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IN-CONFIDENCE**Treasury Guest Lecture Series: Prof. Beth Webster**

11:30 am	Welcome everybody Introduce topic and speaker	Patrick Nolan
11:35 am	Presentation (45 mins)	Beth Webster
12:20 pm	Questions & Answers	Questions posted using Q&A function on Teams
12:55 pm	Close	Patrick closes

Opening**Patrick**

11:30 – 11:35 am

- E ngā iwi, e ngā mana, e ngā hoa mahi. Tēnā koutou katoa.
- E mihi ana ki a koutou, kua tae mai ki te tautoko tēnei kaupapa.
- Ngā mihi nui ki a Beth Webster te kaikōrero o te rā. Tēnā koe.
- Kō Patrick Nolan tōku ingoa. Nau mai, haere mai ki Te Tai Ōhanga.
- **Your own mihi or personal introduction.**
- **Welcome everyone.** It's great to see everyone online joining today's Treasury Guest Lecture Series. I'm really looking forward to the talk, and the discussion that will follow.

Context of this seminar series

- As you will be aware by now, this seminar is part of our current theme: *Productivity in a Changing World*. To those of you less familiar with this Treasury series, we chose this theme as a focus for our guest lectures, as productivity is the key long-run driver of economic performance and wages, and also important for overall wellbeing.
- However, the world around us is evolving quickly, presenting us with the challenge of lifting productivity among significant economic, social, and environmental shifts. Just like many other countries, New Zealand is navigating these changes in a dynamic global context.

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- That's why we're bringing together a diverse range of speakers to explore how these trends will impact New Zealand's economic performance, productivity, as well as the sustainability and resilience of our economy.
- Keep an eye out for invites to these lectures. We have a remarkable line-up of inspiring experts in the coming months.

About the speaker

- Today we are really privileged to have Professor Beth Webster with us. She is Director of the Centre for Transformative Innovation at Swinburne University of Technology. She is also Pro Vice-Chancellor for Research Impact and Policy.
- Beth's expertise centres on the economics of how knowledge is created and diffused through the economy. Her research interests cover several areas of applied economics including innovation; intangible capital; intellectual property; firm performance and public policy for the translation of science.
- She has authored over 100 articles on the economics of innovation and firm performance.

Topic of the presentation

- During today's session, Beth will share her insights on how economic theory treats digital technologies and how it is the same and different from previous general-purpose technologies.
- The recent acceleration of progress in AI reinforces the opportunities that digital technologies create for economic and productivity growth in all economies, including New Zealand. Understanding the potential impact of digital technologies on New Zealand's productivity is important for the Treasury. It also raises questions as to how the policy environment can better assist New Zealand take advantage of future opportunities - and respond to the challenges that digital technologies bring.
- I am looking forward to gaining new insights from Beth's presentation.

Logistics and hand-over to the speakers

- I will now hand over to Beth, who will present for around 45 minutes. We will then have the remainder of the time for questions and discussion.
- I invite you to use the Q&A function in Teams for moderating our discussion, so please post your questions there. If you have any technical query, please use the standard chat function.
- Over to you Beth, and once again, welcome.

Questions**Patrick / Beth***app. 12.20 – 12.55 pm*

- Thank you, Beth, for your outstanding presentation.

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Perhaps make an observation of something that you were struck by.

- We already have some questions in the Q&A and please keep them coming in. We will try and cover as many as we can.

Question for discussion:

*As a small economy with a low level of productivity relative to the rest of the developed world, should our **innovation focus** be on how to incorporate international innovations rather than having settings that support NZ businesses to do their own cutting-edge innovations?*

Questions till around 12.55 pm.

Closing**Patrick***approx. 12.55 pm*

- *Unfortunately, we have run out of time – and we need to bring today's event to a close.*
- Thank you very much, Beth, for taking the time to share your insights and experience with us today.
- And thanks to everyone online for joining us for today's talk.
- Our next seminar will take place next week – Monday, 19 February. We will have Dr Sergey Paltsev from MIT. The session will focus on the role of hydrogen in low-carbon energy transition.

It will be a hybrid event and you are welcome to join us in person here at 1 The Terrace. You can register via the Treasury website.

- Let me now close our seminar today and farewell you all with a whakataukī, which says that discussion, learning, understanding and knowledge underpin the wellbeing of all people.

Mā te kōrero, ka mōhio

Mā te mōhio, ka mārama

Mā te mārama, ka mātau

Mā te mātau, ka ora te iwi.

Haumi e, hui e, tāiki e!

- Thank you once again to Beth, and to everyone for participating today.
- Mā te wā.

Role of Hydrogen in Low-Carbon Energy Transition

Sergey Paltsev
Massachusetts Institute of Technology

paltsev@mit.edu



**TE TAI ŌHANGA
THE TREASURY**

February 19, 2024

THE COLORS OF HYDROGEN

GREEN

Hydrogen produced by electrolysis of water, using electricity from renewable sources like wind or solar. Zero CO₂ emissions are produced.

BLUE

Hydrogen produced from fossil fuels (i.e., grey, black, or brown hydrogen) where CO₂ is captured and either stored or repurposed.

GREY

Hydrogen extracted from natural gas using steam-methane reforming. This is the most common form of hydrogen production in the world today.

PURPLE/PINK

Hydrogen produced by electrolysis using nuclear power.

TURQUOISE

Hydrogen produced by thermal splitting of methane (methane pyrolysis). Instead of CO₂, solid carbon is produced.

BROWN/BLACK

Hydrogen extracted from coal using gasification.

YELLOW

Hydrogen produced by electrolysis using grid electricity from various sources (i.e., renewables and fossil fuels).

WHITE

Hydrogen produced as a byproduct of industrial processes. Also refers to hydrogen occurring in its (rare) natural form.



Hydrogen Reasons

Potential to provide **energy** in **all** parts of economy: industry, transportation, residential.

Potential for **remote communities** (with no access to grid).

Can be **stored** in many forms: gas, liquid, solid.

Can be **made** from **various** sources.

Zero emissions of carbon during operation, but only as clean as the technology used to produce it.

Clean if produced by:

Electrolysis using renewables or nuclear

Steam reforming with carbon capture and storage

Based on renewable biomass

Hydrogen Challenges

Expand from the current applications (primarily as a chemical feedstock) to other sectors

Need for integrated solutions to benefit from **economies of scale**

Policy support (low-carbon, hydrogen-targeted)

Cost, infrastructure, and safety



Why do we need low-carbon hydrogen and renewable gas?

An approach “Decarbonize electricity and electrify everything” – has its limits

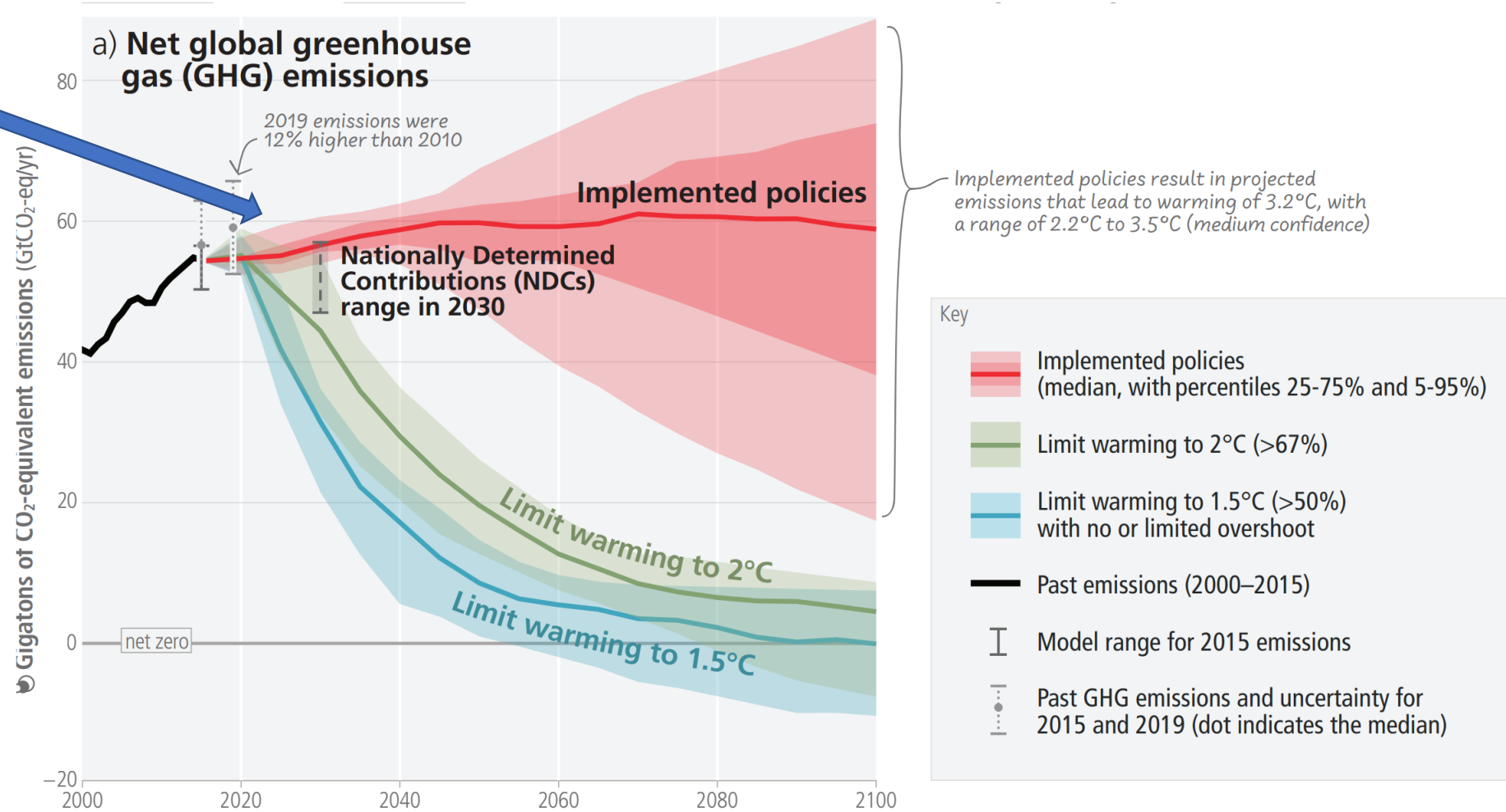
Need for renewable hydrocarbons in the form of liquid and gaseous fuels

Heavy-duty, long-distance transport (trucks, ships and planes); high temperature industrial heat (food and beverage sector, steel production, glass production); agriculture (renewable fertilizer such as green ammonia and biofertilizer); and chemical production (such as methanol)



2023 IPCC AR6 Synthesis Report – Global emission pathways

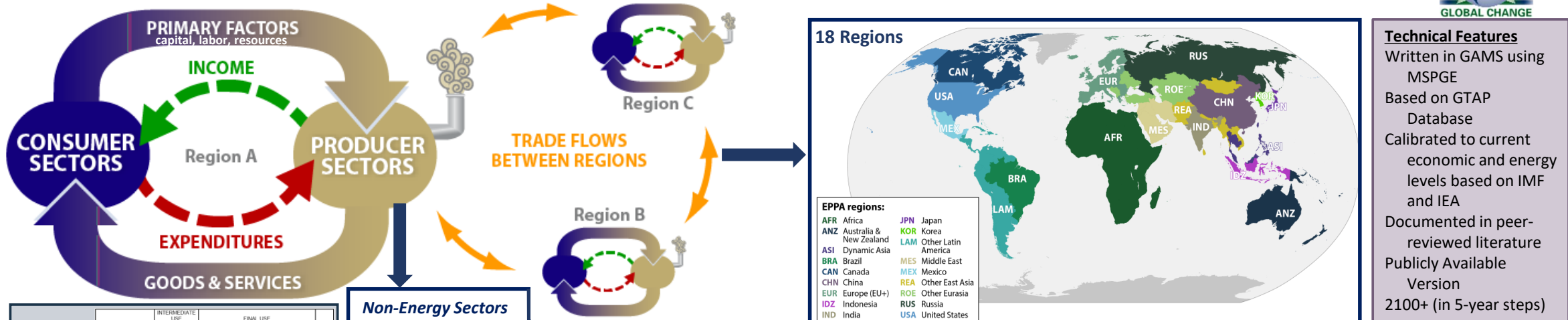
2022 -2023 emissions are outside of the IPCC range





MIT Economic Projection and Policy Analysis (EPPA) Model

Multi-sector, multi-region computable general equilibrium (CGE) model of the world economy for energy, economy and emissions projections



Technical Features
 Written in GAMS using MSPGE
 Based on GTAP Database
 Calibrated to current economic and energy levels based on IMF and IEA
 Documented in peer-reviewed literature
 Publicly Available Version
 2100+ (in 5-year steps)

Full Input-Output Data for Every Region

Sector	INTERMEDIATE USE by Production Sectors				FINAL USE			
	1	2	...	n	Private Consumption	Government Consumption	Investment	Export
Domestic Production	1	2	...	n	A	B	C	C
Imports	1	2	...	n	D	E	F	F
Value added	labor	capital	...	natural resources	G	H	I	I
INPUT	J				K			

Non-Energy Sectors

- Crops
- Livestock
- Forestry
- Food
- Energy-Intensive Industry
- Manufacturing
- Service
- Commercial Transport
- Household Transport

- Iron & Steel
- Cement
- Chemicals
- Non-Ferrous Metals
- + low-carbon options

- ICE (gasoline & diesel)
- Plug-in Electric
- Battery Electric
- Hydrogen

- Current Generation
- Advanced Biofuel

Energy Sectors

- Crude Oil
- Refined Oil
- Liquid Fuel from Biomass
- Oil Shale
- Coal
- Natural Gas (conv., shale, tight)
- Electricity
- Synthetic Gas (from Coal)

- | | |
|-------------------------------|------------------------|
| Conv. Fossil (coal, gas, oil) | Advanced Nuclear |
| Adv. Fossil (NGCC, Adv Coal) | Hydro |
| Coal with CCS | Solar |
| Coal + Bio Co-firing w/ CCS | Wind |
| Gas with CCS | Renewables with Backup |
| Gas with Advanced CCS | Biomass |
| Nuclear | Biomass with CCS |

New Technologies Continually Added

Regions and sectors can be added for special studies

Key Outputs

- GDP
- Consumption
- Emissions (GHGs, Air Pollutants)
- Primary/Final Energy Use
- Electricity Generation
- Technology Mix
- Commodity and Factor Prices
- Sectoral Output
- Land Use
- *At global and regional levels**

Key Features

- Global Coverage & International Trade
- Economy-Wide Coverage & Inter-Industry Linkages
- Feedbacks Across Regions & Sectors
- Theory-Based (microeconomics with full input-output data)
- Endogenous Prices, Investments & Capital Accumulation
- GDP and Welfare Effects
- Policies (emissions limits/prices, sector/technology regulations...)
- Distortions (taxes, subsidies, etc.)
- Accounting for Physical Quantities (energy, electricity, land)
- *Links to MIT Earth System Model (MESM)**

Key Equations

- Firms maximize profit:** choose technology, level of output and inputs subject to production functions and costs
- Household maximize welfare:** choose savings and consumption subject to budget constraint
- Equilibrium Conditions:** Market-Clearing, Zero-Profit, Income Balance

Examples of recent applications of MIT tools: variety of research efforts

Projecting Energy and Climate

Paltsev (2020) Economics of Energy and Env Policy, 9(1), 43-62.

Decarbonizing Hard-to-Abate Sectors

Paltsev et al (2021) Applied Energy, 300, 117322.

Health Co-Benefits of Renewables

Dimanchev et al (2019) Environmental Research Letters, 14(8).

Climate Change Effects on Agriculture

Gurgel et al (2021) Climatic Change, 166(29).

Cost and Value of Variable Renewables

Gurgel et al (2023) Applied Energy, 344, 121119.

Global Electrification of Light-Duty Vehicles

Paltsev et al (2022) Econ of Energy and Env Policy, 11(1), 165-191.

Economics of Bioenergy with CCS (BECCS)

Fajardy et al (2021) Global Environ Change, 68, 102262.

Framework for Assessing Stranded Assets

Chen et al (2023) Climate Change Economics, 14, 2350003.

Transition Scenarios for Financial Risk Analysis

Chen et al (2022) <https://globalchange.mit.edu/publication/17757>

Climate-Related Financial Stress-Testing

Le Guenedal et al (2023) <https://globalchange.mit.edu/publication/18121>



MIT 2023 Global Change Outlook

Charting the Earth's Future Energy, Managed Resources, Climate, and Policy Prospects

<https://globalchange.mit.edu>

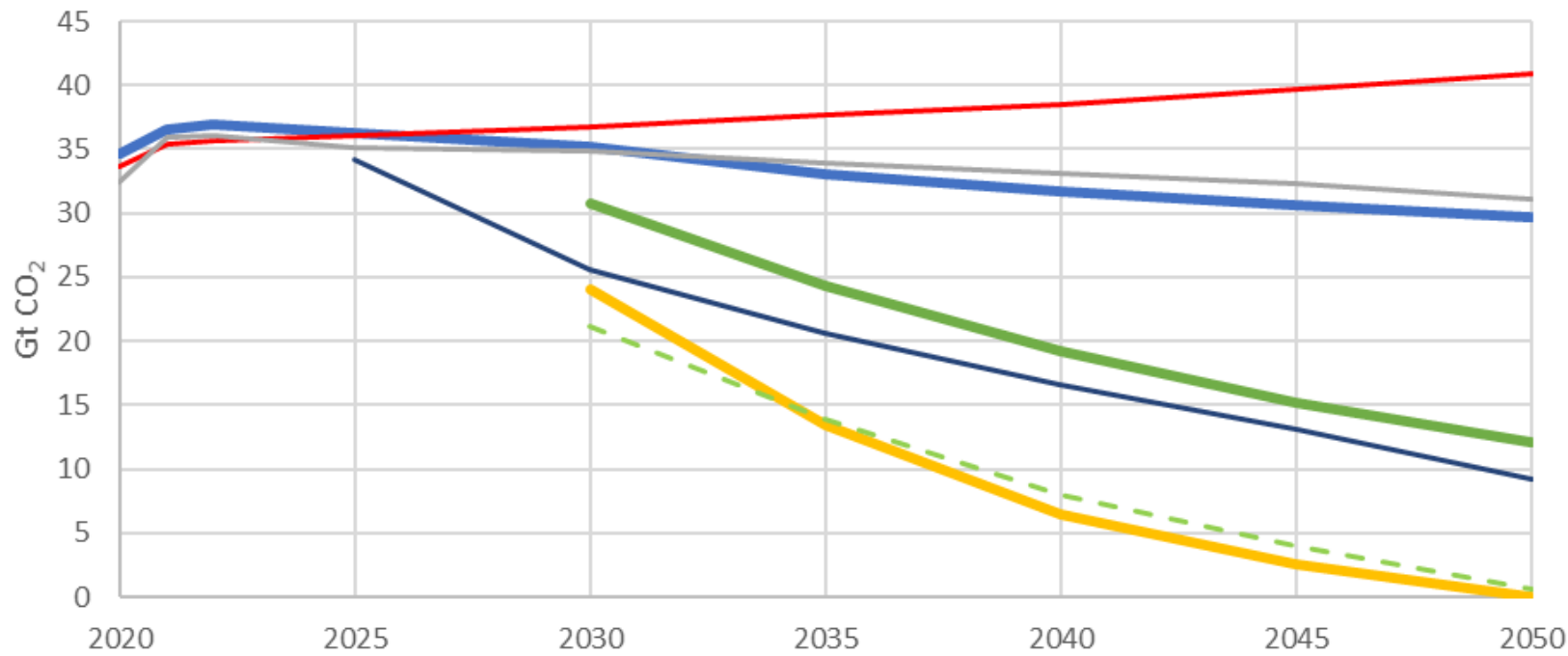
Published every other year.



For current trends, typically, scenarios assess NDCs and other pledges

Since the contributions are determined nationally, countries decide what is “fair” (conditional vs unconditional)

COP-28: “transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner ... so as to achieve net zero by 2050 in keeping with the science.”



Current Trends:
current policies

Ultimately, all countries
have to be at “net-zero”

Accelerated Actions by
2050

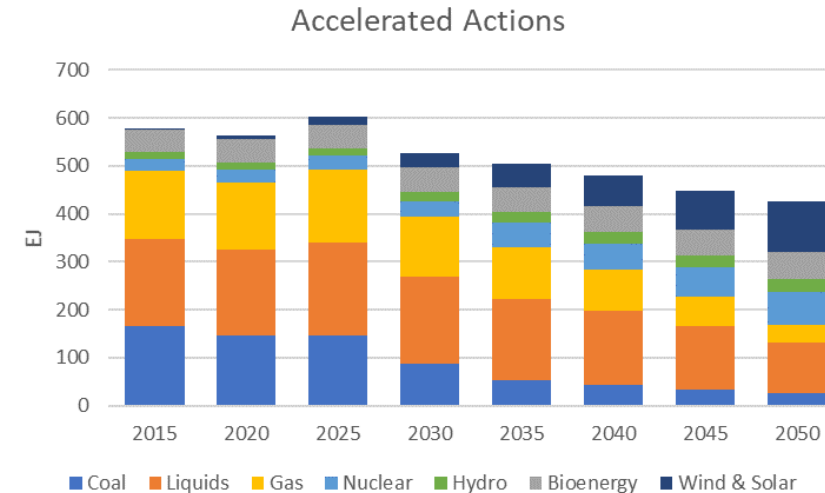
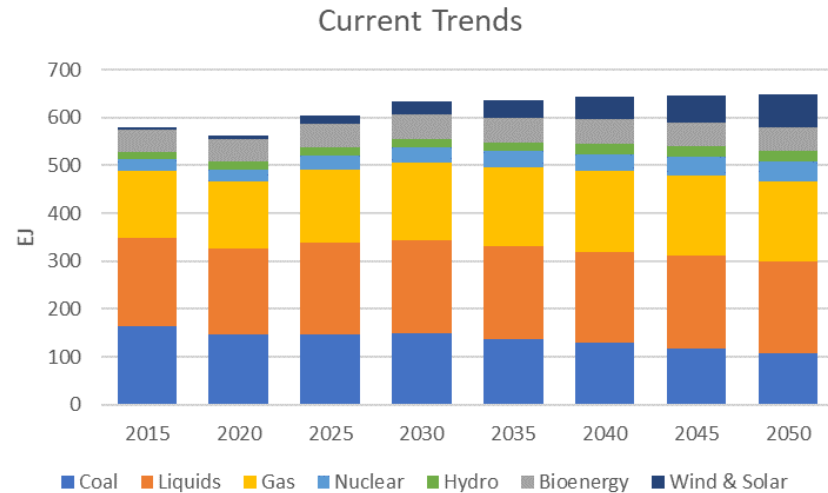
Advanced economies:
70-80% reduction

Emerging economies:
50-75% reduction



- IEA STEPS
- EIA
- IPCC 1.5C
- IEA APS
- MIT Current Trends
- IEA NZE
- MIT Accelerated Actions

Global Primary Energy

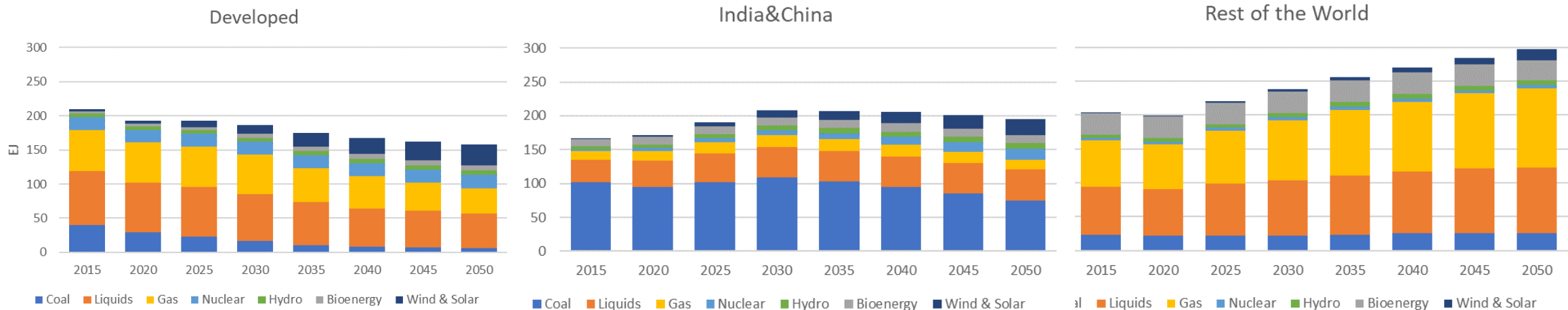


Global primary energy use in the *Current Trends* scenario grows to about 650 exajoules (EJ) by 2050, up by 15% from about 560 EJ in 2020. The share of fossil fuels drops from the current 80% to **70%** in 2050. Wind and solar - **8.6**-fold increase in EJ (from <2% to **11%** share).

In the *Accelerated Actions* scenario, global energy use is reduced due to efficiency and demand response. The fossil fuel share drops to **39%**. Wind and solar energy grow more than **13** times from 2020 to 2050 (to **25%** share).



Current Trends: Global Primary Energy by Regional Group



Energy consumption declines by 20% in the Developed region (driven by more aggressive emissions mitigation policies), while growth in energy use is 10% in the India&China region and 50% in the Rest of the World region.

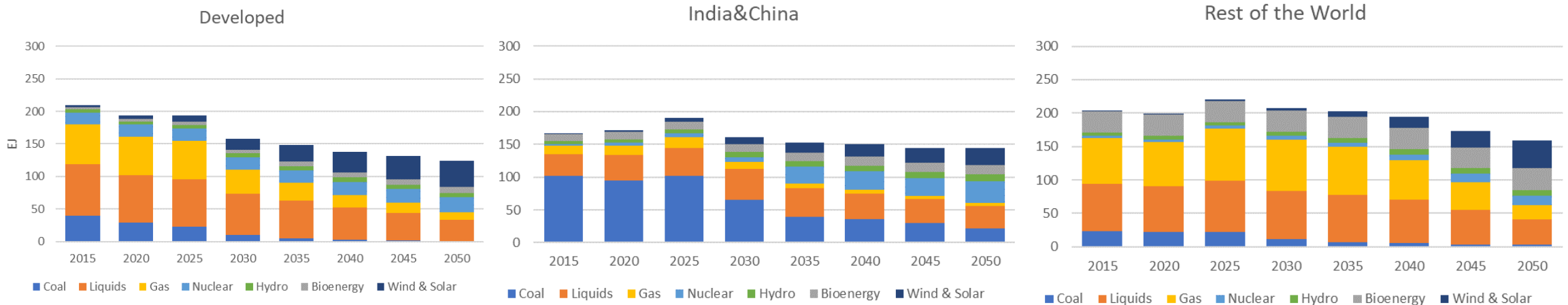
Developed: oil and gas still provide a large share of energy, coal declines, the share of low-carbon sources grows from about 17% in 2020 to about 40% in 2050.

India&China: continue to rely heavily on coal.

Rest of the World: coal does not play a large role, but this region continues to consume large quantities of oil and gas.



Accelerated Actions: Global Primary Energy by Regional Group



Energy consumption declines in all regions by mid-century

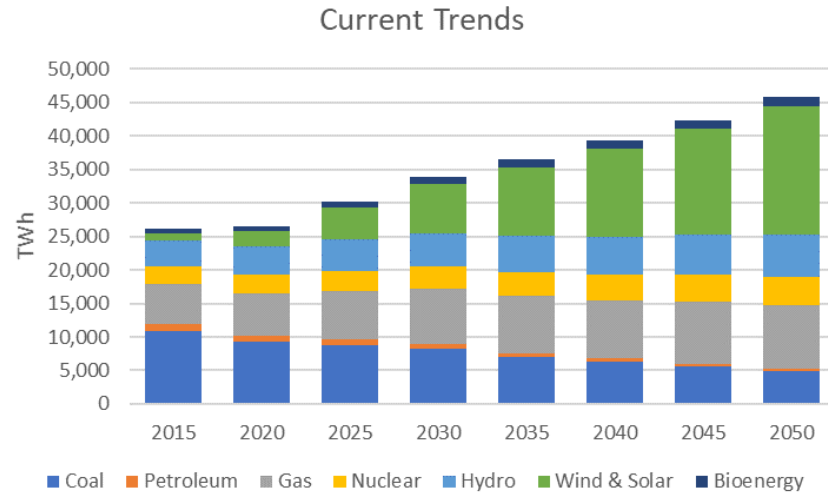
Developed: liquid and gaseous fuels are reduced (but not eliminated), coal eliminated, renewables grow 10-fold.

India&China: coal is substantially reduced, renewables grow 10-fold.

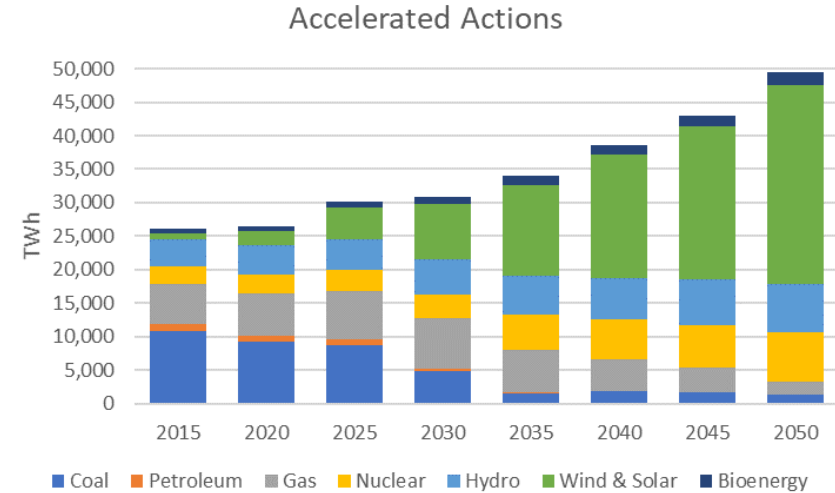
Rest of the World: very different (reduced) role for natural gas, renewables grow 45-fold, much bigger role for energy efficiency.



Global Electricity Production



In the *Current Trends* scenario, global electricity production (and use) grows by **73%** from 2020 to 2050. In comparison to primary energy growth of 15% over the same period, electricity grows much faster, resulting in a continuing **electrification** of the global economy.



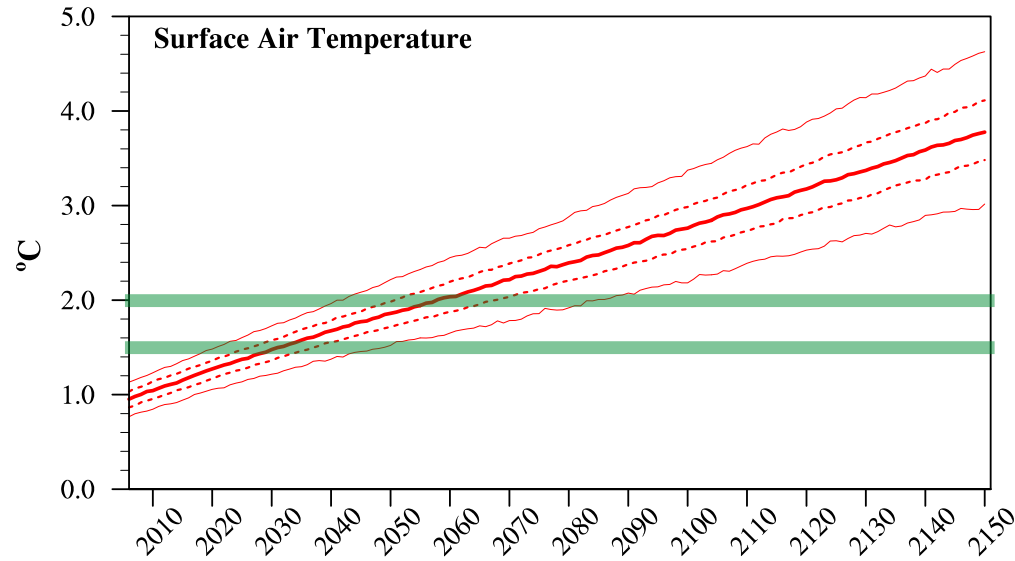
In the *Accelerated Actions* scenario, electricity production grows even faster (**87%** between 2020 and 2050).

Electricity generation from **renewable (and low-carbon)** sources becomes a dominant source of power by 2050 in both scenarios, providing 60-80% (70-90%) of global power generation by midcentury.



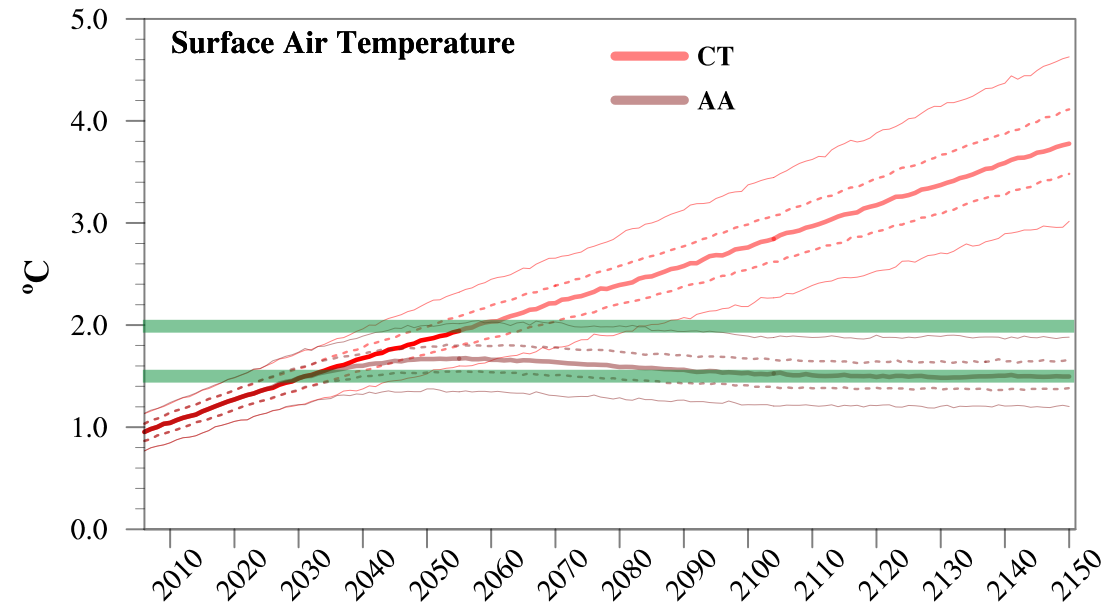
Global Average Surface-Air Temperature Changes

Current Trends (CT) Scenario



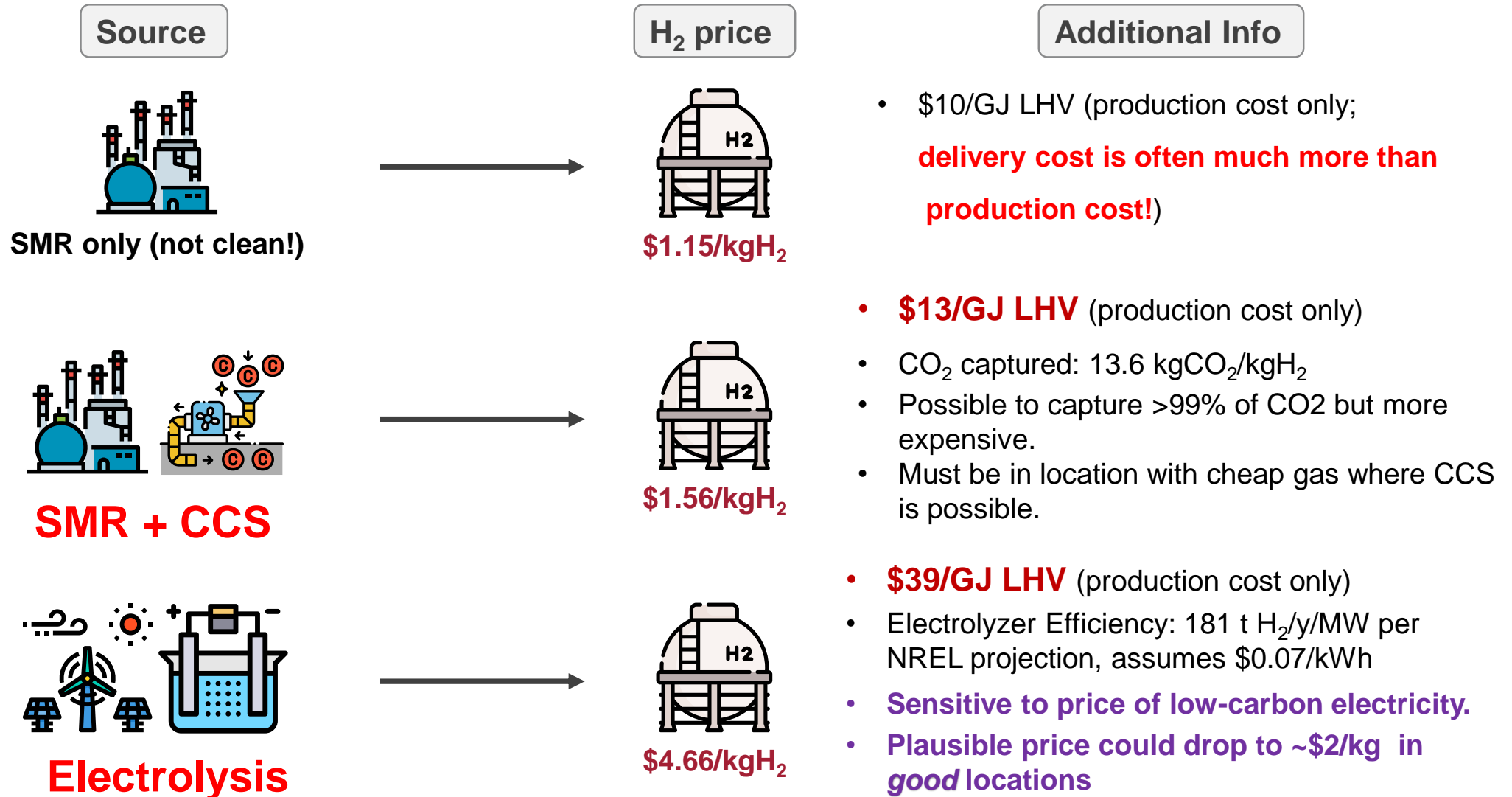
By 2060, more than half of the IGSM ensemble's Paris Forever projections exceed 2°C global climate warming, a figure that rises to more than 75% by early 2070s and more than 95% by 2085.

Accelerated Actions (AA) Scenario



Under *Accelerated Actions*, by midcentury global temperature rise will cease and decline slightly before stabilizing through the latter half of the century and into the 22nd century (to just below 1.5°C median warming).

H₂ *production* costs by source (NREL estimates)



Typical Assumptions about Hydrogen Production Costs

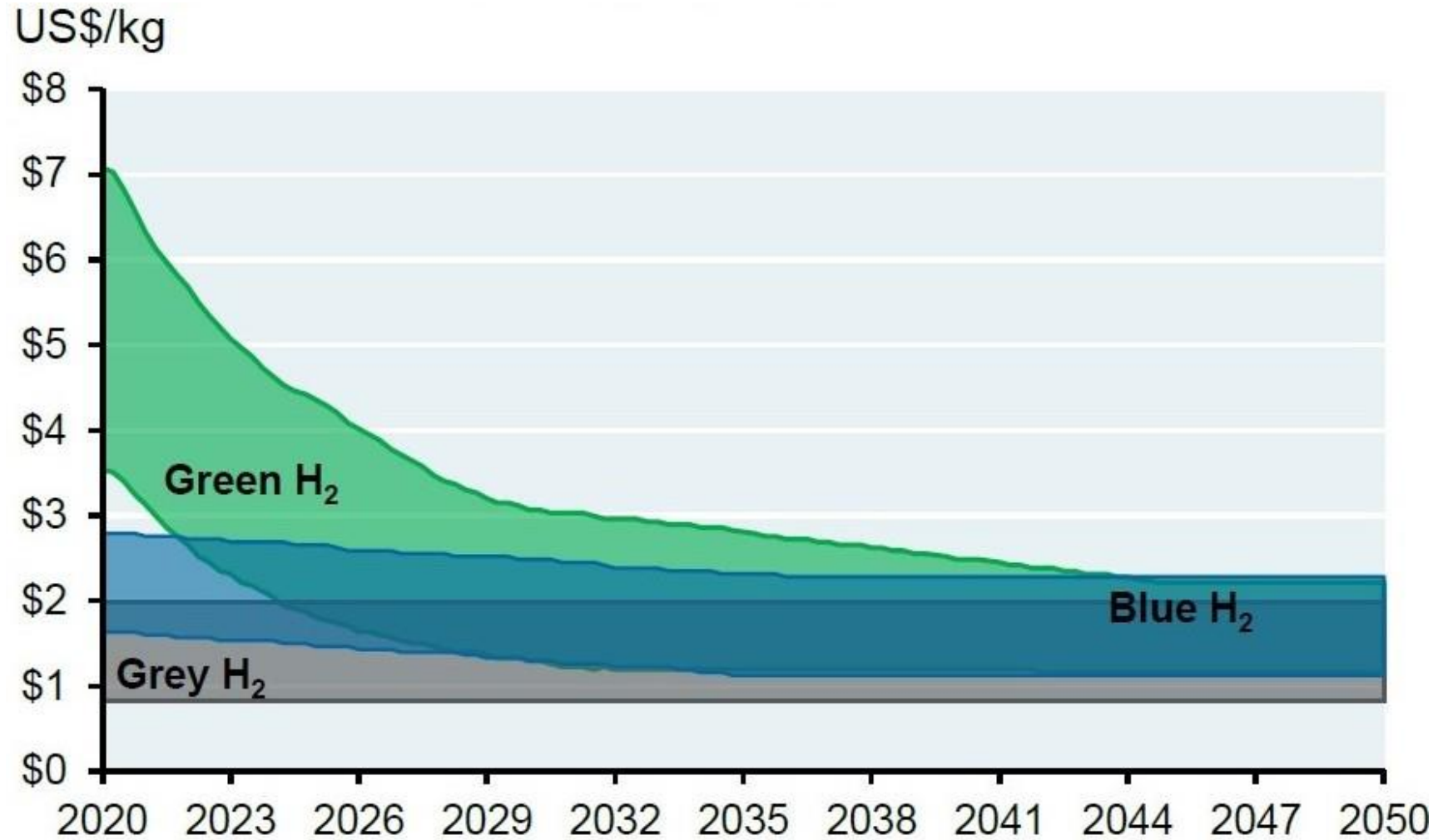
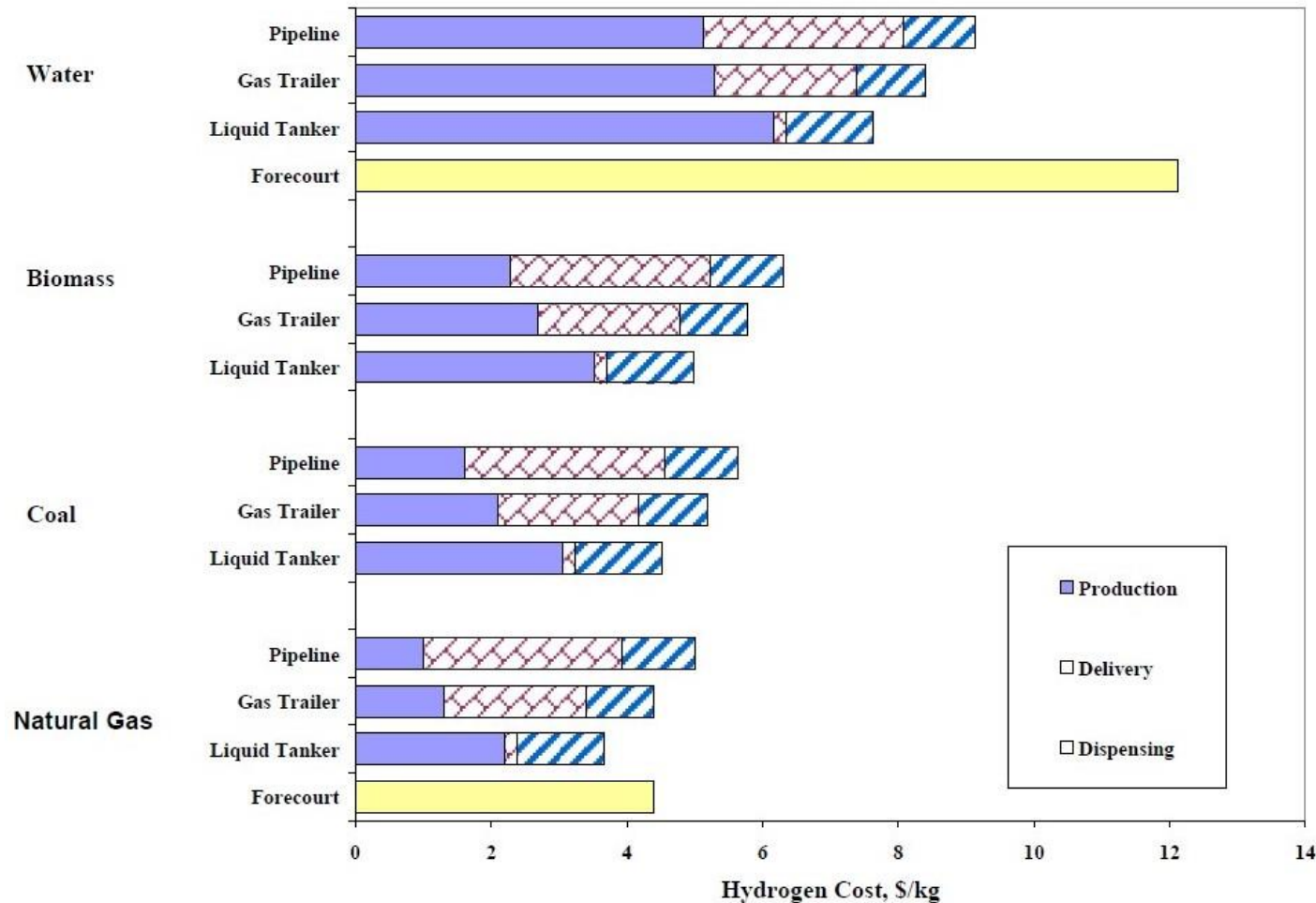


Figure Source: GS (2022)

Transportation is a major cost item for Hydrogen

Central Plant and Forecourt Hydrogen Costs



IEA (2018):

Long-distance shipping in 2040 as

Ammonia 2.50 \$/kg

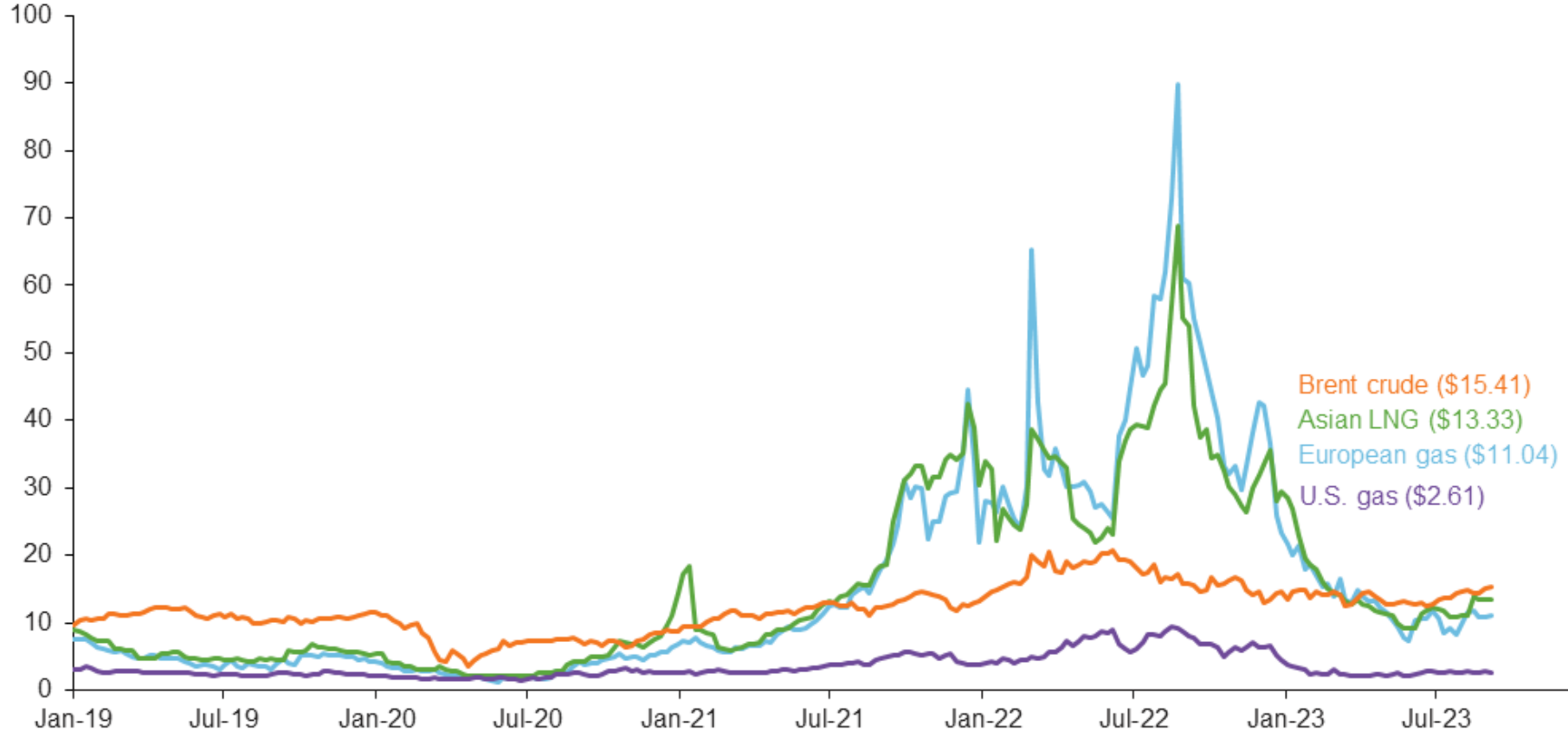
Liquid H₂ 3 \$/kg

Reported prices at California hydrogen car stations: 10-15 \$/kg

Source: Simbeck and Chang (2002)

To convert cost of H₂ in \$/kg to an equivalent natural gas price, multiply by 8.78

Dollars per million British thermal units



2 \$/kg H₂ = 17.60
\$/MMBTU

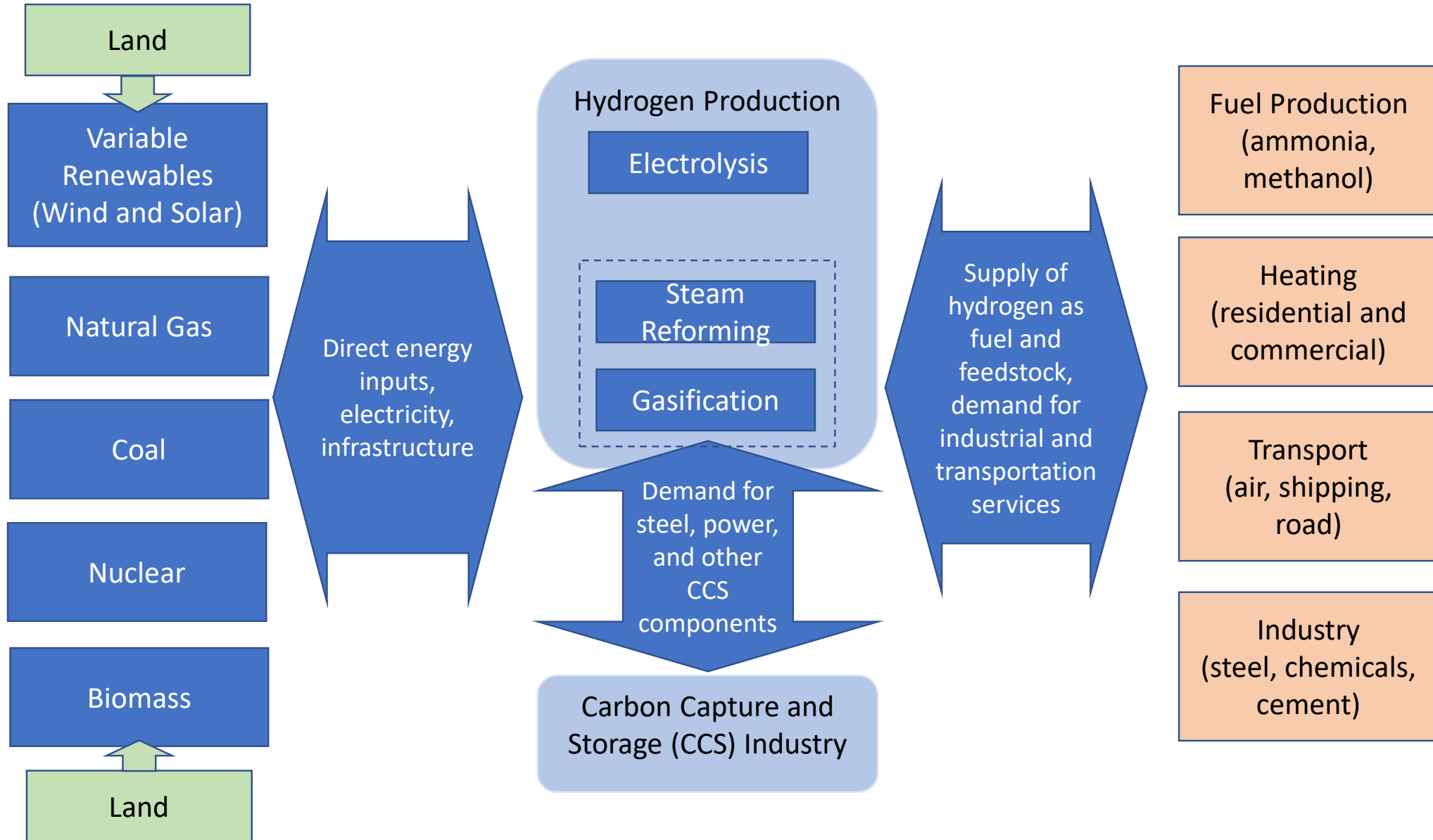
4 \$/kg H₂ = 35.10
\$/MMBTU

6 \$/kg H₂ = 52.70
\$/MMBTU

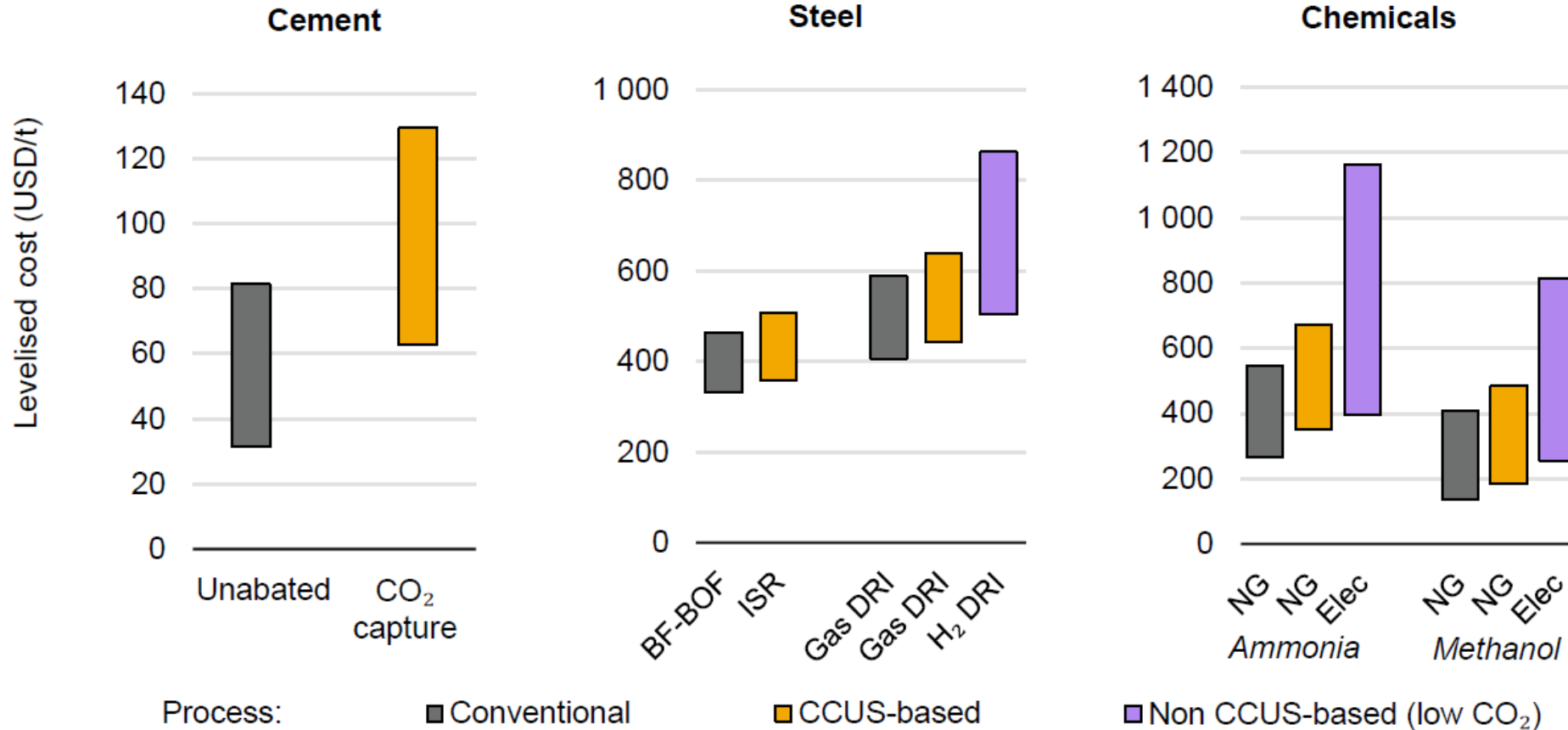
Brent crude (\$15.41)
Asian LNG (\$13.33)
European gas (\$11.04)
U.S. gas (\$2.61)

NOTE: LNG refers to liquefied natural gas. European gas price is from the Dutch TTF and U.S. gas price is from Henry Hub.

Figure Source: Federal Reserve Bank of Dallas (2023)



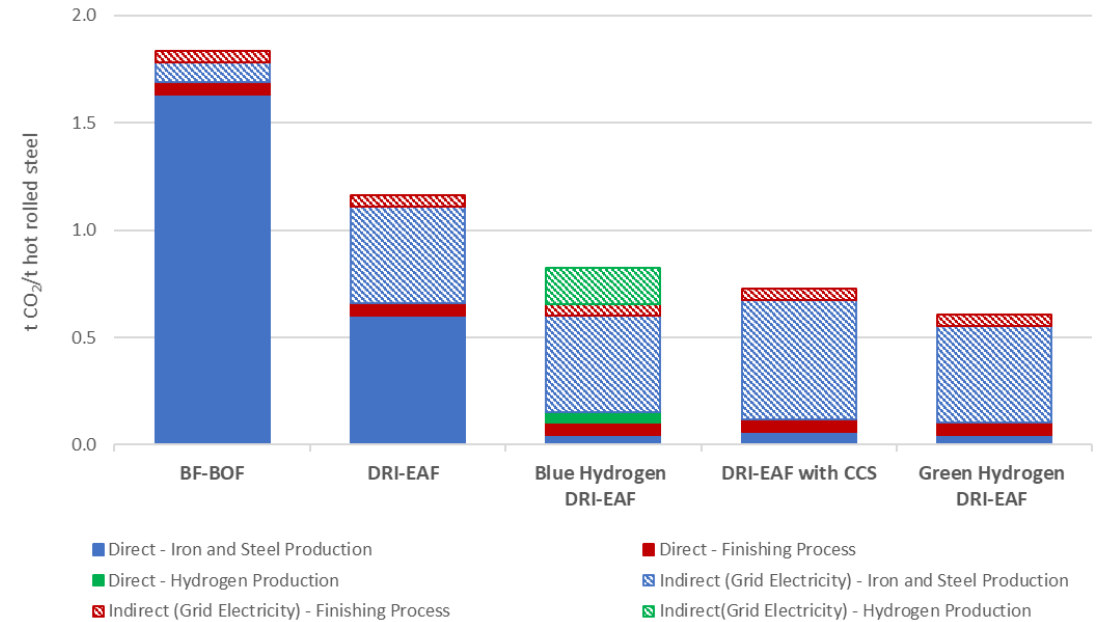
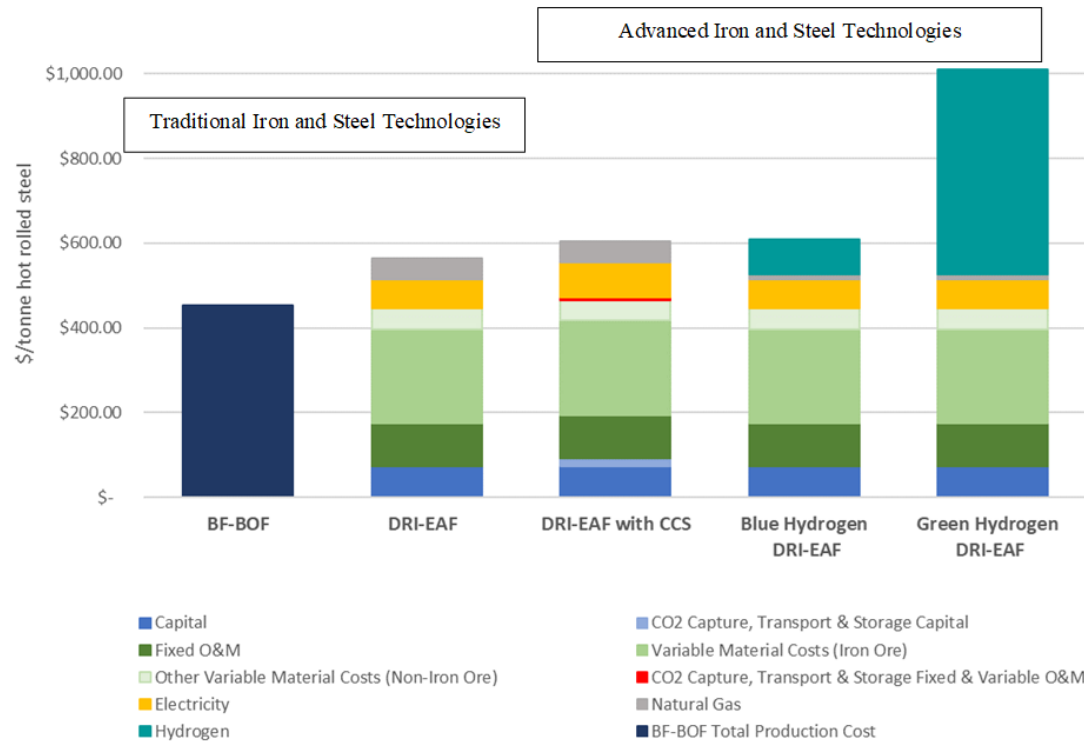
CCS vs Hydrogen Costs









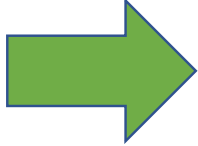












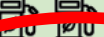








Source: IEA (2020)

ISR – innovative smelting reduction
 NG – natural gas
 Elec – electrolytic hydrogen

CCS and Hydrogen Cost in Steelmaking



Source: Benavides, K., A. Gurgel, J. Morris, B. Mignone, B. Chapman, H. Kheshgi, H. Herzog, S. Paltsev, 2024, "Mitigating emissions in the global steel industry: Representing CCS and hydrogen technologies in integrated assessment modeling," *International Journal of Greenhouse Gas Control*, 131, 103963.

	 BATTERY/ELECTRIC	 HYDROGEN	 SUSTAINABLE LIQUID FUELS
<p>1 icon represents limited long-term opportunity </p> <p>2 icons represents large long-term opportunity </p> <p>3 icons represents greatest long-term opportunity </p>			
 <p>Light Duty Vehicles (49%)*</p>		—	TBD
<p>Medium, Short-Haul Heavy Trucks & Buses (~14%)</p>			
<p>Long-Haul Heavy Trucks (~7%)</p>			
<p>Off-road (10%)</p>			
<p>Rail (2%)</p>			
 <p>Maritime (3%)</p>			
<p>Aviation (11%)</p>			
<p>Pipelines (4%)</p>		TBD	TBD
<p>Additional Opportunities</p>	<ul style="list-style-type: none"> • Stationary battery use • Grid support (managed EV charging) 	<ul style="list-style-type: none"> • Heavy industries • Grid support • Feedstock for chemicals and fuels 	<ul style="list-style-type: none"> • Decarbonize plastics/chemicals • Bio-products
<p>RD&D Priorities</p>	<ul style="list-style-type: none"> • National battery strategy • Charging infrastructure • Grid integration • Battery recycling 	<ul style="list-style-type: none"> • Electrolyzer costs • Fuel cell durability and cost • Clean hydrogen infrastructure 	<ul style="list-style-type: none"> • Multiple cost-effective drop-in sustainable fuels • Reduce ethanol carbon intensity • Bioenergy scale-up

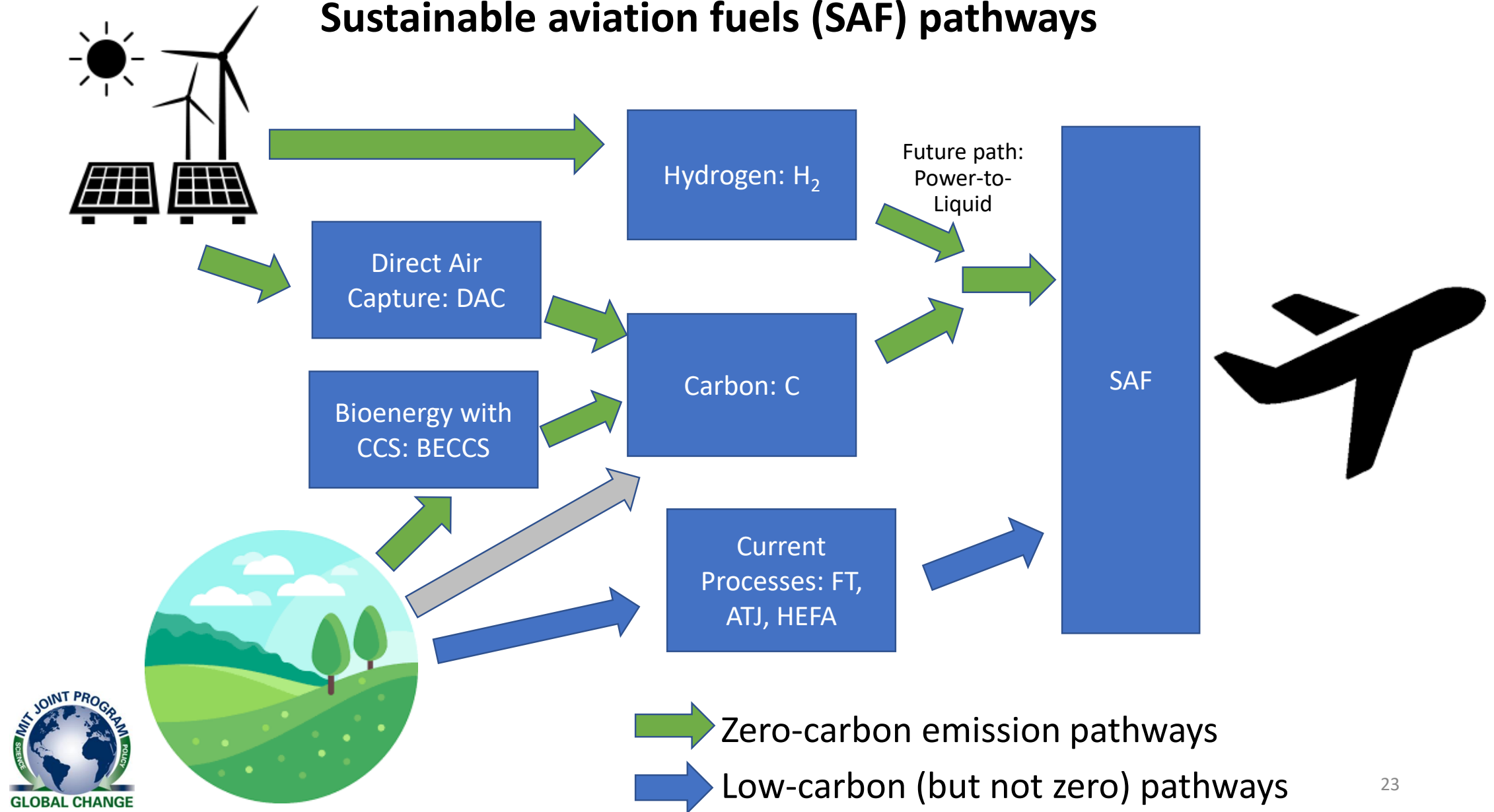
* All emissions shares are for 2019

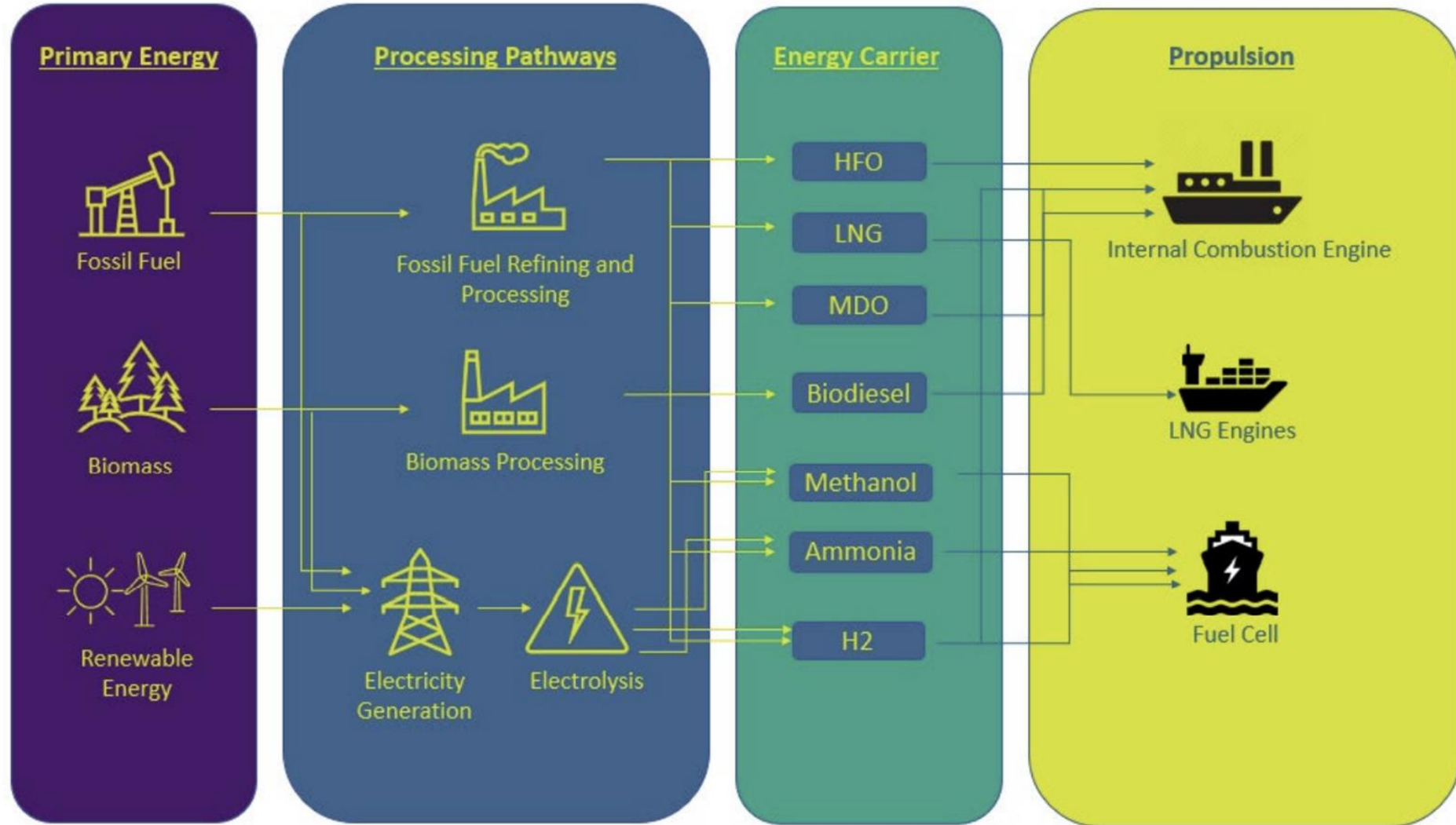
† Includes hydrogen for ammonia and methanol

Source: U.S. National Blueprint for Transportation Decarbonization (2023)



Sustainable aviation fuels (SAF) pathways





**S
H
I
P
P
I
N
G**

Figure 12 Current and potential pathways to marine fuels



Source: Hong (2022)

<https://globalchange.mit.edu/publication/17867>

Example: Increased Germany Hydrogen Demand (geopolitics + new climate target)

Earlier study (pre-Feb 2022):

2020 Germany use of natural gas:
90 bcm (2022: 80 bcm; industry is 1/3)

Replace all with H₂: 30 Mt H₂
Need to produce green H₂: 1600 TWh

2020 imports from Norway: 30 bcm
2050 imports from Norway: 15 bcm

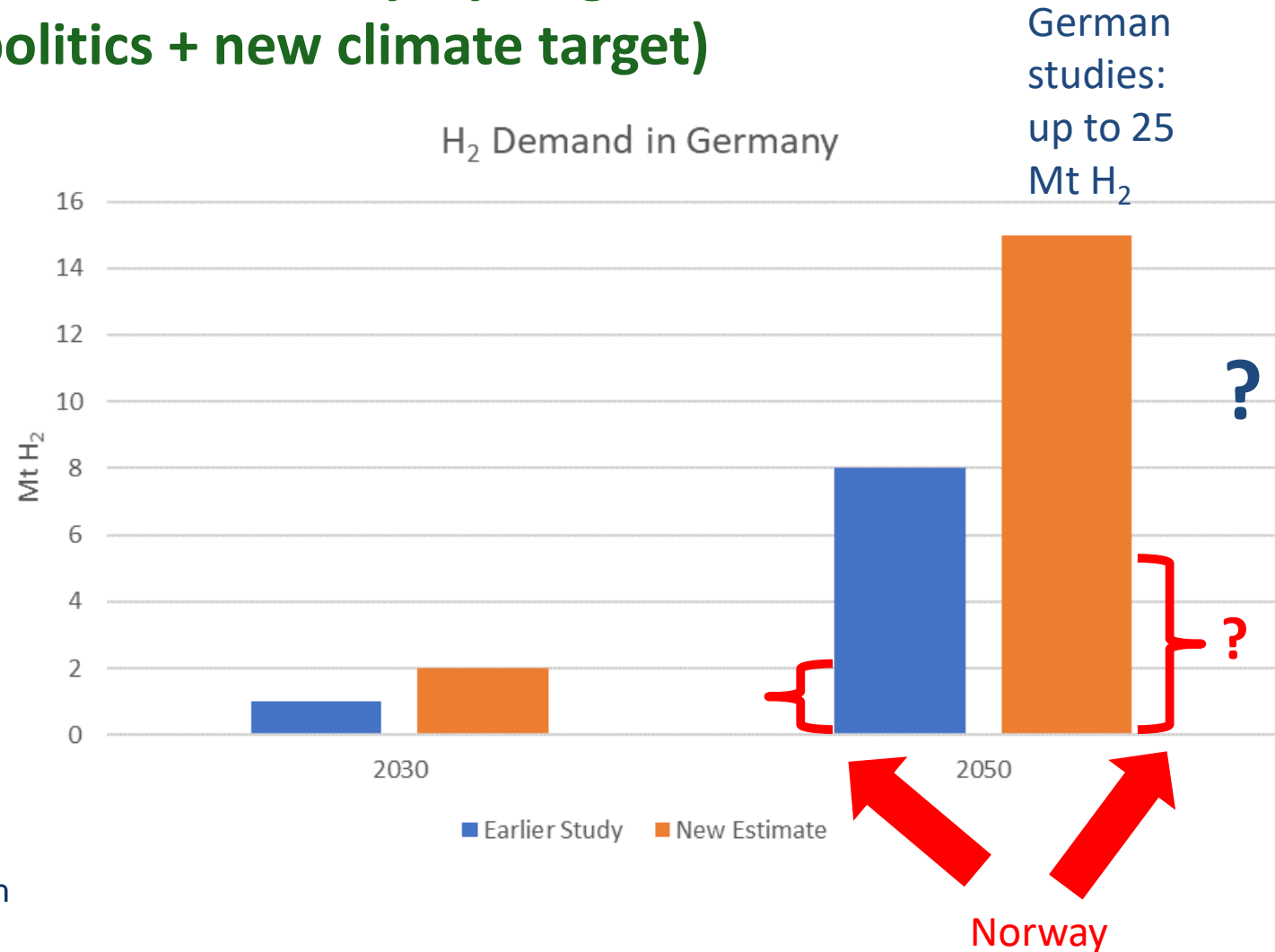
10 bcm for H₂ production (from
Norway) = 2 Mt H₂

4 Mt Green H₂ = 200 TWh
2 Mt H₂ – other gas imports

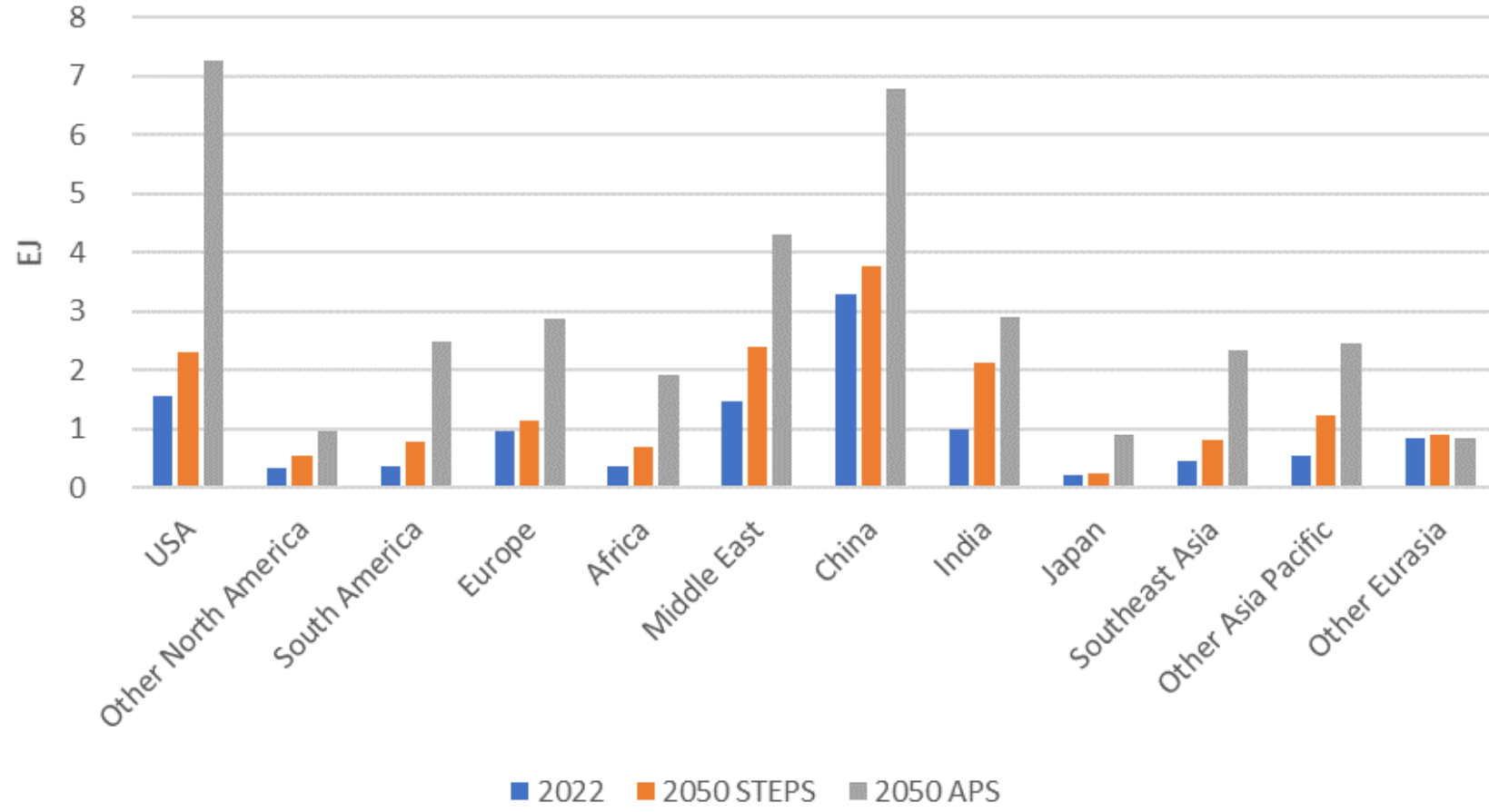
Wind Potential: 300-400 TWh
Solar Potential: 200-300 TWh

Conventional Use of Electricity: 550-600 TWh

Additional Use of Electricity: Electricity needs for Green H₂, Power-to-Liquids, Power-to-Gas could be doubled or tripled depending on technology and demand assumptions



Hydrogen Demand (for all uses)



Global H₂ Demand

2022 = 11.5 EJ

2050 STEPS = 17 EJ

2050 APS = 35 EJ

2050 NZE = 50 EJ



Data Source: IEA (2023)

2050 IEA Global Projections (STEPS-APS-NZE)

Total LCI Hydrogen Output in 2050:

3 EJ (STEPS), 23 EJ (APS), 39 EJ (NZE)

Hydrogen in Electricity Production:

0.4 EJ (STEPS), 3 EJ (APS), 6 EJ (NZE)

Total Final Energy Consumption (i.e., industry, transport, buildings):

536 EJ (STEPS), 429 EJ (APS), 343 EJ (NZE)

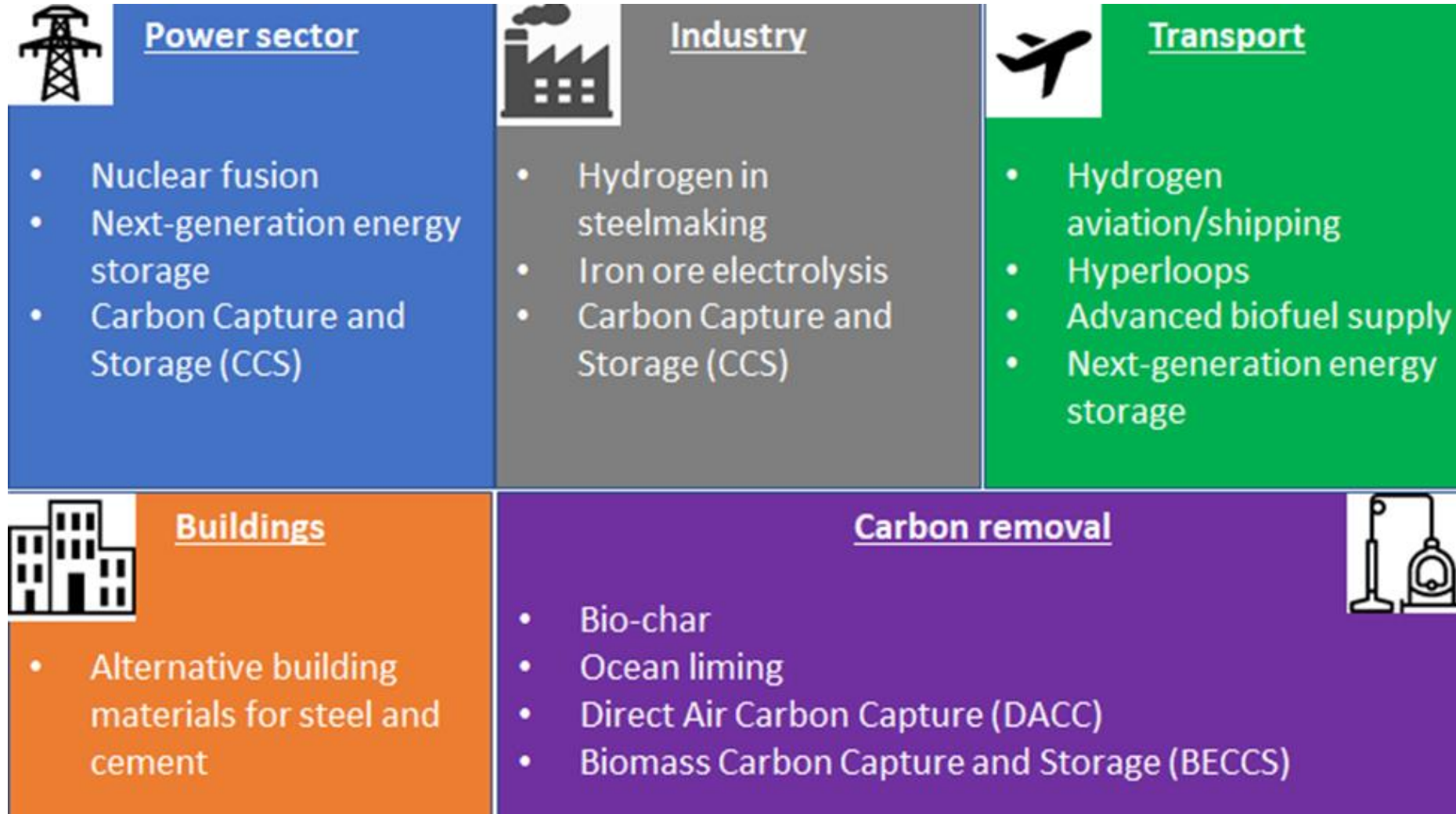
Hydrogen in Final Consumption (including as ammonia and synthetic fuels):

1.5 EJ (STEPS), 15 EJ (APS), 26 EJ (NZE)

If all 39 EJ in NZE are “Green H₂”, then 17,500 TWh are needed to produce it

Global Electricity Generation in 2022 was 29,000 TWh





Also important: Demand Side Management

Graphics: EPFL





Thank you

Questions or comments?

Please contact Sergey Paltsev at paltsev@mit.edu



IN-CONFIDENCE**Treasury Guest Lecture Series: 19 February 2024****Dr Sergey Paltsev: Role of hydrogen in low-carbon energy transition**

1:00 pm	Welcome everybody Introduce topic and speakers	Tim Ng
1:05 pm	Presentation	Sergey Paltsev
1:50 pm	Questions & Answers	Questions from the room & posted online using Q&A function on Teams
2:25 pm	Close	Tim closes

Opening**Tim***1:00 – 1:05 pm*

- E ngā iwi, e ngā mana, e ngā hoa mahi. Tēnā koutou katoa.
- E mihi ana ki a koutou, kua tae mai ki te tautoko tēnei kaupapa.
- Ngā mihi nui ki a Sergey Paltsev, te kaikōrero o te rā. Tēnā koe Sergey.
- Nau mai, haere mai ki Te Tai Ōhanga. Kō Tim Ng tōku ingoa.
- Good morning everyone. I'm Tim Ng, a Strategic Economic Adviser here at the Treasury and I'm very pleased to welcome you to our Guest Lecture today. We are delighted to host today's event jointly with Motu Research. Many thanks to Motu for working with us to bring together this event, to support informed debate on some of New Zealand's most pressing economic challenges.

IN-CONFIDENCE

- I'm especially happy to welcome Dr Sergey Paltsev from MIT, our distinguished speaker for today, and whom I will introduce more fully shortly. Welcome, Sergey. It's great to have you with us, and thank you for taking the time and for sharing your expertise with us today.

Hygiene

- Let me start with a quick briefing on health and safety procedures for all those in the room. Bathrooms can be found to the left-hand side of the kitchenette; walk straight ahead after exiting the rooms. In the event of a fire alarm, please follow Treasury staff to the nearest exit and go down the stairwell to evacuate the building; please 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.

Welcome

- So, once again, welcome everyone. It's wonderful to see everybody here and online.

Context of this seminar series

- This seminar is one of several we are presenting under the theme of *Productivity in a Changing World*.
- This theme recognises that significant global trends – such as climate change, population ageing and technological innovation – are reinforcing the importance of lifting New Zealand's productivity performance, and creating new challenges for productivity along the way.
- All speakers in the series have kindly agreed to share their expertise on the implications of these trends for New Zealand's economic and productivity performance and the sustainability and resilience of our economy.

About the speaker

- Let me now introduce Dr Sergey Paltsev, our speaker for today, more comprehensively. Sergey, we are thrilled to have you with us.
- Sergey is a Deputy Director of the Joint Program on the Science and Policy of Global Change at the Massachusetts Institute of Technology, in Cambridge, USA.

IN-CONFIDENCE

- He is also a Senior Research Scientist at the MIT Energy Initiative and MIT Center for Energy and Environmental Policy Research, and a Director of the MIT Energy-at-Scale Center.
- Sergey is the lead modeler in charge of the MIT Economic Projection and Policy Analysis model of the world economy.
- His research covers a wide range of topics including energy economics, climate policy, taxation, advanced energy technologies, and international trade.
- Sergey was a Lead Author of the Fifth Assessment Report of the IPCC, the Intergovernmental Panel on Climate Change.

Topic of the presentation

- Today, Sergey will share findings from the recently released MIT Global Change Outlook, which provides analysis of the risks and benefits associated with existing climate policies. The Outlook emphasises the need for faster action to stabilise the climate and protect human population and natural systems.
- Sergey will look at the case for hydrogen-based fuels and renewable natural gas, using studies of selected industries. He will also discuss the role of government in realising the potential of hydrogen-based solutions.
- This is obviously a very topical issue both for New Zealand and for the rest of the world. We hope that you will find Sergey's presentation and the report findings useful analysis to support the many complex decisions needed in both the public and private sectors to transition to a low-emissions economy.

Logistics and hand-over to the speakers

- In a second, I will invite Sergey to take the floor. After his presentation, we will have time for questions, both from the room and from our online audience.
- For online folks, we will monitor for questions on the Q&A function in Teams, so please feel free to post your questions there at any time. If you have any technical queries or feedback, like connectivity, please use the chat function.
- Over to you Sergey, and once again, welcome.

IN-CONFIDENCE**Questions****Tim / Sergey***app. 1.50 – 2.25 pm*

- Thank you, Sergey, for your interesting presentation.

Perhaps make an observation of something that you were struck by.

- We will now turn to questions and discussion. If you're online, please keep your questions coming using the Q&A function. For those in the room, please raise your hand and we'll get a microphone to you. I think everyone would appreciate it also if those asking questions could please introduce themselves briefly before asking your question. I'm going to try to take both online and in-person questions.

If there are lots of questions, we could suggest alternating them – one Q from the room, one Q from online etc.

Questions till around 2.25 pm.

Closing**Tim***approx. 2.55 pm*

- *Unfortunately, we have run out of time – and we need to bring today's event to a close.*
- Thank you very much once again, Sergey, for a fascinating presentation and for taking the time to share your work and insights.
- Many thanks to our colleagues from Motu Research for a great collaboration on this event and connecting us with Sergey. It's such a privilege to be able to hear from such experienced experts such as Sergey.
- And thanks to all of you – here at the Treasury and online - for joining us.
- Also, please keep an eye out for the upcoming seminars. We will have more brilliant speakers in this series, with the next one taking place on 7 March.
- Let me finish now with a whakataukī, a proverb.

IN-CONFIDENCE

Mā te kōrero, ka mōhio

Mā te mōhio, ka mārama

Mā te mārama, ka mātau

Mā te mātau, ka ora te iwi.

- This whakataukī says that with discussion comes learning, with learning comes understanding, with understanding comes knowledge, and with knowledge comes the wellbeing of all people.
- Thank you once again to everyone for attending, and to Sergey for presenting.
- Mā te wā.

EARLY IN FINANCE CAREER FORUM SPEAKING BRIEF

Thank you so much for agreeing to present in the next planned Early in Finance Career Forum.

BACKGROUND

The Early in Finance Career forum caters to professionals in the early stages of accounting/finance careers, including those without formal accounting qualifications. Attendees, spanning recent graduates to qualified individuals, aim to build a professional network, undergo development, and gain insights into the finance function and long-term career prospects in the public sector.

Led by Trish McAuliffe, CFO at Stats, the forums complement the Finance Development Programme and align with PSC's early career initiatives, focusing on supporting finance professionals.

Emphasizing the broad relevance of EIFC topics for professionals at all levels, the advertising approach underscores that these impactful strategies in public sector finance are beneficial to everyone, regardless of career stage.

This forums topic will be *Thriving Through Transformation: Turning Challenges into Opportunities*.

SESSION OUTCOME

The theme for the overall forum is '**thriving through change**', we would like you to focus on:

- How do you embrace change? Do you use any strategies?
 - Can you share a time you have turned a challenge into an opportunity?
- Can you give an example of when your finance staff have delivered complex financial information well during a period of change?
 - What information was included? Why was it good? E.g. solutions/options were included.
- Have you collaborated with a finance professional who excelled in communication compared to others? What specific skills did they possess that contributed to their effectiveness?
- How important is it for professionals to focus on building their soft skills/power skills e.g., Relationship building, communicating etc
 - How important are these skills during times of change?
- How do you manage your wellbeing especially during times of immense pressure and scrutiny?

We would also really appreciate it if real examples and scenarios could be used to emphasise points, where appropriate (as people appreciate the war stories).

Prepared questions

The MC will ask these to start the Q&A

- What was your best piece of career advice that you have received?
- How do you manage being in the public eye during turbulent times?

EVENT DETAILS

Event Description: For the second session of our *Time to Shine Series*, designed for public sector professionals, where we hear from inspiring leaders who have served or currently serve as CEOs.

In this event, we'll explore effective strategies with the theme ***Thriving Through Transformation: Turning Challenges into Opportunities***.

Learning Objectives:

- **Adaptable Mindset:** Gain insights into embracing change, fostering adaptability and proactive responses.
- **Building Strong Connections:** Develop techniques for effective stakeholder engagement, constructing robust relationships, and positively influencing decision-making.
- **Creative Problem Solving:** Explore innovative approaches to problem-solving.
- **Clear Communication:** Hone communication skills to articulate complex financial information clearly and comprehensibly.
- **Wellbeing in the Public Workplace:** Learn practical strategies for maintaining mental and physical health, especially during challenging and stressful periods inherent to public sector roles.

Time to Shine Series Theme: The *Time to Shine Series* aims to empower public sector professionals to seize opportunities within challenges. In this session, we'll delve into the essence of excelling through transformation. Adapting to the evolving demands of the public sector is crucial for success.

AGENDA

Timing	Topic
10.00am (5 mins)	Introduction and context setting/ H&S
10.05am (54 mins)	Thriving Through Transformation: Turning Challenges into Opportunities. Including Q&A
10.59am (1 min)	Closing the forum
1.00pm	Close session

FORUM LOGISTICS

This forum will be mc'ed by a member from the project team.

We will be hosting this hybrid forum at the **Treasury**, Level 3, 1 The Terrace.

Project Lead Trish McAuliffe, Chief Financial Officer at **Stats New Zealand**.

Please be aware that we will record this session so please let me know if you would **not** like that to occur. We do a post event survey and if you would like these results shared, please let me know.

I am happy to meet beforehand, or email if you would like more information. Just let me know how I can help further.

Thank you.

Michelle Cornish, Finance Development Programme Lead

Introduction to being a finance professional in Government

Session 1

Tuesday 16 January 2024

Finance
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Health and Safety



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Agenda:

Time	Activity	Presenter
9.00 am (10 mins)	Welcome – overview of day	Mark Mclellan – FDP Senior Advisor, The Treasury
9.10 am (20 mins)	Icebreaker	Mark Mclellan - FDP Senior Advisor, The Treasury
9.30 am (30 mins)	Role of Public Service Commission (PSC) / Delivering Advice in a political environment / Standards of Integrity	Radhika Patel-Cornish and Emma Smart –Senior Advisors, Integrity, Ethics and Standards, Public Service Commission
10.00 am (30 mins)	A brief overview of the Government Exercise: Discussion on key differences between working in Government compared to other sectors	Warwick White – Deputy Head of the Government Finance Profession, The Treasury
10.30 am (30 mins)	Morning tea	
11.00 am (30 mins)	Acronym game	Warwick White – Deputy Head of the Government Finance Profession, The Treasury
11.30am (35 mins)	Roles and responsibilities <ul style="list-style-type: none"> • The Office of the Auditor General • Audit New Zealand • Key legislations that are relevant for a government finance professional 	Angela Ryan – Principal Advisor of Chief Government Accountant Team, The Treasury
12.05pm	Summary of session and close	Mark Mclellan – FDP Senior Advisor, The Treasury



Learning Objectives:



By the end of the session, you will have a better understanding of:

- The wider government context in which your agency operates
- To understand the importance of the Crown / Māori relationship
- Key areas of difference between working in government to other sectors

Icebreaker





Te Kawa Mataaho
Public Service Commission

Integrity in the Public Service

Radhika Patel-Cornish & Emma Smart

Integrity, Ethics and Standards Group
Te Kawa Mataaho Public Service Commission

The Public Service Act 2020



Contents

1	Title
2	Commencement
	Part 1
	Preliminary provisions
	Subpart 1—Provisions for operation of Act
3	Purposes of this Act
4	Guide to this Act
5	Interpretation
6	References to departments in enactments
7	Circumstances where section 6 does not apply
8	Transitional, savings, and related provisions
9	Act binds the Crown
	Subpart 2—Public service defined, purpose, public service principles, and spirit of service to community
	<i>Public service defined</i>
10	Public service defined
	<i>Purpose, public service principles, and spirit of service to the community</i>
11	Purpose
12	Public service principles
13	Spirit of service to community
	Subpart 3—Crown's relationships with Māori
14	Crown's relationships with Māori
15	Who responsibilities are owed to, how these apply, and reporting to Commissioner
	Subpart 4—Public service values, minimum standards of integrity and conduct, and New Zealand Bill of Rights Act 1990
	<i>Public service values and minimum standards of integrity and conduct</i>
16	Public service values
17	Commissioner may set minimum standards of integrity and conduct
18	Agencies must comply with minimum standards unless exception granted
19	Guidance on integrity and conduct
20	Required content of guidance on political neutrality
21	Status of minimum standards and guidance



Oversight role for integrity in the public sector



Public Service Principles and Values

PRINCIPLES

- Politically neutral
- Free and frank advice
- Merit-based appointments
- Open government
- Stewardship

VALUES

- Impartial
- Accountable
- Trustworthy
- Respectful
- Responsive



Political Neutrality



Free and Frank Advice

The intended outcome of free and frank advice is better results and services for New Zealanders, not officials advancing their own agenda or looking to demonstrate fearless independence for its own sake.

— Peter Hughes, State Services Commissioner





Pātai/Questions?

A brief overview of the Government

Warwick White





A brief overview of Government

New Zealand has three branches of Government:

- The **Legislature**
- The **Executive**
- The **Judiciary**

The Legislature



(Parliament)

- Consists of: Members of Parliament and the Governor-General.
- The role: to make laws (legislation), and to scrutinise the Executive.

The Executive



Consists of:

- Ministers (both inside and outside Cabinet)
- Government departments (more on this later)

The role: to decide policy, propose laws (which must be approved by the Legislature) and administer the law.

The Judiciary



- Consists of: judges and the courts.
- The role: to interpret and apply the law.

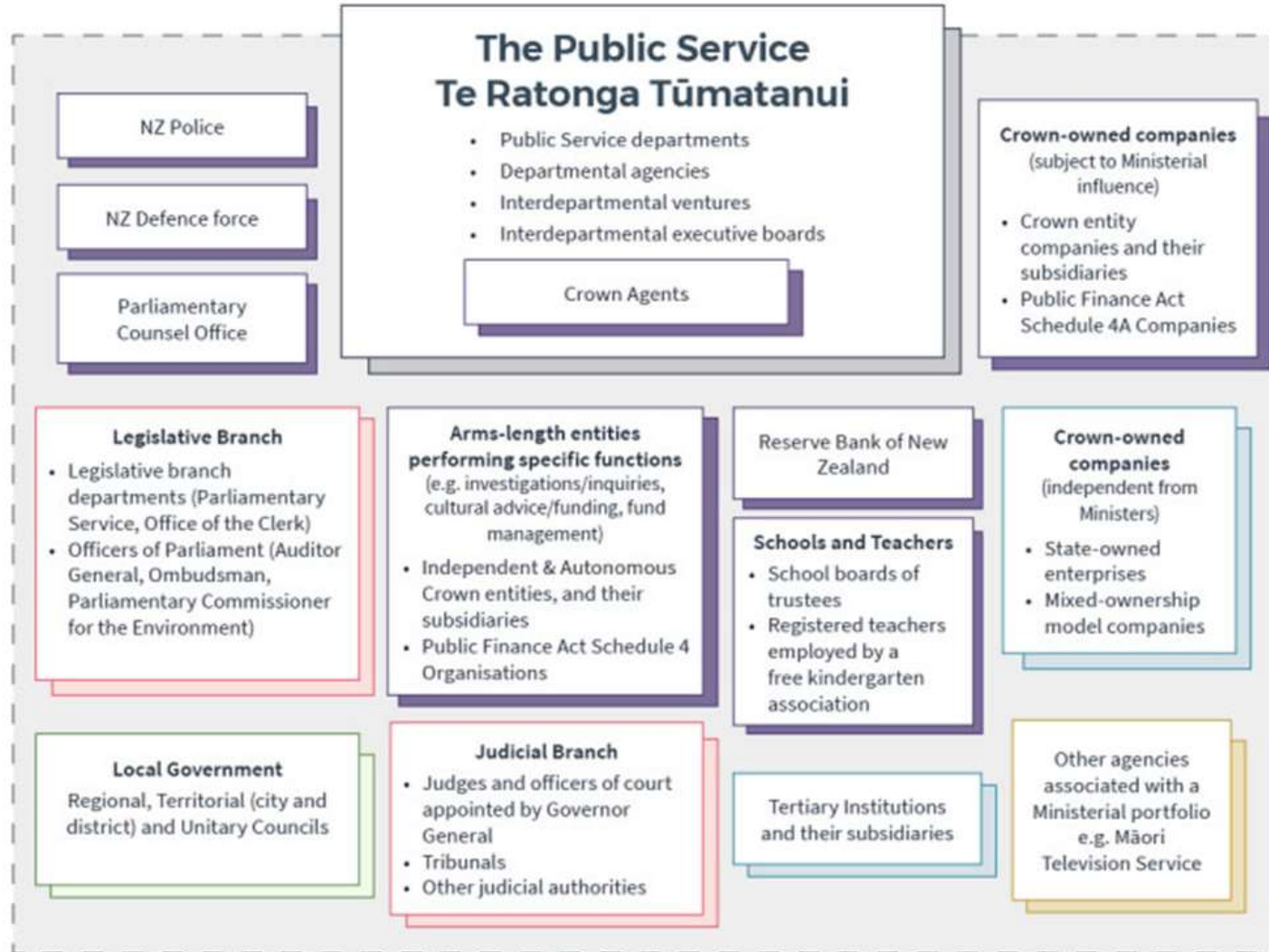
Break Time!



Agencies of the 'system': Overview



The Public Sector | Te Rāngai Tūmatanui



Agencies of the 'system': the Financial Statements lens

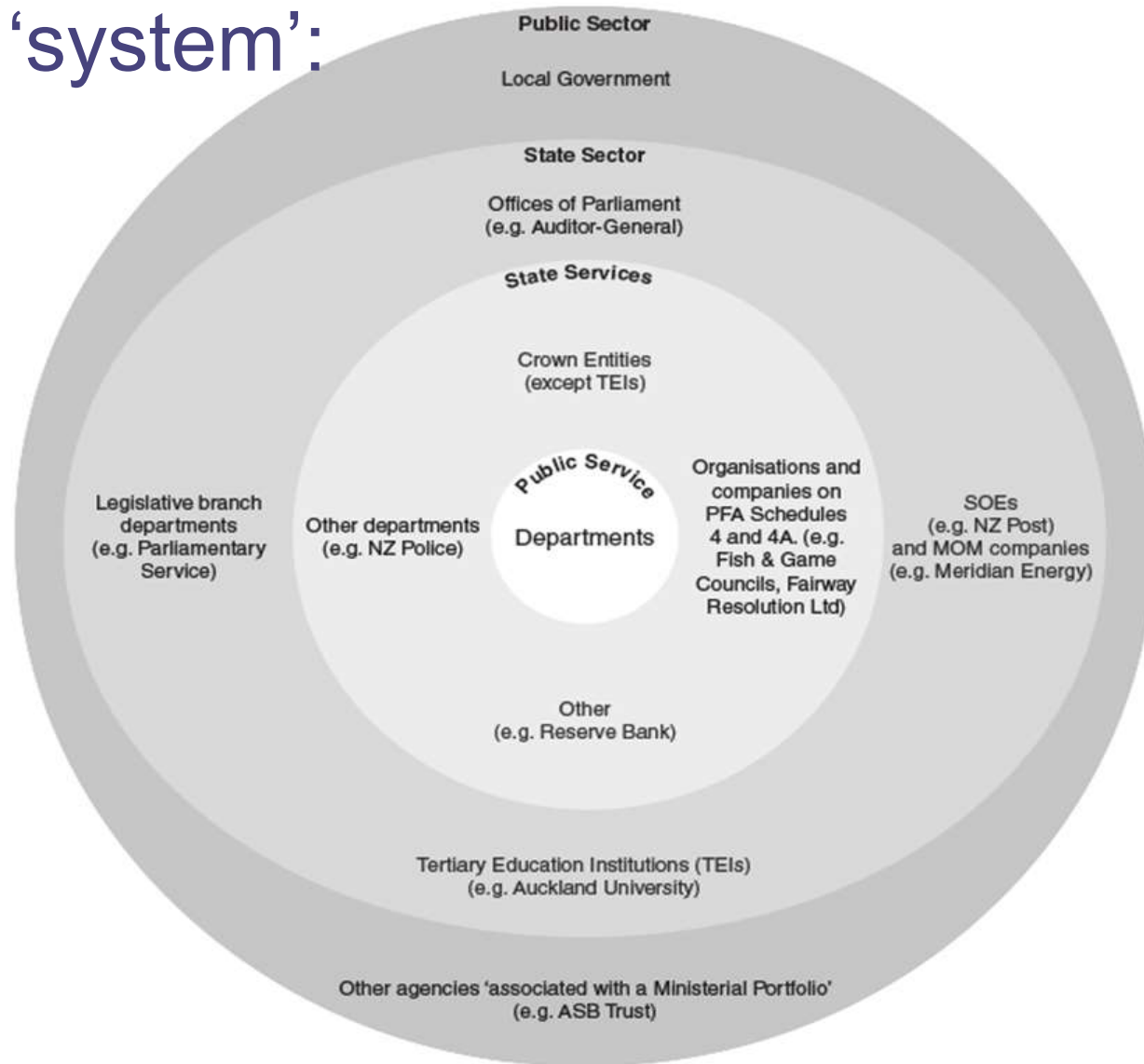
Core Crown entities

- Ministers of the Crown
- Government departments
- Offices of Parliament
- the Reserve Bank of New Zealand
- New Zealand Superannuation Fund

Other entities

- State-owned Enterprises
- Crown entities (excluding Universities and Wānanga)
- Air New Zealand Limited
- Christ Church Cathedral Reinstatement Trust
- Kiwi Group Holdings Limited (including Kiwibank)
- Venture Capital Fund
- Organisations listed in Schedule 4 and 4A (*Non-listed companies in which the Crown is majority or sole shareholder*) of the Public Finance Act 1989
- Organisations listed in Schedule 5 (*Mixed ownership model companies*) of the Public Finance Act 1989
- Legal entities listed in Schedule 6 (*Legal entities created by Treaty of Waitangi Settlement Acts*) of the Public Finance Act 1989

Agencies of the 'system': the Executive lens



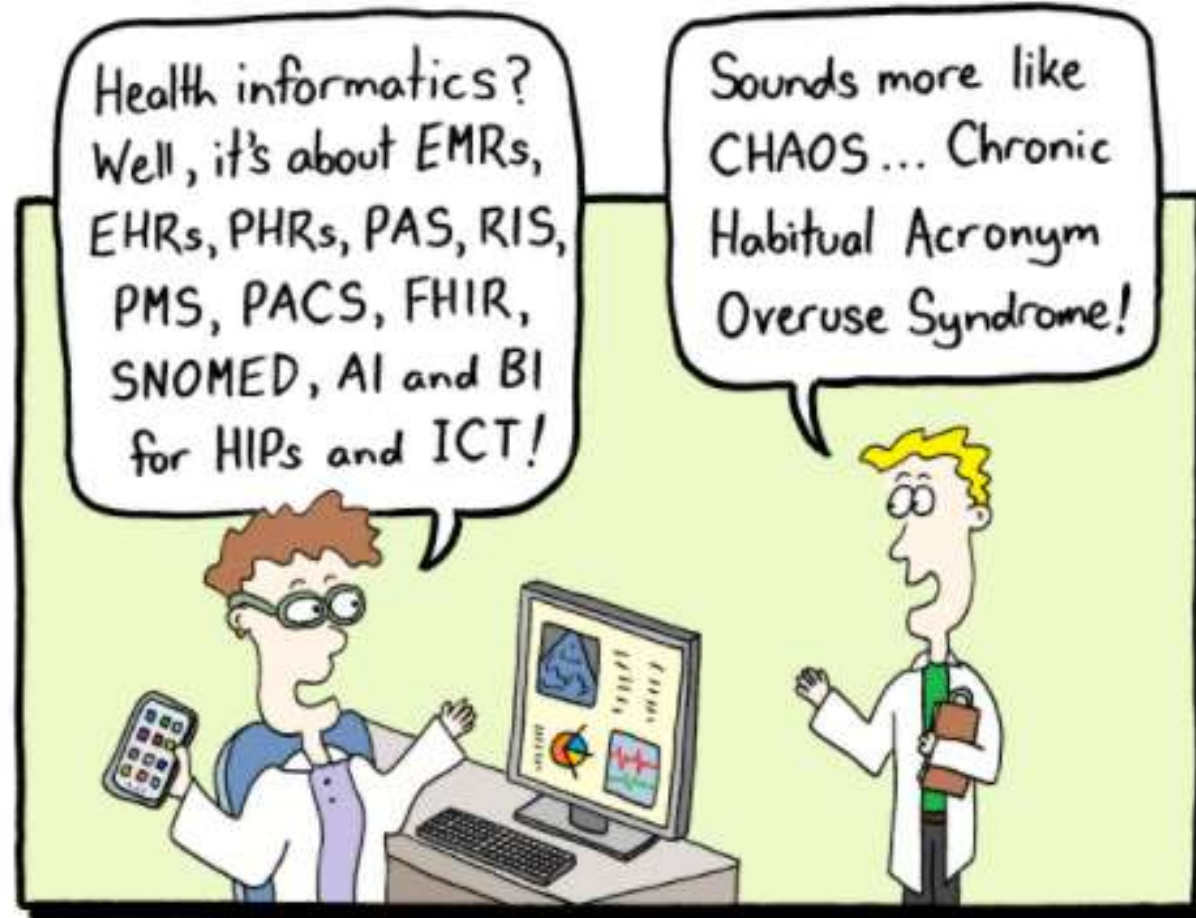
Group discussion



- What are some key differences between working in the private sector and working in the public sector?
- And what are some similarities?



The Acronym Game



Roles and responsibilities

Bonar Robertson

Central Agencies



TE TAI ŌHANGA
THE TREASURY



**DEPARTMENT OF THE
PRIME MINISTER AND CABINET**
TE TARI O TE PIRIMIA ME TE KOMITI MATUA



Te Kawa Mataaho
Public Service Commission



**National Emergency
Management Agency**
Te Rākau Whakamarumarū

Finance
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DEPARTMENT OF THE PRIME MINISTER AND CABINET

TE TARI O TE PIRIMIA ME TE KOMITI MATUA

- Provides impartial advice and support services to the Prime Minister, Cabinet, and the Governor-General on a daily basis.
- Helps coordinate core public service departments and ministries.





TE TAI ŌHANGA THE TREASURY

NZ's lead advisor to the Government on economic, financial and regulatory policy.





CONTROLLER AND AUDITOR-GENERAL

Tumuaki o te Mana Arotake



- The Controller and Auditor-General is appointed by the Governor-General. He reports to Parliament (not the Government), through the Speaker of the House and the Officers of Parliament Committee.
- The Controller function is an important part of the Auditor-General's work. It supports the fundamental principle of Parliamentary control over government expenditure.

AUDIT NEW ZEALAND

Mana Arotake Aotearoa



What we stand for



People matter

We treat others with dignity and respect. We care for each other, take time to listen, and value everyone's contribution. We support our people to realise their potential. We take responsibility for our decisions and actions. We celebrate our achievements.

Key legislation for a finance profession

- Public Finance Act 1989
- Public Service Act 2020
- Public Audit Act 2001
- Crown Entities Act 2004
- State Owned Enterprises Act 1986



Summary of Session

Thank you!

Introduction to Being a Finance Professional in Government

Session 2

Tuesday 17 January 2024

Finance
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Health and Safety



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Agenda:

Time	Activity	Presenter
9:00 am (5 mins)	Introduction Session 1 recap	Mark McLellan – Senior Advisor, The Treasury
9:05 am (5 mins)	Privacy, Security and Risk	Mark McLellan – Senior Advisor, The Treasury
9:10 am (15 mins)	Icebreaker	Mark McLellan – Senior Advisor, The Treasury
9:25 am (20 mins)	The Finance Capability Framework for Government Finance Professionals	Mark McLellan – Senior Advisor, The Treasury Government Finance Profession Team
9:45 am (30 mins)	Counter Fraud Office – Serious Fraud Office	Shamilla Manikam - Senior Counter Fraud Advisor - Serious Fraud Office
10:15 am (30 mins)	Fiscal Reporting	Hannah Singleton & Amna Zahra - Senior Government Reporting Accountant & Government Reporting Accountant, The Treasury, Fiscal Reporting
10:45 am (15 mins)	Morning tea	
11:00 am (45 mins)	Budget Management	Jinal Mehta - Analyst – The Treasury, Budget Management Team
11:45 am (30 mins)	Reporting from an Agencies view	Mark McLellan – Senior Advisor, The Treasury
12:15 pm (10 mins)	Opportunities across the sector	Mark McLellan – Senior Advisor, The Treasury
12:25 pm	Closing session	Mark McLellan – Senior Advisor, The Treasury



Learning Objectives:



By the end of the session, you will have a better understanding of:

- Capability Framework for Government Finance Professionals
- The role and function of some of the key Treasury system teams
- How to read the Financial Statements of Government
- The role of the Counter Fraud Office – Serious Fraud Office
- Development opportunities across Government

Recap Day 1



On Day 1 we covered:

- ✓ The wider government context in which agencies operate.
- ✓ Key areas of difference between working in Government compared to other sectors.
 - ***What was your biggest takeaway?***
 - ***Do you have any unanswered questions from session 1?***
 - ***What surprises you from working in Government?***

Privacy, Security and Risk



Agency responsibility

- New Zealanders need to have trust and confidence in the way Government manages their personal information

Privacy officers

- The Privacy Act requires all private and public sector agencies to have a privacy officer.

Privacy – Data Protection and Use Policy



Icebreaker



CAPABILITY FRAMEWORK FOR GOVERNMENT FINANCE PROFESSIONALS



CAREER PATHWAYS AND GFP PIPELINE PROJECT



Finance Capability Framework

- A deliverable of Government Finance Profession Team's People and Capability Strategy
- **Goal** – to attract, retain and develop government finance professionals
- **Aspirational** – defines what 'good' looks like for all finance professionals



What it is (and isn't)

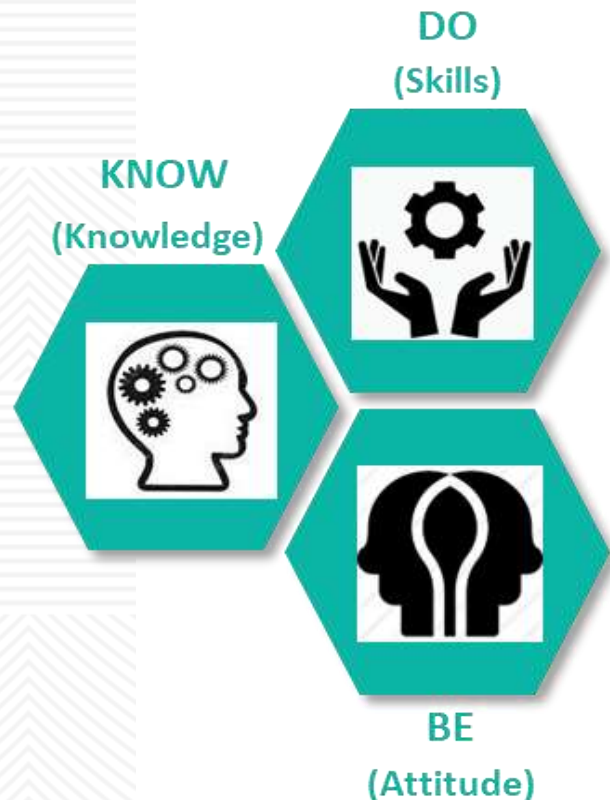
It supports people to...

- ↳ build development plans / career paths
- ↳ Self-assess capabilities
- ↳ Create capability-based job descriptions / do job-sizing
- ↳ make job descriptions comparable across the system
- ↳ make recruitment more targeted and robust
- ↳ benchmark and review current and desired capability.

It is not...

- ↳ mandatory for agencies to adopt
- ↳ a formal tool for performance assessment
- ↳ a test with pass/fail
- ↳ an attempt to replace current processes in agencies
- ↳ an attempt to standardise job descriptions across the public sector

Methodology



➤ **Methodology:** Using a 'Know-Do-Be' model, defining each capability as a combination of Knowledge, Skills, Attitude (KSA's):

➤ **Know** - Knowledge, what you should 'know'

➤ **Do** - Skills - what you should 'do'

➤ **Be** - Attitudes and behaviours you should display, how you should 'be'

➤ Each capability has four levels and at every level is defined as a combination of these three elements.

The Capabilities

There are 8 Finance-Specific Capabilities:



Financial Process and Reporting



Data Analysis and Insight



Financial Concepts and Standards



Machinery of Government



Policy and Compliance



Judgement and Advice



Financial Systems



Risk Management

The Capabilities

There are 3 General Capabilities:



Stakeholder Management and Communication



Developing a Positive Culture



Leadership and Development

The Capability Maturity Levels

The four levels of maturity:



- Each capability level builds on the previous one.
- For instance, it is assumed that someone having a capability at the ‘Leading’ level, has already attained the same capability at the ‘Practising’ level.
- There is no requirement to use all capabilities if not all are relevant.

How it was developed

- **Project Team:** eight finance professionals (Subject Matter Experts) and an Organisational Development (OD) expert from eight different agencies
- **Sponsors:** two CFOs
- **Considered other capability frameworks:** e.g., other governments, professions and agencies, and decided to be informed by them, but to start from scratch
- **12 agencies** were consulted for feedback including our project team member agencies.

Other Capability Frameworks

The Finance Capability Framework should be used in conjunction with other frameworks such as:

- Māori Crown Relations Capability Framework for the Public Service, developed by Te Arawhiti
- Pūkete Arataki Whaihua | Leadership Success Profile, developed by the Leadership Development Centre, Te Kawa Mataaho.

Companion Guide & FAQs

To assist with using the Framework the project team has also developed:

- A companion guide demonstrating how finance professionals might use the framework
- Frequently Asked Questions (FAQs)
- Further items to help with using the framework are being worked on

How can you use the framework?

➤ Take a look at the Framework, guide and FAQ's on the Treasury website:

[The Finance Capability Framework for Government Finance Professionals](#)

➤ Talk with your manager and/or mentor to help:

- ❖ self-assess your current capabilities
- ❖ discuss your career path options and what capabilities you might need and how you might get those capabilities (on-the job, training etc)
- ❖ develop your personal development plan based on the capabilities identified



➤ Managers of staff can also use the Framework to:

- ❖ develop job descriptions and adverts, assess what further capabilities are needed in your team, workforce planning and help your staff with their personal development.

Trialling the Capability Framework at Treasury

Indicative Mapping Capabilities to Treasury Finance Roles

In the order of relevance to Treasury Finance

	Order	Payments Officer	TL - Payments	Accounting Assista	Fin Syst Admin	Assistant Accounta	Financial Accounta	Management Acc	Systems Acct	Procurement Advis	TL - Fin Acctg	TL - Fin Syst	Finance Bus Partn	Deputy CFO	CFO
Financial Process and Reporting	1	Fundamental	Practising	Practising	Fundamental	Practising	Practising	Practising	Practising	Practising	Leading	Leading	Leading	Leading	Strategic
Financial Concepts and Standards	2	Fundamental	Fundamental	Fundamental	Fundamental	Practising	Practising	Fundamental	Fundamental	Fundamental	Leading	Fundamental	Practising	Leading	Strategic
Policy and Compliance	3	Fundamental	Practising	Fundamental	Fundamental	Practising	Practising	Practising	Fundamental	Practising	Leading	Fundamental	Leading	Strategic	Strategic
Financial Systems	4	Fundamental	Practising	Fundamental	Practising	Practising	Practising	Practising	Leading	Practising	Practising	Strategic	Practising	Strategic	Strategic
Data Analysis and Insight	5	Fundamental	Fundamental	Fundamental	Fundamental	Practising	Practising	Practising	Leading	Practising	Leading	Leading	Leading	Leading	Strategic
Stakeholder Management & Communication	6	Fundamental	Fundamental	Fundamental	Practising	Practising	Practising	Practising	Practising	Leading	Leading	Leading	Leading	Strategic	Strategic
Machinery of Government	7	Fundamental	Fundamental	Fundamental	Fundamental	Practising	Practising	Practising	Fundamental	Practising	Leading	Practising	Leading	Leading	Strategic
Judgement and Advice	8	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Practising	Fundamental	Fundamental	Fundamental	Leading	Practising	Practising	Leading	Strategic
Risk Management	9	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Practising	Practising	Practising	Practising	Leading	Leading
Developing a Positive Culture	10	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Practising	Fundamental	Fundamental	Practising	Practising	Practising	Practising	Practising	Leading
Leadership & Development	11	Fundamental	Practising	Fundamental	Fundamental	Fundamental	Practising	Practising	Practising	Practising	Practising	Practising	Practising	Leading	Strategic

Initial observations:

- It's a development tool not a performance management tool
- Elements of all the competencies could be identified for all roles
- A lot of effort has gone into successfully making distinctions between the level descriptions
- Each Finance team will have a different profile due to scale, localised role naming and characteristics of the business
- It's a good resource for use in constructing job adverts and interview questions

Questions



Contact the Government Finance Profession team if you have any other queries after the course today: governmentfinanceprofession@treasury.govt.nz



COUNTER FRAUD CENTRE

Tauārai Hara Tāware

COUNTER FRAUD CENTRE

Treasury – Introduction to being a finance professional

17 January 2024

Shamilla Manikam, Senior Counter Fraud Adviser
Counter Fraud Centre



Agenda

- Fraud in New Zealand
- Counter Fraud Centre
- Case Study
- Impacts of Fraud
- Fraudster Personas
- Finance's Role
- Open floor





HOW BIG IS THE FRAUD PROBLEM IN NZ?

SFO's strategic priorities 2023–2027



01 | Case impact

Target cases with the greatest potential impact, maximising the SFO's specialist expertise



02 | Prevention

Lift counter fraud culture and capability in the New Zealand public sector



03 | Connection

Enhance stakeholder engagement and system contribution - domestic and international



04 | Future-proof capability

Invest in our people and infrastructure to meet and anticipate our operating environment

Our Purpose: Protect New Zealand's economic and financial wellbeing.

Our Mission: Disrupt and deter serious fraud and corruption through prevention, investigation and prosecution.

It's been recognised that while investigation and prosecution will always be critical, effective prevention measures are key to reducing harm from fraud and corruption.





SFO CASE STUDY

WHO

An employee at Christchurch Hospital, responsible for invoicing and collecting revenue for patients who were not eligible for free healthcare.

WHAT

Defrauded the DHB of \$1 million over a six-year period.

HOW

Entering incorrect information into the hospital's system to make it appear as if the patient met the eligibility criteria.

Offering patients unauthorised discounts for using cash which she then took for herself.

Changing invoices to put her bank details on them.

The Impacts of Fraud

While measuring financial loss is important, other impacts of public sector fraud can be just as damaging.



Human



Industry



Security



**Government
Outcomes**



Reputational



Environmental



**Government
System**



Financial



Business

SFO'S SEVEN FRAUDSTER PERSONAS



The Exploiter



The Organised



The Deceiver



The Impersonator



The Corruptor

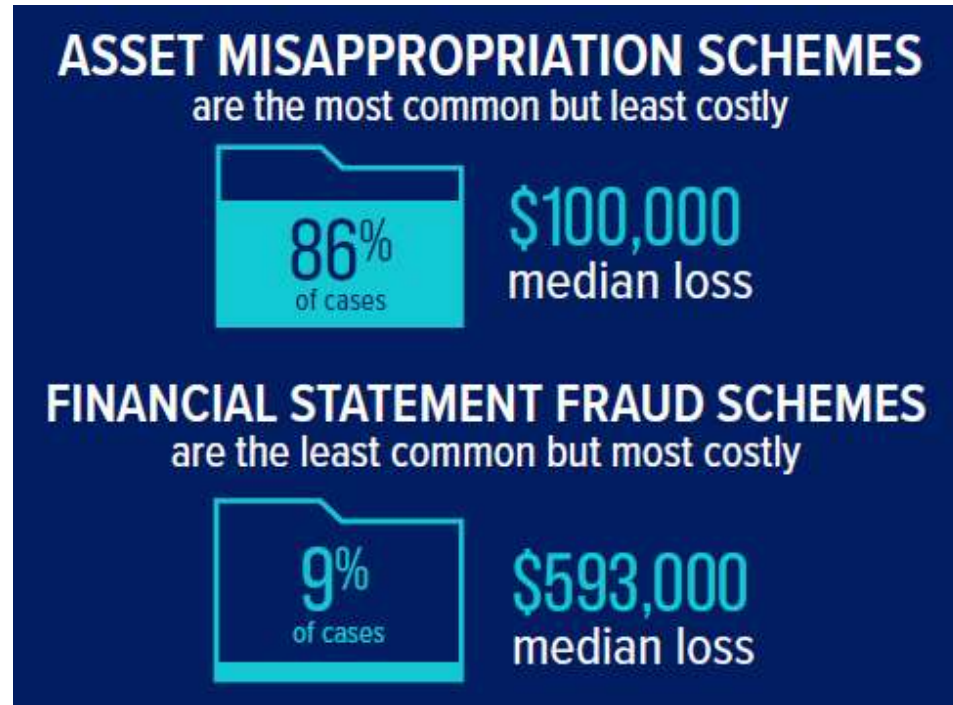


The Enabler



The Fabricator

What does this mean for you?



Source: Association of Certified Fraud Examiners
"Occupational Fraud 2022: A Report to the Nations"



Contact us



www.sfo.govt.nz

For more information on our guidance, tools, resources and case studies.



counterfraud@sfo.govt.nz

To contact the Counter Fraud Centre



sfo@sfo.govt.nz

To report a fraud



COUNTER FRAUD CENTRE
Tauārai Hara Tāware

Questions Comments Thoughts



Fiscal Reporting (FR)

Hannah Singleton, Senior Government Reporting Accountant
Fiscal Reporting

The Fiscal Reporting Team



Chief Government Accountant and Deputy Chief Government Accountant

- Set the direction of the team
- Provide advice to ELT and the Minister
- Ownership of products

Principal Advisors (2)

- Accounting standards submissions and implementation advice, material issue resolution, Crown accounting policies

Team Leaders, Senior and Government Reporting Accountants (9)

- Prepares financial statements of Government and five-year fiscal forecasts
- Provide advice to Vote teams on fiscal impact of policy and appropriation advice.
 - these are the team members you will hear from most if you are responsible for Crown reporting at your entity

CFISnet team (4)

- Runs CFISnet helpdesk and respond to queries regarding everything CFISnet
- Keep CFISnet running for Budget, monthly actuals and forecast tracks and ComOps reporting
- At Budget, assists with review of all the estimates documents to ensure accurate
- Ongoing system development work

What Fiscal Reporting Does

GOVERNMENT EXTERNAL REPORTING

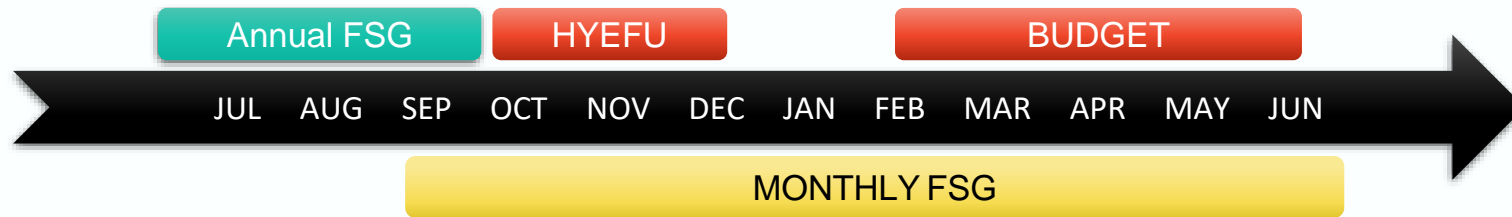
- Monthly financial statements of Government (Sept-May)
- Annual financial statements
- Fiscal forecasts (Budget, HYEUFU, PREFU)

OTHER STUFF

- Controller function – monitoring Dept spend vs appropriations
- Bank account delegations (Dept only)

CROWN ACCOUNTING FRAMEWORKS AND ADVICE

- Accounting standards boards (NZASB, IPSASB)
- Fiscal indicator reporting framework
- Advice on complex or material issues



CFISnet Overview

Government Departments

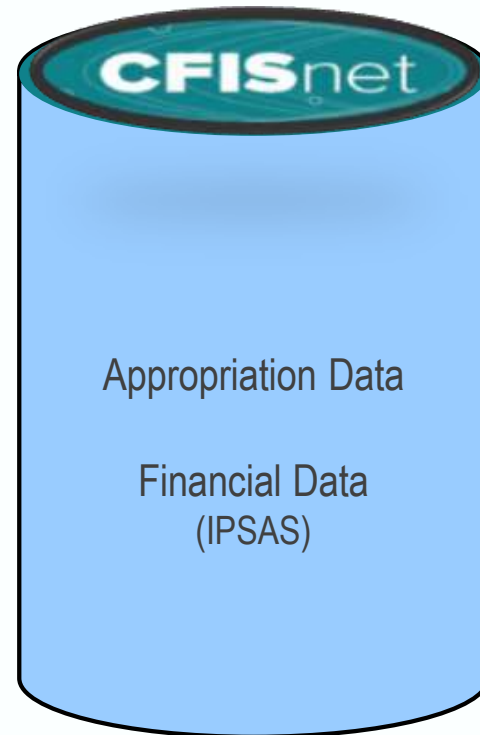
- Actual and forecast data,
- Vote & budget information,
- Request appropriation transfers,
- Cash profiles & requests

State-owned Enterprises and Crown Entities

- Actual and forecast data,
- Crown operations & monitoring information

Treasury

- Government accounts,
- Consolidation journals,
- Cash & appropriation change authorisations,
- Budget initiative decisions,
- Financial recommendations



Five-Year Fiscal Forecasts

Budget - Estimates Publications
Legislation Schedules

Budget Initiatives for Ministers
Financial Recommendations for Cabinet

Monthly and Year-End Government Accounts

Monitoring Reports for Departments, State-owned Enterprises and Crown entities

Commercial Operations monitoring for shareholding Ministers

Informs

- Government Borrowing program
- Budget Strategy
- Macro Economic Forecasts
- Tax Forecasts

Information Sharing with other government agencies

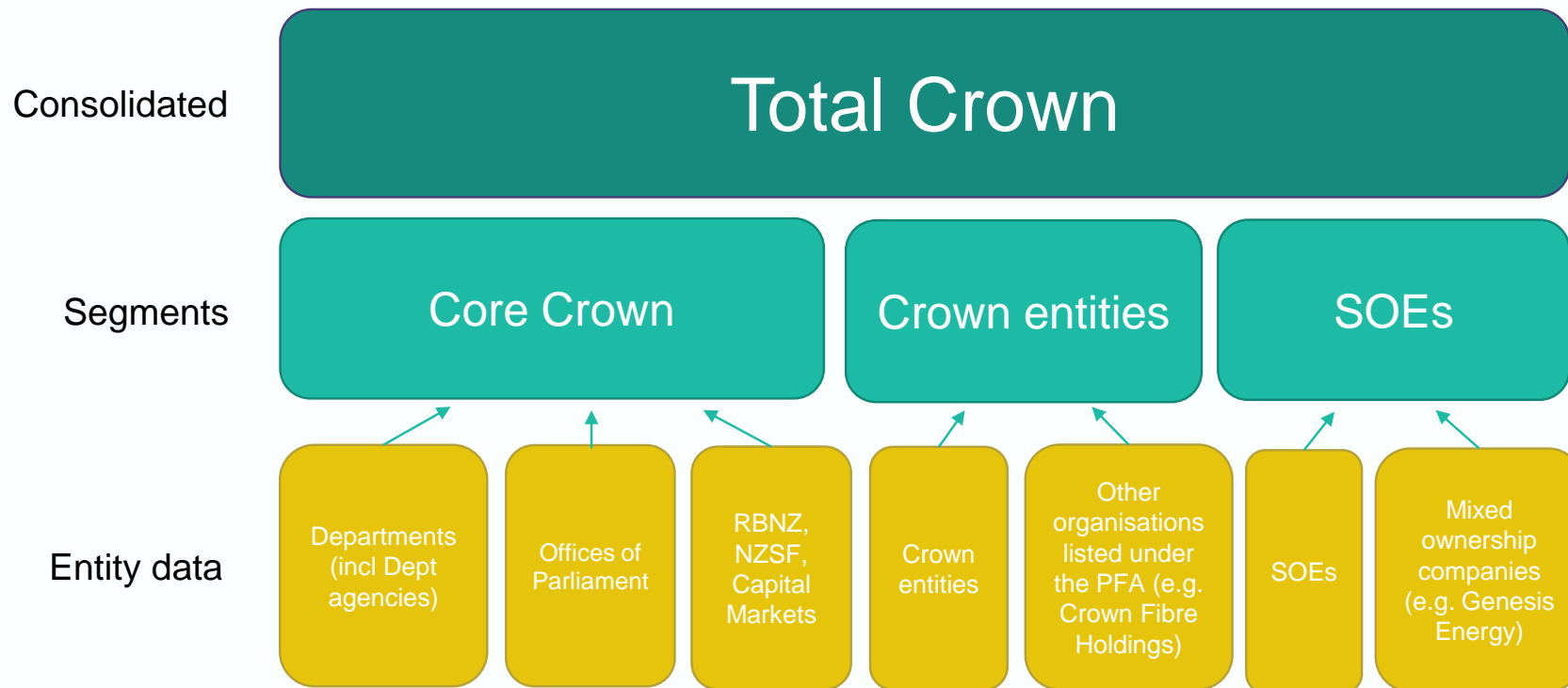


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The Government Reporting Entity

The consolidated financial statements of Government report the results of the Government Reporting Entity which is made up of three segments:



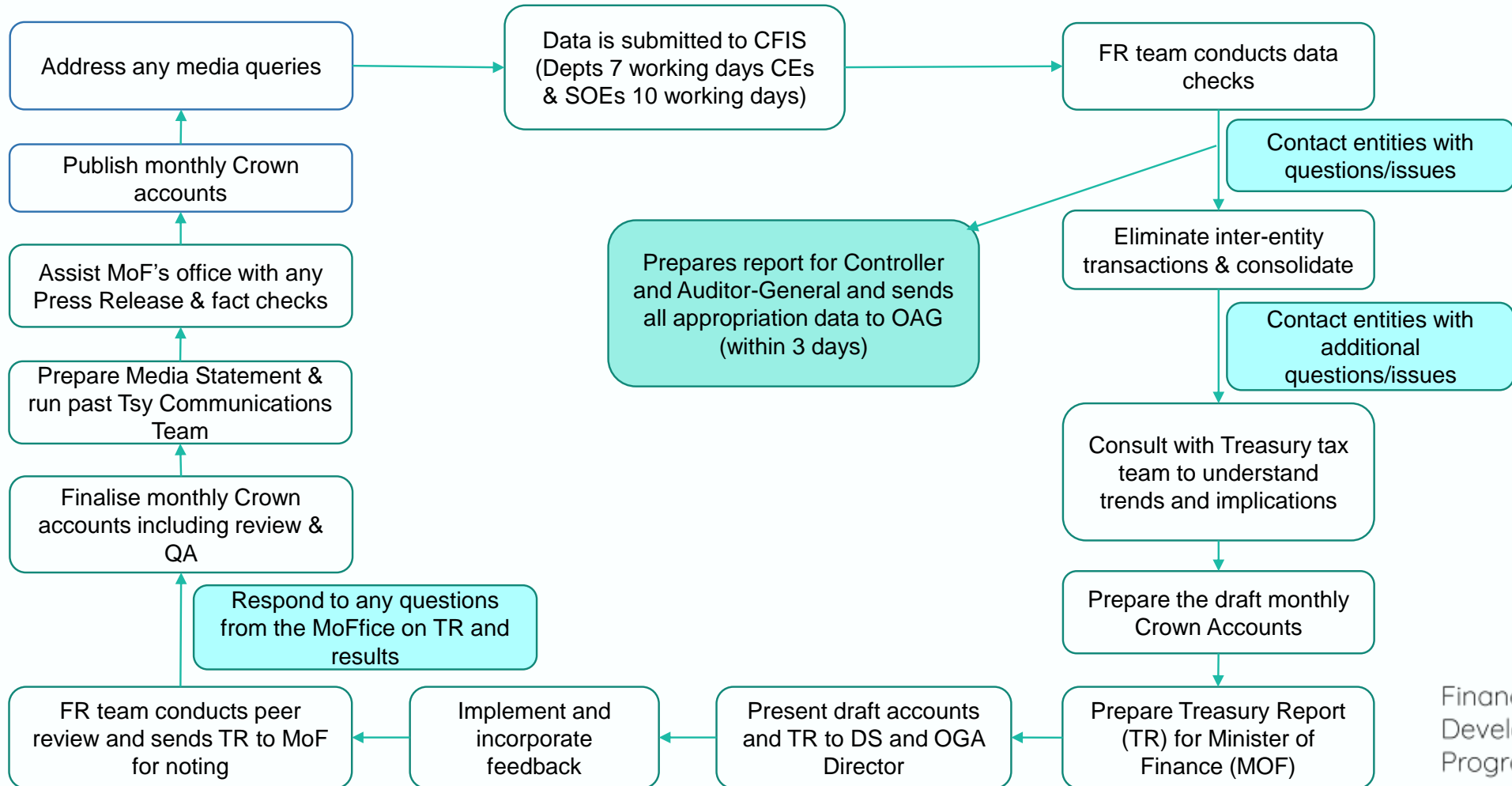
How entities impact the Crown accounts



Statement of Segments

	Current Year Actual vs Prior Year Actual									
	Core Crown		Crown entities		State-owned Enterprises		Inter-segment eliminations		Total Crown	
	Actual 2023 \$m	Actual 2022 \$m	Actual 2023 \$m	Actual 2022 \$m	Actual 2023 \$m	Actual 2022 \$m	Actual 2023 \$m	Actual 2022 \$m	Actual 2023 \$m	Actual 2022 \$m
Revenue										
Taxation revenue	112,358	108,458	-	-	-	-	(646)	(585)	111,712	107,873
Other sovereign revenue	3,292	4,327	7,321	6,574	-	-	(2,206)	(2,007)	8,407	8,894
Revenue from core Crown funding	-	-	45,402	40,049	770	933	(46,172)	(40,982)	-	-
Sales of goods and services	1,631	1,386	3,507	2,741	17,509	14,068	(693)	(753)	21,954	17,442
Interest revenue	2,862	858	2,097	827	675	957	(622)	(350)	5,012	2,292
Other revenue	3,255	2,486	5,338	4,250	823	767	(3,490)	(2,377)	5,926	5,126
Total Revenue (excluding gains)	123,398	117,515	63,665	54,441	19,777	16,725	(53,829)	(47,054)	153,011	141,627
Expenses										
Transfer payments and subsidies	40,003	45,266	-	-	-	-	(1,200)	(1,179)	38,803	44,087
Personnel expenses	10,449	9,945	22,326	19,897	3,330	2,861	(53)	(55)	36,052	32,648
Other operating expenses	70,550	67,545	36,430	29,903	13,822	11,531	(50,067)	(44,554)	70,735	64,425
Interest expenses	6,569	2,884	872	301	682	660	(675)	(496)	7,448	3,349
Insurance expenses	3	1	8,773	6,440	8	7	-	(1)	8,784	6,447
Total Expenses (excluding losses)	127,574	125,641	68,401	56,541	17,842	15,059	(51,995)	(46,285)	161,822	150,956
Gains/(losses) and other items	12,469	(11,406)	3,080	1,377	(659)	82	(758)	2,344	14,132	(7,603)
Operating Balance (excluding minority interests)	8,293	(19,532)	(1,656)	(723)	1,276	1,748	(2,592)	1,575	5,321	(16,932)
Assets										
Financial assets	161,269	149,427	99,769	63,811	8,187	38,443	(28,544)	(26,239)	240,681	225,442
Property, plant and equipment	63,034	56,519	151,042	145,186	53,314	47,476	-	1	267,390	249,182
Investments in associates, CEs and SOEs	64,817	57,801	14,680	14,239	414	470	(62,877)	(56,263)	17,034	16,247
Other assets	5,574	5,574	3,431	2,695	2,983	3,186	(427)	(482)	11,561	10,973
Total Assets	294,694	269,321	268,922	225,931	64,898	89,575	(91,848)	(82,983)	536,666	501,844
Liabilities										
Borrowings	191,029	168,986	48,110	14,345	11,671	41,098	(24,055)	(20,464)	226,755	203,965
Other liabilities	44,324	55,050	73,097	70,218	11,424	10,480	(10,406)	(12,188)	118,439	123,560
Total Liabilities	235,353	224,036	121,207	84,563	23,095	51,578	(34,461)	(32,652)	345,194	327,525
Net Worth	59,341	45,285	147,715	141,368	41,803	37,997	(57,387)	(50,331)	191,472	174,319

Monthly Crown accounts process



How we can help each other



HOW WE CAN HELP YOU

- **Respond to queries** on Treasury Circulars and reporting requirements
- Provide **guidance on issues** – accounting, appropriation, systems
- Provide regular **updates for changes in accounting standards** (via the Treasury Website)
- Point you in the **right direction** if it's not a query for FR

HOW YOU CAN HELP US

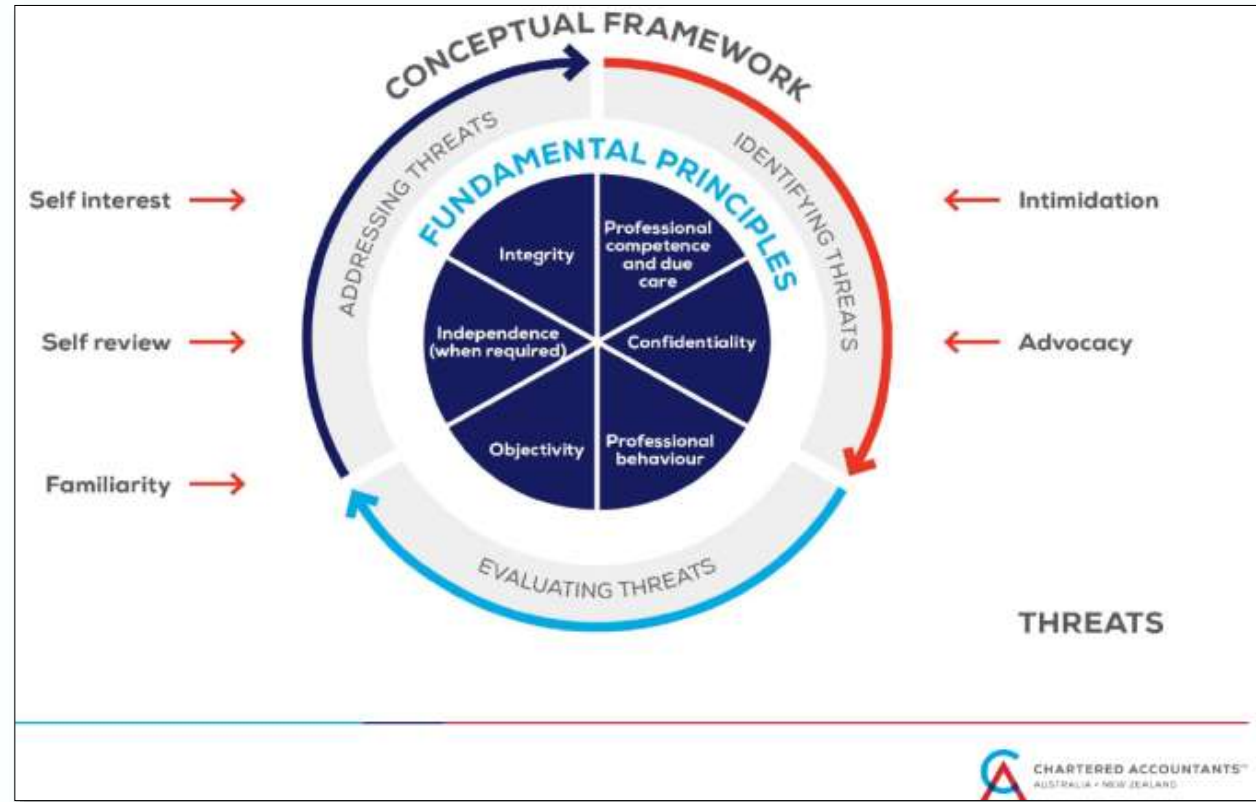
- Submit your data **on-time** and if you think you cannot meet the deadline, let us know early
- Ensure you split out **inter-entity** balances correctly
- **Review** the information you give us (actual and forecast) for reasonableness before submitting
- **Contact us** if you have an accounting issues relating to Crown accounts

CA ANZ Code of Ethics

Five fundamental principles:

1. Integrity,
2. Professional Competence and due care
3. Confidentiality
4. Professional behaviour
5. Objectivity

We should also consider 'Independence' (when required)





Questions?



Morning Tea



The Budget Process

Jinal Mehta, Analyst
Budget Management Team – The Treasury

Agenda



- 1. Introduction to the Budget team**
- 2. New Zealand's fiscal policy framework**
- 3. Budget and the Fiscal Management Approach (FMA)**
- 4. Budget allowances**
- 5. Key stages of the Budget cycle**
 - A. Budget strategy**
 - B. Initiative development**
 - C. Assessment and decision-making**
 - D. Budget production**
- 6. Questions?**

Introduction to the Budget team



The Budget team is responsible for the co-ordination and delivery of the Government's Budget.

This includes advising on the design of the Budget process, providing advice on Budget initiatives, and supporting effective decision-making to help the Government achieve its goals and priorities.

We also coordinate technical processes such as baseline updates.

We work primarily with Treasury Vote teams and the Minister of Finance's office and have limited contact with agencies.



New Zealand's fiscal policy framework

Public Finance Act 1989

- The Public Finance Act (PFA) is the key piece of legislation which underpins New Zealand's public finance management system.
- The PFA provides a framework for **parliamentary scrutiny** of Government expenditure by requiring that all expenses be approved by Parliament.
- It also specifies the principles of **responsible fiscal management** and reporting obligations for both Ministers and departments.

Fiscal Strategy

- The Government outlines its Fiscal Strategy through the annual **Budget Policy Statement** and **Fiscal Strategy Report** (released ahead of and alongside Budget respectively).
- These reports set out the Government's fiscal strategy in areas such as operating balance, revenue, expenses, balance sheet management and debt.
- The Government's fiscal strategy and policy should consider and be **consistent** with the principles of responsible fiscal management outlined in the PFA.

Fiscal Management Approach

- The Fiscal Management Approach in an **internally agreed set of rules** and process which are designed to assist the Government to achieve its fiscal strategy.
- These rules are not set in legislation and are **flexible** to align to with the day to day operations of Government and accommodate unexpected events.
- This includes things like **setting Budget allowances** for new spending each financial year to help inform decision-making.

Legislation laying foundation through high level principles and requirements

Operationalisation through specific rules and conventions

Budget and the Fiscal Management Approach (FMA)



The Budget is a key feature of the Fiscal Management Approach (FMA).

Budget: Almost all new additional expenditure comes from the Budget. In this way, new policy decisions and cost pressures are managed within the fiscal strategy.

Baselines: Represent all existing expenditure under each Vote. While the Budget achieves a high focus on additional spending, there is typically less focus on the effectiveness and efficiency of baselines.

Fixed nominal baselines: No automatic adjustment is made to baselines for inflation or other pressures. This requires departments to effectively manage their baselines, reprioritising or deprioritising work where necessary.

Allowances: Ensure spending choices are compatible with the Government's fiscal strategy and are a mechanism to make trade-offs across funding decisions. Allowances are included in the forecasts to increase the transparency and credibility of Government expenditure.



Budget allowances

The operating and capital “allowances” are the pools of new operating and capital funding available for allocation at each Budget for spending initiatives. They are set in advance of Budget in accordance with the Government’s fiscal strategy.

They are a fiscal management tool that forms a self-imposed cap on expenditure growth, as almost all new expenditure gets funded from the Budget allowances.

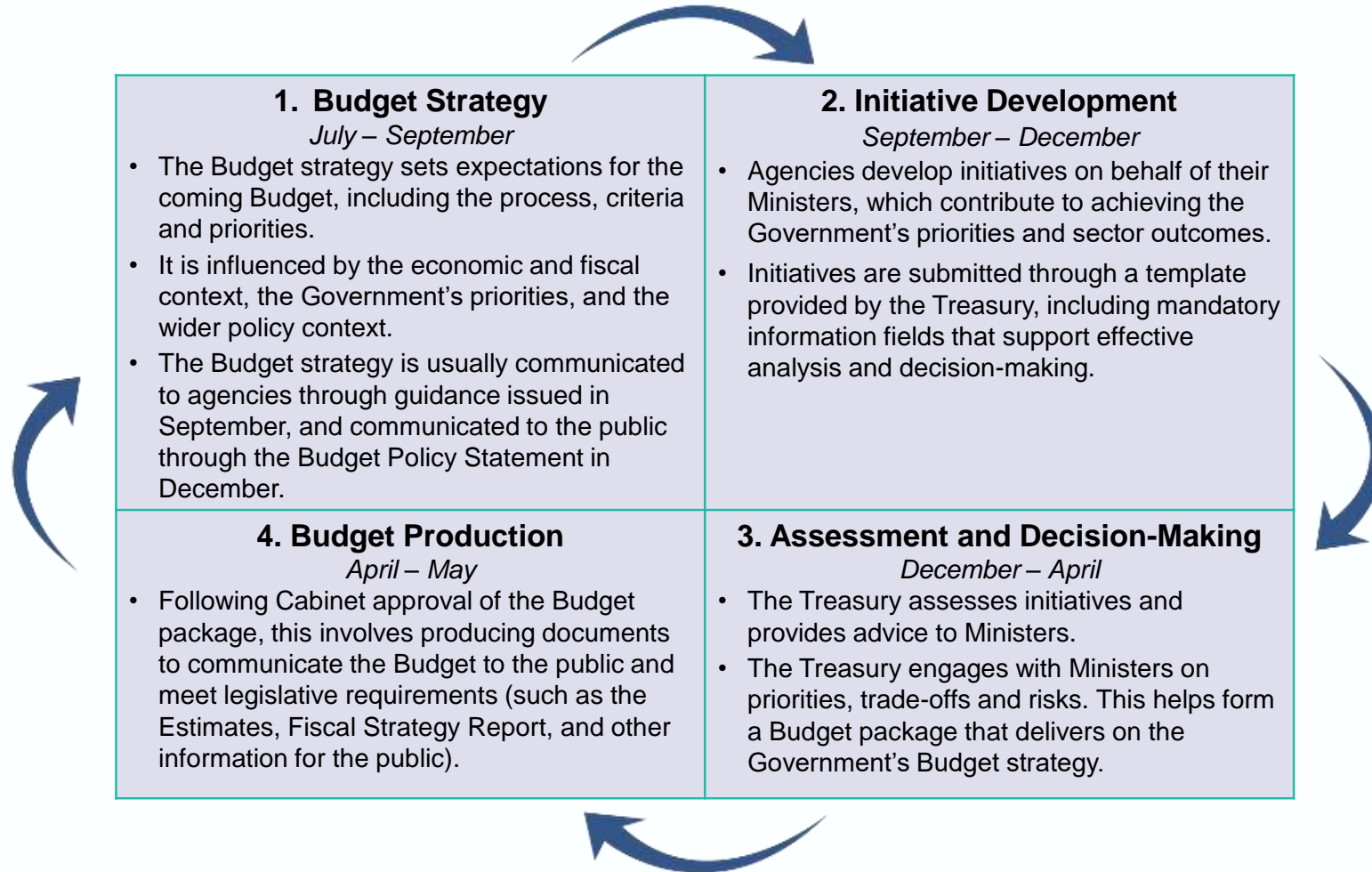
Allowances are generally significantly oversubscribed because:

- Baselines do not adjust automatically to inflation and other cost pressures
- Factors such as rising population levels and increasing migration put pressure on core services such as Health, Housing and Education

The annual Budget process is therefore a key opportunity for agencies to bid for new funding to meet these pressures and other investments

	Budget 2023	Budget 2024	Budget 2025	Budget 2026
Operating allowances	\$4.8b	\$3.5b	\$3.25b	\$3.0b
Multi-year capital allowance	\$10.7b	← \$2.9b →		

Key stages of the Budget cycle



Timing and design of process are decided by convention rather than legislation, so may vary from year-to-year.

For example, due to the timing of the 2020 General Election, the timing of the Budget 2021 process was more compressed than usual.

1) Budget Strategy



Purpose: The Budget strategy paper is an opportunity for Cabinet to agree the Government's fiscal strategy, expectations and requirements for the upcoming Budget. This strategy will guide prioritisation and decision-making through the formation of the Budget package.

What is in the Strategy? Typically, the Budget strategy is approved by Cabinet around August or September and covers the following components:

- Economic and fiscal context: highlights the Government's fiscal strategy/allowances and therefore helps to set the key fiscal parameters for the upcoming Budget.
- Government's wellbeing priorities: key areas that the Government wants to focus on
- Upcoming pressures: overview of what Ministers can expect to come through in terms of cost pressures and the available headroom for discretionary spending.
- Expectations and requirements for agencies: covers scope for Budget, expectations on quality of initiatives, etc.
- Timeframes: key dates.

2) Initiative Development



Purpose: The initiative development phase provides an opportunity to engage with agencies and portfolio Ministers, get early visibility of funding requests that are likely to come through, and set expectations around information quality to support decisions.

What does this involve? This is the stage where agencies work on Budget initiatives based on guidance and templates provided by the Treasury. This phase provides Treasury with the opportunity to:

- Get early visibility of initiatives to provide feedback to agencies, manage expectations and/or filter out initiatives at an early stage. It can be of particular value for sectors where cross-agency engagement is required.
- Engage with agencies on the wider context e.g., agency baselines, strategic intentions and pressures identified over the medium-to-long term.

In recent Budgets, the initiative development stage was preceded by an invitation process run by the Minister of Finance.

3) Assessment and Decision-Making



Purpose: Treasury assesses all Budget initiatives and supports Budget Ministers in developing a Budget package that meets their priorities and is consistent with the Government's fiscal strategy/targets.

What does this involve?

- Individual Budget initiative assessments
- Moderation (to ensure consistency across the board)
- Package development
- Providing advice to Budget Ministers
- Advice on particular initiatives as they come up through the decision-making process

Key point: the assessment and decision-making phase is iterative. The package as a whole and the amounts recommended for each initiative often change based on feedback from Ministers.



4) Budget Production

Purpose: The Budget production stage supports the production of Budget documents required by legislation and other publications that communicate the Budget package to the public.

Products required under legislation

Product	Owner	Description
Fiscal Strategy Report	Minister of Finance	The Fiscal Strategy Report (FSR) is required under the PFA, designed to ensure transparency of the Government's fiscal strategy. This is presented as a chapter in the Wellbeing Budget document.
Budget Economic and Fiscal Update	The Treasury	The Budget Economic and Fiscal Update (BEFU) is required by the Public Finance Act (PFA) and includes the Treasury's economic forecasts and the forecast financial statements of the Government incorporating the financial implications of Government decisions and other information relevant to the fiscal and economic outlook. The BEFU also outlines the key risks to the economic and fiscal forecasts. This is prepared by the Treasury and authorised by the Secretary to the Treasury and signed by the Minister of Finance.
Estimates and Supplementary Estimates	The Treasury	The Estimates (also required by the PFA) outline, for the financial year about to start, expenses and capital expenditure the Government plans to incur on specified areas within each Vote, and capital injections it plans to make to individual departments. The Supplementary Estimates (also required by the PFA) outlines the changes to expenses, capital expenditure, and capital injections required for the financial year about to end.
Child Poverty Report	Minister of Finance	The Child Poverty Report, required under the Child Poverty Reduction Act 2018, was produced for the first time in Budget 2019 and has become a chapter in the Wellbeing Budget document. It covers progress made on reducing child poverty and identifies Budget initiatives that help address child poverty.

Discretionary products



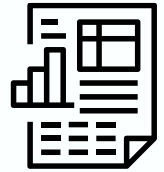
Product	Owner	Description
The Budget Document	Minister of Finance	This is the main Budget document. It sets out the Government's priorities for the Budget, the approach taken to develop it, and summarises Budget initiatives. The legislatively-required Fiscal Strategy Report and Child Poverty Report are included as chapters within this document.
Budget Speech	Minister of Finance	This is the Minister of Finance's speech at the start of Parliament's Budget debate. It generally focuses on the overall fiscal and economic position, the Government's priorities and how those priorities will be funded.
Summary of Initiatives	Minister of Finance	The Summary of Initiatives presents Budget initiatives by Vote.
Press Releases	Minister of Finance	Press releases communicate key policy details of the Budget. They are coordinated and approved by the Minister of Finance's office with support from the Treasury on checking facts and figures.
Budget at a Glance	Minister of Finance	Provides an overview of key Budget information presented in a user-friendly document.
Budget Website	Minister of Finance	Online version of the Budget document. Key features are interactive graphs and charts. The website also includes links to all Budget-related documents.



Questions?

**Please contact your Treasury
Vote Analyst for any questions**

REPORTING FROM AN AGENCY'S VIEW



YOUR TOOLS



READ THE GUIDANCE



Honestly, read it and you will thank me later! My top-3 recommendations are CO(18)2 Proposals with Financial Implications, Treasury Instructions and Measuring Remeasurements.

CFIS REPORTS



CFIS advanced comparison reports are great to track your budget vs actuals vs forecast. Pay attention to appropriations with nil/small budget at the beginning of the year.

ESTIMATES



One source of truth not only financial but also non-financial information, like scope statements and performance measures.

TALK TO THE TREASURY



Keep communication between your VA and/or Fiscal Reporting team. Make sure they know what you are up to - they are here to help. BUT do your research prior to asking the question.

KEEP CLOSE TO THE BUSINESS



... or to those in Finance who work with the business. While people in the business have financial delegations to spend it is your job to direct them and help with the right solutions.

ACCOUNTING TREATMENT MATTERS



Appropriations should mirror accounting treatment of transactions.

A MISTAKE IS
ONLY A MISTAKE
IF YOU DON'T
LEARN FROM IT.



WHO ELSE LIKES TO LEARN
FROM MISTAKES?



NO INITIAL BUDGET

WHY BREACHED?

The Pike River Mine Site

At Budget 2015 there was no baseline for the Pike River but there was an in principle expense transfer for \$1.834m which couldn't be accessed until November (after October Baseline Update 2015). The \$0.125m spend was from July 2015 to October 2015.

	Actual \$000	Appropriation Voted \$000	Unappropriated \$000
Vote Business, Science and Innovation	\$125	-	\$125
Non-Departmental Output Expense The Pike River Mine Site			



KEEP SPENDING BEFORE MBU/OBU APPROVED



WHY BREACHED?

Workplace Relations and Safety – Employment Relations Education Contestable Fund

In 2016/17 the Ministry had an initial appropriation of \$0.500m for the Employment Relations Education Contestable Fund appropriation. The Ministry proposed a fiscally neutral adjustment transferring \$0.325m to this appropriation. However, the Ministry continued to spend against this appropriation in 2016/17 and incurred expenses totalling \$0.723m (\$0.223m in excess of the original appropriation) before the transfer was approved as part of the 2017 March Baseline Update.

	Actual \$000	Appropriation Voted \$000	Unappropriated \$000
Vote Labour Market	\$823	\$825	\$223

Non-Departmental Output Expense
Workplace Relations and Safety – Employment Relations Education Contestable Fund



SPEND IS OUT OF SCOPE

WHY BREACHED?

Communications: Broadband Investment (Crown Fibre Holdings Capital Costs) 2016–2021

In September 2017, Crown Fibre Holdings Limited changed its name to Crown Infrastructure Partners Limited. This name change was not reflected in the scope statement of the appropriation, which only authorised payments to Crown Fibre Holdings Limited. In December 2017, a payment of \$45m was made to Crown Infrastructure Partners for the rollout of ultrafast broadband.

	Actual \$000	Appropriation Voted \$000	Unappropriated \$000
Vote Building and Housing	\$45,000	\$45,000	\$45,000

Non-Departmental Capital Expense
Communications: Broadband Investment (Crown Fibre Holdings Capital Costs) 2016–2021



KNOW YOUR BUSINESS

	Actual \$000	Appropriation Voted \$000	Unappropriated \$000
Vote Building and Housing	\$151,862	-	\$151,862
Non-Departmental Other Expense			
Housing Infrastructure Fund – Fair Value Write-Down – MYA			



WHY BREACHED?

Housing Infrastructure Fund – Fair Value Write-Down – MYA

Between 1 July and 30 September 2018, MBIE signed seven Housing Infrastructure Fund loan agreements to provide interest-free loan facilities of up to \$539.400 million. MBIE was required to, but did not recognise the loss on the concessionary loans and the entire Housing Infrastructure Fund – Fair Value Write-Down appropriation (which was established for this purpose), was transferred to the new Ministry of Housing and Urban Development. Therefore, since no appropriation was retained by MBIE, the fair value write down is in excess of appropriation.



KNOW YOUR PFA

	Actual \$000	Appropriation Voted \$000	Unappropriated \$000
Vote Business, Science and Innovation	\$80,257	\$550,746	\$2,527

Regional Economic Development: Provincial Growth Fund MCA:
Operational Support of Regional and Sector Investments



WHY BREACHED?

Regional Economic Development: Provincial Growth Fund MCA

On 12 August 2018 the Minister of Finance approved the PDU's request for departmental operational funding of \$24.230 million in the new Regional Economic Development: Provincial Growth Fund MCA: Operational Support of Regional and Sector Investments category. Though this funding was approved, the approval to establish the new category was missed out in the paper. This was discovered in September 2018 and, to correct the omission, the initial paper was revoked. On 7 October 2018, the Minister of Finance approved the establishment of the new category and the breach was remediated. However, the expenses incurred against the Regional Economic Development: Provincial Growth Fund MCA: Operational Support of Regional and Sector Investments category before 7 October 2018 are considered unappropriated.



MATCH APPROPRIATION WITH ACCOUNTING TREATMENT



WHY BREACHED?

Residential Tenancy and Unit Title Services

The Ministry's Contingent Liability and Assets Register for 30 June 2016 contained a departmental unquantifiable contingent liability related to Payroll Remediation activities. The Ministry recorded a provision, a high level accounting adjustment, in relation to this liability at 30 June 2017. The provision represents the Ministry's best estimate of the eventual liability as at 30 June 2017 and resulted in unappropriated expenditure in the Residential Tenancy and Unit Title Services appropriation. As at 30 June 2017 unappropriated expenses against the appropriation were \$0.597m.

	Actual \$000	Appropriation Voted \$000	Unappropriated \$000
Vote Building and Housing	\$27,993	\$27,396	\$597
Departmental Output Expense Residential Tenancy and Unit Title Services			



EXPECT UNEXPECTED

WHY BREACHED?

Impairment of Crown Assets

In June 2016, Whoosh Wireless (NZ) Ltd (a wireless broadband operator) had gone into voluntary administration owing \$66,000 to the Ministry for the Telecommunications Development Levy charges. This debt is now doubtful and the Ministry has incurred the full \$66,000 as an expense to the Impairment of Crown assets appropriation.

	Actual \$000	Appropriation Voted \$000	Unappropriated \$000
Vote Business, Science and Innovation	\$1,206	\$1,140	\$66
Non-Departmental Output Expense			
Impairment of Crown Assets			

Opportunities across government

Mark Mclellan, Senior Advisor
Government Finance Profession Team

Opportunities to expand your knowledge



- 7 Finance Development Programme
- 7 Leadership Development Centre (LDC) run by PSC
- 7 Public Service Core Learning Hub
<https://www.ldc.govt.nz/public-service-core-learning-hub>
- 7 IPANZ
- 7 Professional Bodies (CAANZ and CPA)
- 7 Apolitical
- 7 Employee Lead Networks



Summary

Learning Objectives

We have covered:

- ↩ The role and function of some of the key Treasury system teams
- ↩ How to read the Financial Statements of Government
- ↩ The role of the Counter Fraud Office – Serious Fraud Office
- ↩ Development opportunities across Government

Any final questions? Send us an email:
governmentfinanceprofession@treasury.govt.nz



Tour of Parliament

- For those attending the tour of parliament please follow please meet in reception at 1:35 pm



Thank you!