



How can Natural Gas shape a New Energy Future for India?

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Varying Definition of 'Energy Security' : Natural Gas is a good fit

Self Sufficiency has not been acknowledged as a key objective. And the emphasis is on energy 'sources' & not a particular source



"The uninterrupted availability of **energy sources** at an **affordable price**"



"Energy security or security of supply as the **availability of energy** at **all times** in **various forms**, in **sufficient quantities**, and at reasonable and/or **affordable prices**"



"The **continuous availability** of energy in **varied forms**, in **sufficient quantities** and at **affordable prices**"



"Ensuring that our country can supply **lifeline energy** to all its citizens, at **affordable costs** at all times"



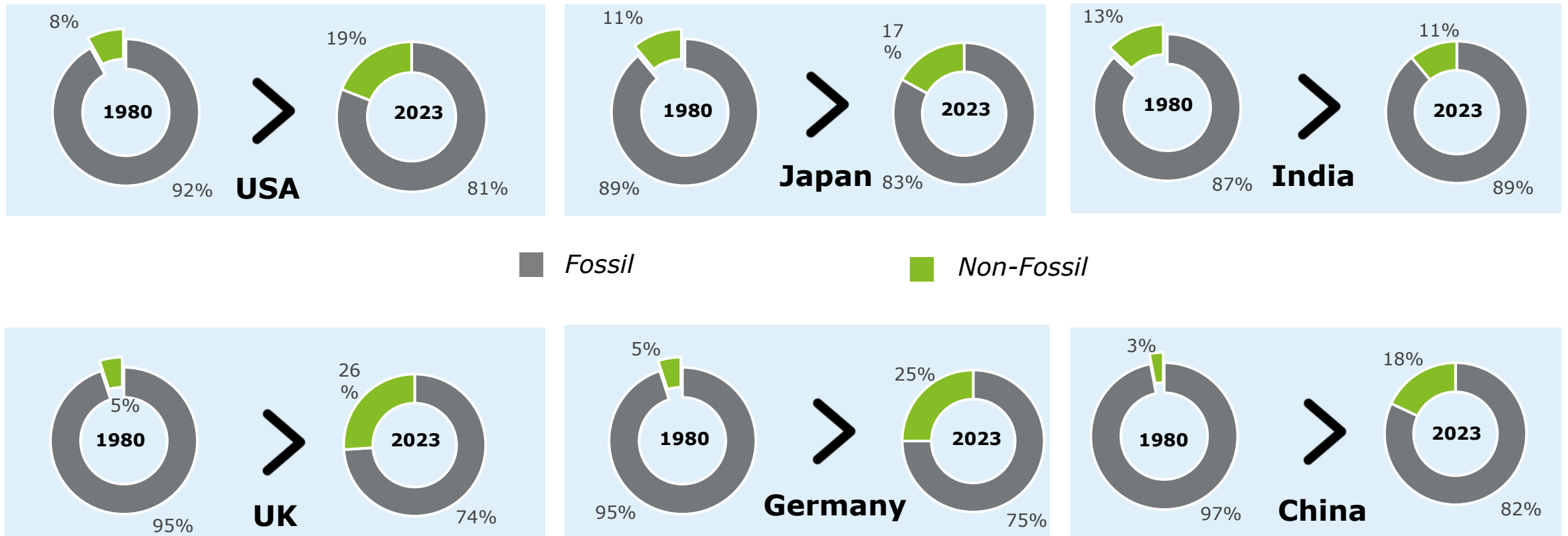
सर्वमेव जयते
Planning Commission
Government of India

"The country is **energy secure** when we can supply lifeline energy to all our citizens as well as meet their effective demand for **safe and convenient energy** to satisfy **various needs** at **affordable costs** at all times with a prescribed confidence level considering shocks and disruptions that can be reasonably expected"

Energy Mix of leading energy consuming countries (1980 & 2023)-(1/2)

Fossil Fuel shares have fallen in all major energy consuming nations except in India

Changing nature of global Primary Energy¹ Mix



Energy Mix of leading energy consuming countries (1980 & 2023)-(2/2)

The global energy system is undergoing transition, shifting to cleaner fuels in its PE mix

Country	Year	Energy Mix (%)							
		Oil	Nuclear	Natural Gas	Coal	Hydro	New RE	Fossil	Clean
Brazil	1980	58	0	1	6	33	2	65	35
	2023	37	1	8	4	29	21	49	51
Canada	1980	41	5	19	10	26	0	69	31
	2023	31	6	31	3	24	5	65	35
China	1980	21	0	3	73	3	0	97	3
	2023	19	2	9	54	7	9	82	18
Germany	1980	42	4	14	39	1	0	95	5
	2023	35	1	24	16	2	23	75	25
India	1980	31	1	1	55	12	0	87	13
	2023	27	1	6	56	4	6	89	11
Japan	1980	67	5	6	16	6	0	89	11
	2023	38	4	19	26	4	9	83	17
UK	1980	40	4	20	35	1	0	95	5
	2023	39	5	33	3	1	20	74	26
USA	1980	45	4	26	21	4	0	92	8
	2023	38	8	34	9	2	9	81	19

% Share of coal has increased in India



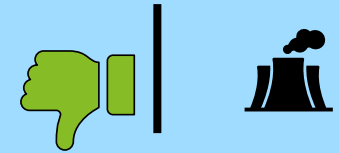
Examining Role of consuming sectors

Regarding natural gas (NG), while it may not be cost-competitive in Power sector, there is potential for increased offtake in others, such as City Gas Distribution (CGD), Refinery & Petrochemicals and industries

1

Power

Gas is not cost-competitive with coal and renewables, limiting its role.



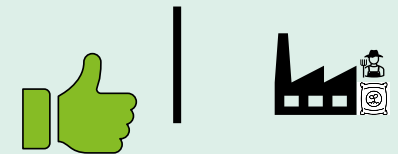
2

Industry: *Growing adoption, except barring Furnace oil (highly polluting) it is price competitive for LDO, HSD, LPG.*



3

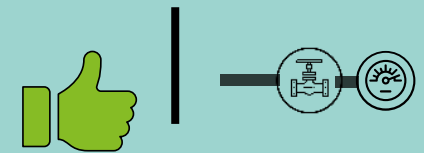
Fertilizers: *Production of urea using natural gas is cost competitive over Naphtha*



4

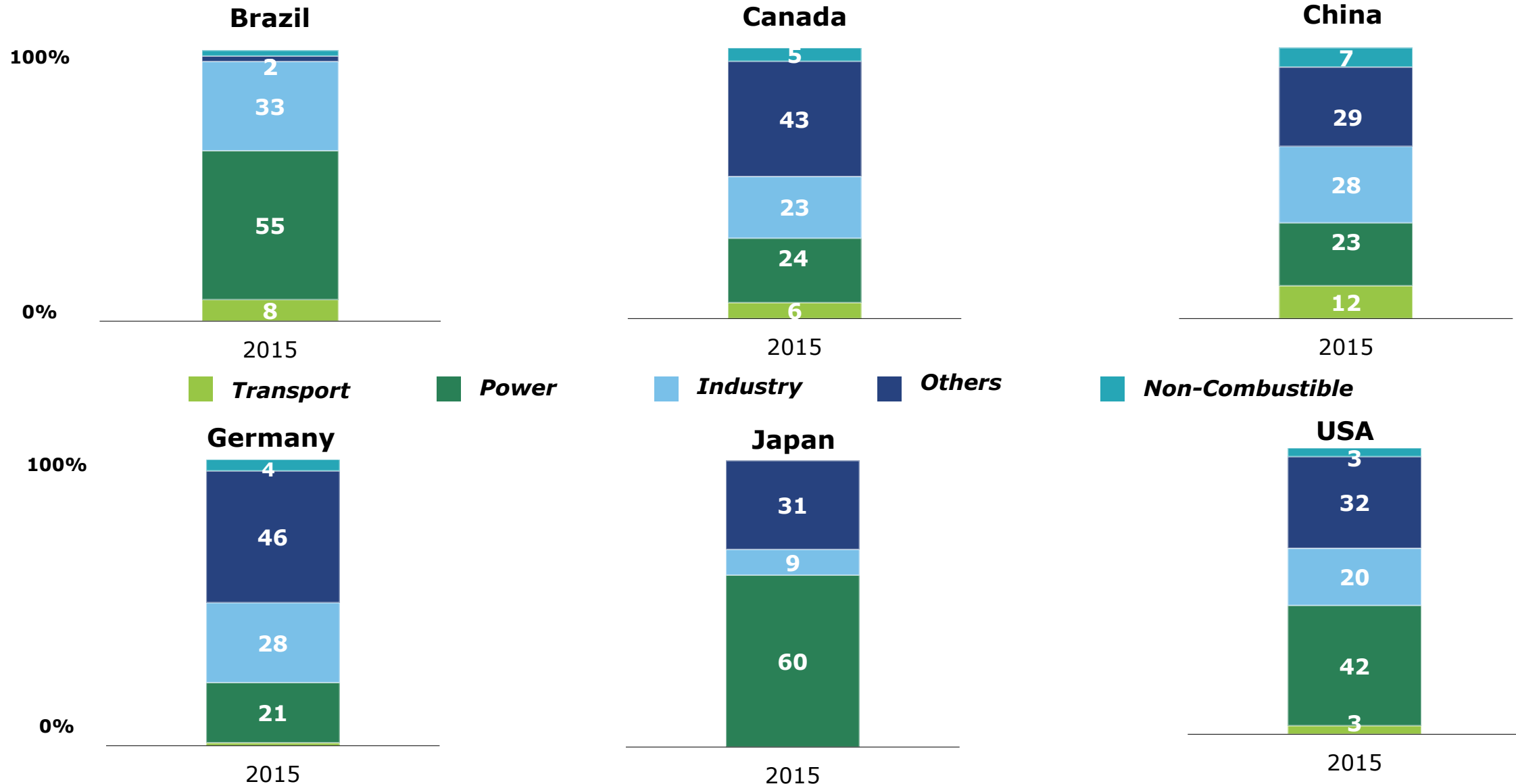
CGD: *Natural Gas has direct advantage in terms of cost and emissions in CGD sector*

- PNG vs LPG
- CNG vs Petrol/Diesel (Transport)
- LNG vs Diesel



Different Consuming Sectors dominate in Major Energy Consuming Countries

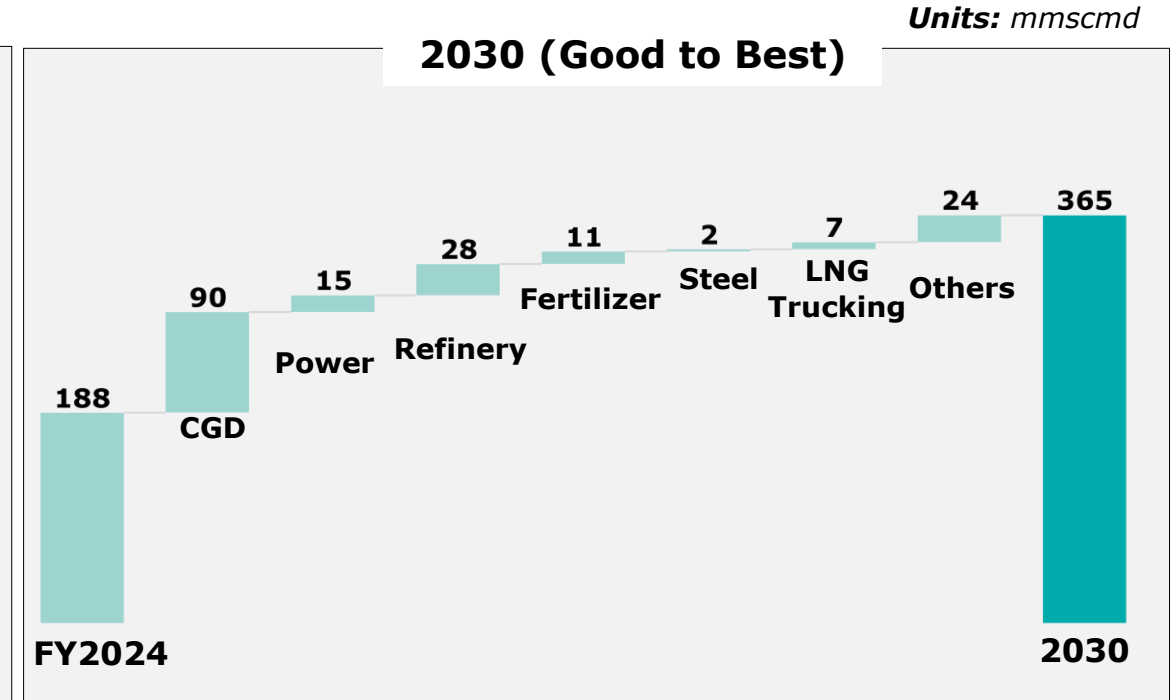
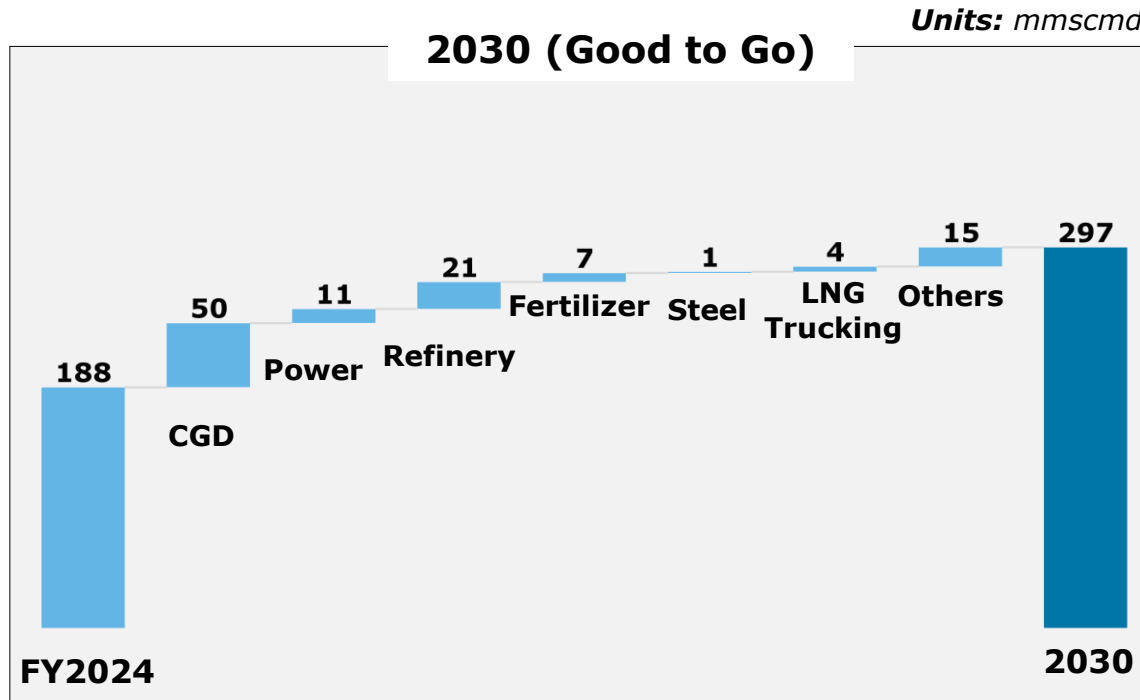
Share of different consuming sectors in percentages of energy mix



Source: Natural Gas in India- Challenges & Opportunities

Natural Gas Sectoral Projections for 2030

Industries and CGD remains a bright spot, driven by natural growth, policy support and increasing consumer demand for cleaner fuels





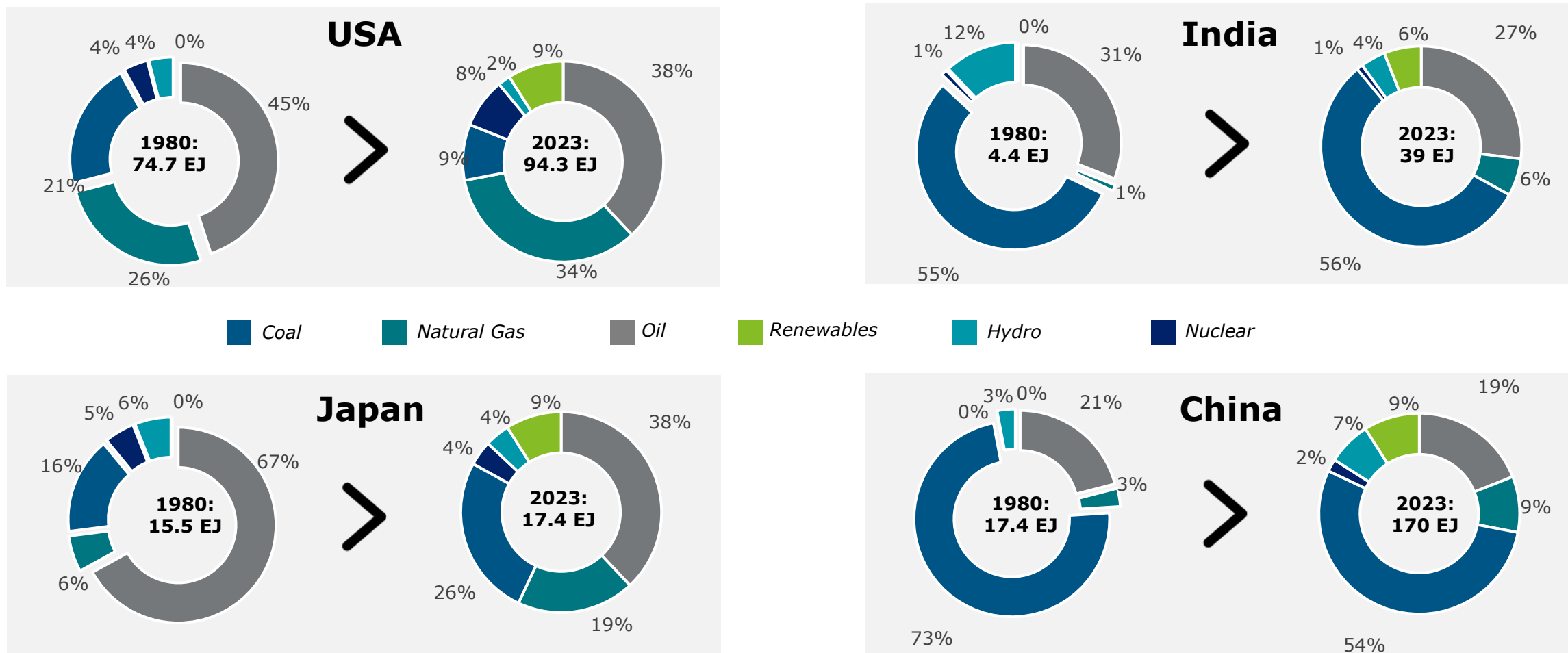
Thank You!

26th March 2025

Global Energy Mix | Overview (1/2)

The global energy system is undergoing transition, but oil & gas are still the mainstay of global energy and economic growth accounting for over half of the global consumption

Changing nature of global Primary Energy¹ Mix

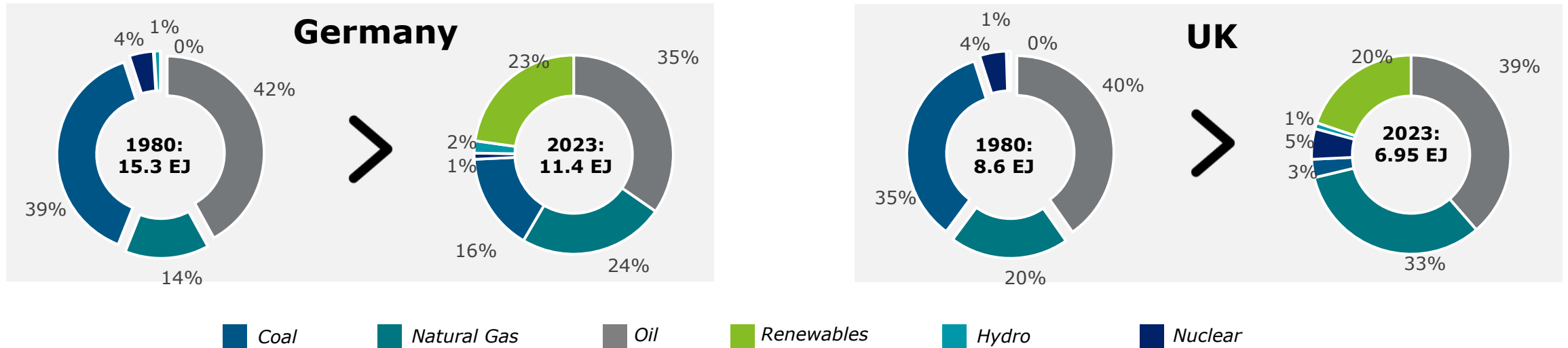


Sources: 1. Statistical Review of World Energy Data, 2023

Global Energy Mix | Overview (2/2)

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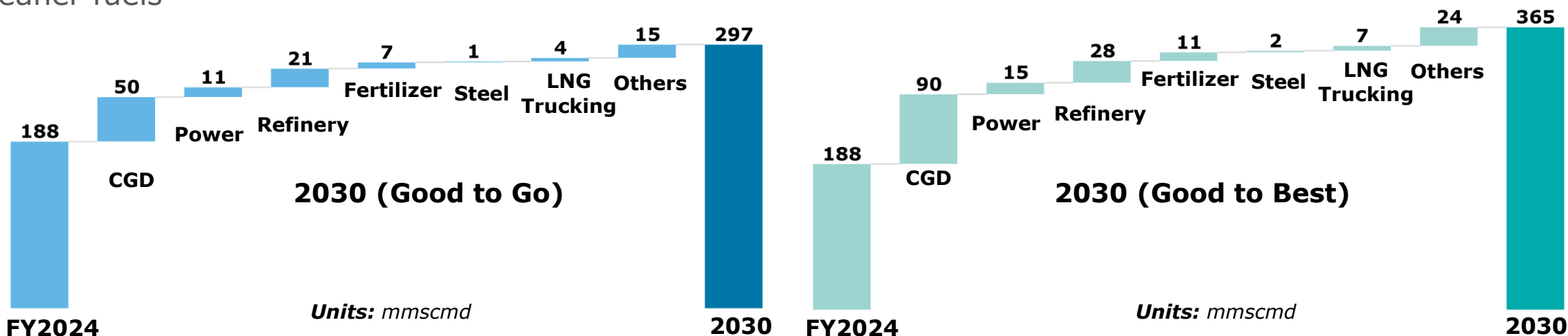
Changing nature of global Primary Energy¹ Mix



Source: 1. Statistical Review of World Energy Data, 2023

Natural Gas Sectoral Projections for FY2024 vs FY2030 (PNGRB Projections)

Industries and CGD remains a bright spot, driven naturally and policy support and consumer demand for cleaner fuels



NG Sectoral Consumption (mmscmd)	FY2024	2030 (Good to Go)	2030 (Good to Best)
👍 CGD	37	87	127
👍 Refinery & Petrochemicals	23	44	51
👍 Fertilizers	58	65	69
Power	25	36	40
Steel	3	4	5
👍 LNG Applications	0	4	7
👍 Others (Misc/Mfg/LPG shr.)	42	57	66
Total (mmscmd)	188	297	365

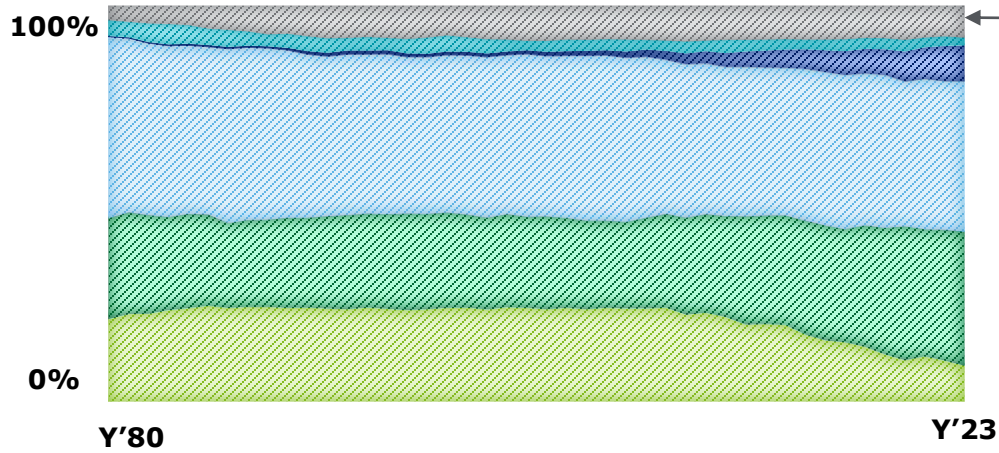
Source: 1. PNGRB

Global Energy Mix | Overview (1/2)

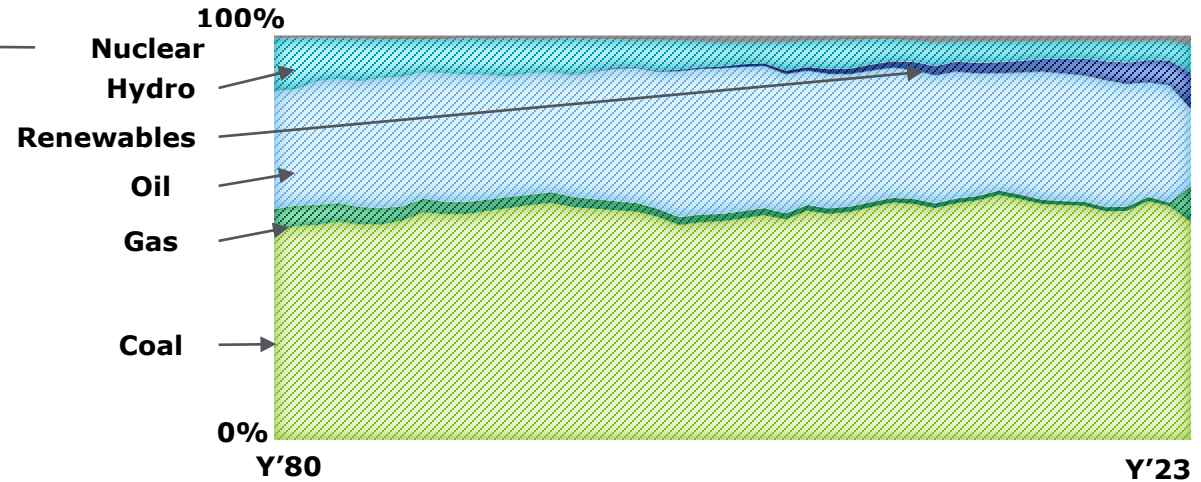
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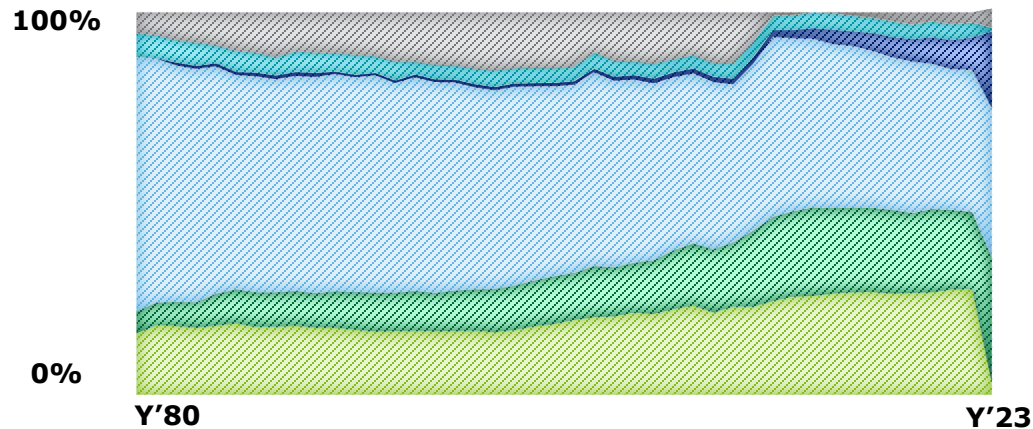
USA



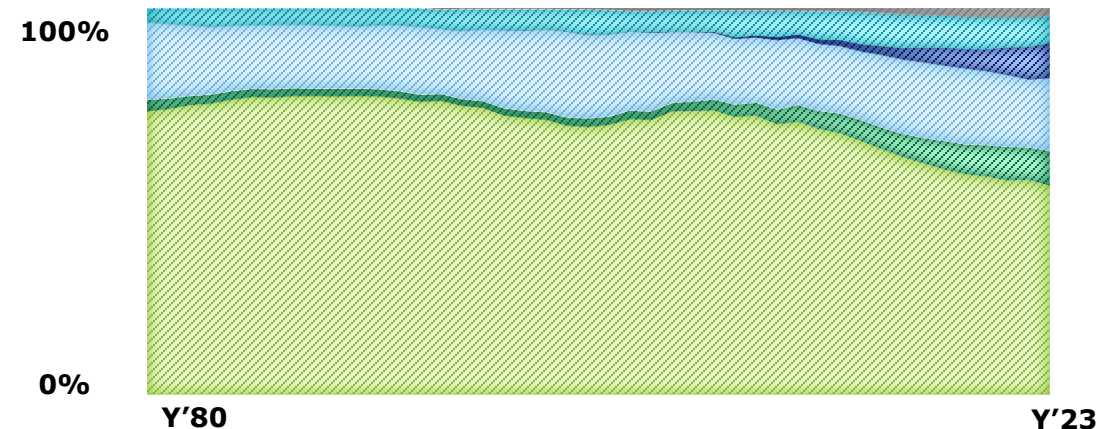
India



Japan



China



Sources: 1. Statistical Review of World Energy Data, 2023

Global Energy Mix | Overview (2/2)

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Changing nature of global Primary Energy¹ Mix

