Department
Non-departmental outputs
Departmental outputs

Departmental / Non-departmental?

Criteria	Departmental	Non-departmental
Control		
Conditions	**Department** has the ability to set conditions for the utilisation of an asset, or the performance expected for the expense	**Ministers** set conditions for utilisation of an asset, or the performance expected for the expense
Timing	**Department** is able to determine when an asset is to be used, when an expense will be incurred	**Ministers** decide when an asset is to be used, when an expense will be incurred
Amount	**Department** may negotiate value in exchange	**Ministers** negotiate values in exchange
Used in the production of outputs		
Purpose	**Department** has the ability to determine the purpose to which an asset is applied, or the reason a cost is incurred	**Ministers** decide the purpose to which an asset is applied, or the reason a cost is incurred
Beneficiary	**Department** is the beneficiary of the asset utilisation, or the fulfilment of the obligation	Department is **not** the beneficiary of the asset utilisation, or the fulfilment of the obligation


1st Impress Bill passed
Appropriations (Estimates) Act passed
1st Imprest Supply Bill repealed
1st Imprest Supply Bill introduced
Appropriations (Estimates) Bill introduced
Appropriations (Supplementary Estimates) Act Passed
2nd Imprest Supply Bill introduced and passed
Appropriation (Confirmation and Validation) Bill passed
Appropriations (Supplementary Estimates) Bill Introduced
Appropriation (Confirmation and Validation) Bill introduced
Jun
July
May
Aug
Apr
Sep
Mar
Oct
Feb
Nov
Jan
Dec
Financial Year:
Pre-Financial Year:
Post Financial Year:

Conclusion

By now you should:

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NEW ZEALAND
EXPORT CREDIT

New Zealand Export Credit

Helping New Zealand exporters grow and manage risk

What does NZEC do?

Help Exporters and their Supply Chain to:

Manage Payment Risk

Access Finance from banks

Secure Sales

Insurance	Guarantee
Trade Credit Insurance	General Contract Bond Guarantee
Export Credit Guarantee	Loan Guarantee

“Complement not Compete”

Exports supported to date

Exports to **112** countries supported

241 exporters supported

1087 policies issued

NZD **4.47 billion** of trade supported

NZD 2 billion of exposure underwritten

NZEC Solutions - Guarantees

Contract Bond Guarantee

The Challenge: Manco was awarded a significant contract in Sydney, which requires sizeable bond

The Solution: New Zealand Export Credit used its General Contract Bond Guarantee to support Manco's bank, BNZ. With NZEC's offer to share the risk, BNZ was comfortable to provide the bonds Manco needed to secure the contract.

The Benefit: Being a key contractor on Australia's largest public transport infrastructure project has brought unprecedented attention to Manco, directly leading to further substantial contracts across Australia.

Loan Guarantee

The Challenge: Finding additional finance to produce and internationally launch a product upgrade.

The Solution: New Zealand Export Credit (NZEC) provided its Loan Guarantee to BNZ to secure 50% of the required funding

The Benefit: Syrp was able to fund its manufacturing and delivery cost to meet the demand of Genie II, which resulted in strong sales and a swiftly repaid loan

NZEC Solutions - Insurances

Trade Credit Insurance

The challenge: How to finance six-months of manufacturing costs after securing a significant US contract.

The Solution: New Zealand Export Credit's short-term trade credit insurance underwrote the US buyer's repayment obligations.

The Benefit: This insurance policy was assigned to Chitogel's bank, which supported working capital to fund their first US order.

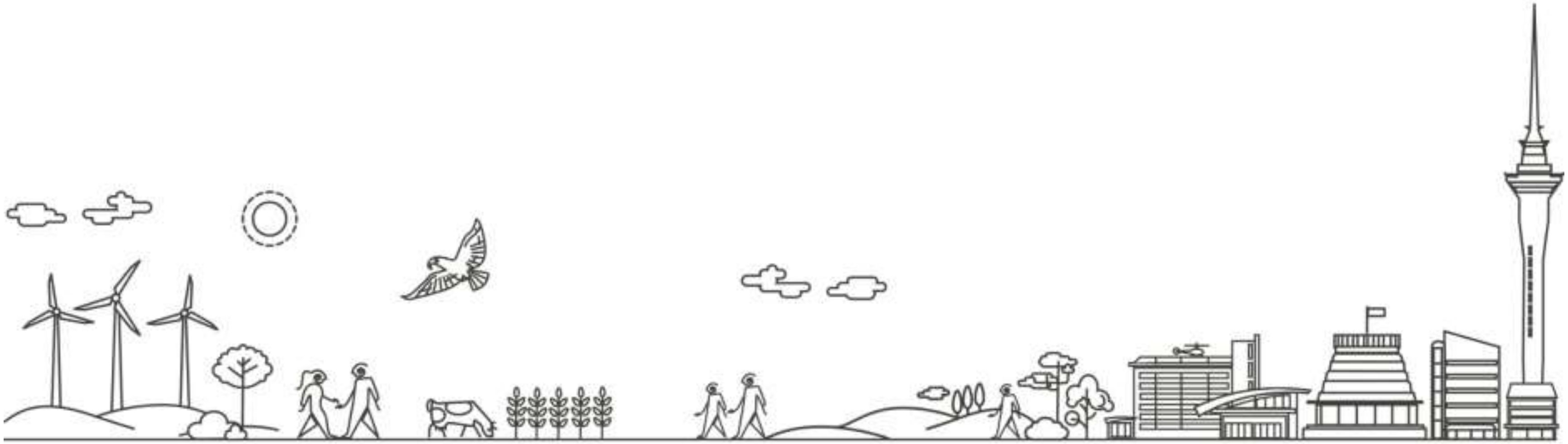
Letter of Credit

The challenge: Repayment risk for bespoke builds in new and difficult markets.

The solution: NZEC guaranteed payment of a letter of credit issued by the international buyer's bank.

The benefit: NZEC's guarantee helped Fabrum Solutions deliver the cryocoolers and receive payment.

Questions?



Fiscal Policies for Climate Mitigation

NEW ZEALAND (VARIOUS VENUES), SEPTEMBER 2023

Ian Parry
Fiscal Affairs Department, IMF

Contents

- Global Picture
- Mitigation: Instruments
- Mitigation: Impacts
- Issues for New Zealand

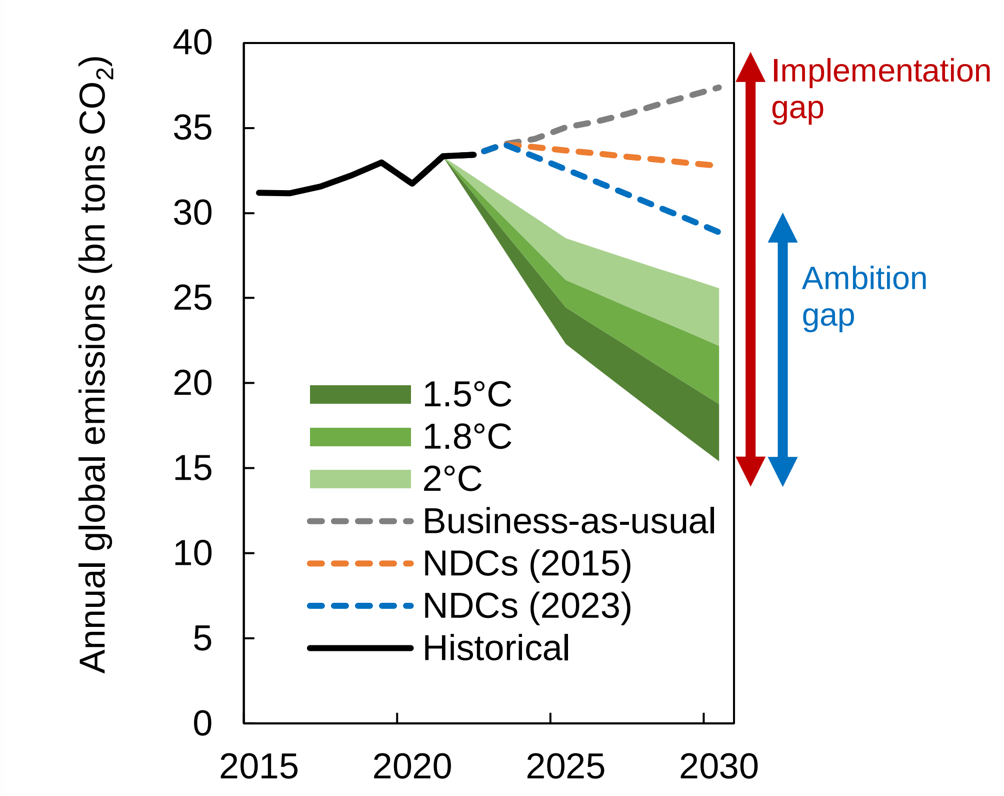
Global Picture

Urgent Action is Needed to Get on Track with Temperature Goals

- 1.5-2°C target requires global emissions reductions 25-50% below 2019 by 2030 but
  - *Ambition gap*: pledges in Nationally Determined Contributions (NDCs) only cut emissions 12%
  - *Implementation gap*: emissions increase without new policies

- Paris by itself will not deliver needed reductions
  - *Ambition*: Too many parties (165+EU) and parameters (one pledge per party)
  - *Unilateral policies*: competitiveness, uncertainty about others' actions

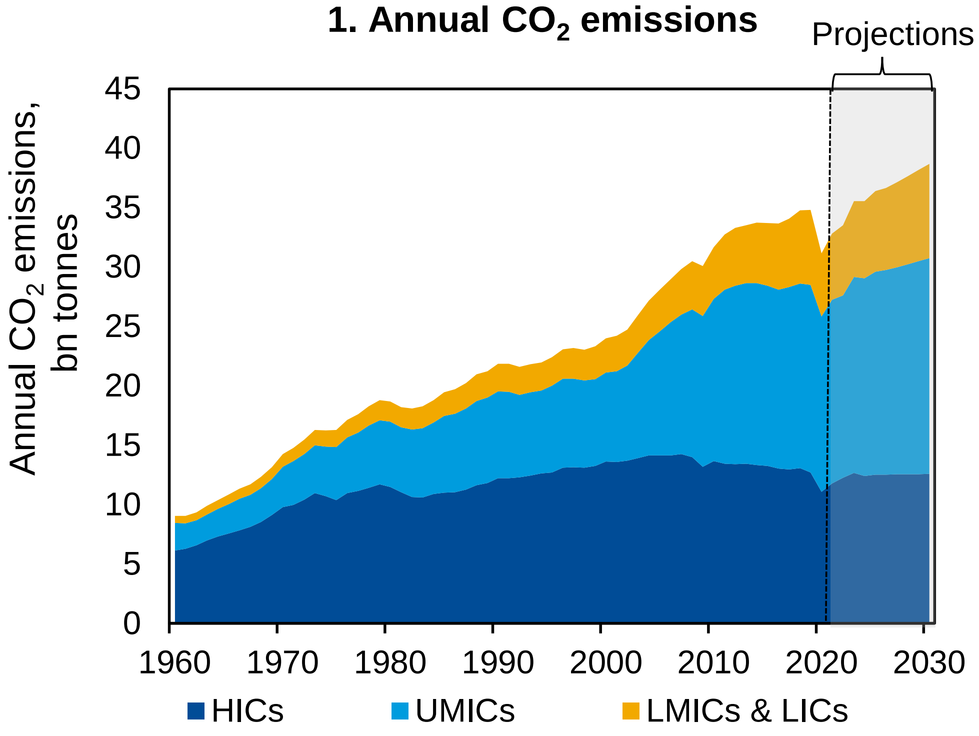
Global CO_2 Projections and Pathways for Warming Targets

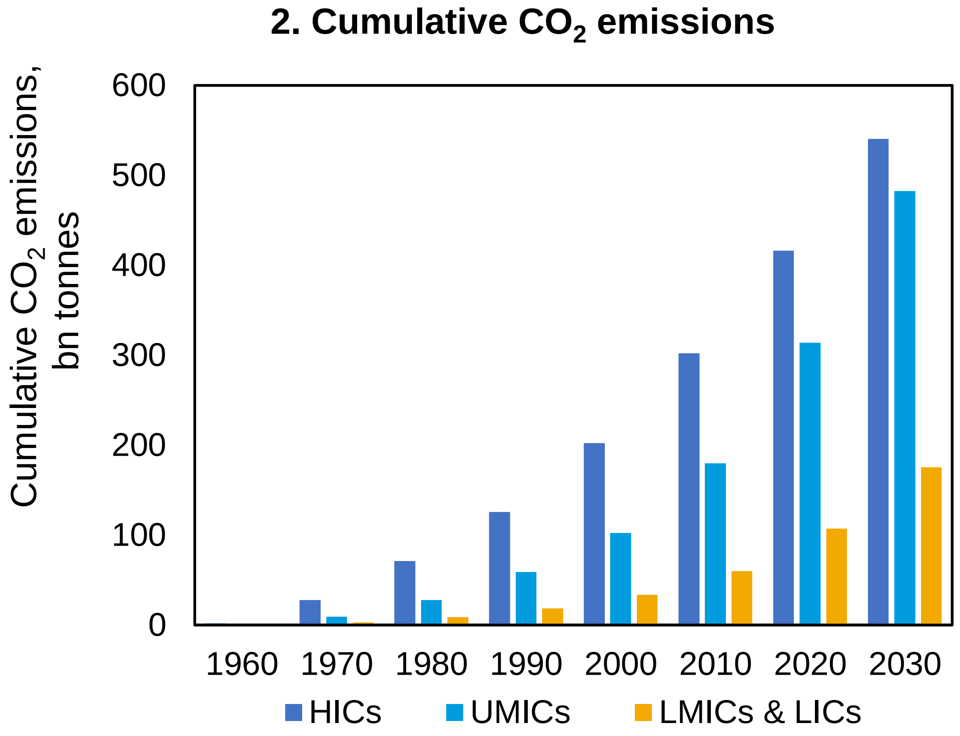


Source. IMF staff using CPAT model.

High-Income Countries Cannot Achieve it Alone

Historical and Projected Baseline Annual and Cumulative CO_2 Emissions for High-, Middle, and Low-Income Countries, 1960-2030



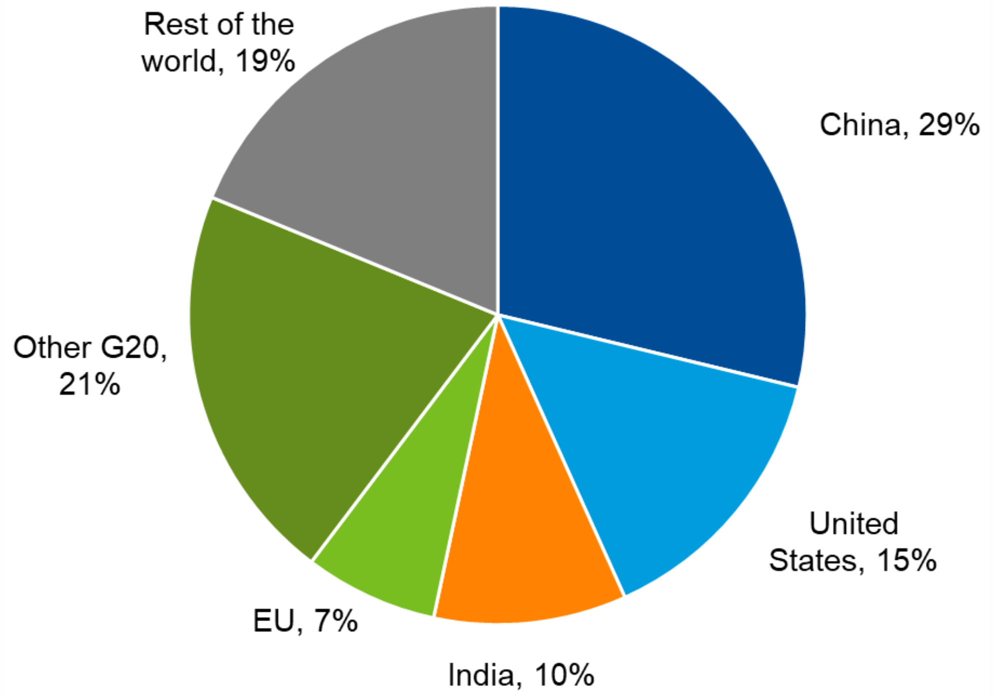


Source: IMF staff using CPAT model.

Reinforcing Paris Agreement with International Carbon Price Floor

- Focus on large emitters
  - e.g., China, EU, India, US, other G20
- Focus on minimum carbon price
  - Efficient, easily understood parameter
  - Addresses competitiveness, policy uncertainty
- Address equity
  - differentiated floors/support for low-income countries
- Flexible
  - Allow other emissions equivalent policies
- $75/50/25 per tonne for high/middle/low-income countries in 2030 achieves 2°C
  - With six participants (Canada, China, EU, India, UK, US)
  - All G20 meet NDC or price floor

Projected Contributions to Global CO_2 Emissions in 2030 with Unchanged Policies



Source: IMF Staff using CPAT.
Note: Data uses fossil CO2 emissions from energy-related processes, excluding international aviation and maritime.

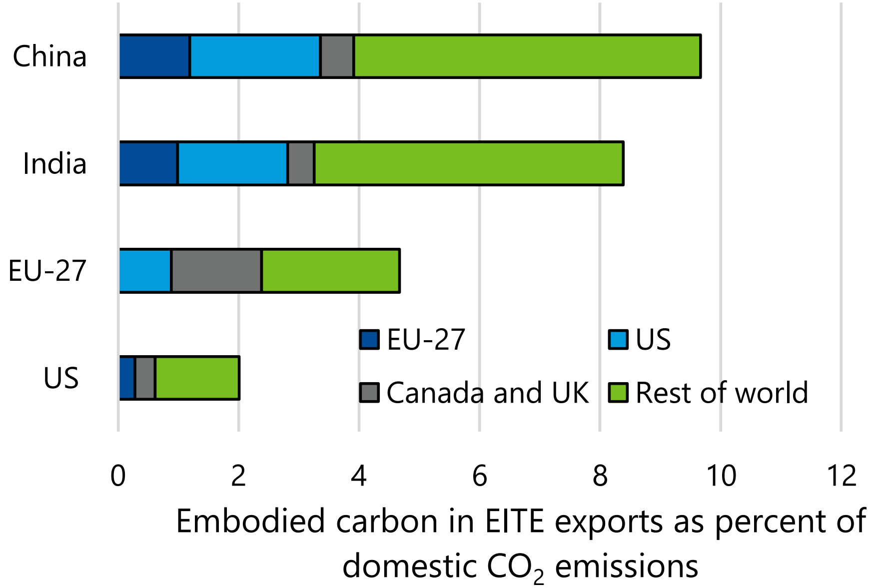
Price Floor vs. other International Regimes

- Pure carbon price—cost effective but
  - Limits scope to address international equity
  - Precludes countries where pricing is difficult

- Global carbon markets
  - Must accommodate large emitters without ETSs
  - Address equity
  - Concrete trajectory of caps aligned to temperature goals

- Border carbon adjustments
  - Small fraction of emissions in traded products

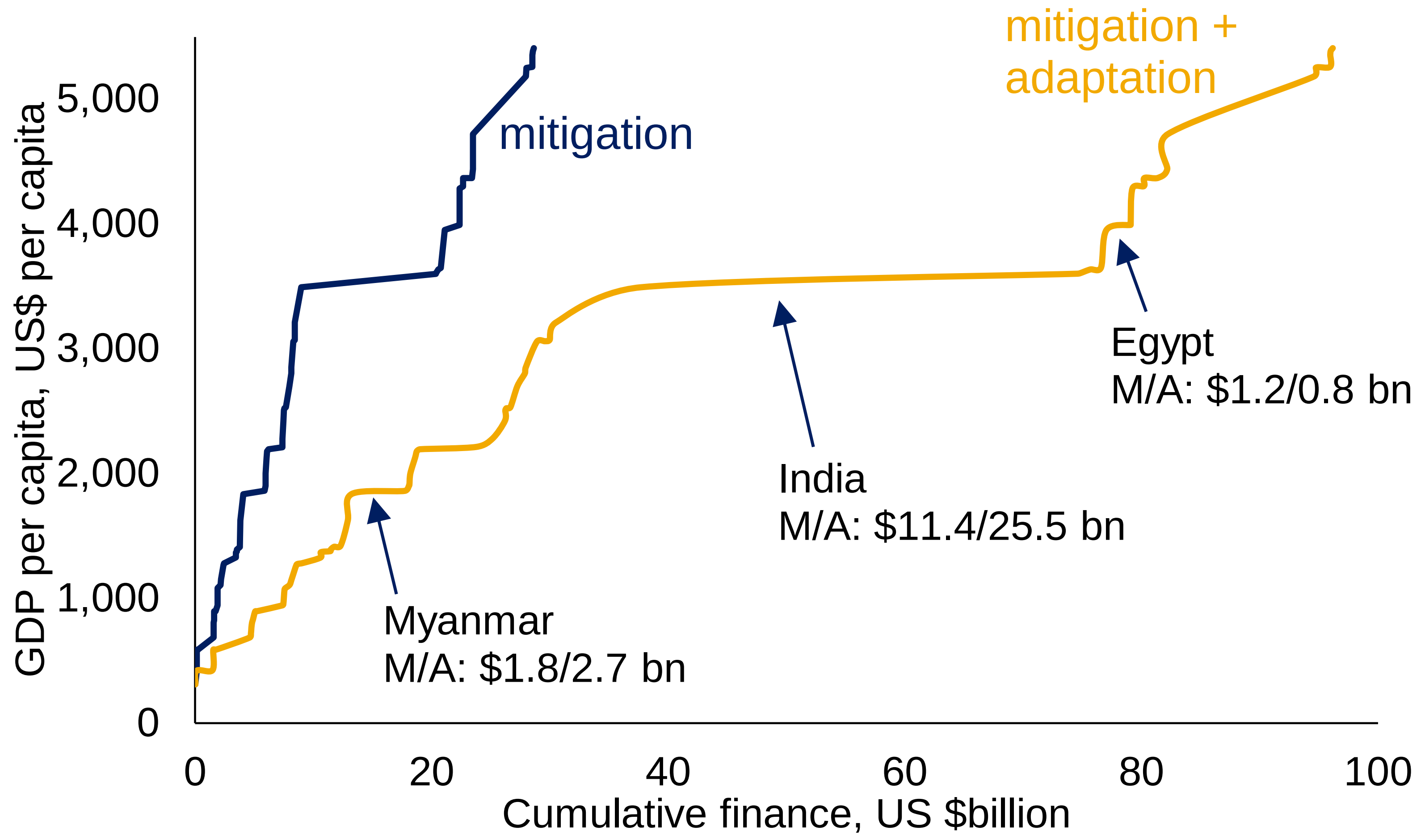
Fraction of Domestic Carbon Emissions Embodied in EITE Exports to Trading Partners, 2015



Source: OECD (2021). EITE = energy-intensive, trade-exposed.

Climate Finance Needs

To Fully Compensate Low-Income Countries for CO_2 Abatement Costs for 2°C Scenario and Adaptation Needs, 2030



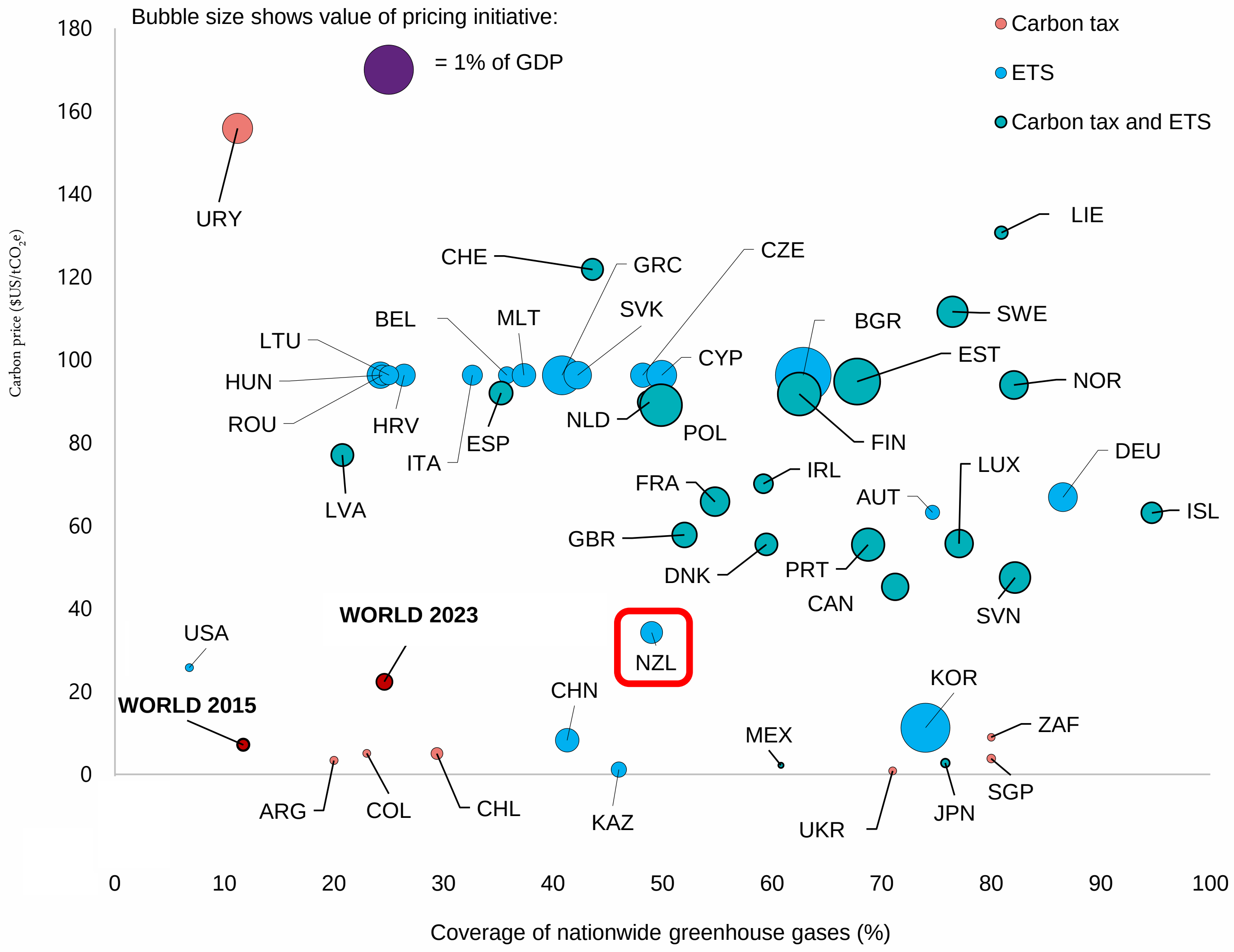
Sources: IMF staff using CPAT, Aligishiev, Massetti, and Bellon (2022).

Source: IMF Staff, OECD.

Mitigation Instruments

Carbon Pricing should be the Centerpiece and is Proliferating

Explicit carbon pricing schemes (2022, national subnational and regional)



ETS under consideration:
- Malaysia
- Vietnam
- Thailand
- Philippines

Carbon tax under consideration:
- Botswana
- Senegal

Sources: WBG (2022); IMF Staff; National sources

Summary Comparison of Carbon Taxes and ETSs

Design issue	Instrument	
	Carbon tax	**ETS**
Administration	Administration is more straightforward (for example, as extension of fuel taxes)	May not be practical for capacity constrained countries
Uncertainty: price	Price certainty can promote clean technology innovation and adoption	Price volatility can be problematic; price floors, and cap adjustments can limit price volatility
Uncertainty: emissions	Emissions uncertain but tax rate can be periodically adjusted	Certainty over emissions levels
Revenue: efficiency	Revenue usually accrues to finance ministry for general purposes (for example, cutting other taxes, general investment)	Free permit allocation may help with acceptability but lowers revenue; tendency for auctioned revenues to be earmarked
Revenue: distribution	Revenues can be recycled to make overall policy distribution neutral or progressive	Free allowance allocation or earmarking may limit opportunity for desirable distributional outcomes
Political economy	Can be politically challenging to implement new taxes; use of revenues and communications critical	Can be more politically acceptable than taxes, especially under free allocation
Competitiveness	Border carbon adjustment more robust than other measures (for example, threshold exemptions, output-based rebates)	Free allowances effective at modest abatement level; border adjustments (especially export rebate) subject to greater legal uncertainty
Price level and emissions alignment	Need to be estimated and adjusted periodically to align with emissions goals	Alignment of prices with targets is automatic if emissions caps consistent with mitigation goals
Compatibility with other instruments	Compatible with overlapping instruments (emissions decrease more with more policies)	Overlapping instruments reduce emissions price without affecting emissions though caps can be set or adjusted accordingly
Pricing broader GHGs	Amenable to tax or proxy taxes building off business tax regimes; feebate variants are sometimes appropriate (for example, forestry,	Less amenable to ETS; incorporating other sectors through offsets may increase emissions and is not cost effective
Global coordination regimes	Most natural instrument for international carbon price floor	Can comply with international price floor; mutually advantageous trades from linking ETSs but does not meet global emissions requirements

Reinforcing Sectoral Instruments

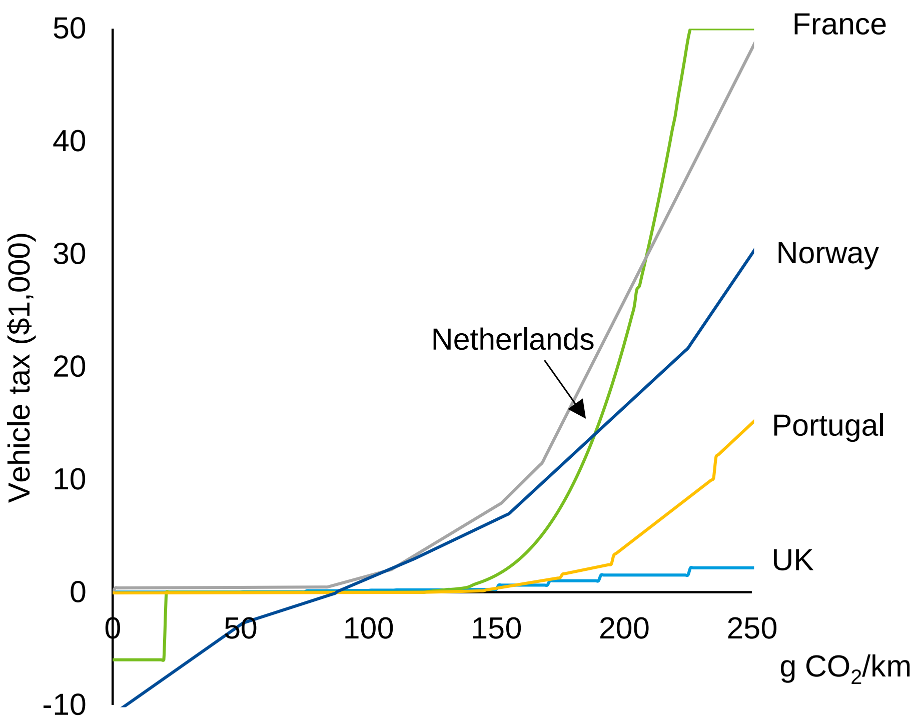
- Needed because of acceptability constraints on pricing

- Feebates (fiscal analog of regulations)
  - Revenue neutral sliding scale of fees/rebates for products/activities with >/< average CO_2 rates

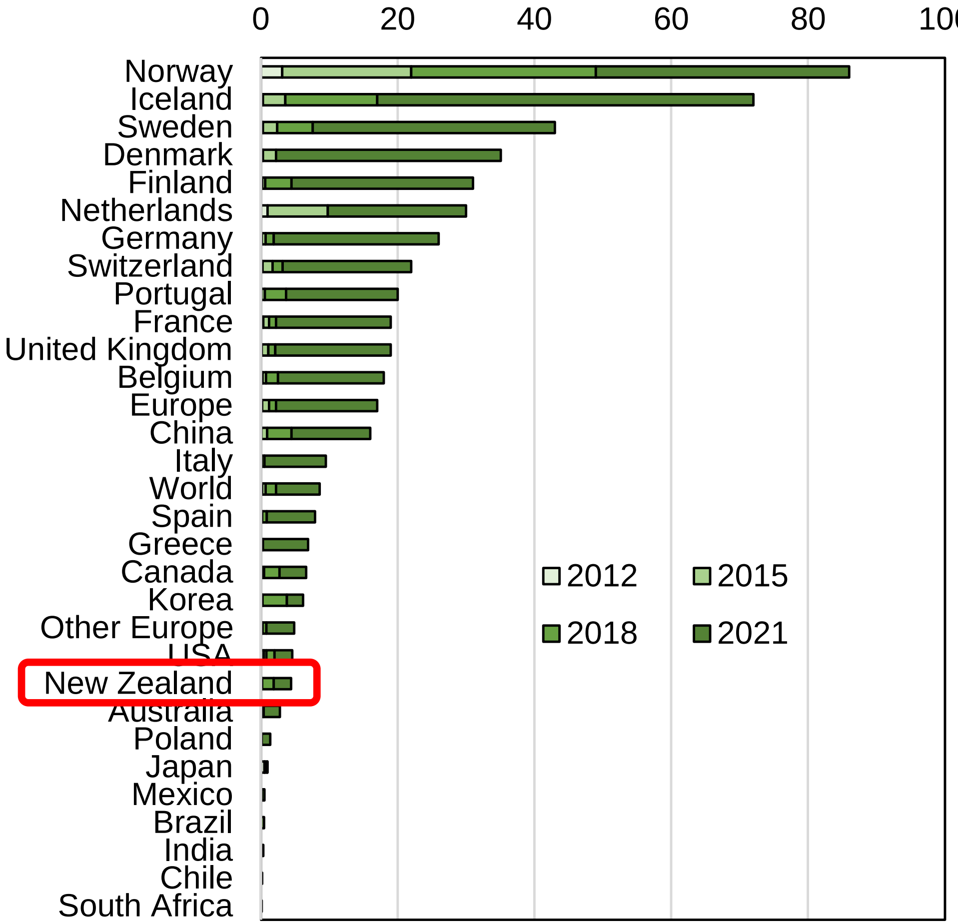
- Attractions
  - Promote all responses for reducing emissions intensity (though no demand response)
  - Cost effective (unlike emission regulations)
  - Avoid a fiscal cost (unlike subsidies)
  - No burden on average household/firm (unlike carbon pricing)

Example: Feebates in Vehicle Tax Systems

Feebates for New Vehicles, Selected Countries, 2021

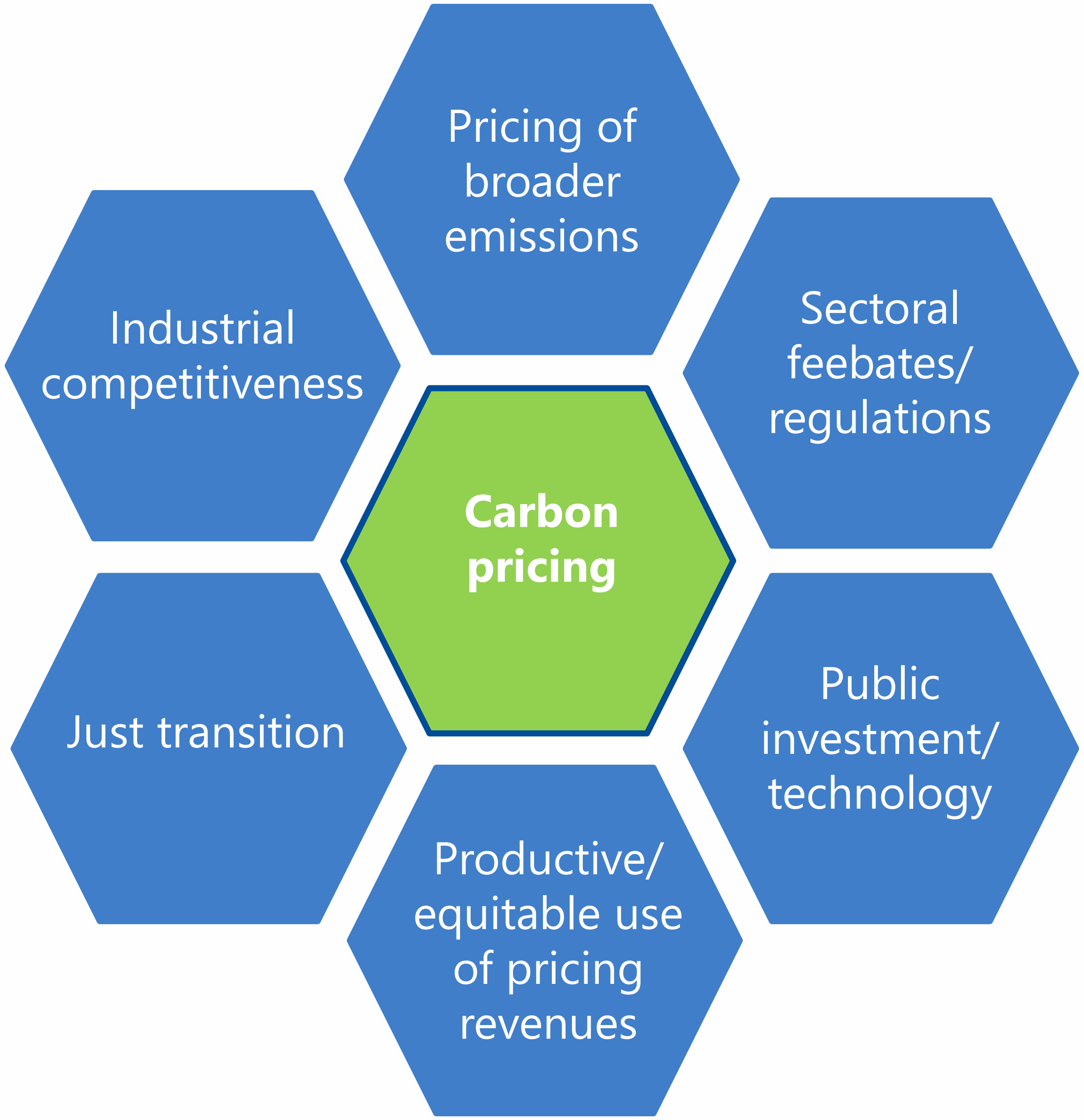


Share of Electric Vehicles in New Vehicles Sales



- Other potential applications of feebates
  - Power, industry, forestry, extractives, agriculture, international maritime/aviation

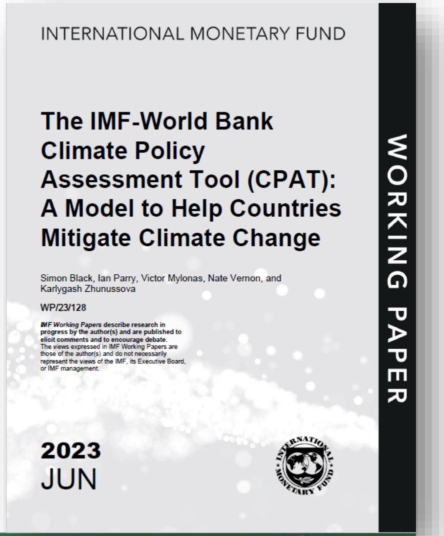
A Comprehensive Mitigation Strategy is Needed



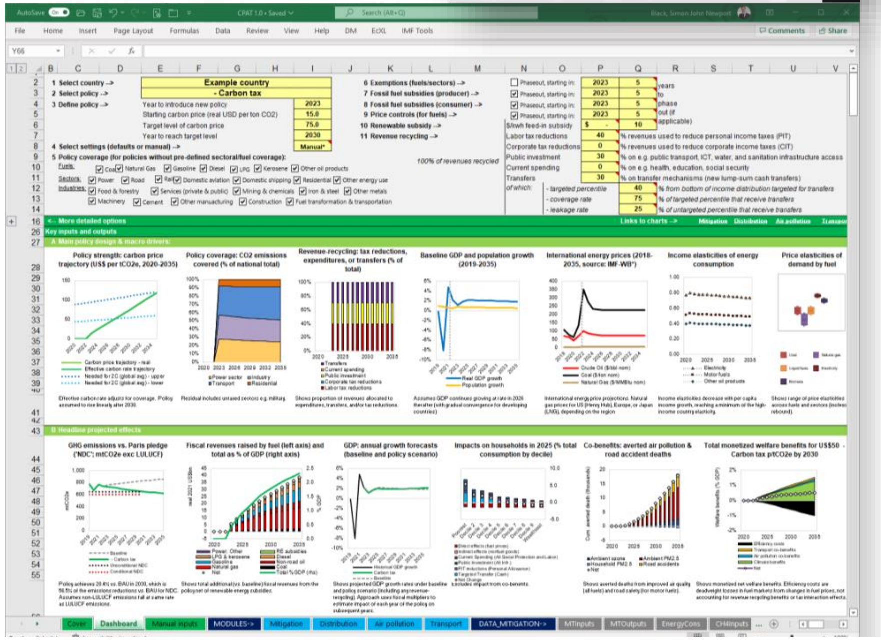
Impacts of Mitigation Policies

IMF-World Bank Climate Policy Assessment Tool (CPAT)

- Reduced form spreadsheet model covering 200 countries
  - Parameterized to mid-range of emissions projections/behavioral responses from energy modelling/econometric literature
- Policies
  - Carbon pricing, fuel taxes, efficiency/emissions standards, subsidies, feebates

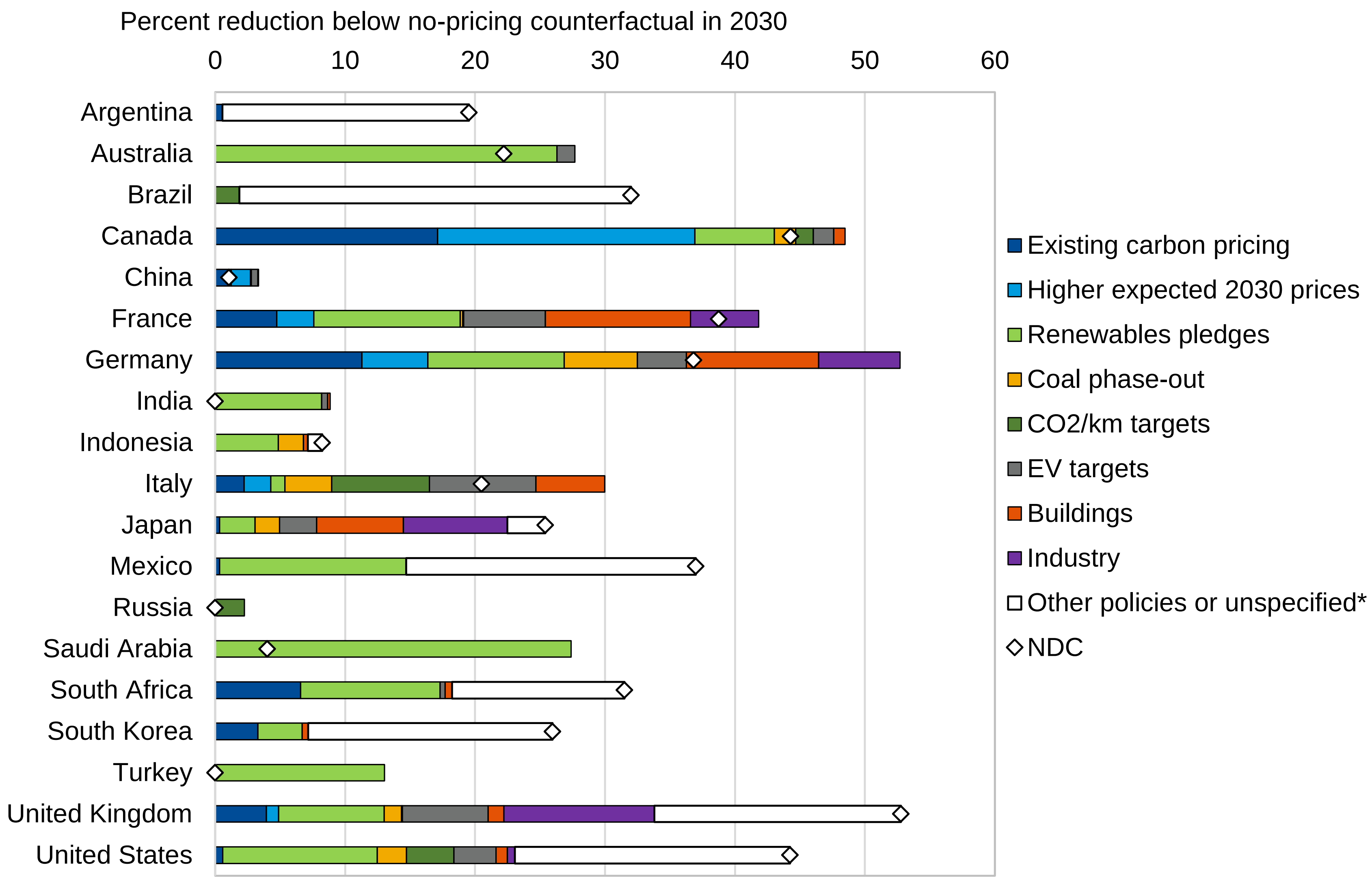


- Metrics
  - Emissions, energy system
  - Costs
  - Fiscal
  - Domestic environmental co-benefits—air pollution, road congestion/accidents
  - Distributional: households/firms



Emissions: Mitigation Efforts Vary in Levels/Policy Instruments

Combined effects of current policies and sectoral targets, G20 Countries

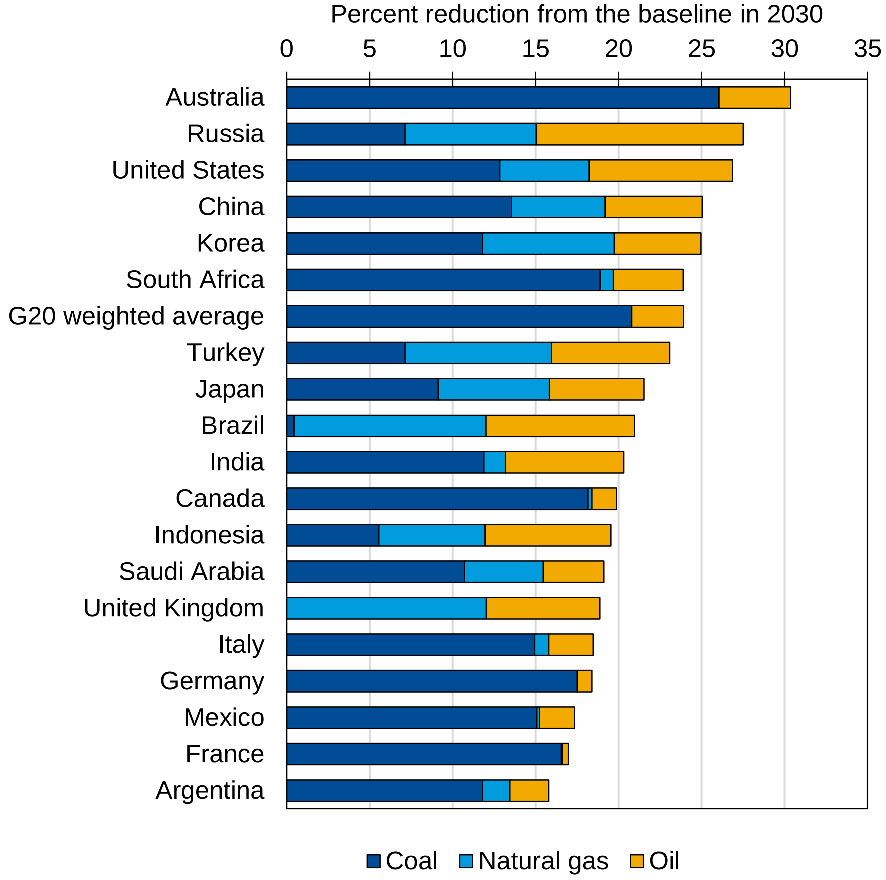


Source: IMF staff using CPAT. Note: *'Other policies or unspecified' includes policies not quantified in this exercise or not yet specified by the authorities.

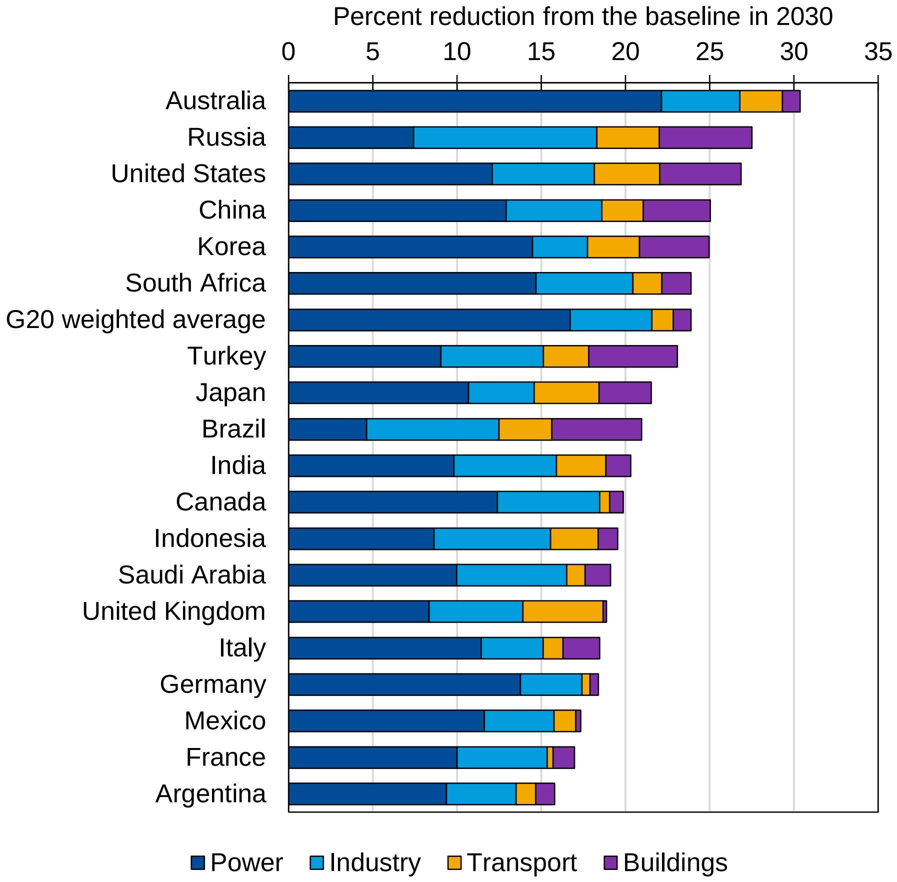
Energy System: Disproportionately Large Reductions from Coal or Power/Industry

CO_2 Reductions for $75/50/25 Carbon Prices (According to Development Level), G20 Countries

By Fuel

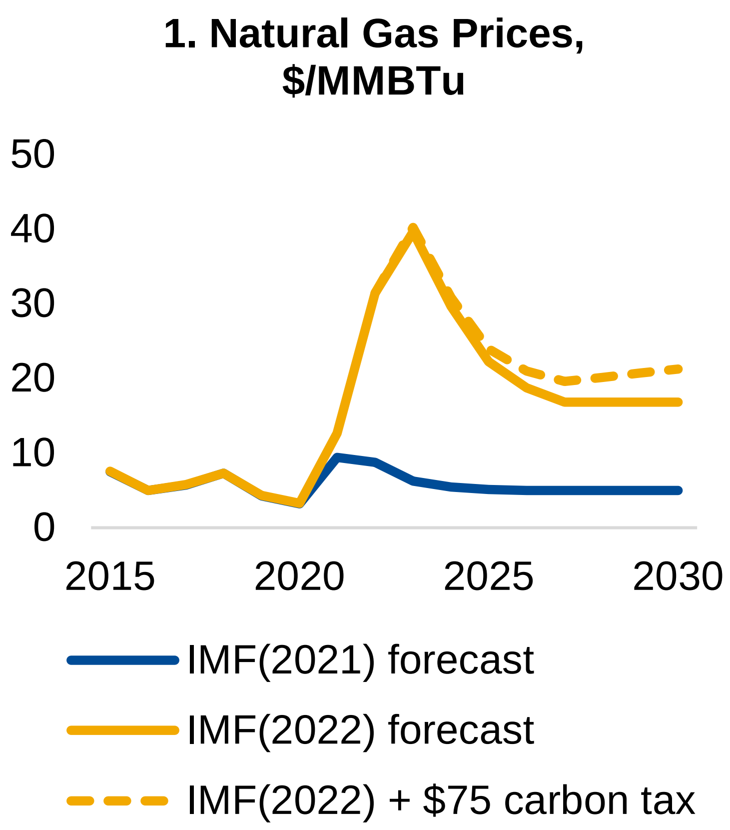


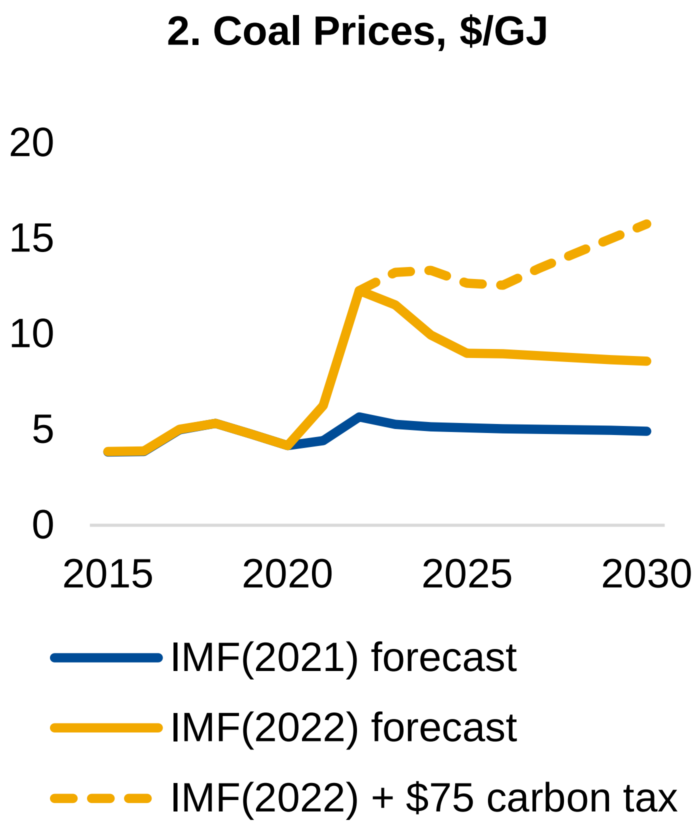
By Sector

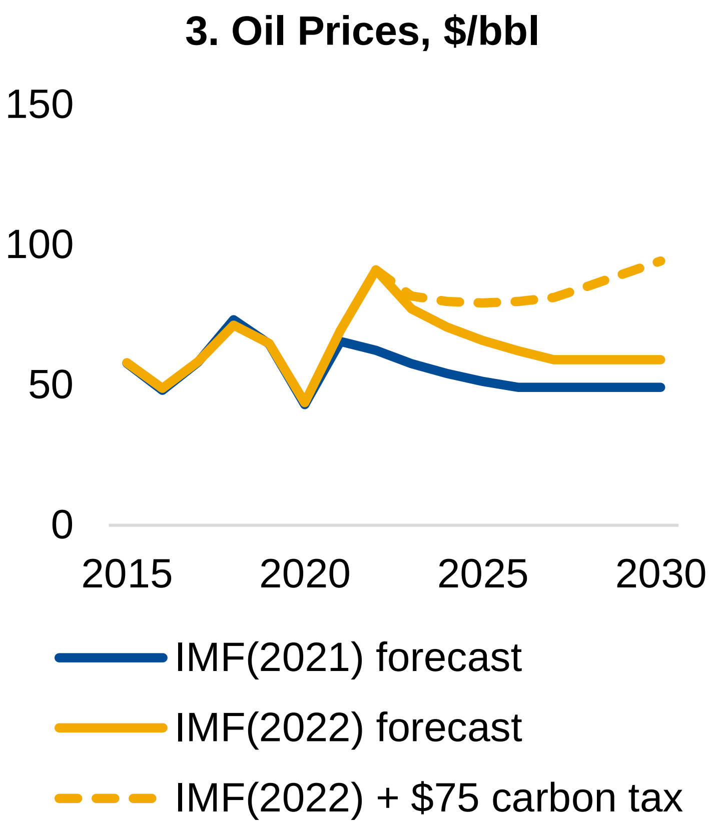


Source. IMF staff using CPAT.
Note. Estimates are for a $75/50/25 carbon price for advanced/high-income emerging/low-income economies. Right panel is for direct emissions. Buildings includes fossil fuel CO2 emissions from residences, services, agriculture, and forestry but emissions from industrial buildings are included under industry.

Energy Prices: Carbon Pricing can be Ramped up as Price Surge Recedes

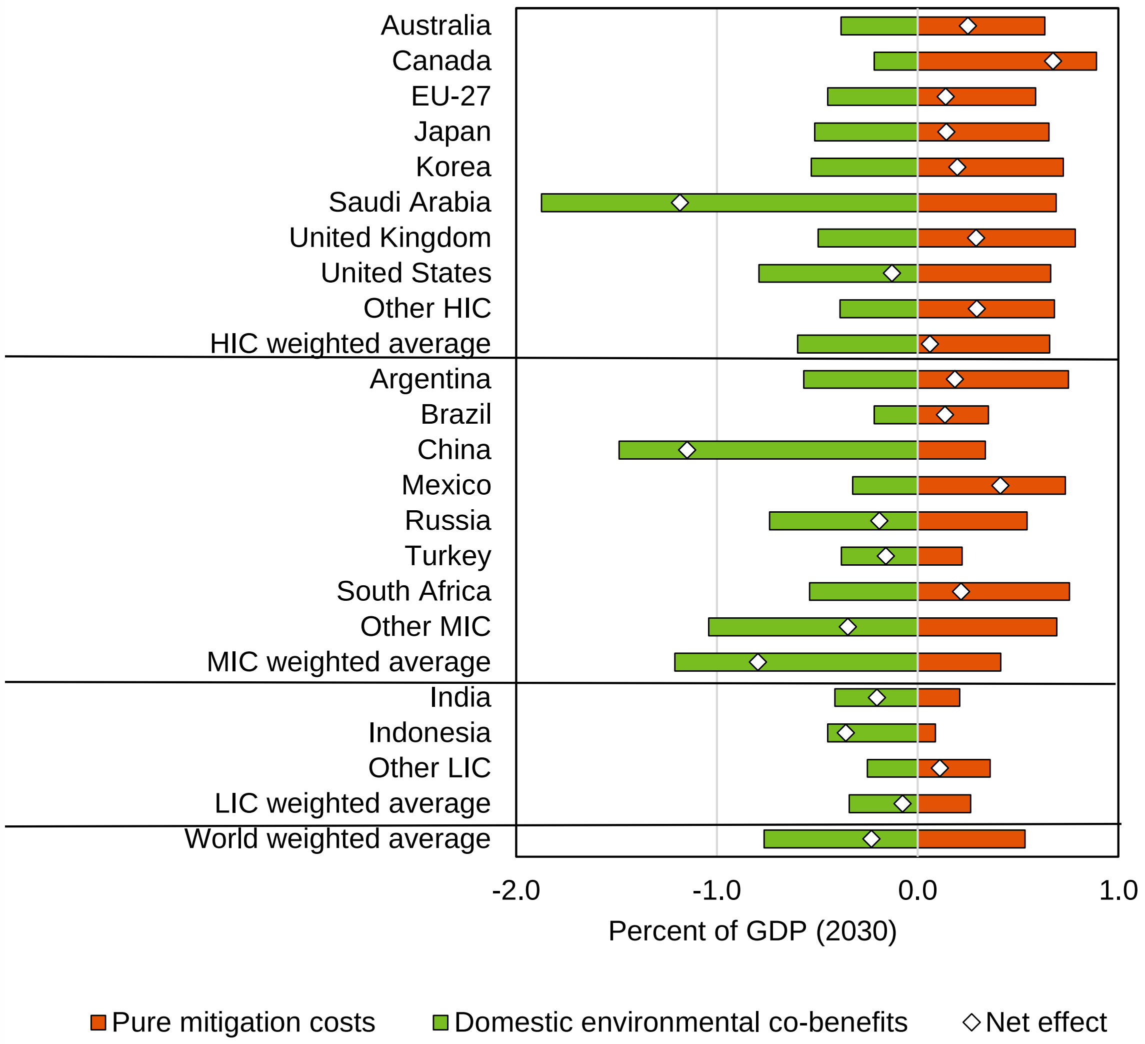






Costs: 2°C Scenario for 2030, G20 Countries

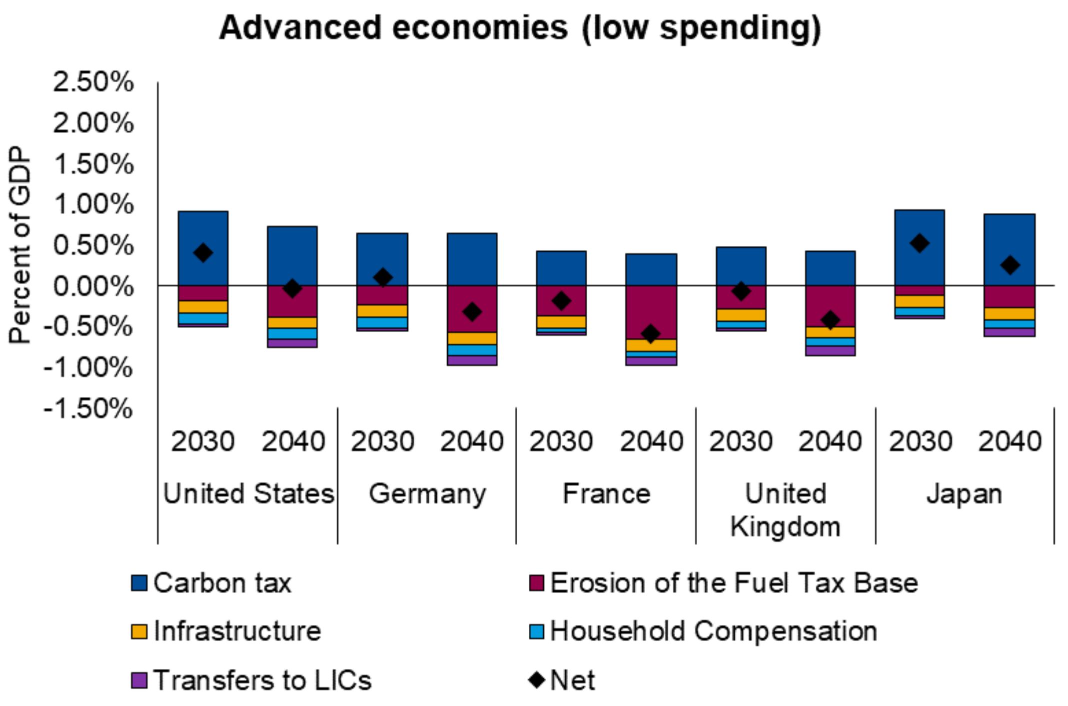
Mitigation Costs and Domestic non-Climate Environmental Co-Benefits Mitigation

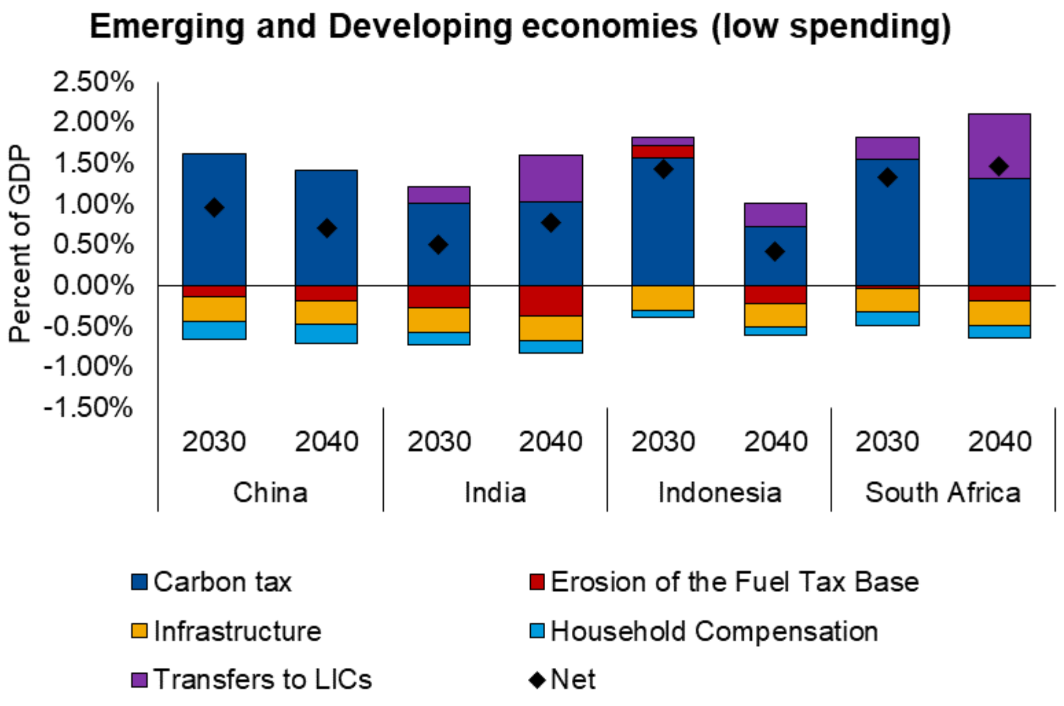


Sources: IMF staff using CPAT.

Fiscal: Impacts from Decarbonization mostly Negative/Positive for Developed/Developing Countries

Impact of Equitable 2ºC Scenario on Primary Fiscal Balance, Selected Countries

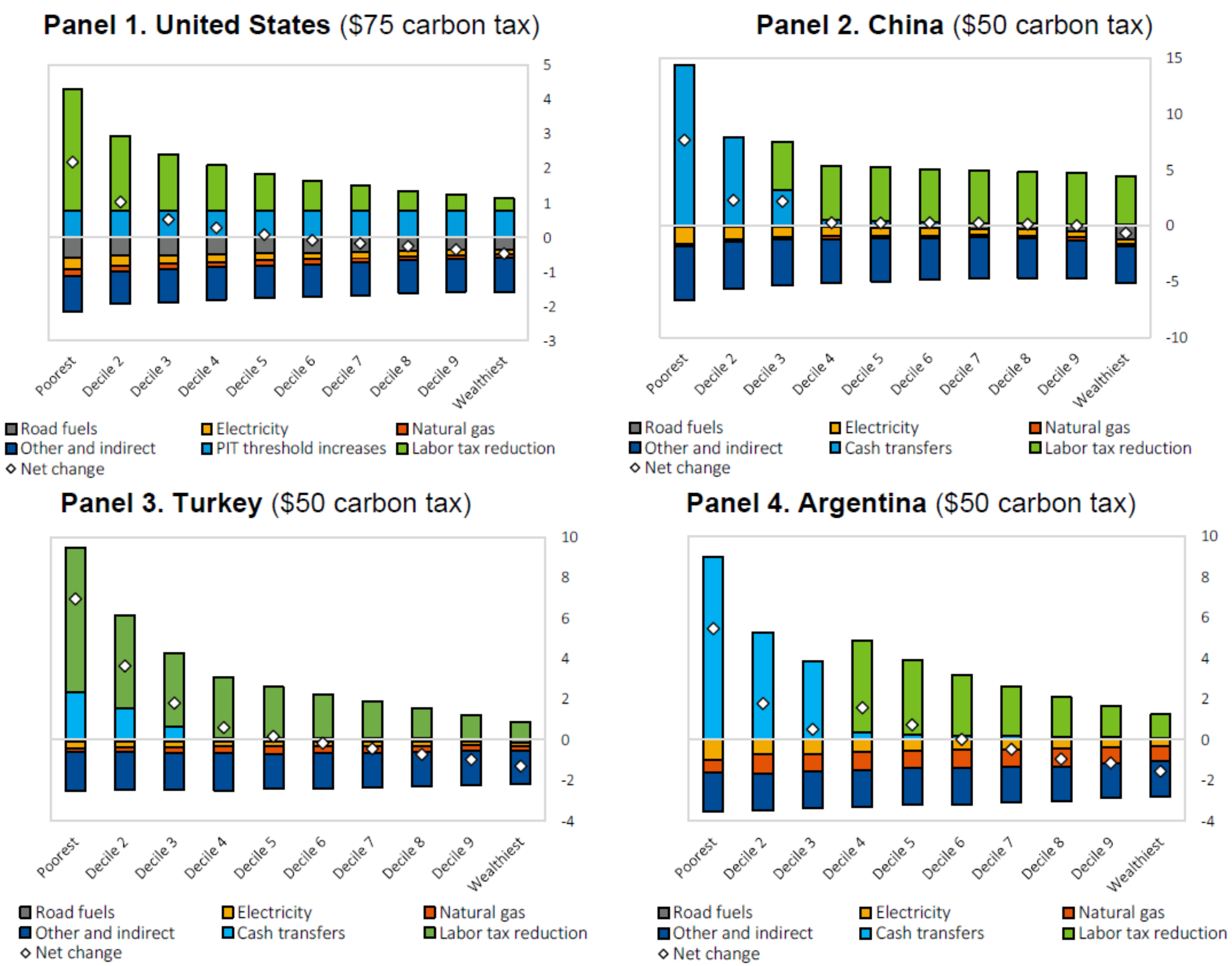




Source: IMF Staff using CPAT and IEA (2021).
Note: Carbon tax is $75/50/25 in high/middle/low-income countries in 2030, doubling to 2040; infrastructure is public investment in clean technology networks (e.g., transmission lines); transfers are based on above compensation for mitigation costs; household compensation is for the first three deciles.

Households: Recycling Revenues Can more than Offset Impacts on Low Income

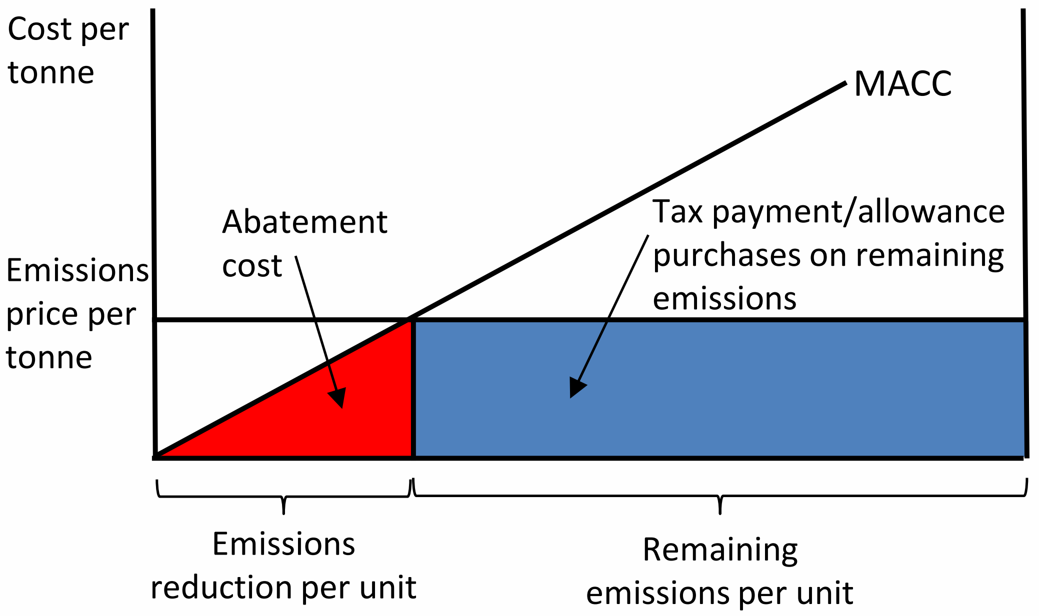
% Relative to Pre-Policy Household Consumption, 2030



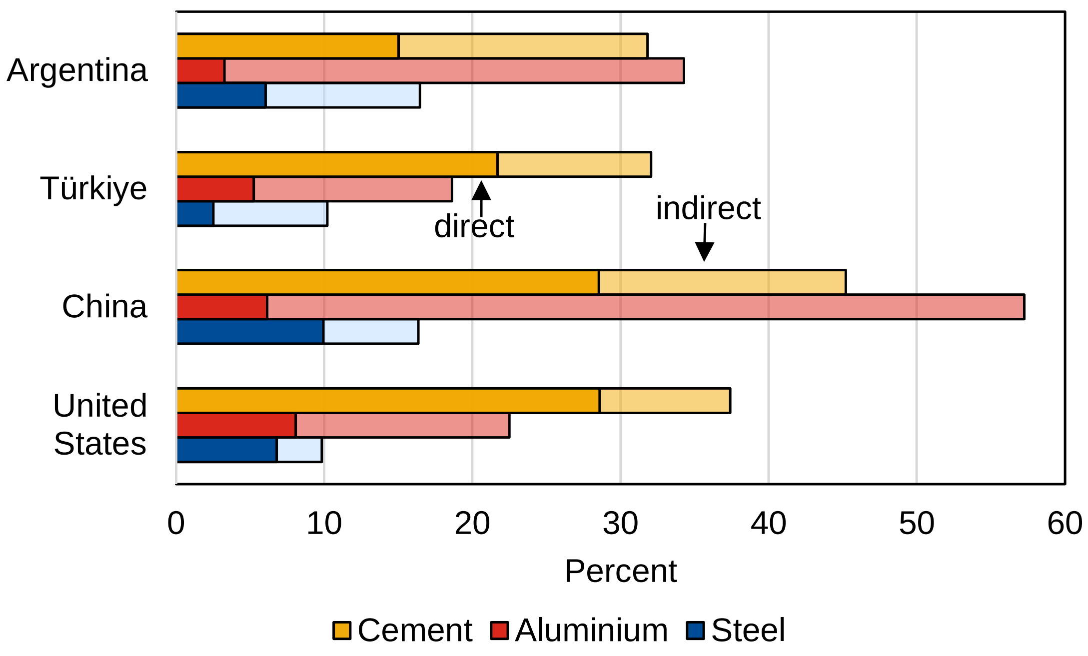
Source: IMF Staff.

Firms: Competitiveness Effects often Modest

Production Cost Increases per unit of Production from Carbon Pricing



Production Cost Increases for Energy Intensive/Trade Exposed Industries from $75/50 Carbon Price, 2019



Issues for New Zealand

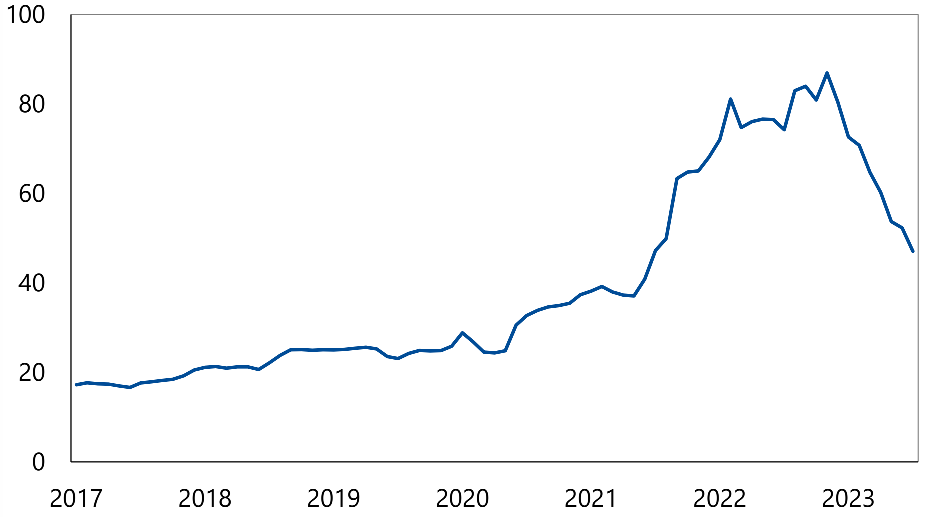
ETS

Details

- Covers: non-agricultural emissions (32 million tons or ≈ 45% of emissions)
- Prices: collar increased \$33-\$81 to \$60-173 per ton (aligned with mitigation goals, EU price ≡ NZ\$170)
- Allocation: mostly auctioned

Prices in the New Zealand ETS

(Monthly average price, NZ\$ per ton CO_2)



Source: www.carbonnews.co.nz

Issues

- Volatile prices
- Surplus of banked allowances (≈ 50 million tons)
- When cap is binding overlapping instruments have no emission effect
- Most reductions in forestry where storage costs low but may not be permanent

Reform possibilities

- Narrow price collar by ramping up floor price
- Decouple forestry → feebate

Pricing Agricultural Emissions

Proposed pricing scheme

- *Coverage*: farms ≥ 200 tCO_2e from methane/nitrous oxide from 2025
- *Prices*: to be determined
- *Allocation*: revenues recycled for mitigation projects
- *Administration*: self-reported emissions

Issues

- *Opposition/competitiveness*: from farmers to upfront fees
- *Recycling scheme*: who gets revenues may be opaque

Alternatives to address them

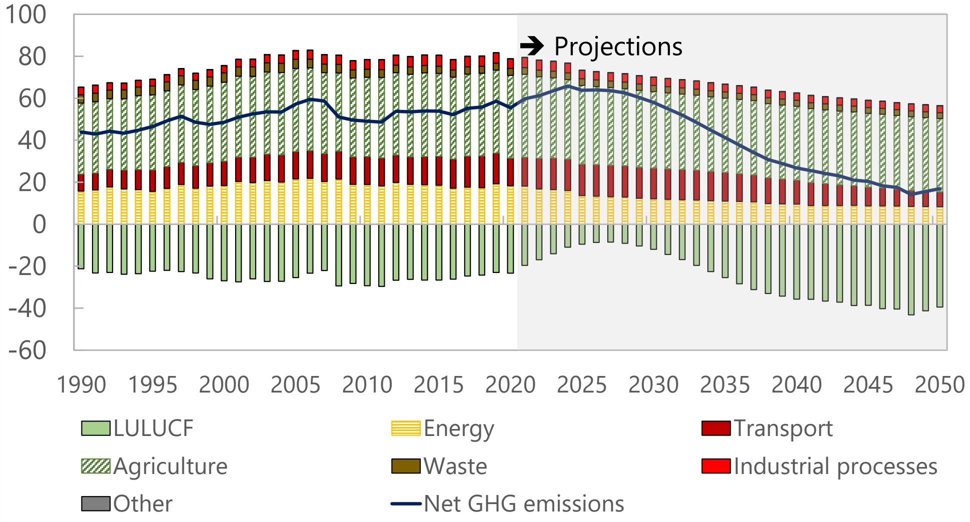
- *Feebate*: fee = emissions price × (emission rate/kg — industry average emission rate) × production, kg
- *Output-based rebating of revenues*: applied at the same time as fees

Extra Slides

Emissions Projections and Targets

Net Emissions Projected to Peak in 2024, and Decline Sharply After 2030

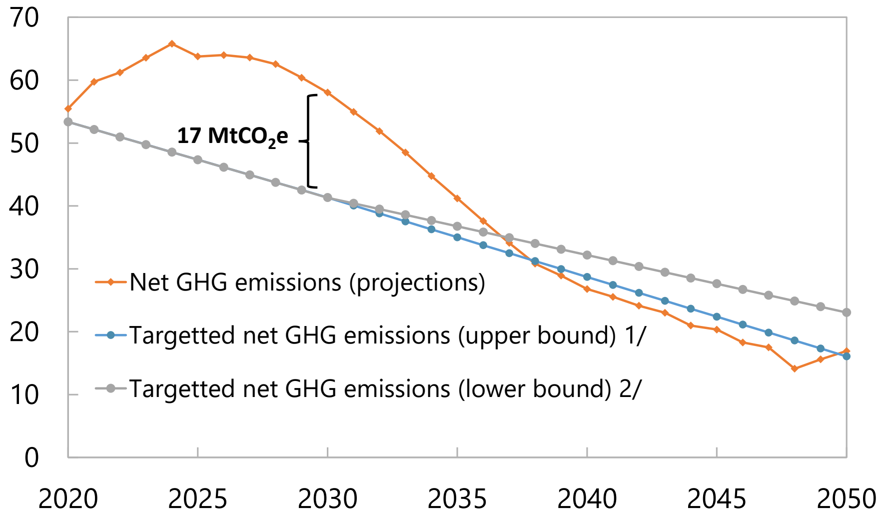
(Projected greenhouse gas emissions, MtCO2e)



Sources: New Zealand Ministry for the Environment; and IMF staff calculations.

2030 Targets Require A Step-Up in Emissions Reduction

(Projected greenhouse gas emissions, $MtCO_2e$)



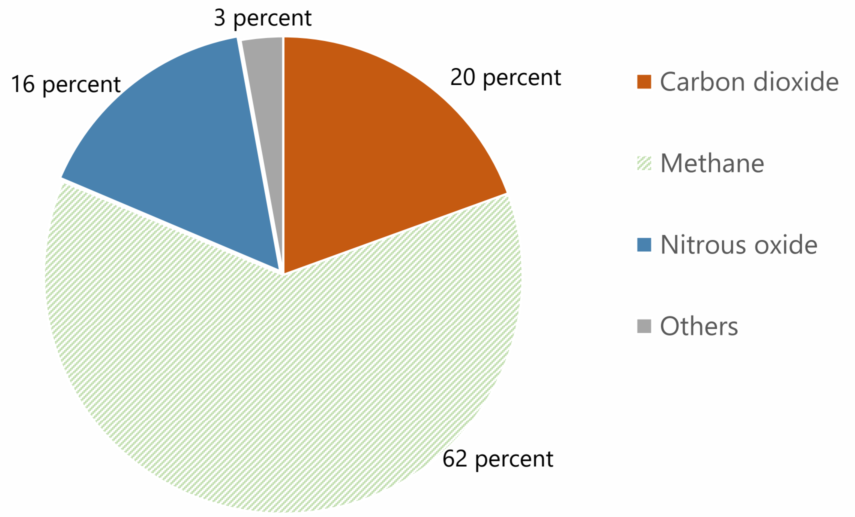
Sources: New Zealand Ministry for the Environment; and IMF staff calculations.
1/ 24 percent reduction in biogenic CH_4 emissions in 2050 relative to 2017, net zero for all other GHGs.
2/ 47 percent reduction in biogenic CH_4 emissions in 2050 relative to 2017, net zero for all other GHGs.

- Emission Reduction Plan
  - Non-methane: net zero by 2050; methane: reduce 10% by 2030 and 24-47% by 2050 (relative to 2017); implemented through declining 5 yearly carbon budgets
  - Projected gap of 17 million tons for 2030

Emissions Breakdown by Gas and Sector, 2020

Methane Accounts For the Bulk of New Zealand's Net GHG Emissions

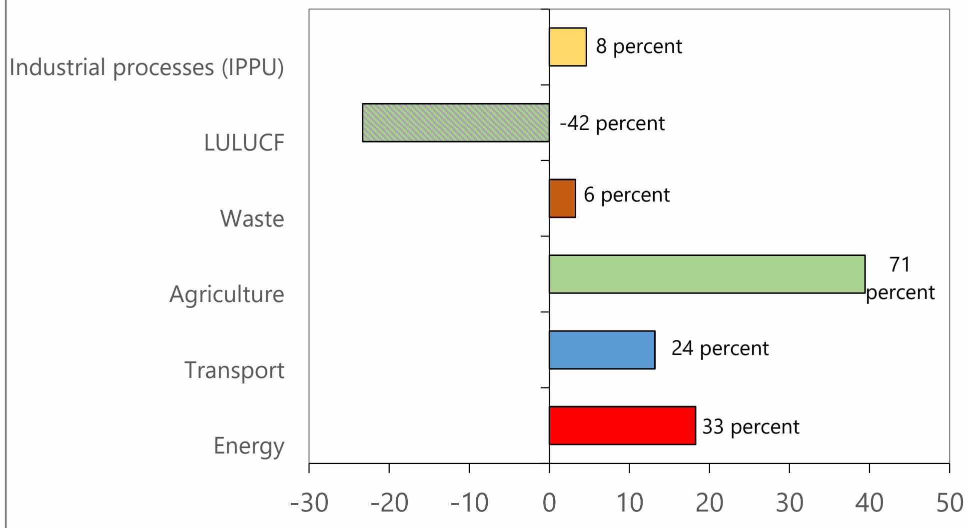
(Net emissions in 2020, MtCO2e)



Source: New Zealand Ministry for the Environment.

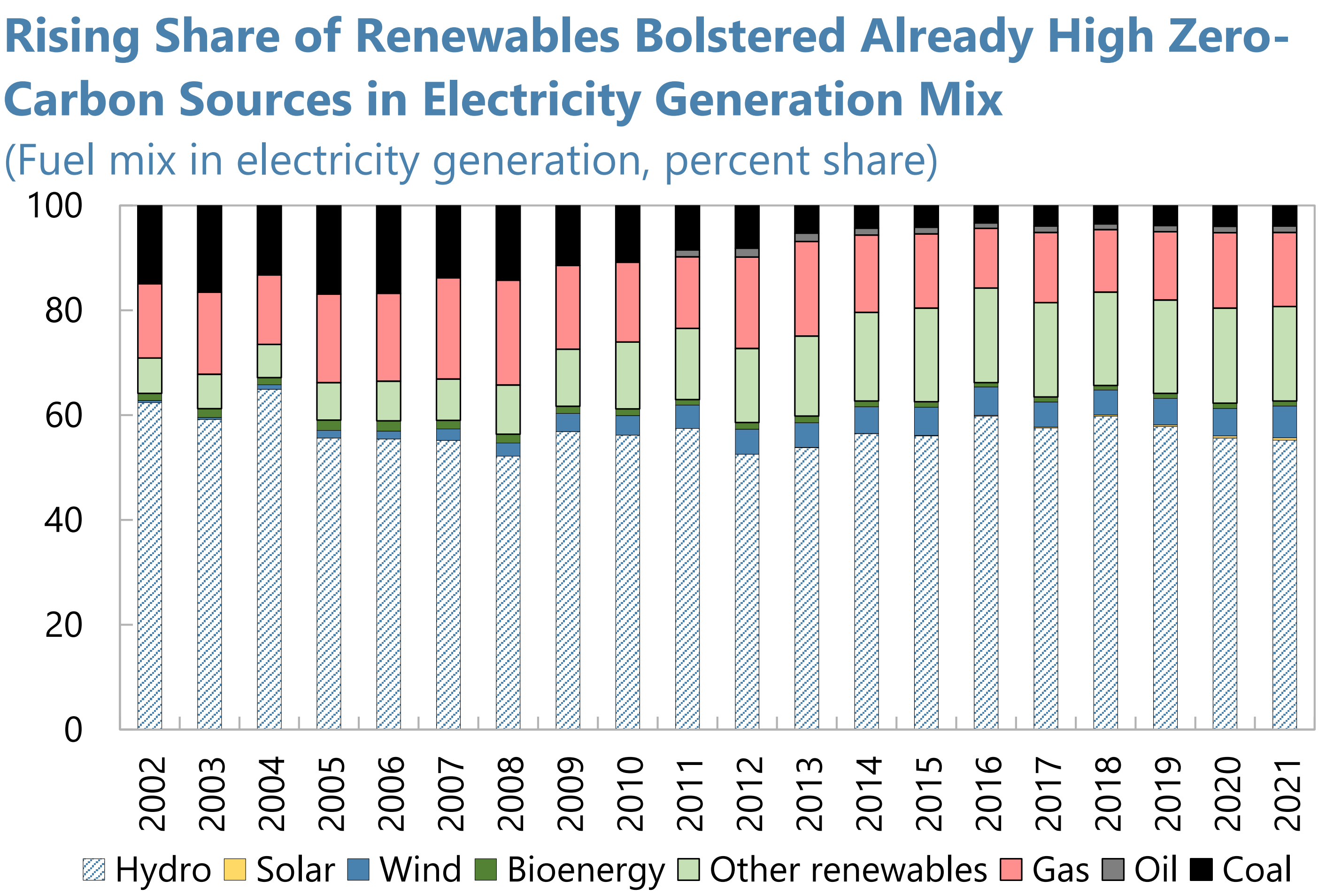
Largely Due to Agriculture Emissions

(Net emissions in 2020, MtCO2e)



Source: New Zealand Ministry for the Environment.

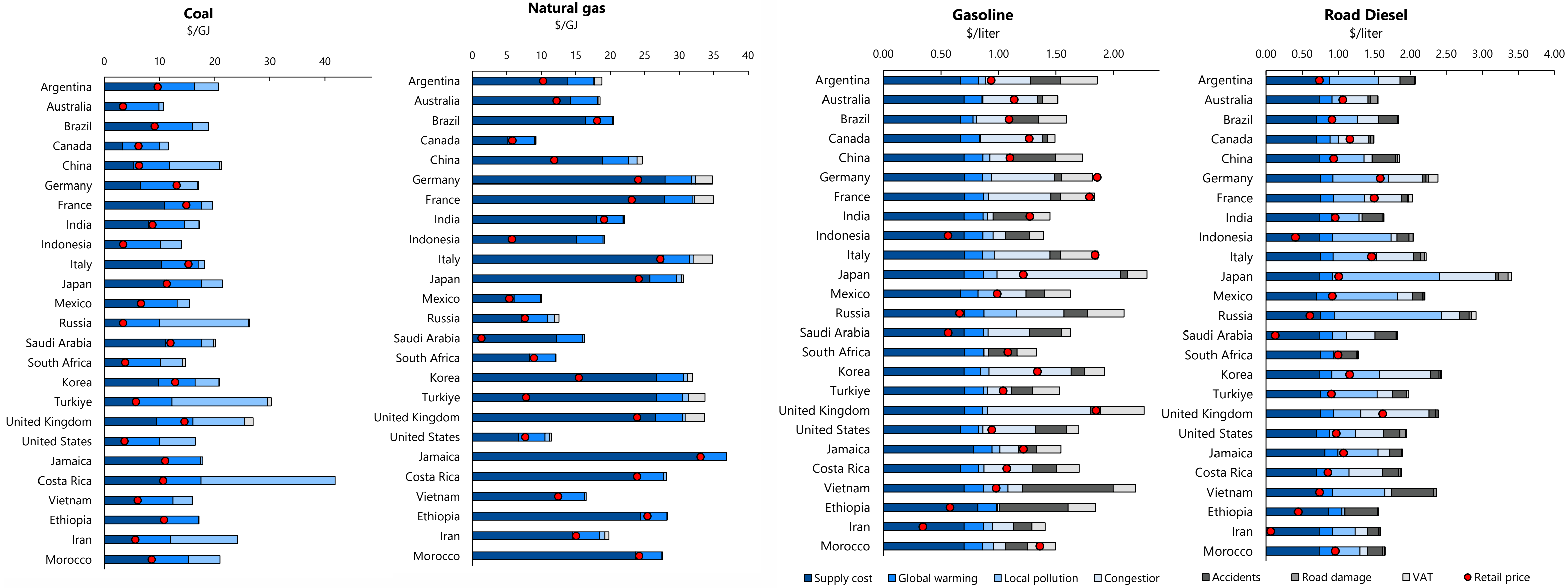
Power Generation is Large from Clean Sources



Source: Our World in Data.

Comparing Current and Efficient Fuel Prices

Efficient price = supply cost + environmental cost + general consumer taxes
Environmental cost = global warming + local air pollution + other transportation externalities



 Source: IMF Staff.

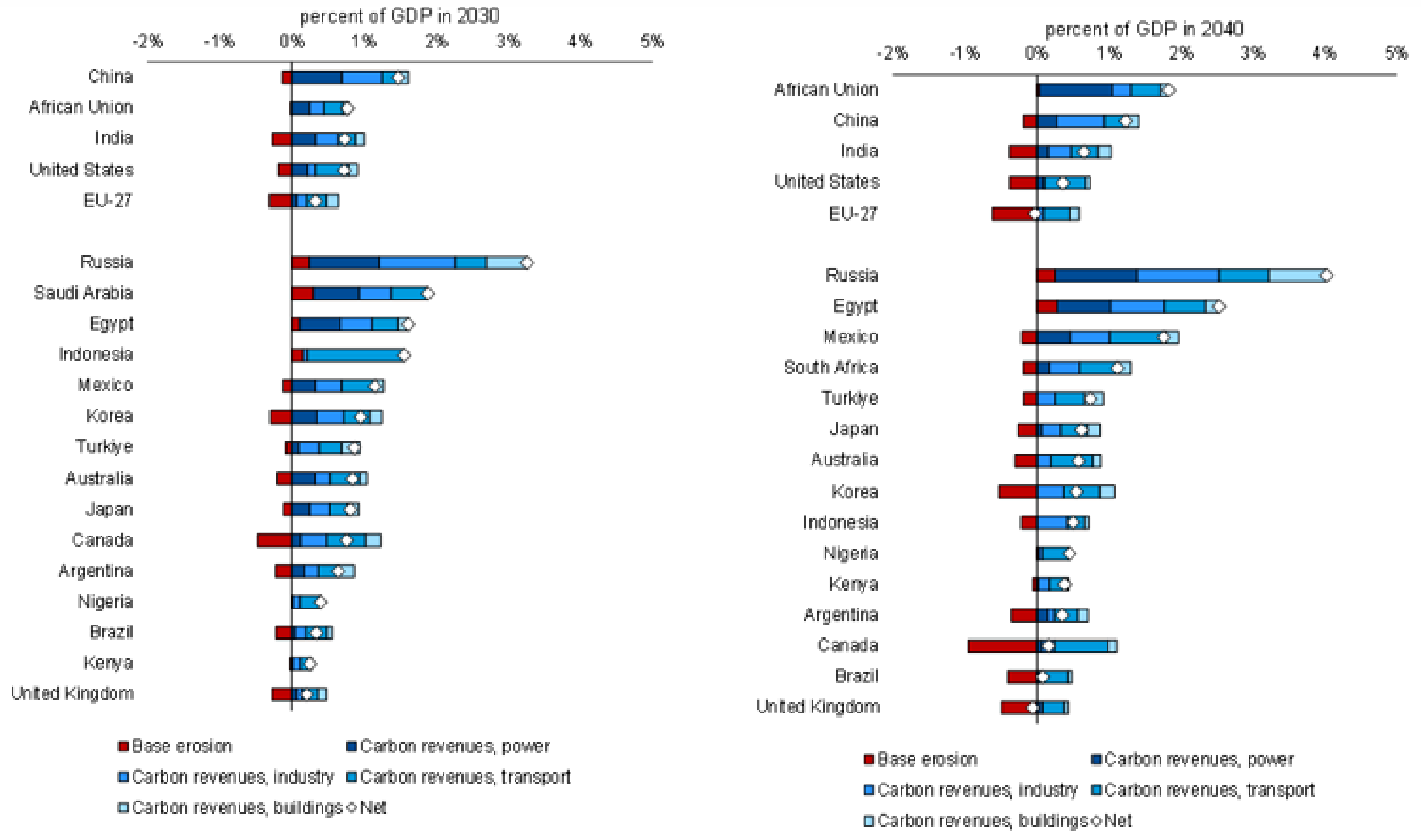
Comparison of Fiscal Instruments for Addressing Livestock Externalities

Externalities = GHG emissions + habitat loss from land use

Metric of concern	Instrument (point of application)				
	Production tax (farm or processor)	**Consumption tax (processor or distributor)**	**Subsidy for non-meat consumption (processor or distributor)**	**Feebate for land use (farm)**	**GHG fee (farm)**
GHGs (domestic)	Partial	Small	Small	Partial	Most effective
Land conservation (domestic)	Partial	Small	Small	Most effective	Small
Foreign GHG/land clearance	Significant increase	Significant reduction	Modest reduction	Small increase	Small increase
Burden on livestock producers	Significant (may cause pressure for border adjustment)	Modest	No impact	Varies by farm but minimal on average	Modest
Burden on consumers	Some burden	Largest burden	Overall reduction in food prices	Minimal impact	Modest
Revenue gain	Significant	Significant	Loses revenue	Revenue neutral by design	Modest
Administrative	Feasible at processor level, perhaps farm level	Feasible at processor or wholesale level	Feasible as adjustment to VAT	Requires capacity for monitoring land use and administering fees/rebates	Requires capacity for monitoring emissions and collecting fees
Potential for tailoring to emission rates/ ecological value at farm	Yes if farm-level tax feasible though burden of monitoring falls on the government	Limited potential (aside from certification)	No potential	A voluntary apporach can place verification burden on farmers	Yes if farm-level tax feasible

Fiscal Impacts Fiscal Impacts of Temperature-Aligned Carbon Pricing

Carbon pricing can raise significant revenues but bases for carbon pricing and prior fuel taxes decline



Source. IMF staff using CPAT.
Note. Estimates are for a $75/50/25 carbon price for advanced/high-income emerging/low-income economies. Panel B is for direct emissions. Buildings includes fossil fuel CO_2 emissions from residences, services, agriculture, and forestry but emissions from industrial buildings are included under industry.

A Comprehensive Mitigation Strategy is Needed

Mitigation Instruments		Desirability and feasibility			Environmental effectiveness by sector						
Coverage	Instrument	Economic efficiency	Fiscal impact	Political acceptability	Power	Industry	Transport	Buildings	Forestry/ land use	Extractives (CH4)	Livestock (CH4, NOx)
Economy-wide policies	Carbon taxes				✓✓✓	✓✓✓	✓✓	✓✓	✓	✓✓✓	✓✓✓
	Emissions trading systems (ETSs)				✓✓✓	✓✓✓	✓✓	✓✓	✓	✓✓	✓✓
Sectoral policies	Feebate (fees/rebates for dirty/clean firms/ products/activities)				✓✓	✓✓	✓✓✓	✓✓	✓✓	✓✓	✓✓
	Tradable performance standards				✓✓	✓✓	✓✓			✓	✓
	Abatement subsidies				✓	✓	✓✓	✓	✓	✓	✓
	Requirements for green technologies/ activities				✓	✓	✓✓	✓✓	✓	✓	✓

Complementary poliices	Issue	Network externaliites for clean technologies	Innovation market failures	Burdens on households	Burdens on firms
	Instruments	Public investments	R&D incentives, timebound technology subsidies	Targetted assistance, equitable revenue use	Output-based rebates, tax relief, border adjustments

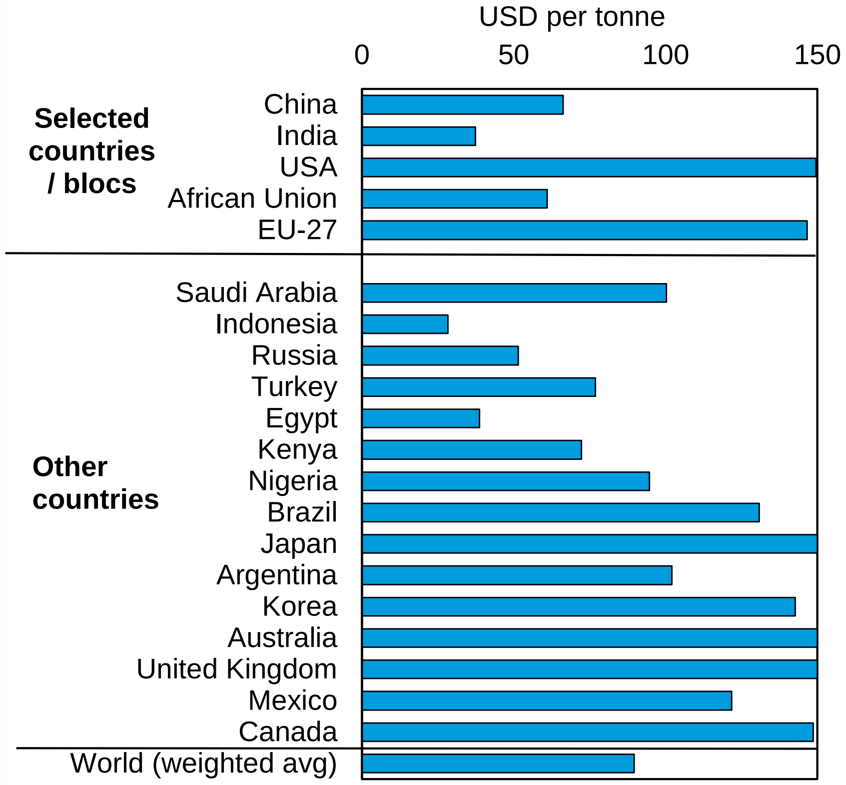
Key:

Declining efficiency/revenues/practicality/acceptability

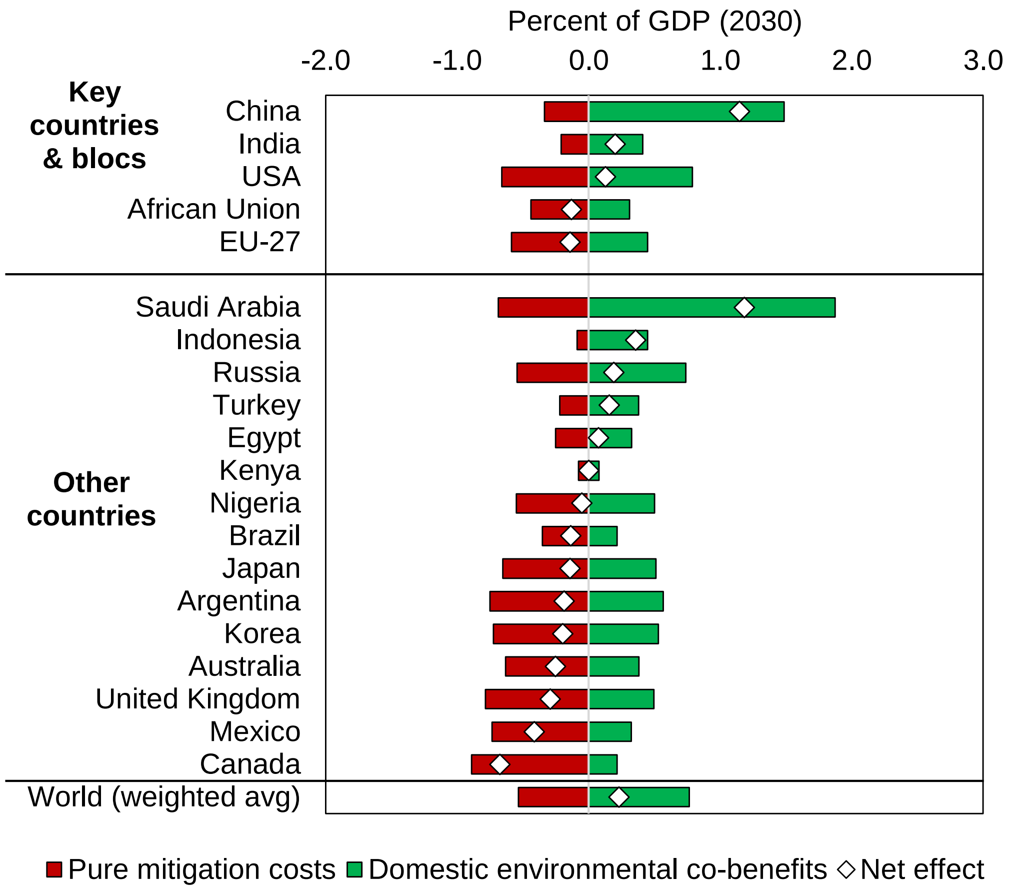
✓ = somewhat environmentally effective
✓✓ = effective
✓✓✓ = very effective

Costs: 2°C Scenario for 2030, G20 Countries

Shadow CO2 Prices (Incremental Abatement Costs)



Net Welfare Impacts (Domestic Environmental Co-Benefits less Mitigation Costs)



Sources: IMF staff using CPAT.

Note: Shadow prices are cut off at $150 per tonne as above this level uncertainty over emissions responsiveness increases significantly.

Instruments for Addressing Competitiveness and Leakage

Attributes of Alternative Instruments

Mechanism ➔ Metric ↓	BCAs	Exemptions under carbon tax	Free allowances under ETS	Feebate/TPS	Recycling (in output-based rebates)
Reduction in global emissions	Not very effective (may moderately reduce emissions)	Not effective (slightly increases emissions)	Not effective (slightly increases emissions)	Not effective (slightly increases emissions)	Not effective (slightly increases emissions)
Preserve EITE competitiveness	Yes (extent depends on design)	Partially	Partially	Partially	Partially
Limit carbon leakage	Yes (extent depends on design)	Partially	Partially	Partially	Partially
Revenue implications	Preserves carbon pricing revenue	Loses some carbon charging revenue	Loses carbon pricing revenue	Forgoes carbon pricing revenue	Forgoes carbon pricing revenue
Political difficulty from higher consumer prices	Carbon charges largely passed through in consumer prices	Partial reduction in pass through of carbon charges	Carbon charges largely passed through in consumer prices	Modest price impact	Modest price impact
Requires international coordination	No	No	No	No	No
Domestic administrative burden	Depends on design	Modest	Modest	Modest (but new capacity needed if instruments replace tax)	Modest
Risk of WTO challenge	Depends on design	No	Could be challenged as subsidy (but has not happened yet)	No	No

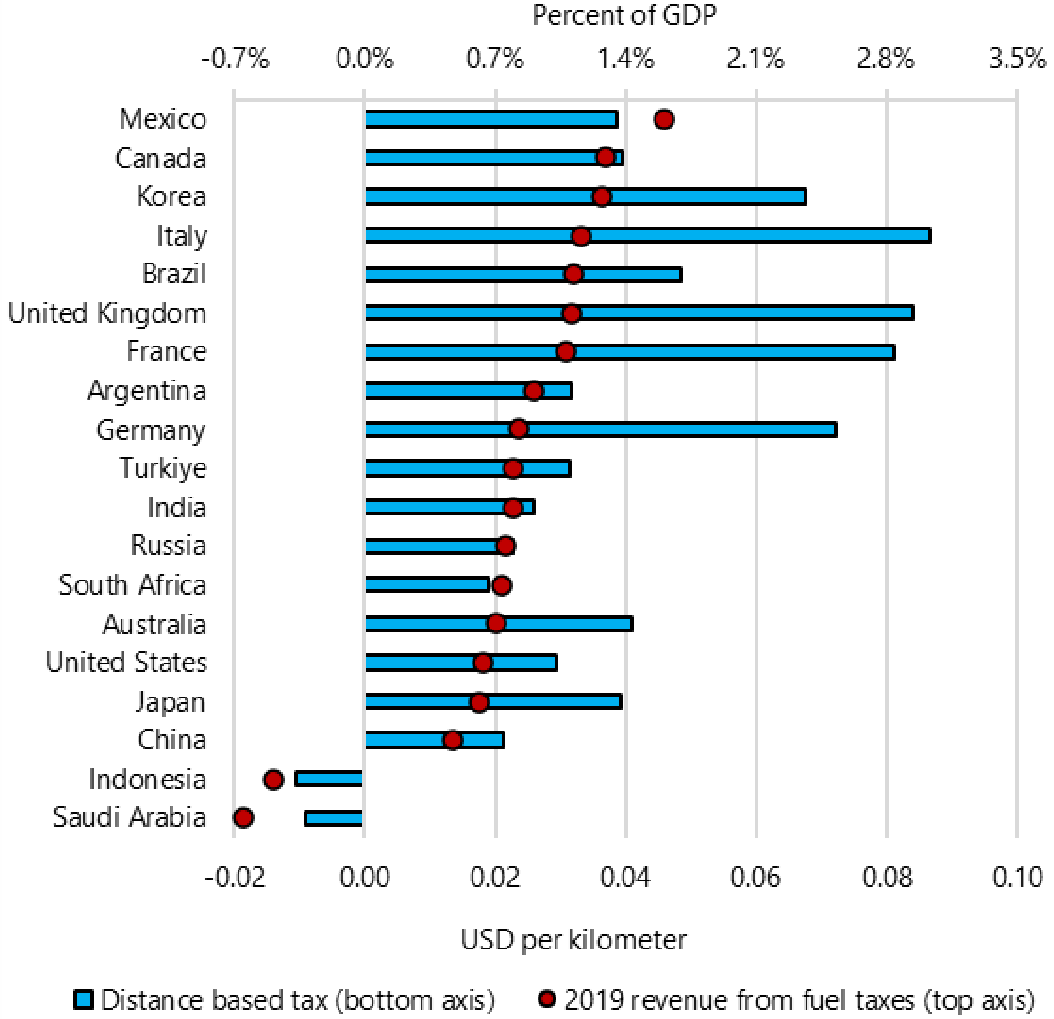
Border adjustments—design issues

- Limit to energy intensive, trade exposed (EITE) industries
- Adjust for carbon pricing abroad (but not regulations)
- Export rebates based on industry benchmarks
- Use domestic emissions factors initially to limit burden on developing countries

Digression: Transitioning to Kilometer-Based Taxes to Maintain Transport Revenue

Tax per Vehicle km in 2030 Needed to Maintain Current Fuel Tax Revenue in % GDP, G20 Countries

- New Zealand: 1.6% GDP, 6 cents/km



Source: IMF Staff.

Tuesday 19th September – Introducing Ian Parry's seminar 'Fiscal Policies for Climate Mitigation'

Pre-info: Event	1:30-3:00pm – Guest Seminar: 'Fiscal Policies for Climate Mitigation' (Ian Parry), Room 3.30/31 Hybrid with external attendees from public sector • Expecting [20] external people to attend in person, along with TSY internals • Expecting [2] external people, along with TSY internals, to sign in virtually This is an officials-only event with no recording.
Pre-info: speaker	 Ian Parry International Monetary Fund
1:00pm ***Event set-up***	
1:30pm ***Welcome***	E ngā mana, e ngā reo E rau rangatira mā Tēnā koutou, tēnā koutou, tēnā koutou katoa
Treasury karakia	Ko te Tai Whakarunga Ko te Tai Whakararo Ko te Tai Tokerau Ko te Tai Tonga Ko te Tai Hauāuru Ko te Tai Rāwhiti Tēnei ko te Tai Ōhanga Hui e, Tāiki e! *There in the challenge between the known and the unknown,* *We find direction from the northern, southern, western and eastern tides.* *At the centre, Te Tai Ōhanga, the Treasury, serving the four directions of Aotearoa where our people live.*

Introduce the session	It is my pleasure to welcome you to this seminar on fiscal policies for climate mitigation – in particular, welcome to our guest speaker Ian Parry from the International Monetary Fund and to those of you joining us today from other agencies. The importance of today's topic is clear. Around the world officials and governments are grappling with the impacts of climate change and the challenges of climate mitigation. Here in New Zealand, we published our first Climate Economic and Fiscal Assessment, or 'CEFA' this year. It brings together information on the economic and fiscal implications of climate change and of New Zealand's response to it. It's an important piece of work that the Treasury produced jointly with our colleagues at the Ministry for the Environment, and it will help inform some of the big choices ahead for New Zealand, including the approach to mitigation and the transition to a low-emissions, climate-resilient economy. We were fortunate to have drafts of the work reviewed by international experts, including Ian Parry, our guest speaker today. Ian brings a global perspective to the issues around climate mitigation – and we very much welcome that perspective. International coordination is vital, particularly for New Zealand, as we seek to grapple with the challenges and opportunities ahead of us.
Hygiene	Before I introduce Ian, let me run through a quick health & safety briefing for those of us who are in the room: • In the event of a fire alarm, please follow Treasury staff to the nearest exit and progress down the stairwell to evacuate the building; do not use the lifts. • In the event of an earthquake, please drop, cover and hold; stay in the building until instructed by a Warden. • Bathrooms can be found to the left-hand side of the kitchenette; walk straight ahead after exiting the rooms.

Introduce Ian	I am delighted to introduce Ian, [who I first met when ….] Ian joined the IMF in 2010 and is the Principal Environmental Fiscal Policy Expert in the Fiscal Affairs Department. His work is widely published in academic journals, cross-country reports and used in technical assistance and IMF reports, and he has co-authored or co-edited books on a range of topics including policies for climate mitigation and getting energy prices right. His latest research focuses on the design of comprehensive climate mitigation strategies for different countries, and he has helped to develop analytical models to quantify the environmental, fiscal, and economic impacts of a wide range of mitigation instruments. He also works on developing practical recommendations for the design of fiscal and other policies for climate mitigation at an economy-wide, sectoral and international level. Prior to joining the IMF, Ian was at Resources for the Future in Washington DC for 15 years where he held the Allen V. Kneese Chair in Environmental Economics. He has a PhD in economics from the University of Chicago where he wrote his dissertation on carbon taxation. Ian is in New Zealand for a series of events this week, and will be travelling on from here to Auckland tomorrow.
Format	We're now going to hear Ian speak for about 30 or 40 minutes. After that we'll open up the floor for a Q&A The session will finish by 3.00pm. For people online, please post your questions using the Q&A function in Teams. We'll aim to get to those after Ian's presentation.
ca. 1.40pm ***Ian's presentation***	[See attached slides from Ian]

ca. 2.10pm ***Open the floor for questions***	Thank you, Ian, for your wide-ranging presentation. We now have around 45 minutes for questions. We will try and cover as many as we can. To all those in the room, I invite you to raise your hand, so we can provide you with a microphone, if needed. Please introduce yourself briefly before asking your question.
2.55pm ***Close the session***	Unfortunately, we have run out of time – and we need to bring today's event to a close. Thank you very much, Ian, for sharing your expertise with us. And thanks to all of you – here in the room, and online - for joining us. I would like to finish with a karakia. Piki te kaha Piki te Ora Piki te Wairua Hui e, tāiki e! Thank you everyone for attending. Mā te wā.