The Geopolitics of Global Disruption: Trade, Technology, Energy & War

Real Estate Roundtable Annual Meeting
Washington, D.C. – November 12, 2026

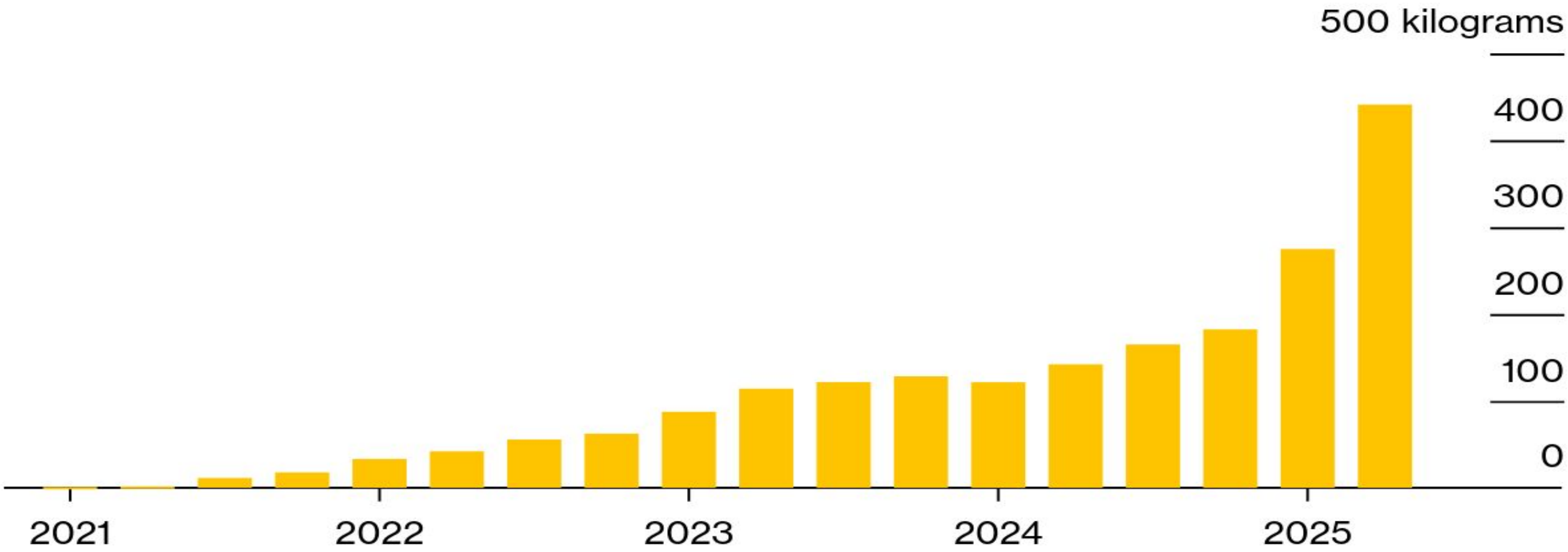
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Senior Fellow for Global Risks, Center for the National Interest
Diplomacy Consultant, U.S. Department of State (2006-2023)




N. AMERICA · $38.2T
AFRICA · $3.6T
MIDDLE EAST · $5.7T
EUROPE · $32.4T
S. AMERICA · $5.3T
OCEANIA · $2.4T
ASIA · $40.3T
U.S.
$32.6T
NOMINAL GDP, 2026F
An AI investment boom is adding momentum to the world's largest economy.
China
$21.5T
Tech and exports buoy China's economy amid its property slump.
Canada
$2.5T
Mexico
$2.2T
BGD
$506B
TWN
$1T
MYS
$547B
EGY
$443B
ZAF
$489B
SAU
$1.3T
ARE
$661B
ISR
$747B
TUR
$1.8T
S. Korea
$2.2T
CZE
$428B
Italy
$2.7T
U.K.
$4.3T
Russia
$2.9T
VNM
$542B
India
$4.1T
IDN
$1.5T
Japan
$4.3T
NLD
$1.4T
NOR
$652B
CHE
$1.1T
AUT
$617B
SWE
$745B
BEL
$773B
POL
$1.1T
Germany
$5.5T
IRL
$710B
HKG
$455B
PHL
$502B
THA
$599B
Singapore
$668B
PAK
$450B
ARC
$768B
Spain
$2.1T
ROU
$470B
COL
$573B
Australia
$2.1T
France
$3.6T
DNK
$499B
Brazil
$2.7T
PER
$400B
CHL
$402B

Iran's Stockpile of Highly Enriched Uranium Surged Prior to June Attacks

The IAEA reported that Iran's reserves of 60%-enriched uranium hit 441 kilograms in June and it hasn't been able to verify the volumes since then



Source: International Atomic Energy Agency data compiled by Bloomberg

Bloomberg

Missile threats to the U.S. homeland will expand in scale and sophistication in the coming decade. **China** and **Russia** are developing an array of novel delivery systems to exploit gaps in current U.S. ballistic missile defenses, but traditional ballistic missiles—which are guided during powered flight and unguided during free flight—will remain the primary threat to the Homeland. **North Korea** has successfully tested ballistic missiles with sufficient range to reach the entire Homeland, and **Iran** has space launch vehicles it could use to develop a militarily-viable ICBM by 2035 should Tehran decide to pursue the capability. The majority of systems presented here have nuclear-capable variants.

Depicted are selected missile threats to the Homeland from notional launch points. Missiles from mobile platforms—aircraft, submarines and ships—can penetrate farther should the platform risk a closer approach to the United States. Numbers below are approximate inventory totals with the exception of submarine-launched ballistic missiles.

China Russia North Korea Iran

Intercontinental Ballistic Missile (ICBM) 1

A ground-based missile with a range exceeding 5,500 km that flies on a ballistic trajectory and is typically armed with a nuclear warhead or warheads. There is no part of the Homeland which cannot be struck by existing ICBMs.

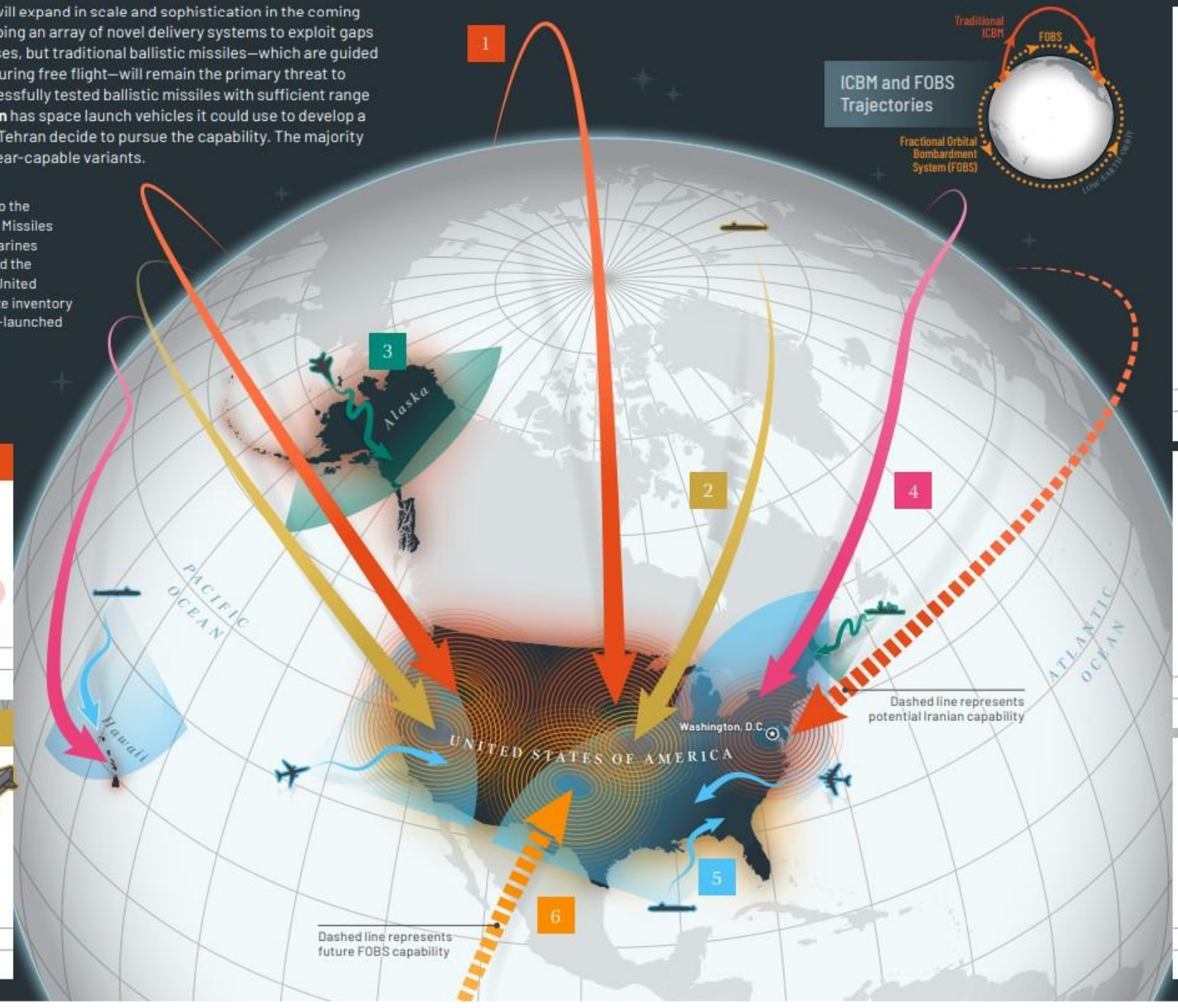
Country				
Current	400	350	10 or fewer	-
2035	700*	400*	50	60

Submarine-Launched Ballistic Missile (SLBM) 2

A ballistic missile, typically carrying nuclear warheads, launched from a submarine. There is no part of the Homeland which cannot be struck by existing adversary SLBMs. Included below are maximum loadout numbers for current and future submarine fleets.

Country		
Current	72	192
2035	at least 132	192

*Number includes FOBS



Boosted Hypersonic Weapon

A highly maneuverable system that achieves hypersonic speed (Mach 5+); includes:

Aeroballistic Missile: A type of hypersonic missile carrying nuclear or conventional warheads that can be launched from air, sea, or ground platforms and combines aerodynamic maneuvers with phases of ballistic loft to extend range. Russia can currently strike portions of the Homeland with aeroballistic missiles launched from aircraft, ships, or ground launchers, and will probably add a launch capability from submarines. 3

Hypersonic Glide Vehicle (HGV): A maneuverable aerodynamic body that is typically delivered by a ballistic missile, achieves sustained hypersonic glide at altitudes of 15-50 km, and glides for at least half of its flight to its target. HGVs can be armed with a nuclear warhead, but China may have deployed a conventional HGV with sufficient range to strike Alaska. 4

Country		
Current	600	200-300
2035	4,000	1,000

Land Attack Cruise Missile 5

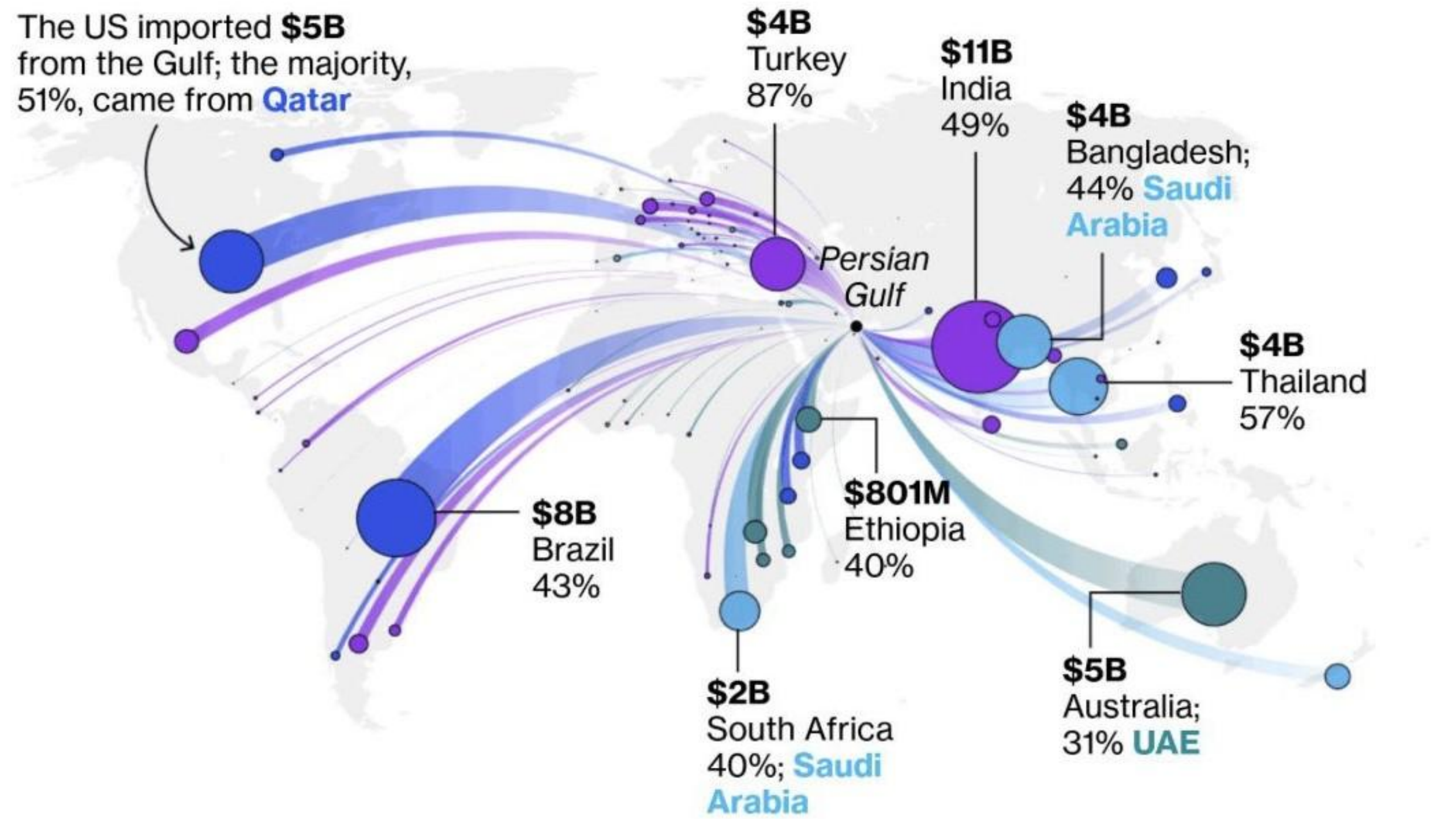
A missile that flies through the atmosphere, potentially with reduced signatures, that can maneuver extensively in flight and be armed with a nuclear or conventional warhead; some may achieve hypersonic speeds. Russia can currently strike large portions of the Homeland with cruise missiles launched from aircraft, ground launchers, ships, or submarines, and China is beginning to field similar capabilities against Alaska, Hawaii, and the U.S. West Coast.

Country		
Current	1,000	300-600
2035	5,000	5,000

Fractional Orbital Bombardment System (FOBS) 6

An ICBM that enters a low-altitude orbit before reentering to strike its target, with much shorter flight times if flying the same direction as traditional ICBMs, or can travel over the South Pole to avoid early warning systems and missile defenses. It releases its payload before completing a full orbit.

Country		
Current	-	-
2035	60	fewer than 12


The US imported **$5B** from the Gulf; the majority, 51%, came from **Qatar**
$4B Turkey 87%
$11B India 49%
$4B Bangladesh; 44% **Saudi Arabia**
Persian Gulf
$4B Thailand 57%
$8B Brazil 43%
$801M Ethiopia 40%
$2B South Africa 40%; **Saudi Arabia**
$5B Australia; 31% **UAE**

Helium: Fastest Growing Uses



MEDICAL INDUSTRY
Helium is mandatory for MRI machines which require 800 litres of Helium. Heliox mixtures in respiratory treatments.



CRYOGENICS
Helium is the only element that can come close to reaching absolute zero.



WWW
High Speed Internet, fibre optic cables must be manufactured in a pure helium environment



ELECTRONICS
Electronics & Semiconductors require helium to be used at different stages in the production process.



MOBILE PHONE
If a device contains a semiconductor, it must contain helium.



COMPUTERS
Helium filled hard drives offer 50% higher storage capacity with 23% lower operating power.



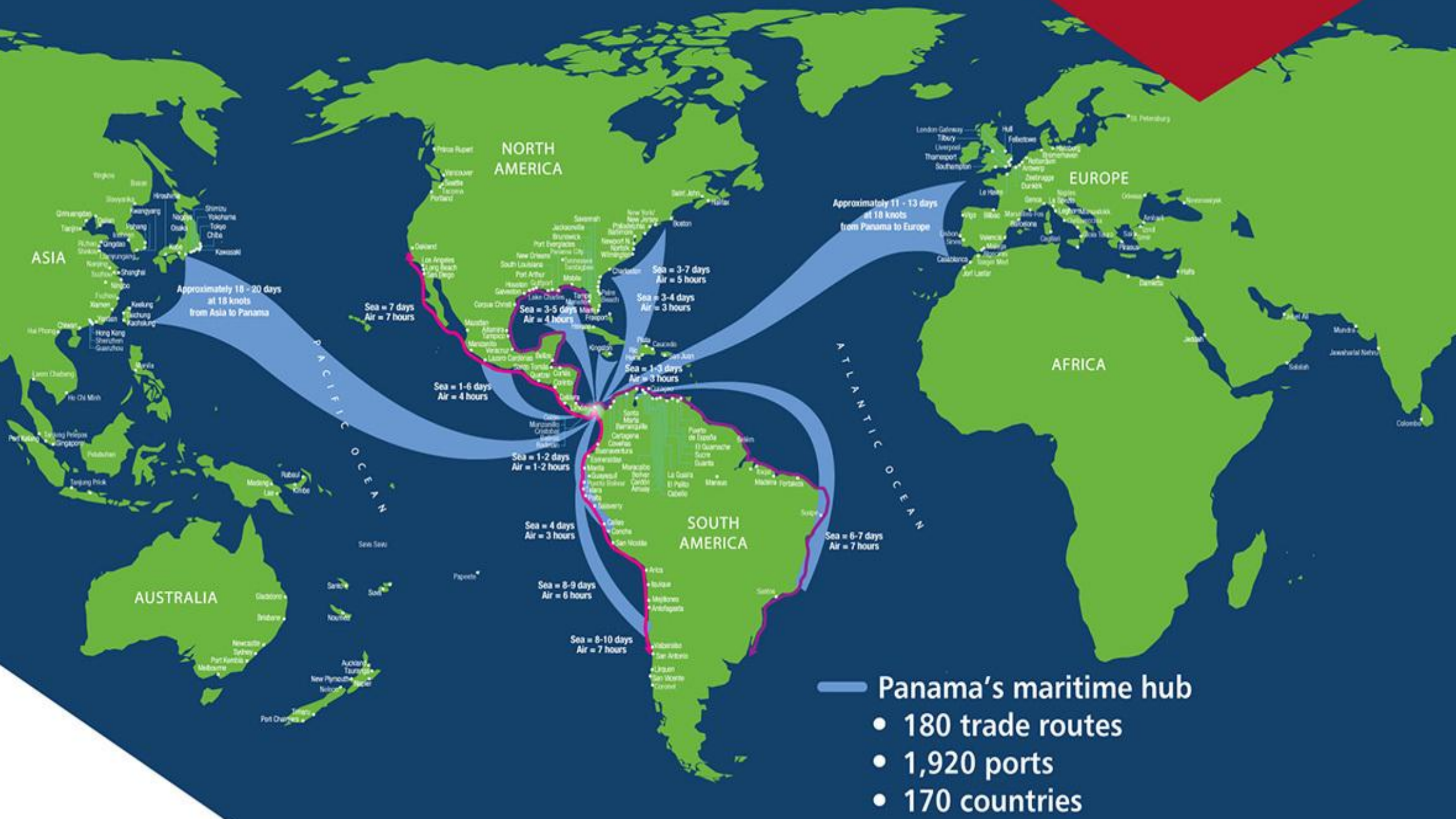
CAR AIR BAGS
Helium is the gas of choice for effecting the near instantaneous deployment of airbags in cars.

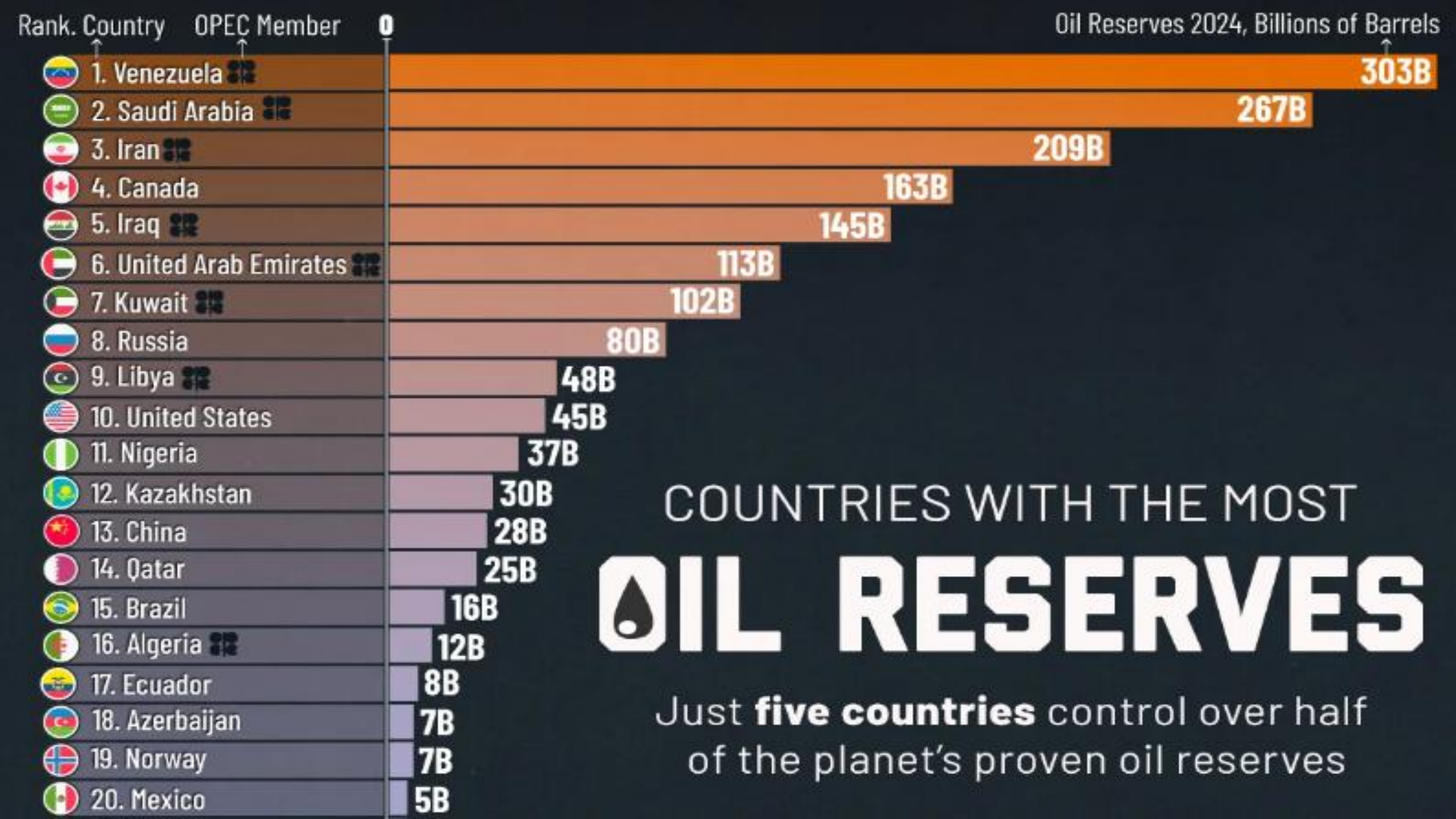
SAMSUNG
Building a $17 BN Semiconductor plant in the U.S. scheduled to open in 2024.

TSMC
Electronics & Semiconductors require helium to be used at different stages in the production process.

Source: US Geological Survey, Cormark Securities Inc.


ISLAMIC REPUBLIC OF IRAN
Persian Gulf
Gulf of Oman
UNITED ARAB EMIRATES
LIBYA
EGYPT
SUEZ CANAL
EILAT (Israel)
YANBU (Major Port)
SAUDI ARABIA
JEDDAH (Major Port)
Red Sea
DECLARED HOUTHI BLOCKADE ZONE
Iranian Support Routes (Alleged)
OMAN
JIZAN
SUDAN
CHAD
ERITREA
YEMEN (Houthi-Controlled Area)
ARABIAN SEA
BAB EL-MANDEB STRAIT (Key Choke Point)
DJIBOUTI
Gulf of Aden
SOMALIA
N
25m
50km

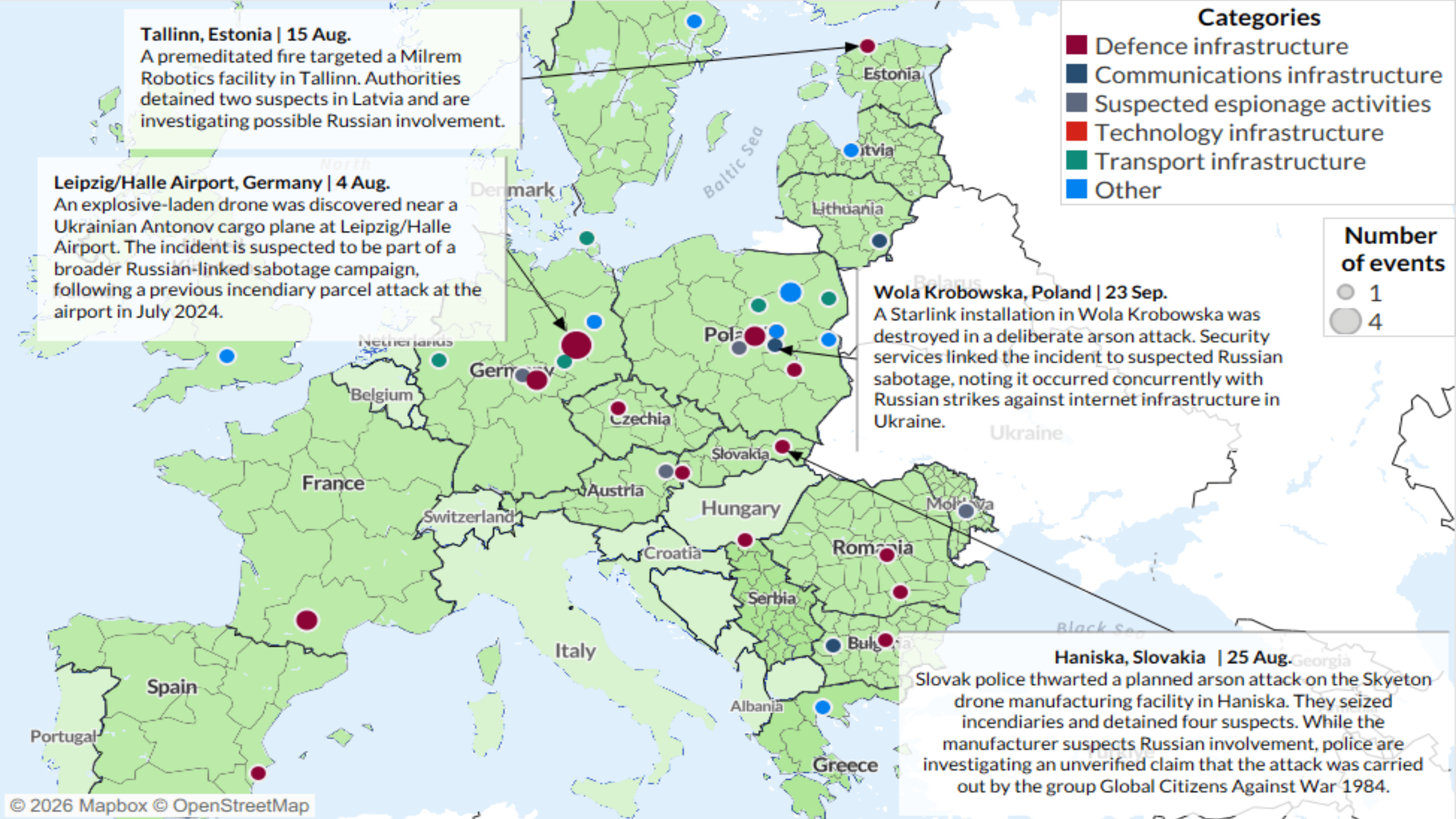

NORTH AMERICA
EUROPE
ASIA
AFRICA
AUSTRALIA
SOUTH AMERICA
PACIFIC OCEAN
ATLANTIC OCEAN
Approximately 18 - 20 days at 18 knots from Asia to Panama
Approximately 11 - 13 days at 18 knots from Panama to Europe
Sea = 7 days Air = 7 hours
Sea = 3-7 days Air = 5 hours
Sea = 3-4 days Air = 3 hours
Sea = 3-5 days Air = 4 hours
Sea = 1-3 days Air = 3 hours
Sea = 1-6 days Air = 4 hours
Sea = 1-2 days Air = 1-2 hours
Sea = 4 days Air = 3 hours
Sea = 6-7 days Air = 7 hours
Sea = 8-9 days Air = 6 hours
Sea = 8-10 days Air = 7 hours
Panama's maritime hub
• 180 trade routes
• 1,920 ports
• 170 countries

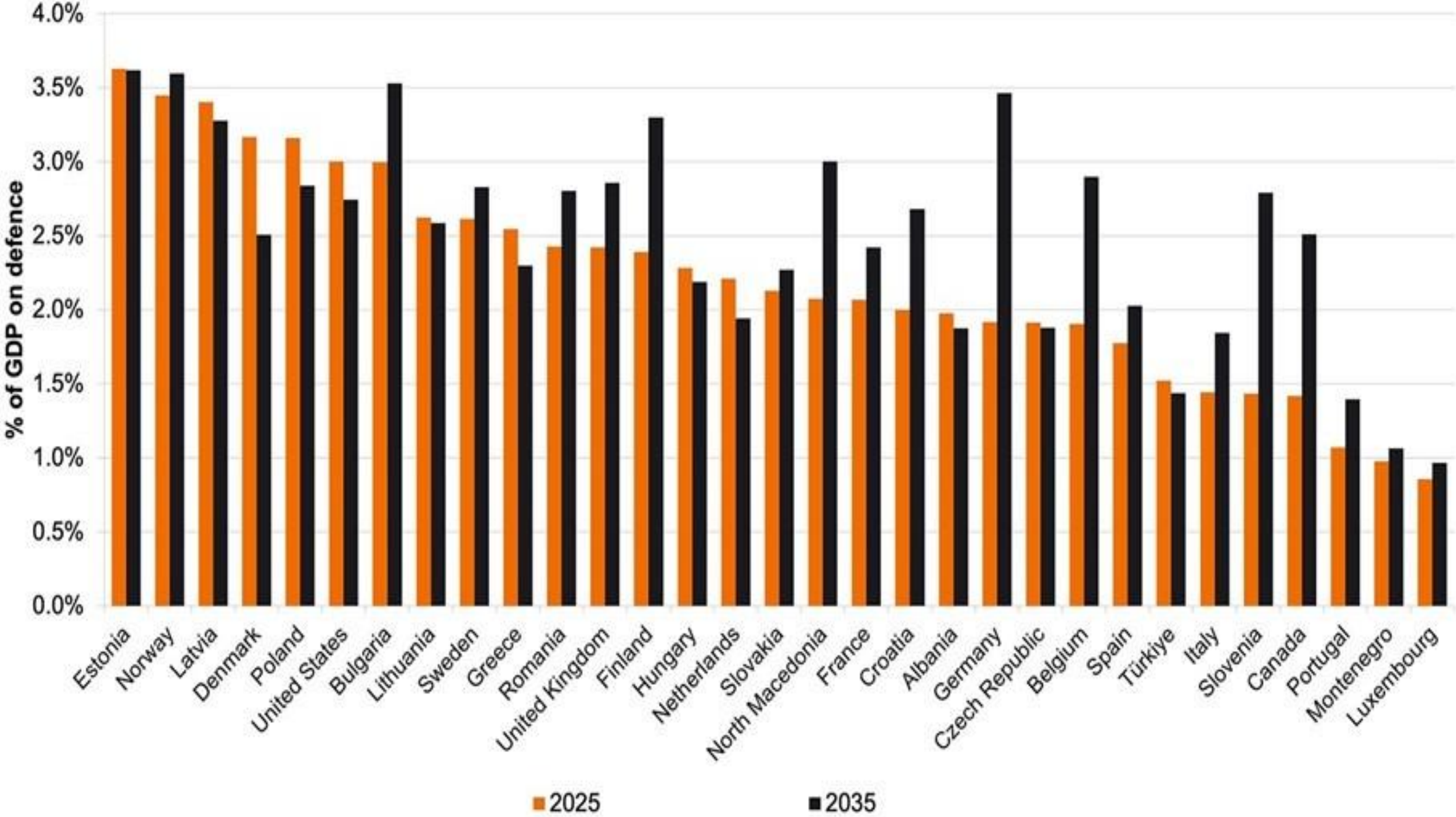

Rank. Country
OPEC Member
0
Oil Reserves 2024, Billions of Barrels
1. Venezuela
303B
2. Saudi Arabia
267B
3. Iran
209B
4. Canada
163B
5. Iraq
145B
6. United Arab Emirates
113B
7. Kuwait
102B
8. Russia
80B
9. Libya
48B
10. United States
45B
11. Nigeria
37B
12. Kazakhstan
30B
13. China
28B
14. Qatar
25B
15. Brazil
16B
16. Algeria
12B
17. Ecuador
8B
18. Azerbaijan
7B
19. Norway
7B
20. Mexico
5B
COUNTRIES WITH THE MOST
OIL RESERVES
Just **five countries** control over half
of the planet's proven oil reserves

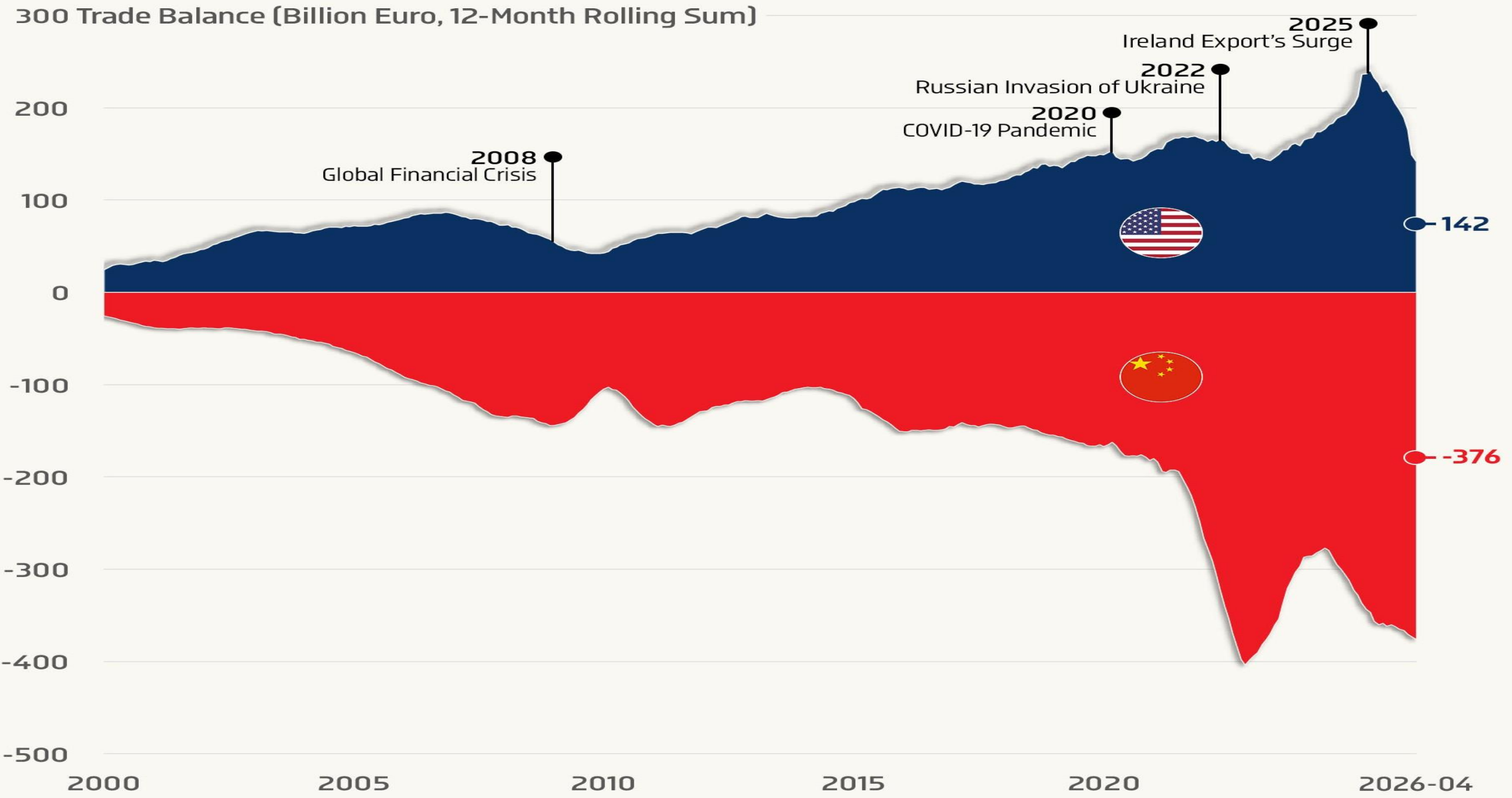

Pacific Ocean
Alaska
Arctic Circle
China
United States
Canada
Russia
Greenland
Nuuk
Iceland
Atlantic Ocean
Denmark
GIUK Gap


Eurasia
Scale 1:9,000,000
0 250 500 750 1000
Kilometers
0 250 500 750 1000
Nautical Miles
0 250 500 750 1000
Statute Miles
NORTH ATLANTIC OCEAN
ARCTIC OCEAN
NORTH PACIFIC OCEAN
Greenland (DENMARK)
Greenland Sea
Norwegian Sea
Barents Sea
Kara Sea
Laptev Sea
East Siberian Sea
Chukchi Sea
Bering Sea
Sea of Okhotsk
Sea of Japan
Yellow Sea
East China Sea
Philippine Sea
Baltic Sea
North Sea
Black Sea
Caspian Sea
Aral Sea
Mediterranean Sea
Red Sea
Persian Gulf
Gulf of Oman
Arabian Sea
Gulf of Bothnia
Lake Baikal
Lake Balkhash
Lake Ladoga
Lake Onega
Sea of Azov
Dead Sea
Lake Issyk-Kul
Lake Van
Lake Urmia
Lake Tuz
Lake Sevan
Lake Aral
Lake Hamun-e Helmand
Lake Bakhtegan
Lake Tashk
Lake Namak
Lake Qinghai
Lake Poyang
Lake Dongting
Lake Taihu
Lake Hongze
Lake Chaohu
Lake Dianchi
Lake Erhai
Lake Nasser
Lake Volta
Lake Kariba
Lake Tana
Lake Turkana
Lake Victoria
Lake Tanganyika
Lake Malawi
Lake Mweru
Lake Bangweulu
Lake Rukwa
Lake Natron
Lake Eyre
Lake Torrens
Lake Gairdner
Lake Frome
Lake Amadeus
Lake Mackay
Lake Disappointment
Lake Argyle
Lake Gregory
Lake Nicaragua
Lake Managua
Lake Titicaca
Lake Poopó
Lake Maracaibo
Lake Guatavita
Lake Buenavista
Lake Chapala
Lake Pátzcuaro
Lake Cuitzeo
Lake Texcoco
Lake Xochimilco
Lake Chalco
Lake Tequesquitengo
Lake Atitlán
Lake Izabal
Lake Peten Itza
Lake Yojoa
Lake Enriquillo
Lake Azuei
Lake Miramar
Lake Ontario
Lake Erie
Lake Huron
Lake Michigan
Lake Superior
Lake Winnipeg
Lake Manitoba
Lake Winnipegosis
Lake Athabasca
Great Bear Lake
Great Slave Lake
Lake Nipigon
Lake Nipissing
Lake Simcoe
Lake Champlain
Lake Okeechobee
Lake Pontchartrain
Lake Maracaibo
Lake Titicaca
Lake Poopó
Lake Nicaragua
Lake Managua
Lake Atitlán
Lake Izabal
Lake Peten Itza
Lake Yojoa
Lake Enriquillo
Lake Azuei
Lake Miramar
Lake Ontario
Lake Erie
Lake Huron
Lake Michigan
Lake Superior
Lake Winnipeg
Lake Manitoba
Lake Winnipegosis
Lake Athabasca
Great Bear Lake
Great Slave Lake
Lake Nipigon
Lake Nipissing
Lake Simcoe
Lake Champlain
Lake Okeechobee
Lake Pontchartrain
RUSSIA
KAZAKHSTAN
MONGOLIA
CHINA
INDIA
IRAN
IRAQ
SAUDI ARABIA
AFGHANISTAN
PAKISTAN
TURKEY
SYRIA
YEMEN
OMAN
UNITED ARAB EMIRATES
QATAR
BAHRAIN
KUWAIT
JORDAN
LEBANON
ISRAEL
EGYPT
CYPRUS
GEORGIA
ARMENIA
AZERBAIJAN
TURKMENISTAN
UZBEKISTAN
KYRGYZSTAN
TAJIKISTAN
NEPAL
BHUTAN
BURMA
NORTH KOREA
SOUTH KOREA
JAPAN
TAIWAN
PHILIPPINES
Hong Kong Special Administrative Region
Macau S.A.R.
Reykjavik
ICELAND
Jan Mayen (NORWAY)
Faroe Islands (DENMARK)
Svalbard (NORWAY)
Franz Josef Land
Severnaya Zemlya
New Siberian Islands
Wrangel Island
St. Lawrence Island
Nunivak Island
UNITED STATES
Anadyr
Petropavlovsk-Kamchatskiy
Magadan
Komsomol'sk
Khabarovsk
Sapporo
Tokyo
Nagoya
Osaka
Kitakyūshū
Pusan
Seoul
Pyongyang
Wonsan
Vladivostok
Harbin
Changchun
Shenyang
Beijing
Tianjin
Qingdao
Shijiazhuang
Taiyuan
Jinan
Baotou
Ürümqi
Lanzhou
Xi'an
Zhengzhou
Hefei
Nanjing
Shanghai
Hangzhou
Wuhan
Nanchang
Changsha
Fuzhou
Xiamen
Taipei
Chengdu
Chongqing
Guiyang
Kunming
Guangzhou
Golmud
Lhasa
Kashi
Ulaanbaatar
Irkutsk
Ulan-Ude
Chita
Krasnoyarsk
Novosibirsk
Omsk
Barnaul
Yekaterinburg
Chelyabinsk
Magnitogorsk
Perm'
Kazan'
Samara
Saratov
Ufa
Volgograd
Novorossiysk
Rostov
Donets'k
Kharkiv
Kiev
Odesa
Sevastopol'
Istanbul
Izmir
Ankara
Konya
Adana
Gaziantep
Aleppo
Beirut
Damascus
Amman
Jerusalem
Tel Aviv-Yafo
Nicosia
Athens
Thessaloniki
Tirana
Skopje
Sofia
Bucharest
Chisinau
Belgrade
Sarajevo
Budapest
Zagreb
Ljubljana
Vienna
Bratislava
Prague
Warsaw
Łódź
Poznań
Gdańsk
Kraków
Lviv
Brest
Minsk
Vilnius
Riga
Tallinn
Helsinki
Stockholm
Oslo
Copenhagen
Hamburg
Frankfurt
Bern
Munich
Berlin
Luxembourg
Brussels
Amsterdam
Paris
Dublin
Belfast
Edinburgh
Leeds
Birmingham
London
Murmansk
Arkhangel'sk
St. Petersburg
Vorkuta
Noril'sk
Yakutsk
Yaroslavl'
Moscow
Smolensk
Nizhniy Novgorod
Kirov
Voronezh
Astana
Qaraghandy (Karaganda)
Semey (Semipalatinsk)
Aqtöbe (Aktobe)
Almaty
Taraz
Bishkek
Tashkent
Samarqand
Andijon
Dushanbe
Ashgabat
Mashhad
Tehran
Qom
Kermānshāh
Tabriz
Baku
Yerevan
Groznyy
Tbilisi
Mosul
Arbil
Kirkuk
Baghdad
Al Basrah
Abādān
Esfahān
Shīrāz
Kermān
Herāt
Kabul
Kandahār
Islamabad
Lahore
Quetta
Karachi
Jodhpur
New Delhi
Kathmandu
Thimphu
Jiddah
Mecca
Medina
Riyadh
Kuwait
Manama
Doha
Bandar 'Abbās
Abu Dhabi
Muscat
Sanaa
Kunlun Shan
Tian Shan
Altay Mountains
Himalaya
Hindu Kush
Karakoram
Zagros Mountains
Elburz Mountains
Caucasus Mountains
Pyrenees
Alps
Carpathian Mountains
Balkan Mountains
Apennines
Dinaric Alps
Ural Mountains
Verkhoyansk Range
Chersky Range
Stanovoy Range
Sikhote-Alin
Greater Khingan Range
Lesser Khingan Range
Changbai Shan
Taihang Shan
Qinling Shan
Nanling Shan
Yunnan-Guizhou Plateau
Tibetan Plateau
Qaidam Basin
Tarim Basin
Junggar Basin
Turpan Depression
Gobi
Taklimakan Desert
Kyzyl Kum
Karakum
Rub' al Khali
Nafud Desert
Syrian Desert
Sahara
Nile
Euphrates
Tigris
Jordan
Indus
Ganges
Brahmaputra
Mekong
Yangtze
Huang He (Yellow)
Amur
Lena
Yenisey
Ob
Irtysh
Volga
Don
Dnieper
Danube
Rhine
Elbe
Vistula
Oder
Seine
Loire
Rhône
Po
Tiber
Thames
Shannon
Severn
Clyde
Forth
Tay
Dee
Spey
Ness
Moray Firth
Pentland Firth
Orkney Islands
Shetland Islands
Faroe Islands
Iceland
Greenland
Svalbard
Franz Josef Land
Severnaya Zemlya
New Siberian Islands
Wrangel Island
St. Lawrence Island
Nunivak Island
Arctic Circle
Tropic of Cancer
Tropic of Capricorn
Equator
Prime Meridian
International Date Line
Occupied by the Soviet Union in 1945, administered by Russia, claimed by Japan.
Boundary representation is not necessarily authoritative.
803205AI (G00442) 2-06
PREX 3.10/4:EU 7/2006
JUN 06 2008
Indiana University
Library - Depository


BELARUS
RUSSIA
POLAND
Kyiv
Lviv
UKRAINE
Kharkiv
Dnipro
Kryvyi Rih
Zaporizhia
MOLDOVA
ROMANIA
Odessa
Donbas
Area controlled by Russian-backed forces before Feb 24th 2022
Sea of Azov
Crimea
Ukrainian territory annexed by Russia in 2014
Black Sea
200 km
Russian air/drone strikes, 2026*
Russian-controlled, Sep 15th 2026
*To Sep 14th Sources: ACLED; Institute for the Study of War; AEI's Critical Threats Project

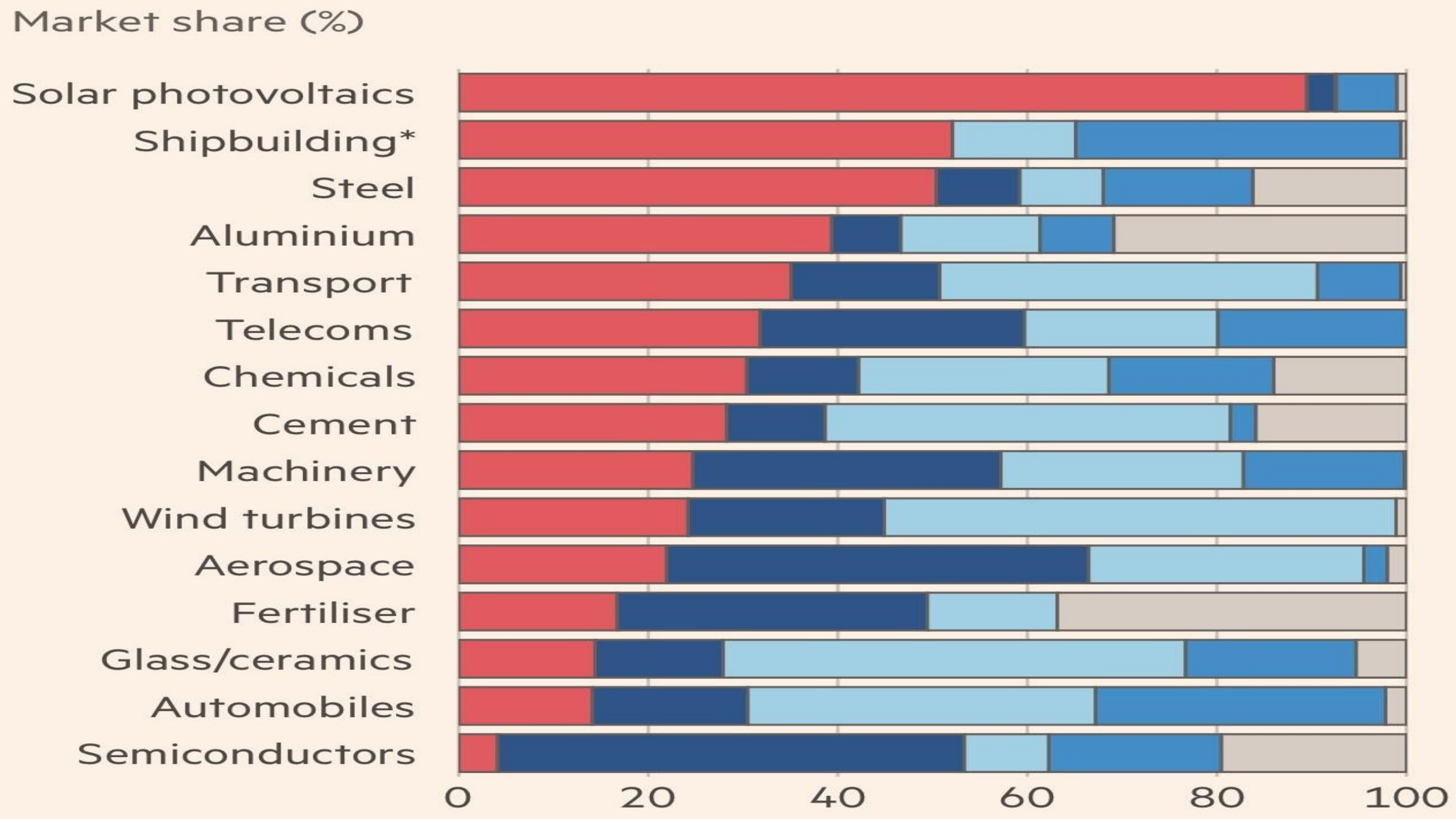

Tallinn, Estonia | 15 Aug.
A premeditated fire targeted a Milrem Robotics facility in Tallinn. Authorities detained two suspects in Latvia and are investigating possible Russian involvement.
Leipzig/Halle Airport, Germany | 4 Aug.
An explosive-laden drone was discovered near a Ukrainian Antonov cargo plane at Leipzig/Halle Airport. The incident is suspected to be part of a broader Russian-linked sabotage campaign, following a previous incendiary parcel attack at the airport in July 2024.
Wola Krobowska, Poland | 23 Sep.
A Starlink installation in Wola Krobowska was destroyed in a deliberate arson attack. Security services linked the incident to suspected Russian sabotage, noting it occurred concurrently with Russian strikes against internet infrastructure in Ukraine.
Haniska, Slovakia | 25 Aug.
Slovak police thwarted a planned arson attack on the Skyeton drone manufacturing facility in Haniska. They seized incendiaries and detained four suspects. While the manufacturer suspects Russian involvement, police are investigating an unverified claim that the attack was carried out by the group Global Citizens Against War 1984.
Categories
Defence infrastructure
Communications infrastructure
Suspected espionage activities
Technology infrastructure
Transport infrastructure
Other
Number of events
1
4
Estonia
Lithuania
Belarus
Ukraine
Poland
Germany
Netherlands
Belgium
Czechia
Slovakia
Austria
Hungary
Switzerland
France
Romania
Croatia
Serbia
Italy
Spain
Portugal
Albania
Greece
Georgia
Baltic Sea
Denmark
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4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
% of GDP on defence
Estonia
Norway
Latvia
Denmark
Poland
United States
Bulgaria
Lithuania
Sweden
Greece
Romania
United Kingdom
Finland
Hungary
Netherlands
Slovakia
North Macedonia
France
Croatia
Albania
Germany
Czech Republic
Belgium
Spain
Türkiye
Italy
Slovenia
Canada
Portugal
Montenegro
Luxembourg
2025
2035



Source: Eurostat




Market share (%)
Solar photovoltaics
Shipbuilding*
Steel
Aluminium
Transport
Telecoms
Chemicals
Cement
Machinery
Wind turbines
Aerospace
Fertiliser
Glass/ceramics
Automobiles
Semiconductors
0
20
40
60
80
100

MINERAL	LEADING PRODUCER	SHARE OF GLOBAL PRODUCTION (%)
GALLIUM		98.7%
MAGNESIUM		95.0%
NIOBIUM		90.9%
TUNGSTEN		82.7%
BISMUTH		81.3%
GRAPHITE		79.4%
SILICON		76.3%
COBALT		75.9%
PLATINUM		70.6%
INDIUM		70.4%
VANADIUM		70.0%
RARE EARTHS		69.2%
FLUORSPAR		68.4%
ANTIMONY		60.0%
ALUMINUM		59.7%

China controls key materials such as graphite, rare earths, and gallium—essential for green technologies and defense industries.



China's “Industries of the Future”



Quantum Technology



Biomanufacturing



Hydrogen



Nuclear Fusion



Brain-Computer Interfaces



Embodied AI

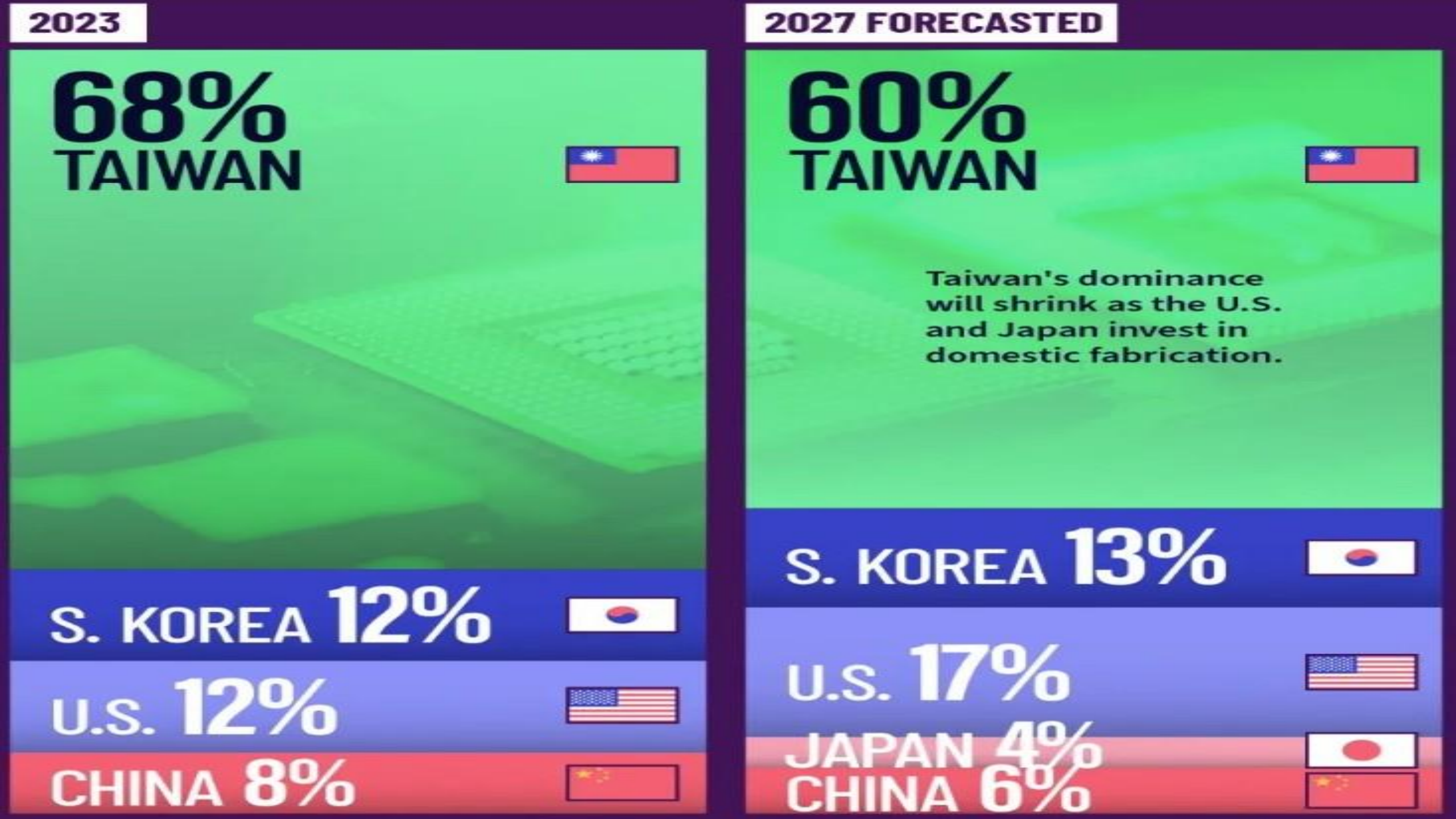


6G Communications

Innovation & Commercialization

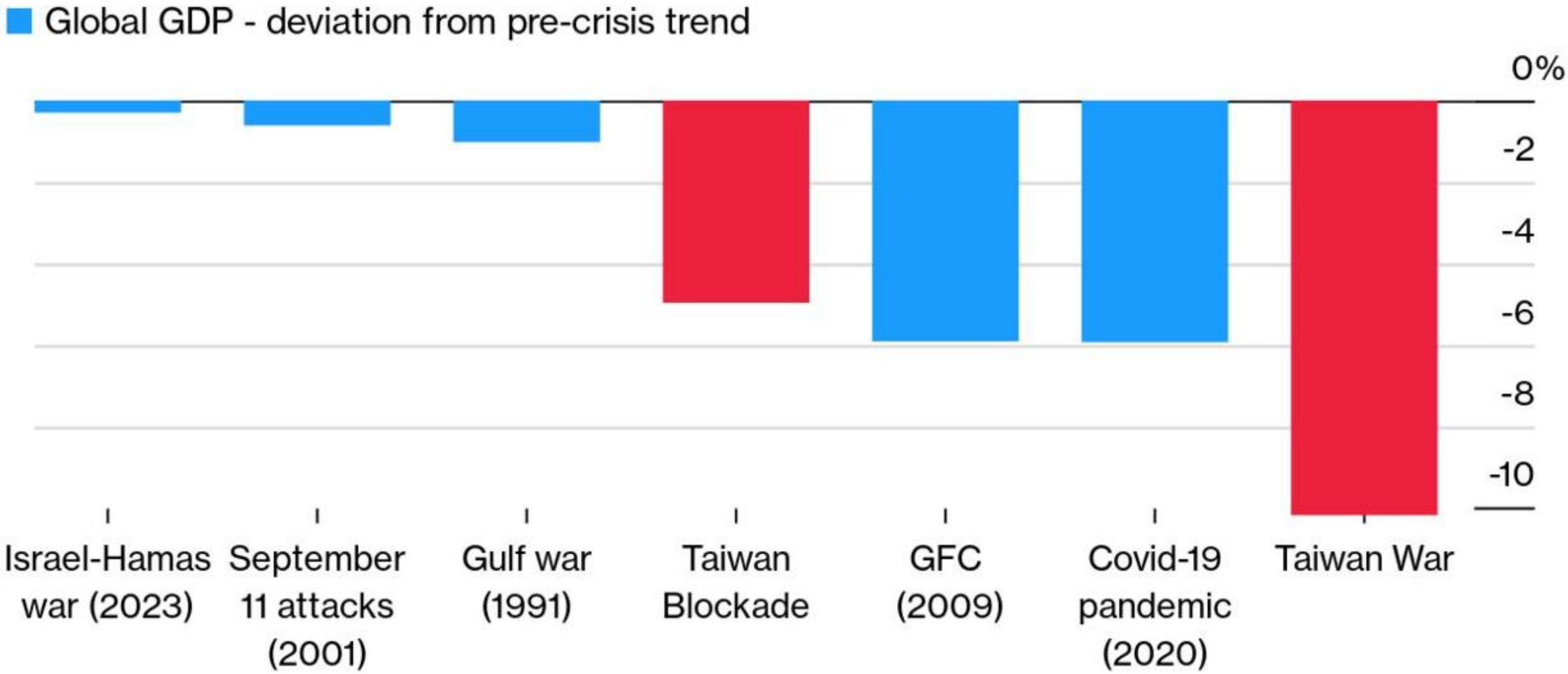
Standards & Regulation

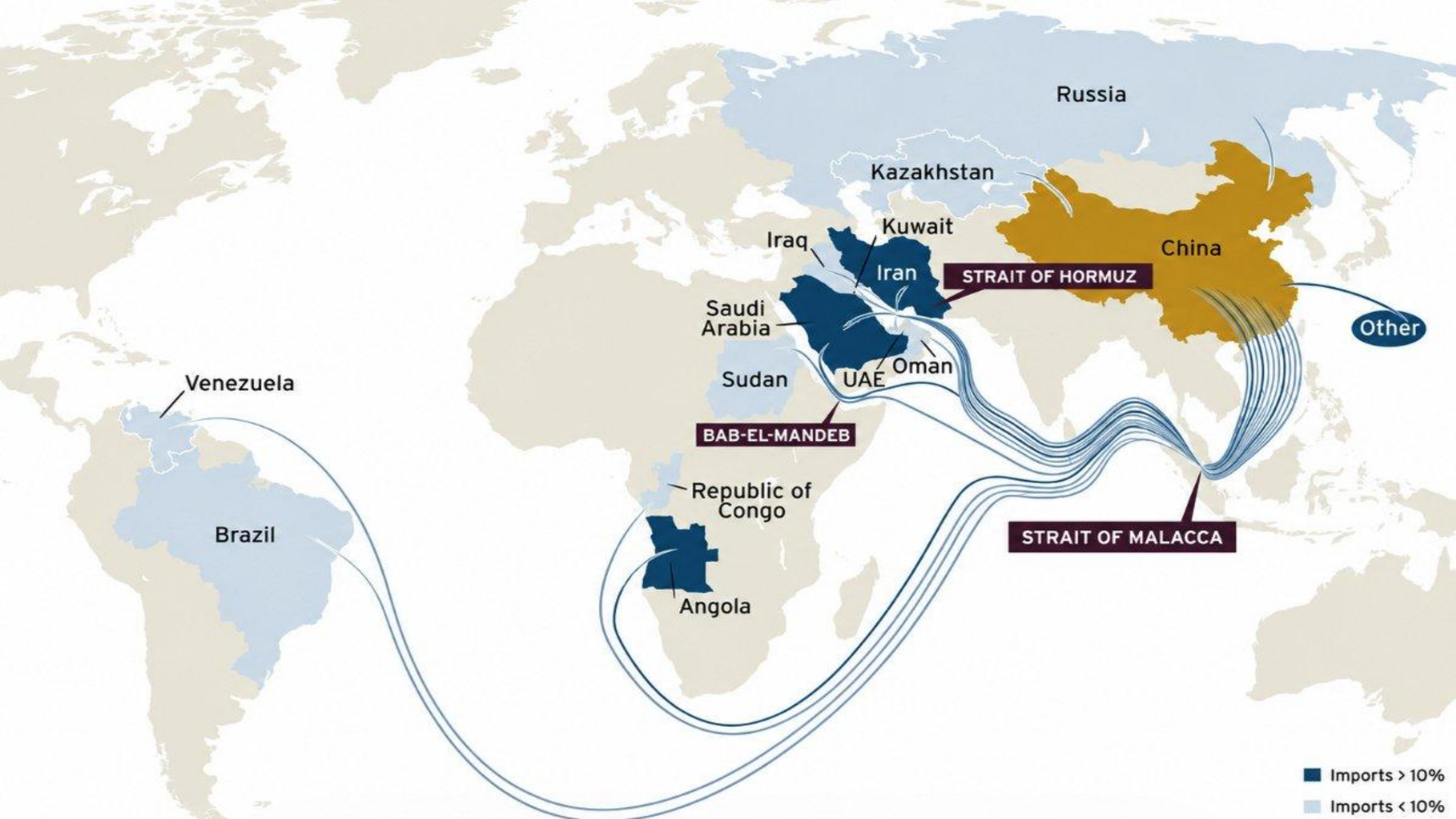
Global Competition


2023
68%
TAIWAN
S. KOREA 12%
U.S. 12%
CHINA 8%
2027 FORECASTED
60%
TAIWAN
Taiwan's dominance will shrink as the U.S. and Japan invest in domestic fabrication.
S. KOREA 13%
U.S. 17%
JAPAN 4%
CHINA 6%

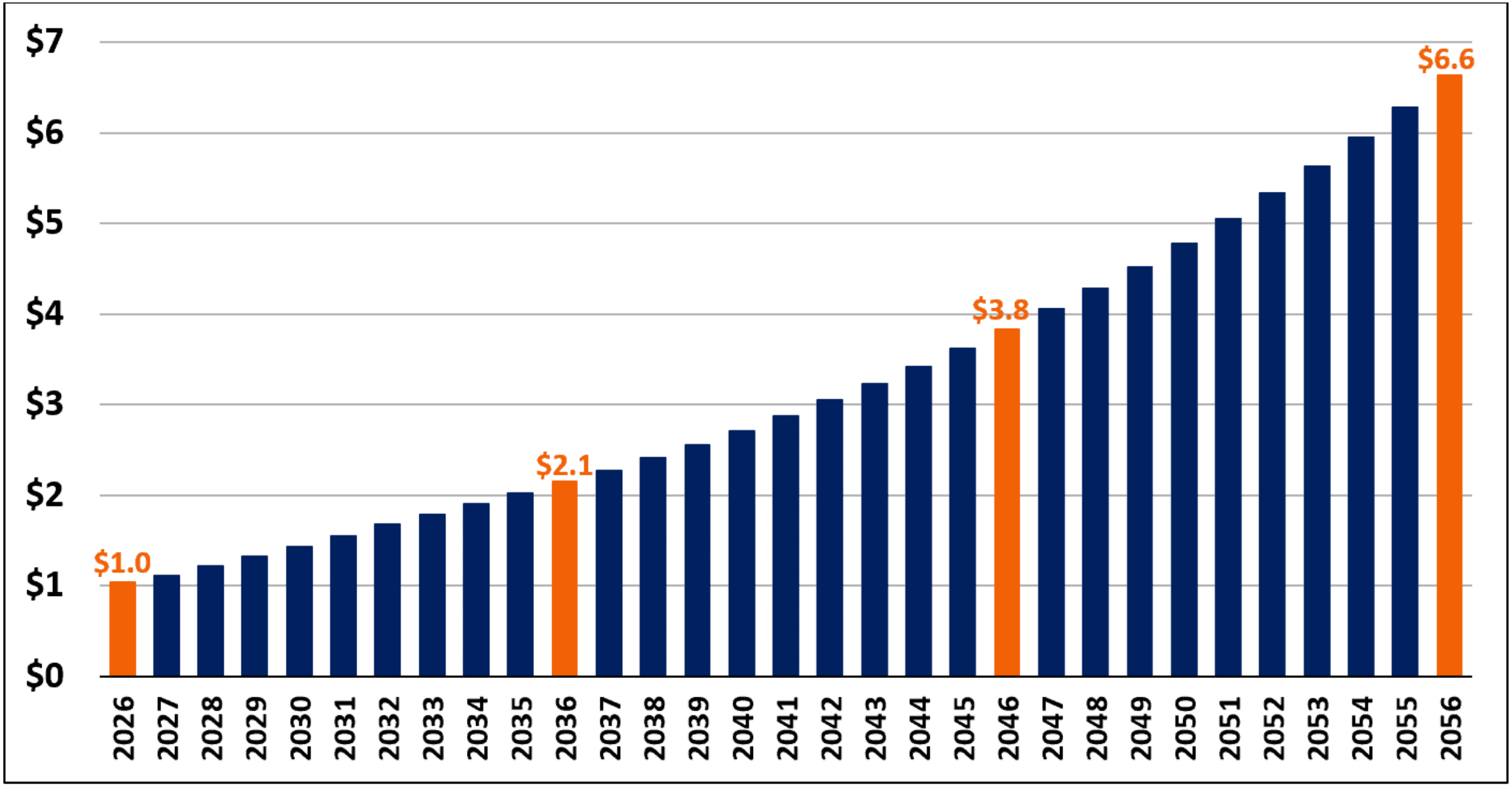
The Global Risk of a Taiwan War

Model estimates show a Taiwan war could have a bigger impact on global GDP than other recent shocks




Russia
Kazakhstan
Kuwait
Iraq
Iran
China
STRAIT OF HORMUZ
Other
Saudi Arabia
Oman
UAE
Sudan
Venezuela
BAB-EL-MANDEB
Republic of Congo
Brazil
STRAIT OF MALACCA
Angola
Imports > 10%
Imports < 10%

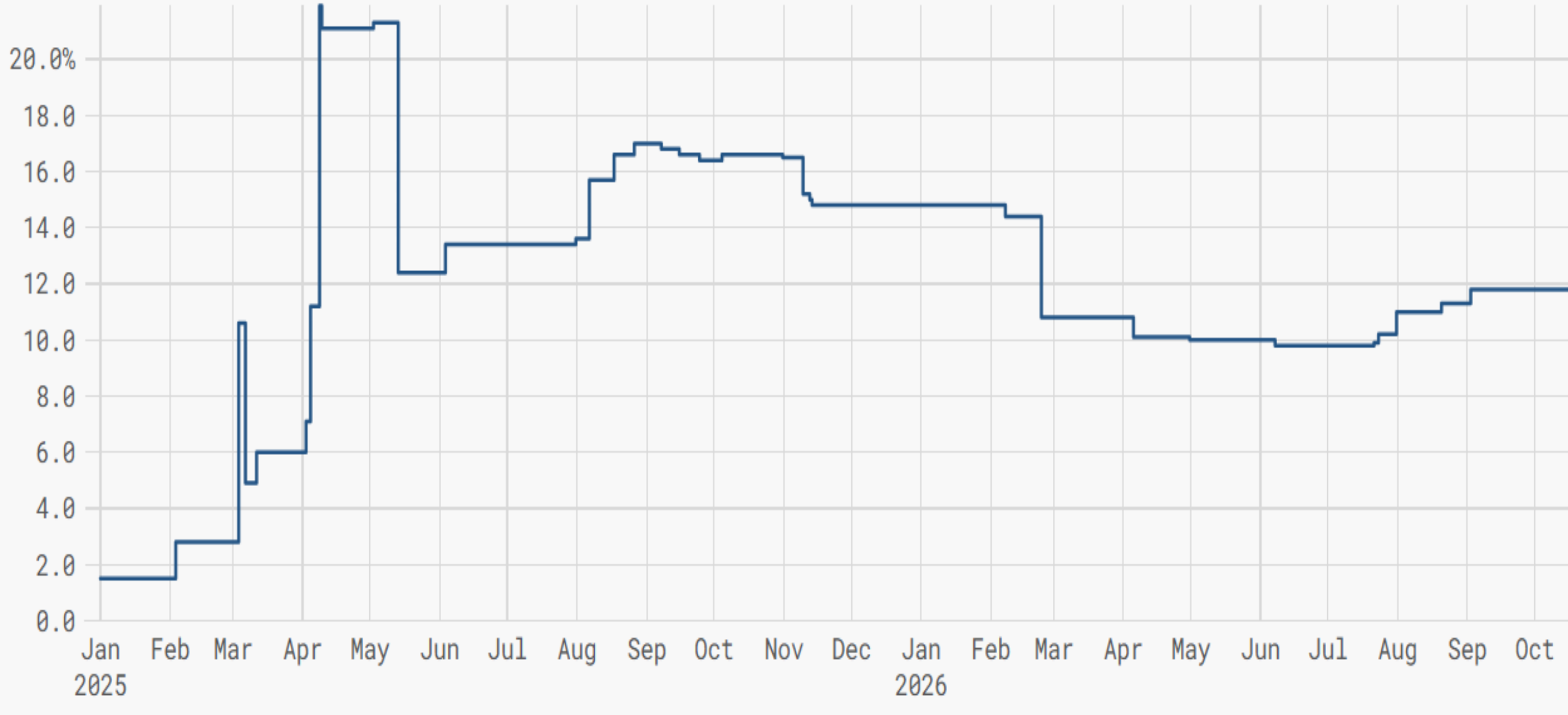
Net Interest Payments on the National Debt, FY 2026–2056 (trillions of dollars)

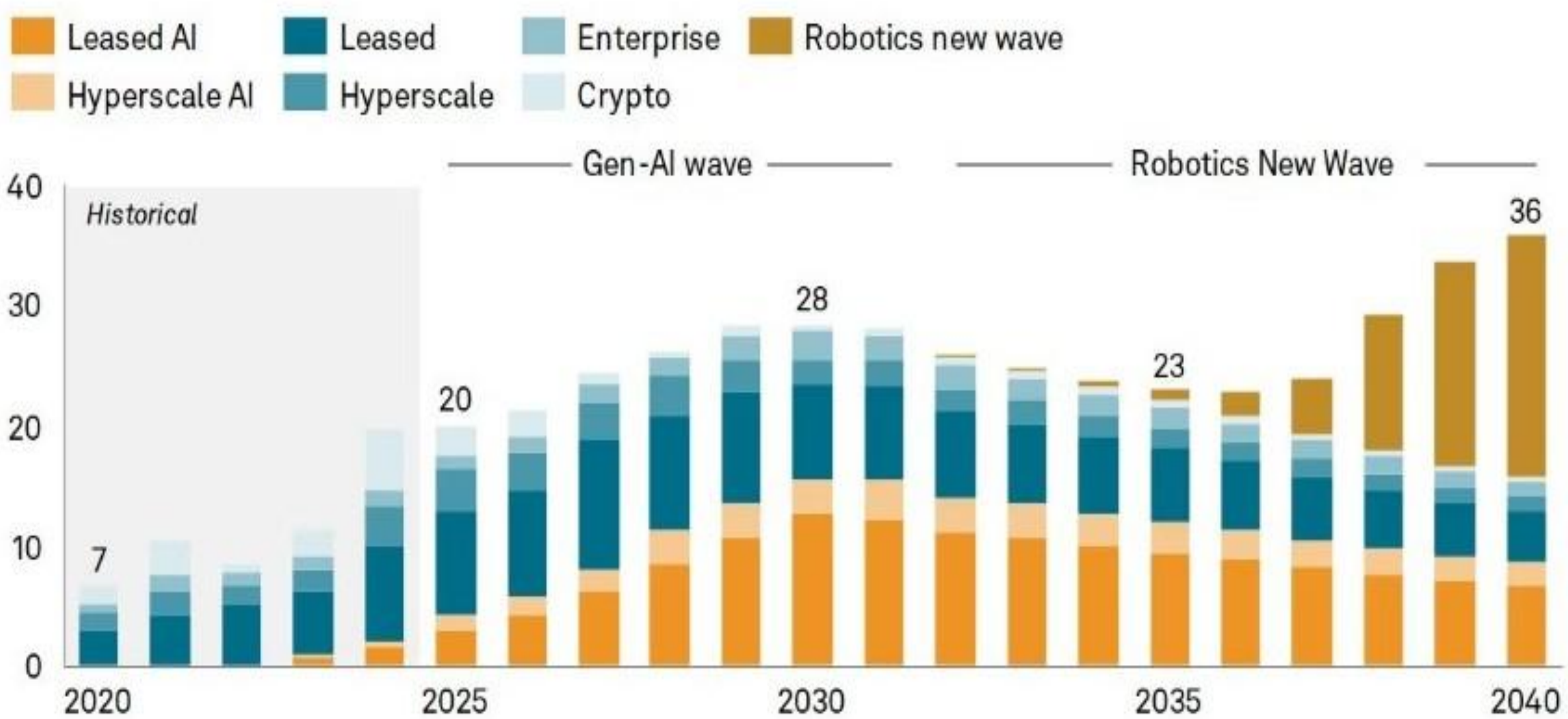


Source: CBO.

US Tariffs Have Changed More Than 50 Times Under Trump

Weighted Average Applied Tariff Rate on 2024 US Import Mix



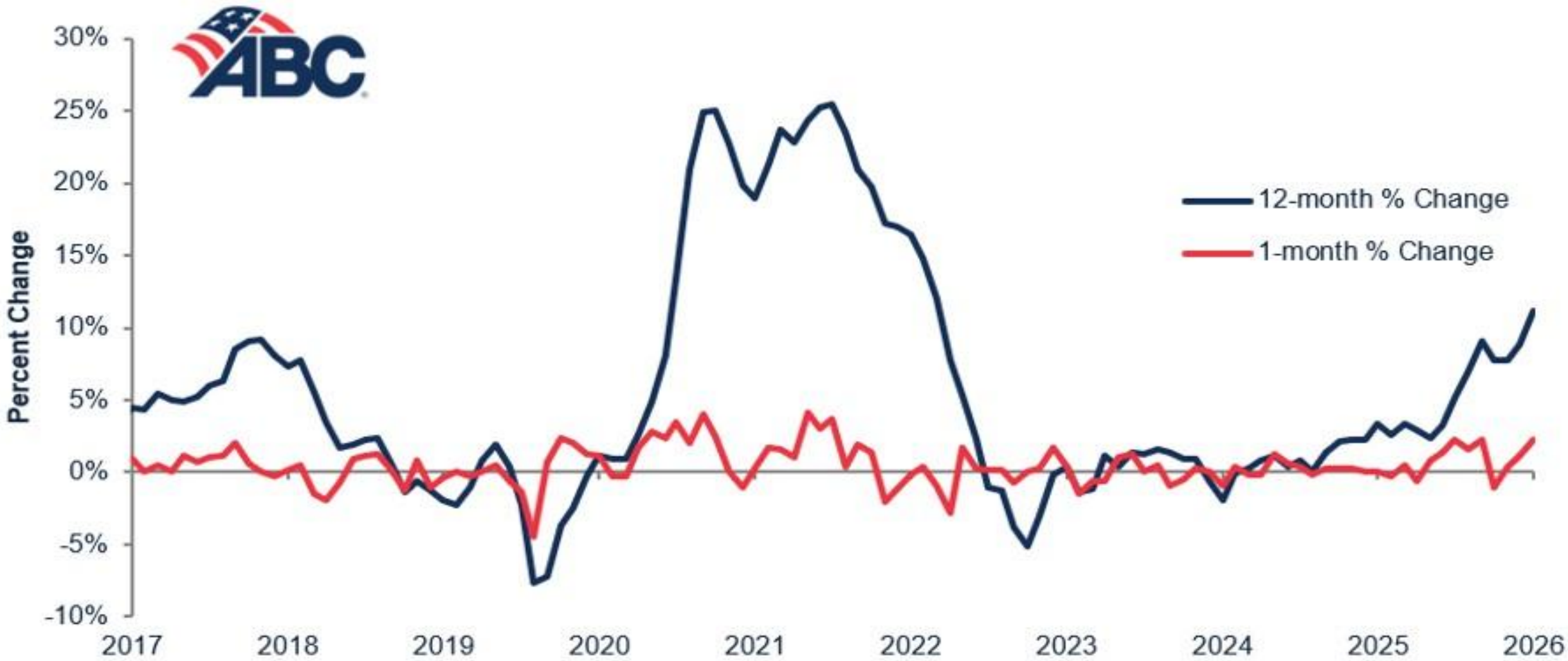


1. Robotics New Wave assumes a new wave of capacity additions starting in 2037 mimicking new capacity additions using the launch of ChatGPT in 2022 as the initial reference period.

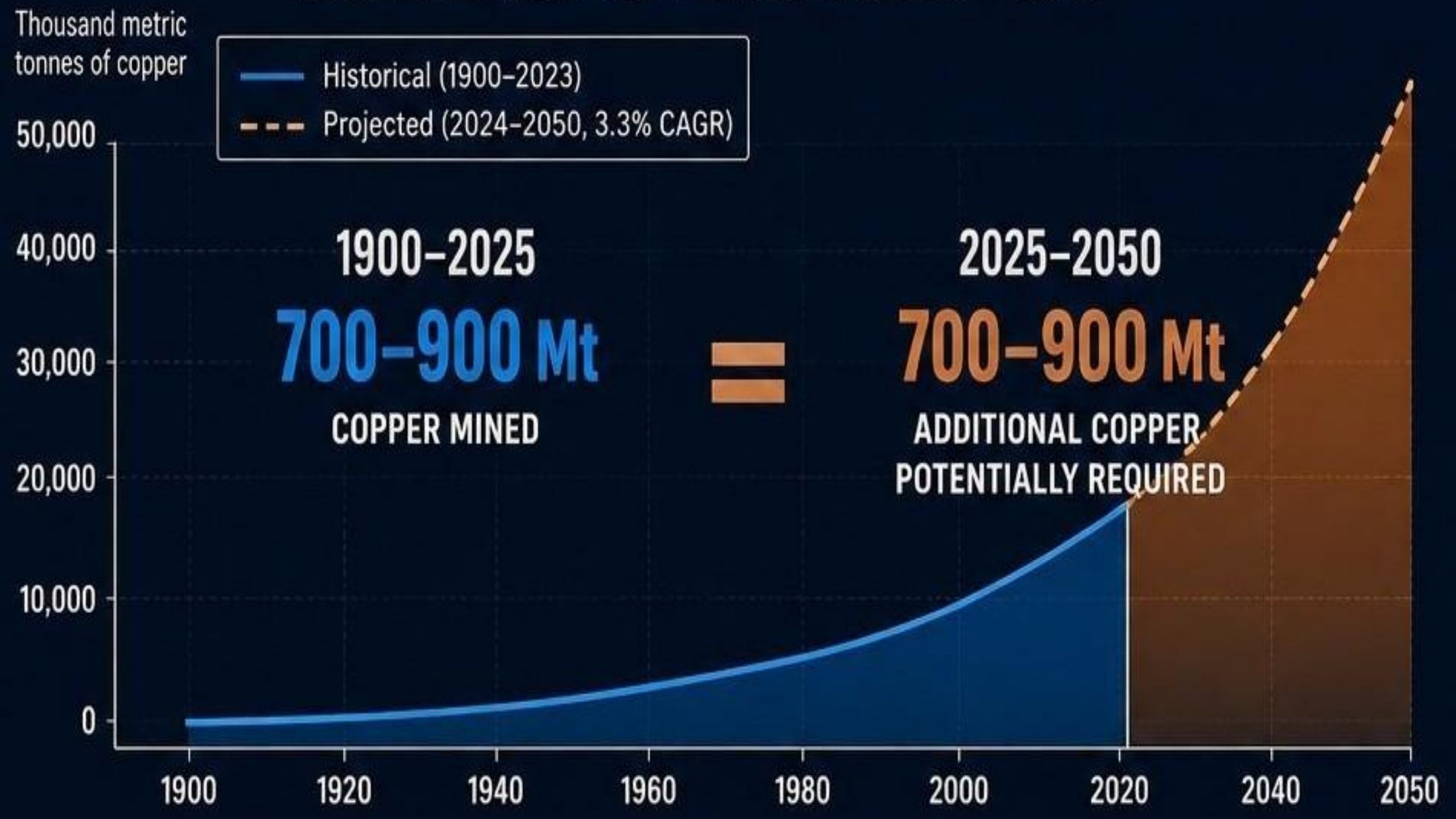
Source: S&P Global

Producer Price Index Percent Change Inputs to Construction Industries

September 2017 Through September 2026

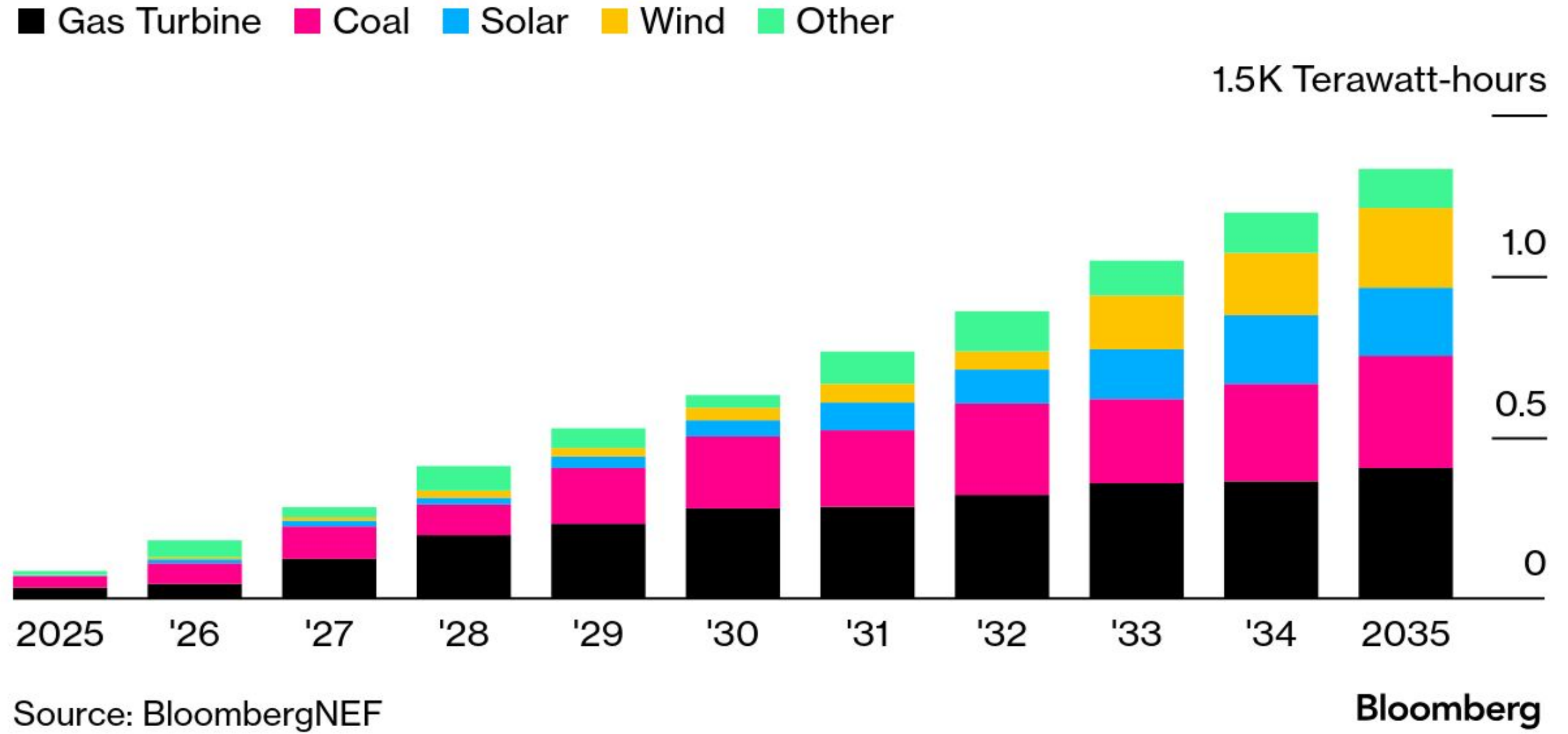


Source: U.S. Bureau of Labor Statistics, Associated Builders and Contractors


Thousand metric tonnes of copper
Historical (1900–2023)
Projected (2024–2050, 3.3% CAGR)
50,000
40,000
30,000
20,000
10,000
0
1900
1920
1940
1960
1980
2000
2020
2040
2050
1900–2025
700–900 Mt
COPPER MINED
=
2025–2050
700–900 Mt
ADDITIONAL COPPER POTENTIALLY REQUIRED

Gas and Coal Will Fuel Most New AI Data Center Power Demand

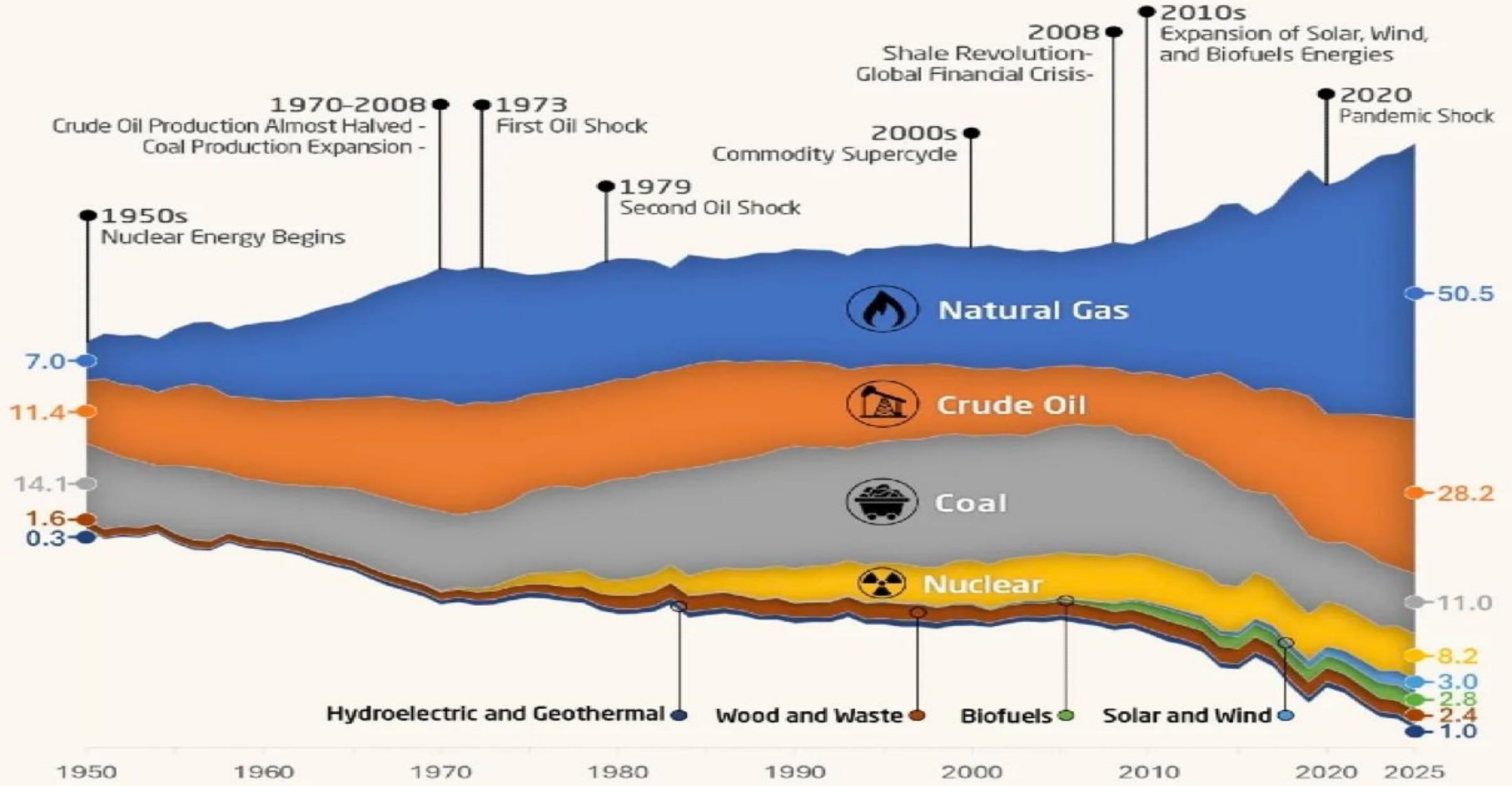
Globally, 57% of power for data centers in 2035 will be gas and coal



Source: BloombergNEF

Bloomberg

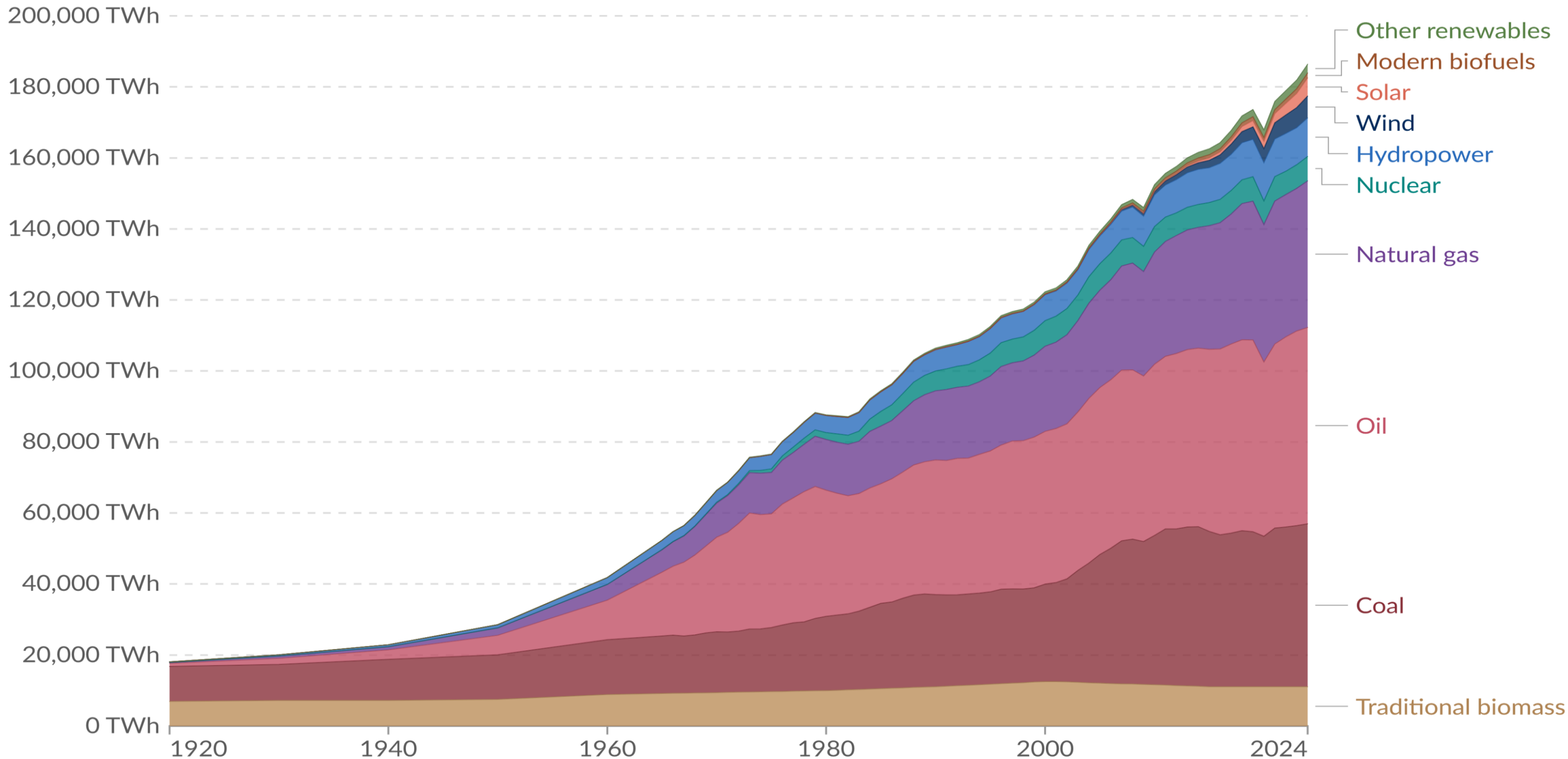
Primary Energy Production (Quadrillion Btu)



Global primary energy consumption by source

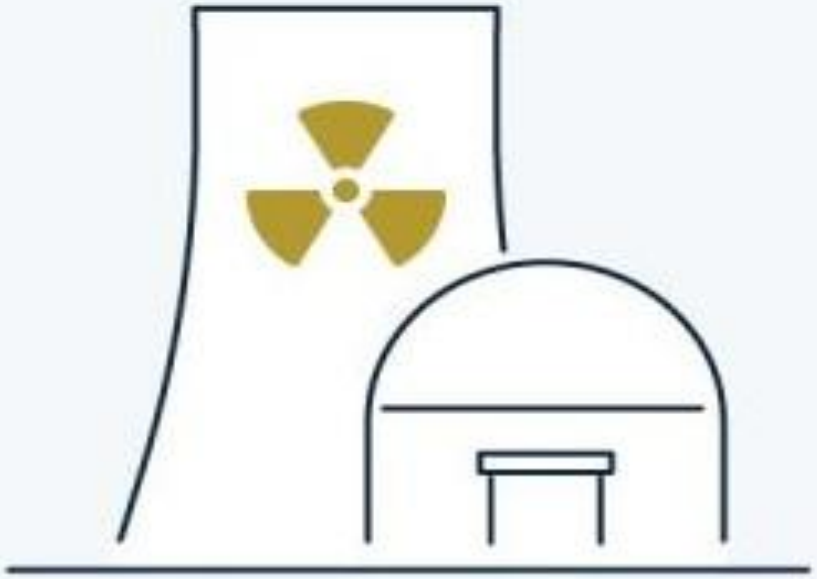
Primary energy[1] is based on the substitution method[2] and measured in terawatt-hours[3].

Our World in Data



Currently operating capacity* Prospective capacity**

	Currently operating capacity*	Prospective capacity**
China	58	118
United States	102	7
France	64	12
Russia	29	21
India	8	32
South Korea	27	6
United Kingdom	7	15
Ukraine	14	5



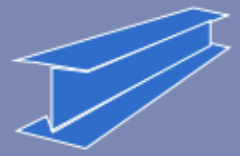
Modern Civilization

Ammonia



Natural gas is primary raw material: 80% of ammonia production used for fertilizer

Steel



Natural gas fueled blast furnace to synthesize iron ore, coke & limestone at 2,900° F

Cement



Natural gas fueled kilns heat limestone, shale & clays to 2,600° F

Plastics / Petrochemicals



NGLs are primary raw material; Natural gas needed to fuel crackers to 1,900° F

Crude Oil, Natural Gas & NGLs

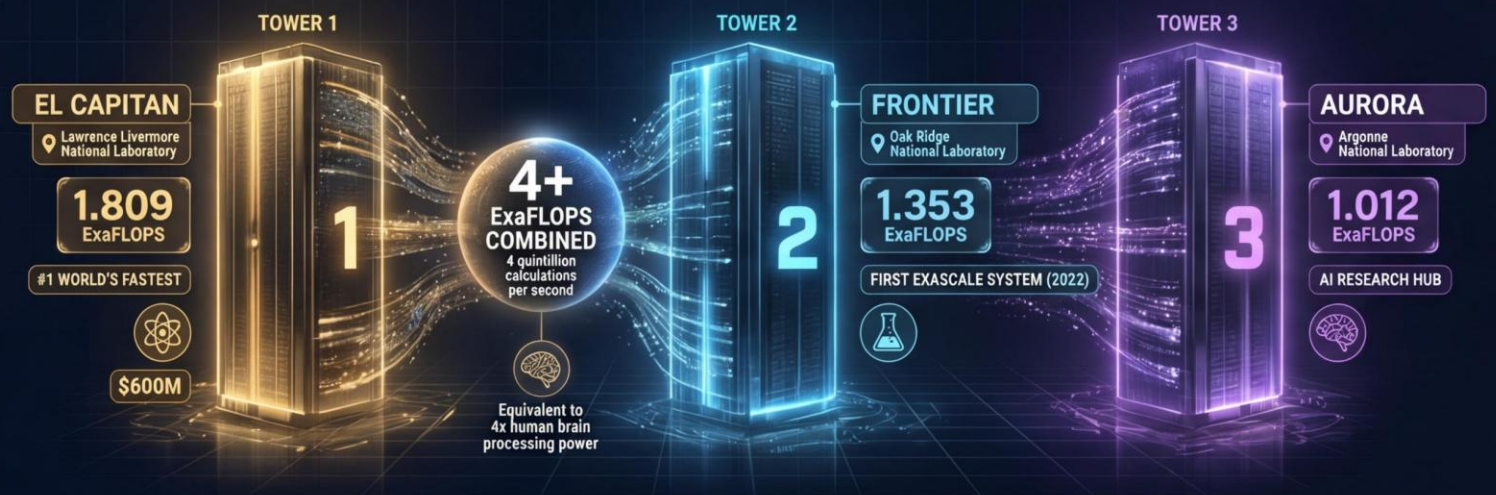
THE GENESIS MISSION

November 24, 2025

The Largest Scientific Reorganization Since Apollo

Doubling American Scientific Productivity in 10 Years

THE EXASCALE ARSENAL (AI Focus)



THE INFRASTRUCTURE MAP (National Scale)



HISTORICAL COMPARISON TIMELINE

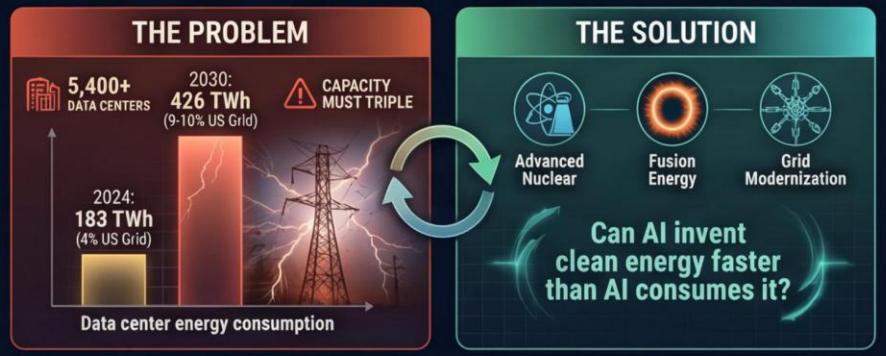


Manhattan Project 1942-1945
Cost: $30B (adjusted)
Duration: 3 Years
Workforce: 130,000
Output: Atomic Bomb

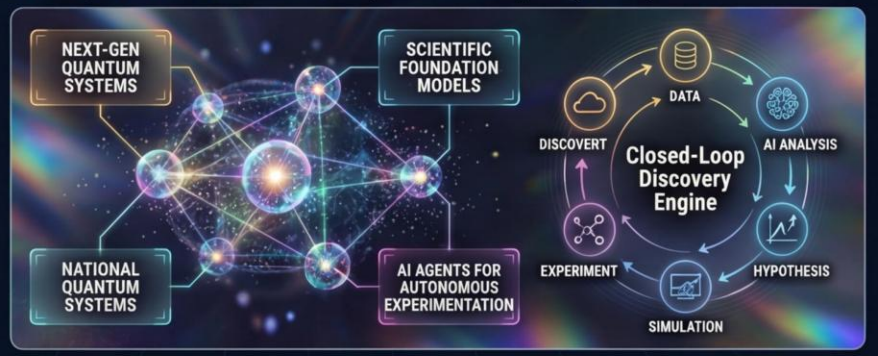
Apollo Program 1961-1972
Cost: $257B (adjusted)
Duration: 12 Years
Workforce: 400,000
Output: Moen Landing

Genesis Mission 2025-2035
Cost: $100B+
Duration: 10 Years
Workforce: 40,000+
Output: AI Science Platform

THE ENERGY CHALLENGE (Energy Focus)



THE QUANTUM FRONTIER (Quantum Computing Focus)



MISSION OBJECTIVES (Three Pillars)

ENERGY DOMINANCE
Accelerate nuclear, fusion, and grid modernization

DISCOVERY SCIENCE
Build quantum ecosystems for breakthrough discoveries

NATIONAL SECURITY
Strengthen deterrence and strategic capabilities

COUNTDOWN TIMELINE

60 DAYS → Identify 20+ science challenges

90 DAYS → Catalog compute resources

120 DAYS → Propose data/model portfolio

240 DAYS → Review lab AI capabilities

270 DAYS Demonstrate closed-loop platform

Sources: DOE, White House, TOP500, AWS

THE 21ST CENTURY WILL BE DECIDED BY COMPUTATIONAL SUPREMACY.


THANK YOU!