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Geopolíticas de la transición energética en perspectiva europea

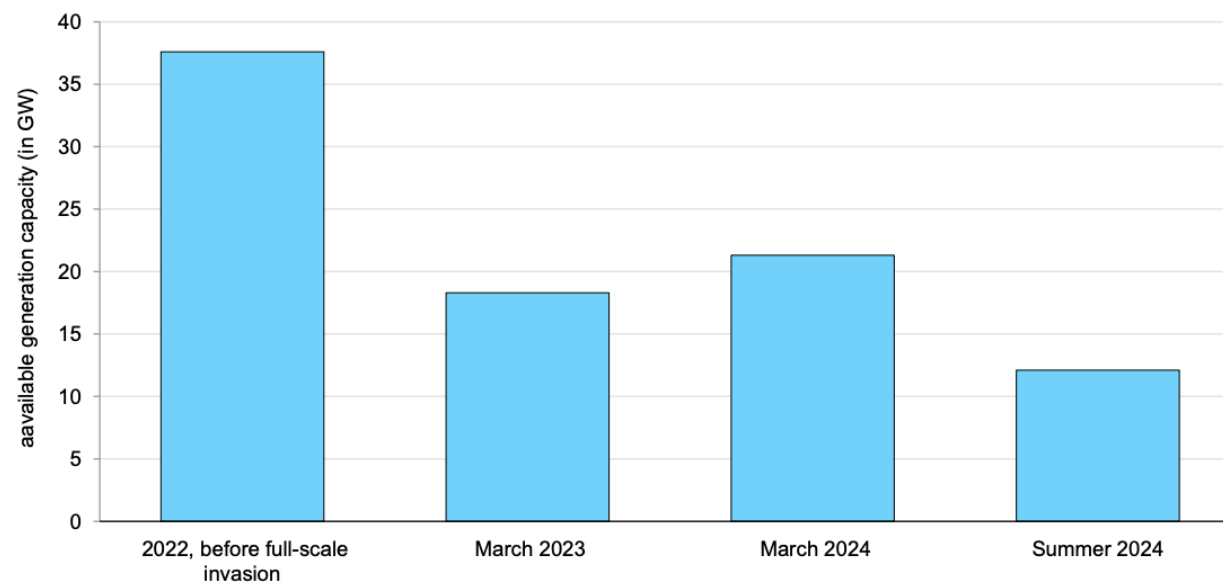
I FORO DE LA RED TRANSNACIONAL EUROPEA
HUELVA, 3 y 4 OCTUBRE 2024

Dr. Gonzalo Escribano
Director de Energía y Clima, Real Instituto Elcano
Catedrático de Economía Aplicada, UNED

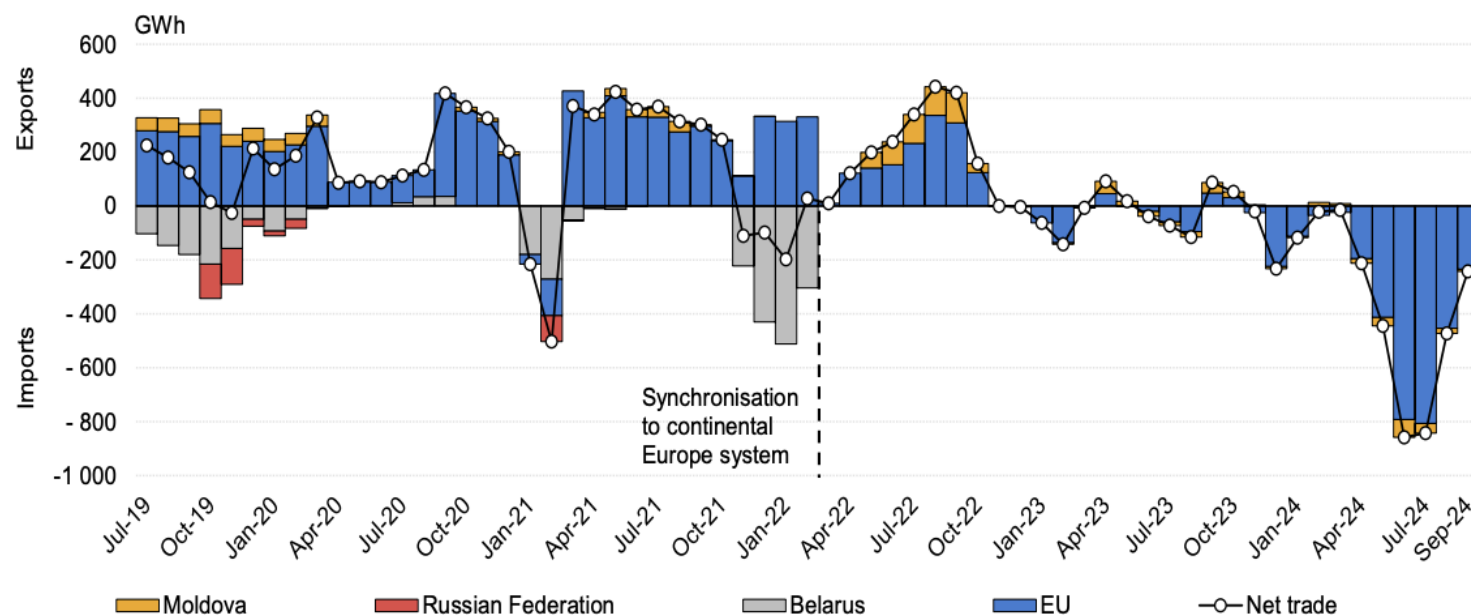
Geopolíticas de la transición energética en perspectiva europea

- **La transición energética en el paisaje geopolítico global**
- Una competitividad sostenible abierta para Europa
- Un guion para España: compañero de transición para una descarbonización competitiva abierta (greenshoring)

Estimated electricity generation capacity available to Ukraine at selected times since 2022



Net monthly trade of electricity of the Ukrainian power system



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Ukraine's Energy Security and the Coming Winter

An energy action plan for Ukraine and its partners

Figure 3: Monthly Landings of Russian Crude Oil by Region

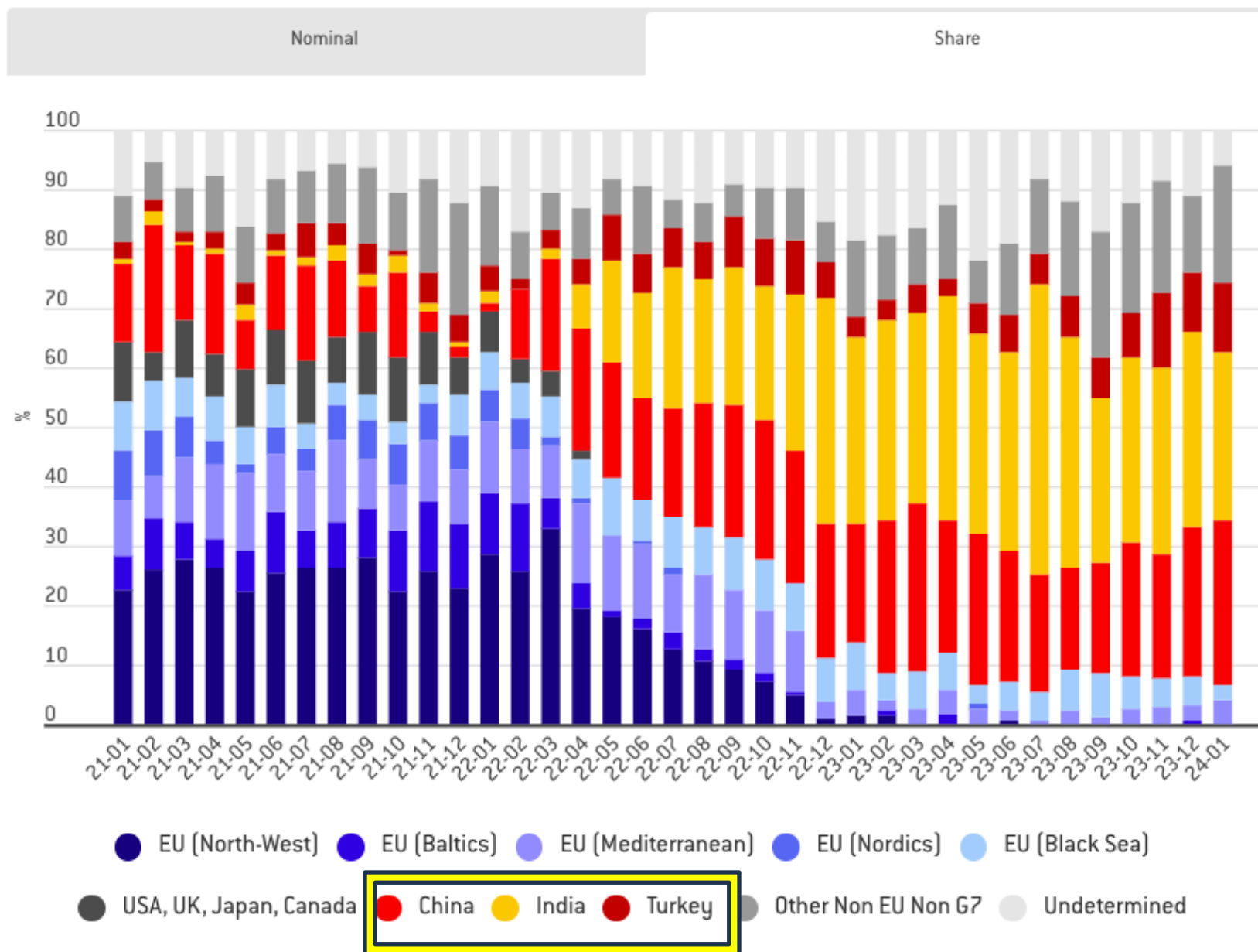
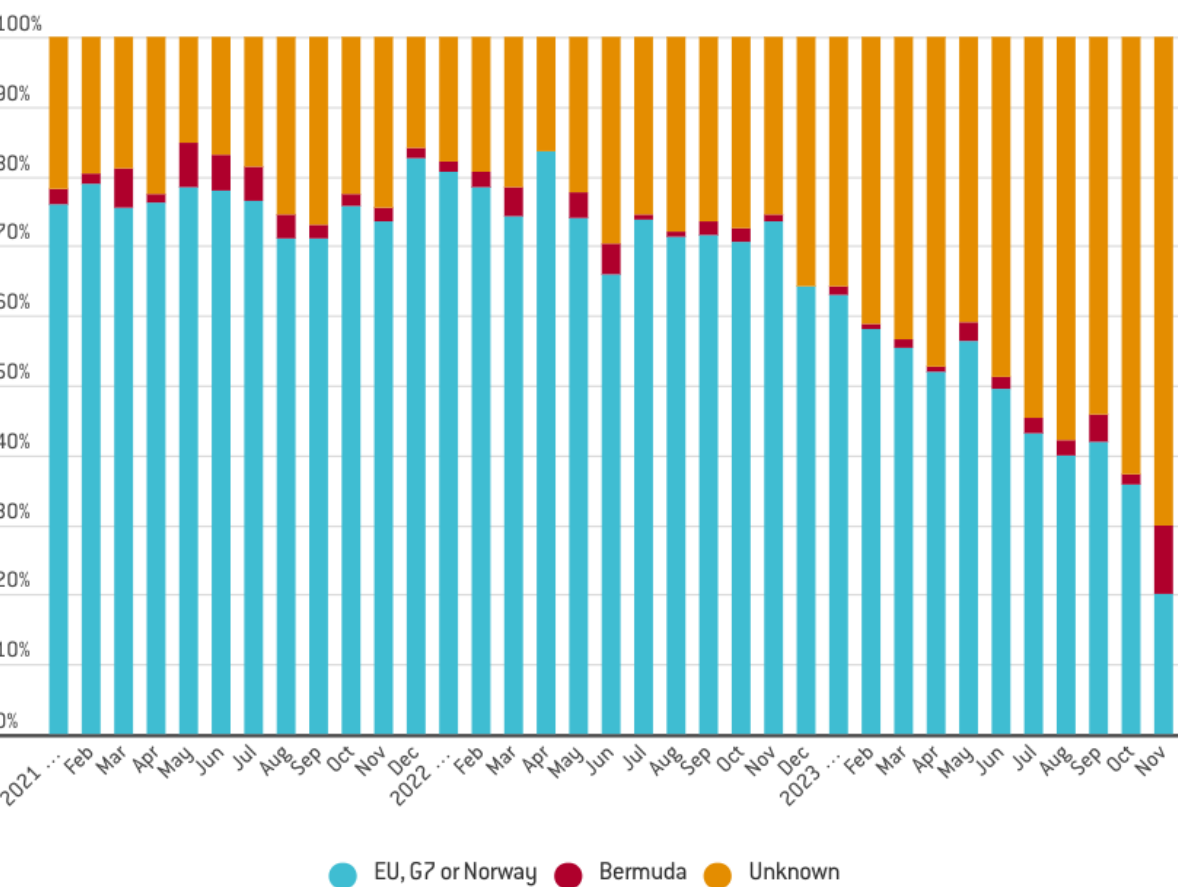
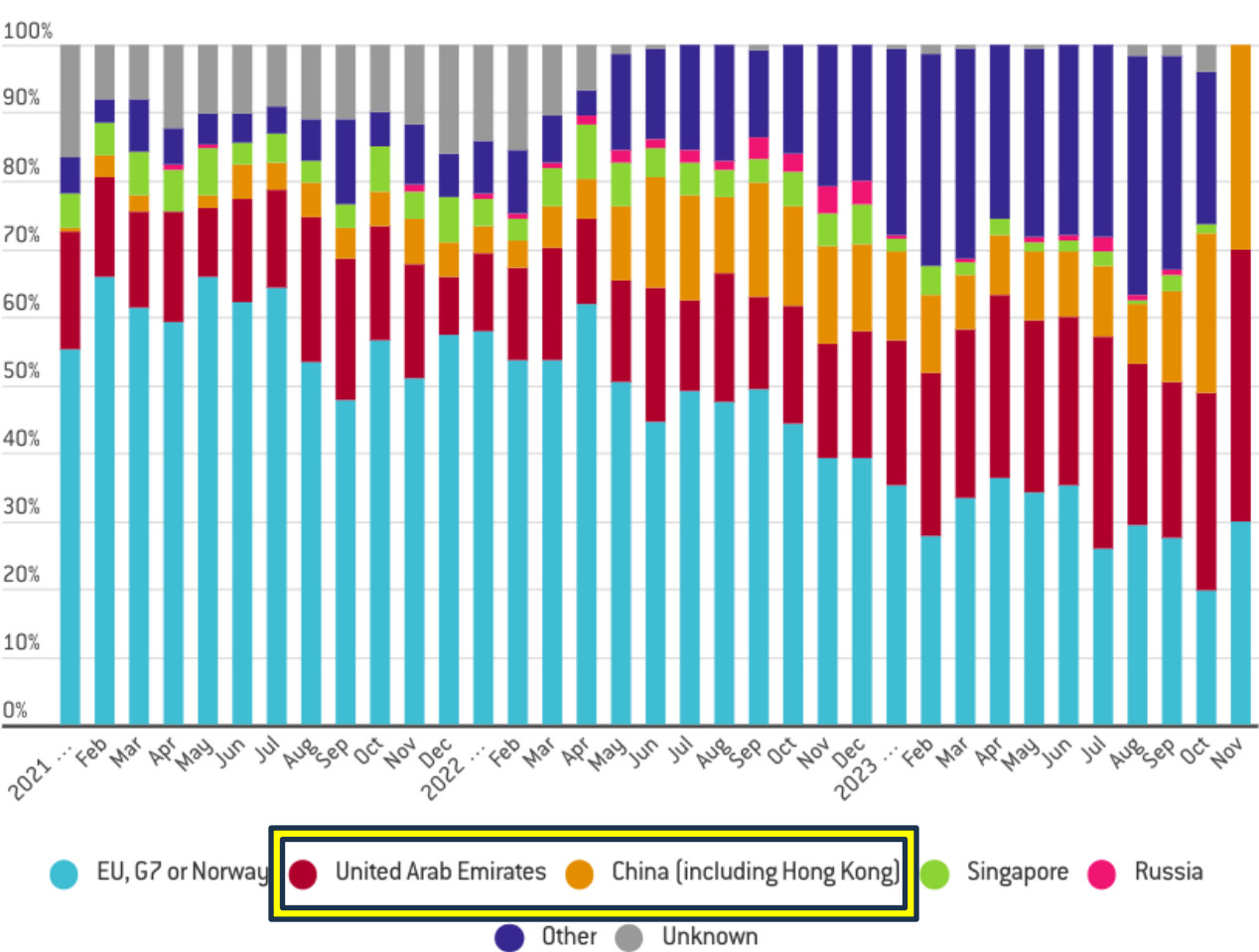


Figure 6: Country origin of tanker insurance carrying Russian crude oil by departure month



Source: Bruegel analysis of CREA Russian Oil API

Figure 7: Country origin of tanker ownership carrying Russian crude oil by departure month



Source: Bruegel analysis of CREA Russian Oil API

Israeli forces target solar panels at Gaza's al-Shifa Hospital

The Gaza Strip's largest hospital is near collapse. The latest strike is expected to exacerbate the healthcare crisis in the enclave.



MEM

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EU, INTERNATIONAL ORGANISATIONS, ISRAEL, MIDDLE EAST, NEWS, PALESTINE

EU builds largest solar energy field in Gaza

 4 Comments

August 3, 2018 at 11:21 am

Electricity supply vs. demand (average megawatts per day)

● Egyptian lines ● Israeli lines ● Gaza Power Plant ● Gap

Year	Egyptian lines	Israeli lines	Gaza Power Plant	Gap
2017	93	0	0	404
2018	118	0	0	340
2019	119	0	66	263
2020	120	0	68	242
2021	116	0	71	220
2022	120	0	69	244
2023	92	55	0	328
2024	0	0	0	640

Availability of electricity (average hours per day)

● Power on ● Power off

Year	Power on	Power off
2017	7	17
2018	7	17
2019	12	12
2020	13	11
2021	13	11
2022	12	12
2023	10	14
2024	0	24

OCHA

United Nations Office for the Coordination of Humanitarian Affairs

2023

Month	Egyptian lines	Israeli lines	Gaza Power Plant	Gap
Jan	120	76	0	289
Feb	120	77	0	321
Mar	118	74	0	200
Apr	120	69	0	173
May	120	62	0	172
Jun	120	63	0	212
Jul	120	64	0	264
Aug	120	92	0	237
Sep	120	67	0	258
Oct	0	0	0	526
Nov	0	0	0	640
Dec	0	0	0	640

2023

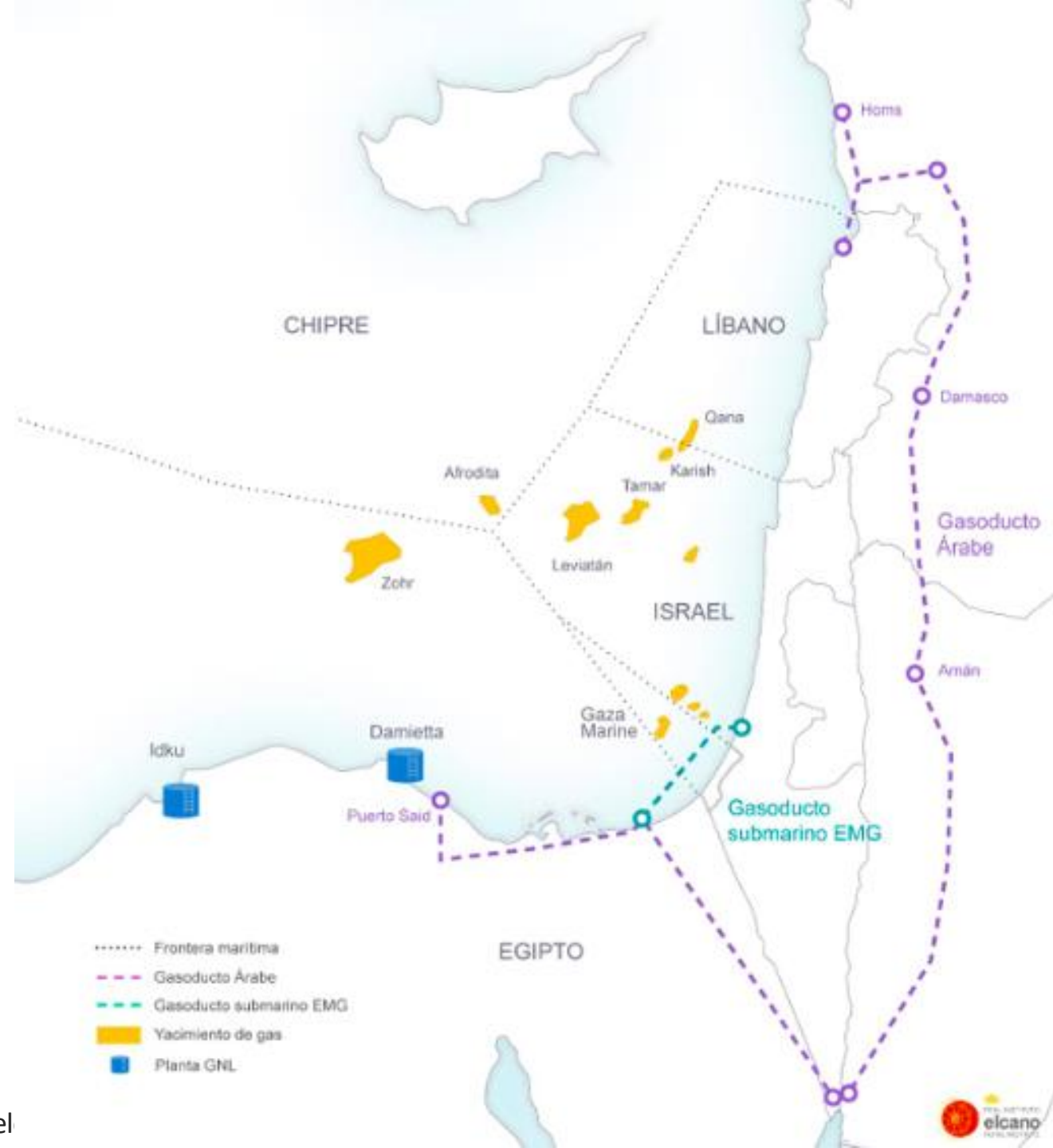
Month	Power on	Power off
Jan	13	11
Feb	12	12
Mar	15	9
Apr	16	8
May	15	9
Jun	13	11
Jul	11	13
Aug	13	11
Sep	12	12
Oct	3	21
Nov	0	24
Dec	0	24

ARI 115/2023
20 de noviembre de 2023

Las consecuencias energéticas de la guerra entre Israel y Hamás

Gonzalo Escribano | Investigador principal y directo del Programa de Energía y Clima, Real Instituto Elcano | @g_escribano

Ignacio Urbasos | Ayudante de Investigación (Energía y Clima), Real Instituto Elcano | @IUrbasos



Red Sea crisis: Indian Navy saves UK oil tanker, with 22 Indians onboard, that caught fire after Houthi missile attack

2 min read • 27 Jan 2024, 11:03 PM IST

Written By [Sayantani Biswas](#)

INS Visakhapatnam, a guided missile destroyer, deployed in the Gulf of Aden responded to a distress call from MV Merlin Luanda on the night of 26 January. The MV has 22 Indian and 01 Bangladeshi crew onboard, said Indian Navy



Crisis del mar Rojo: inseguridad marítima y energética



Félix Arteaga

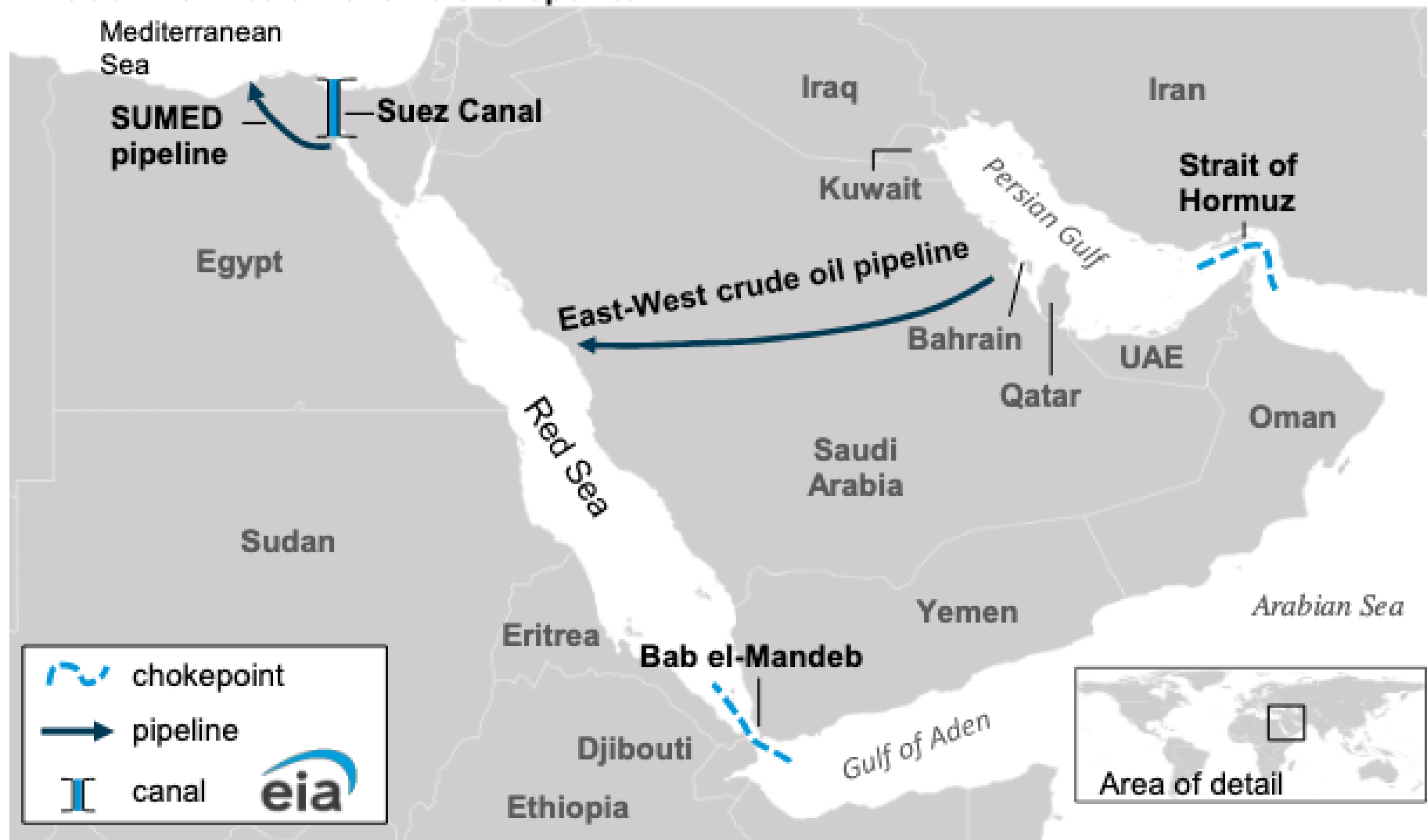


Gonzalo Escribano



Ignacio Urbasos Arbeloa

Arabian Peninsula maritime chokepoints



// Publicado el 10 Jun 2024

Figura 1: Concentración de la extracción de materias primas seleccionadas en los tres primeros productores como porcentaje del total mundial (2023)

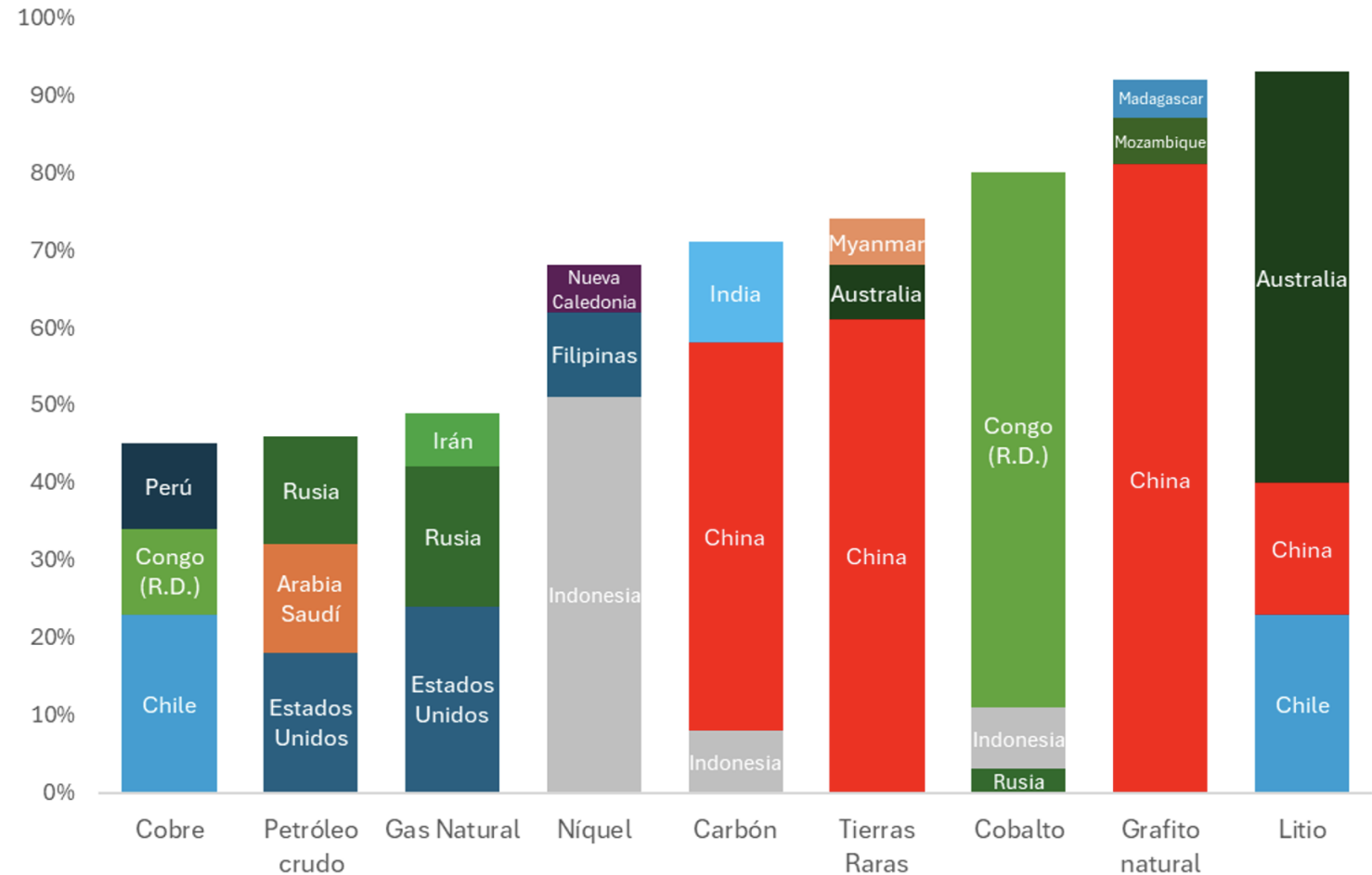
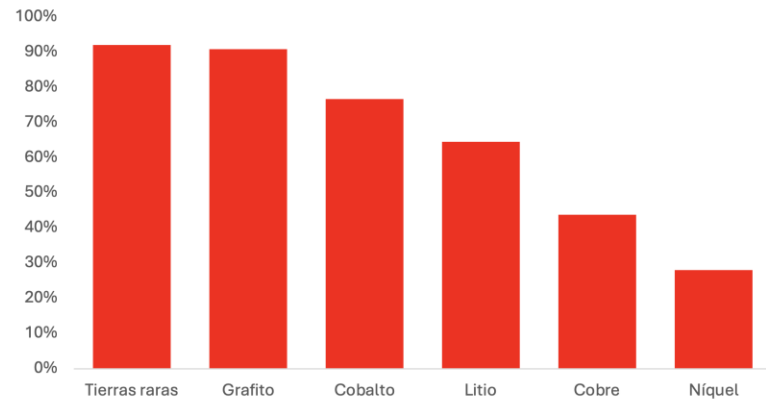
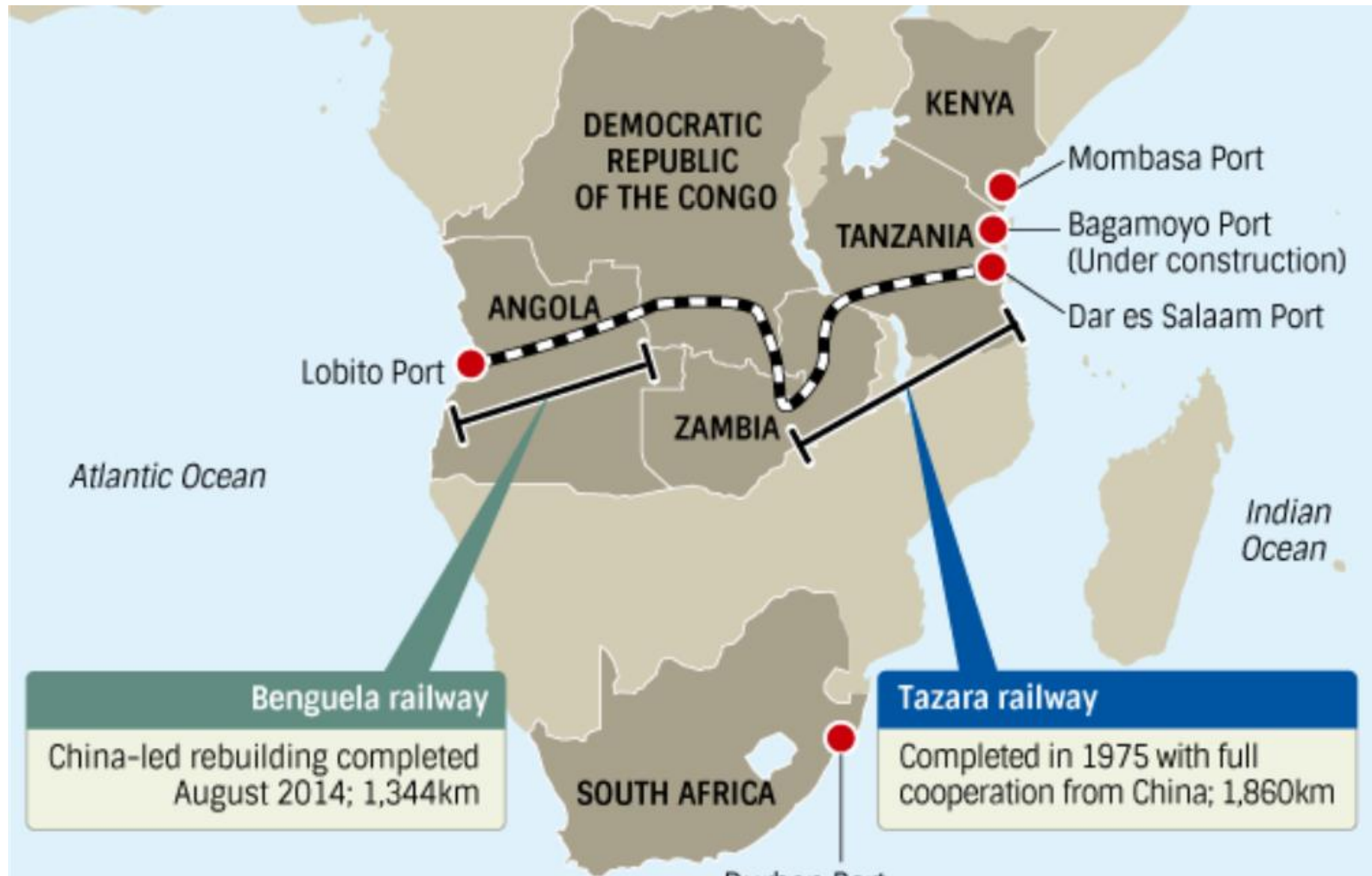


Figura 2: Porcentaje del procesado y refinado de las materias primas seleccionadas realizado en China (2023)



Fuente: Critical Minerals Data Explorer, International Energy Agency (2024)

Lobito vs. Dar es Salaam corridors



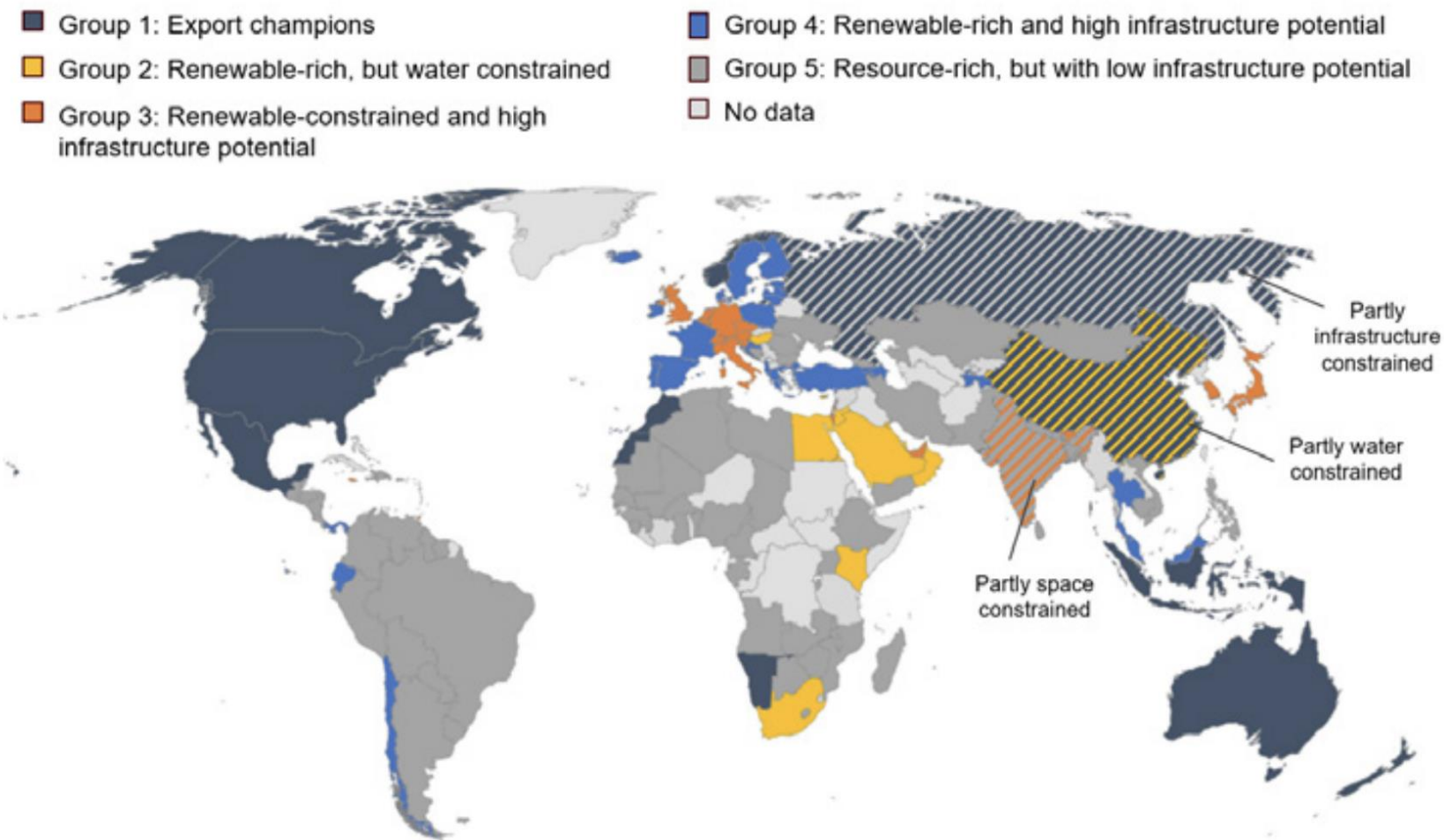
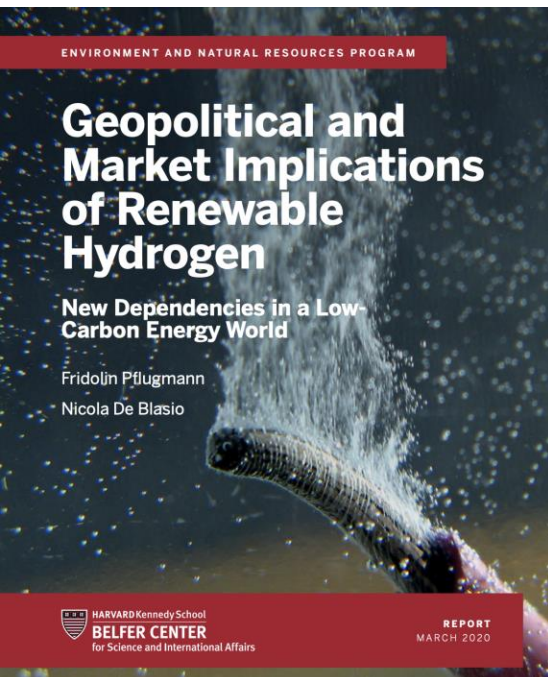
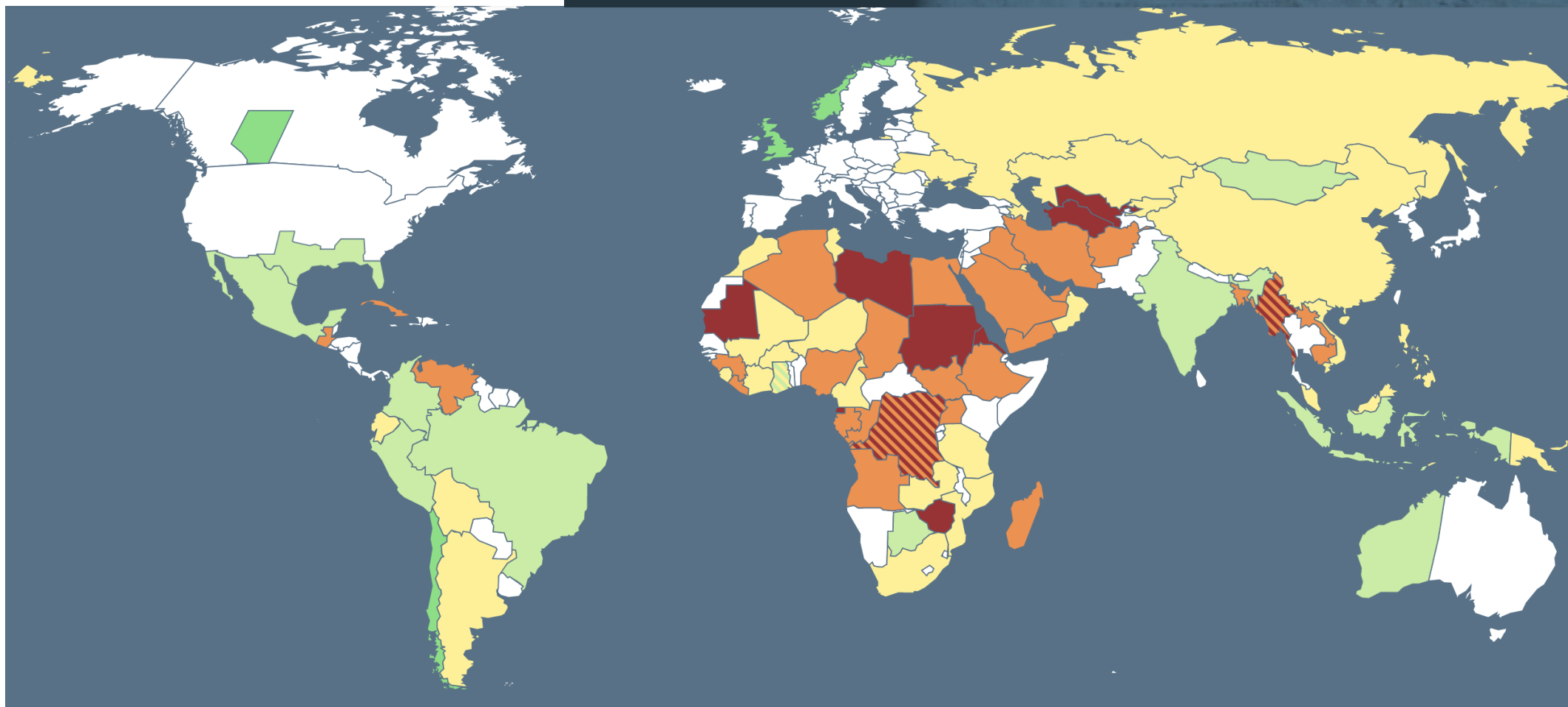


Figure 9. The global renewable hydrogen map.

2017 Resource Governance Index

Measuring the quality of governance in the oil, gas and mining sectors of 81 countries.



Good
(>74)

Satisfactory
(60-74)

Weak
(45-59)

Poor
(30-44)

Failing
(<30)

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Figure 2: EU gas demand and supply 2021 (effective) and 2022-2030 (projected), TWh

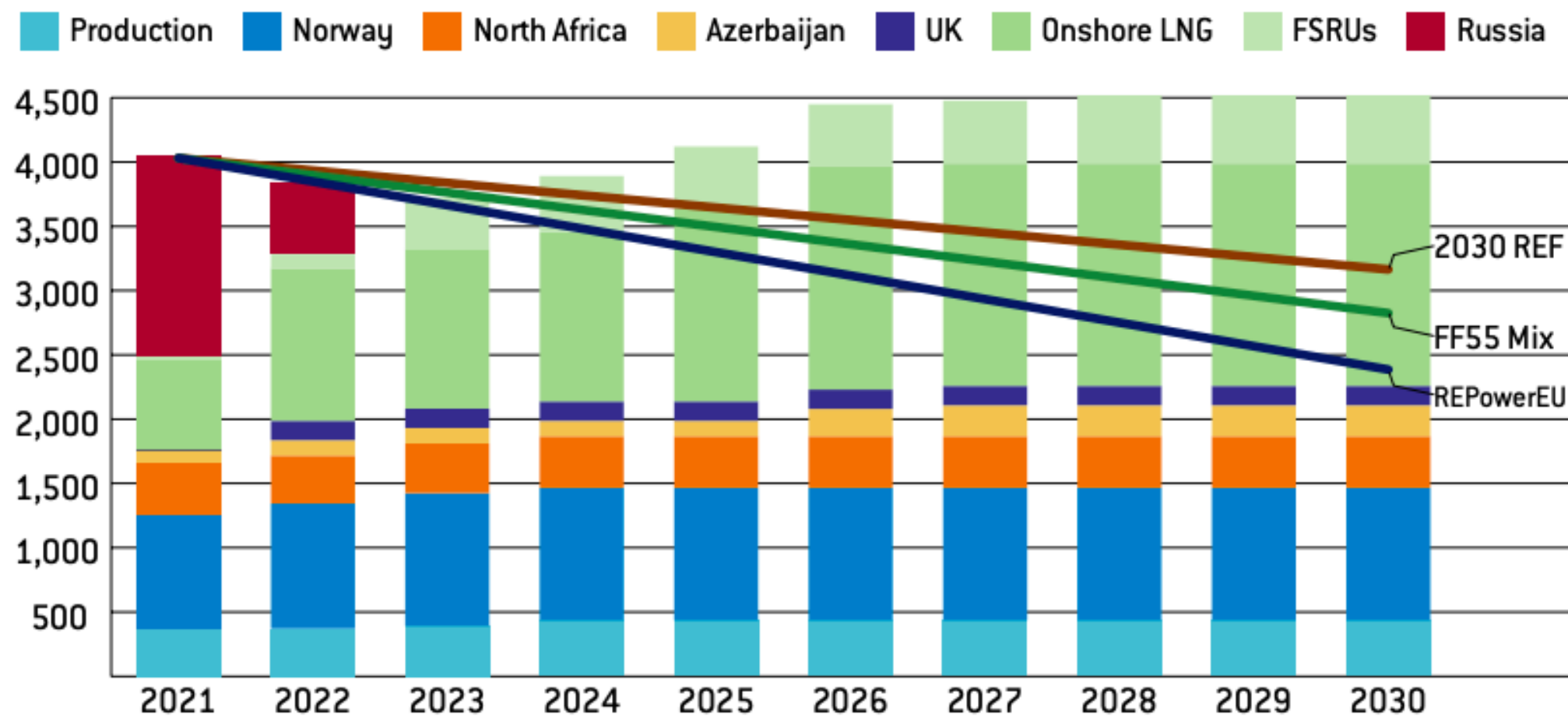
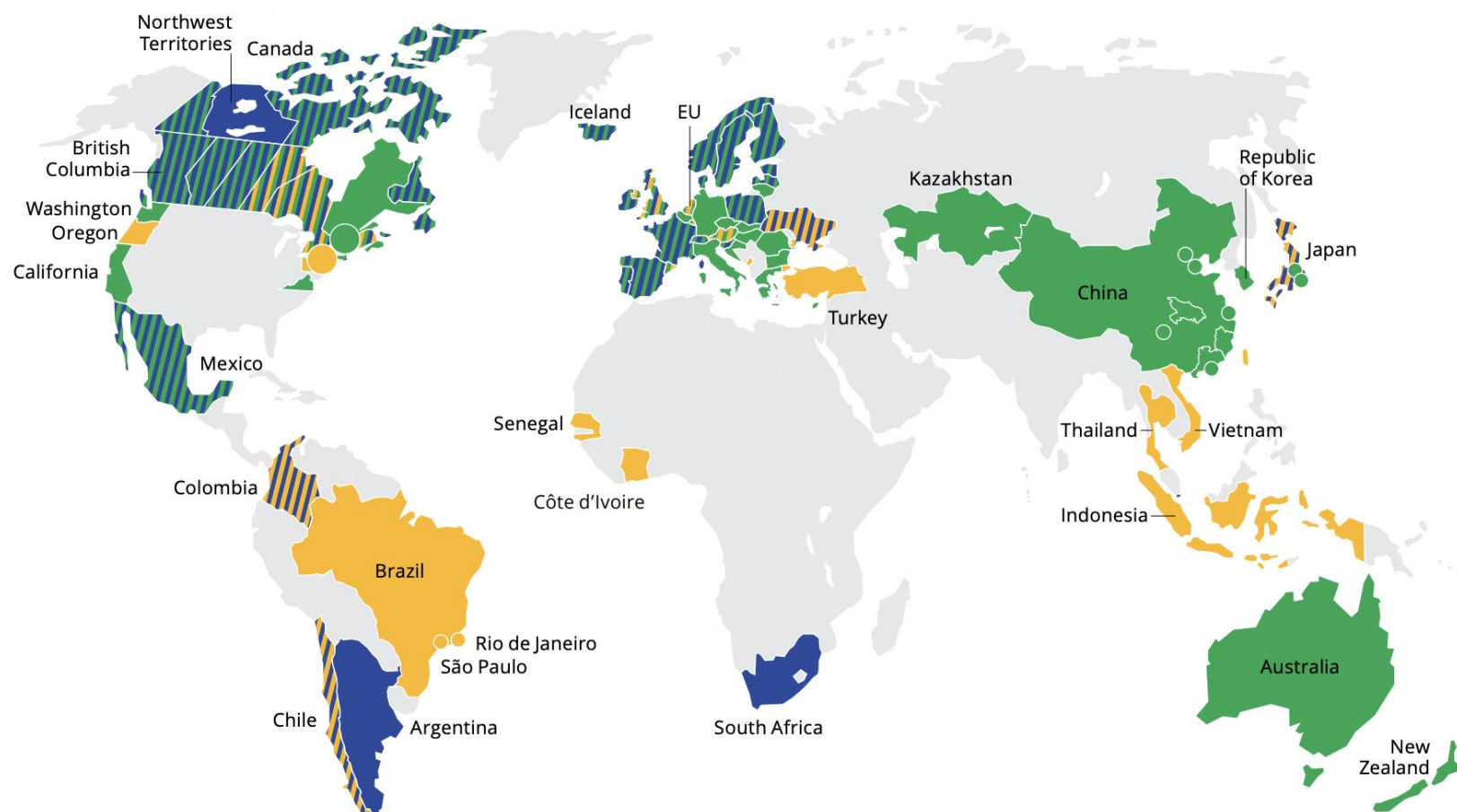


Figure ES.1 / Carbon pricing initiatives implemented, scheduled for implementation and under consideration (ETS and carbon tax)



- ETS implemented or scheduled for implementation
- Carbon tax implemented or scheduled for implementation
- ETS or carbon tax under consideration
- ETS and carbon tax implemented or scheduled
- Carbon tax implemented or scheduled, ETS under consideration
- ETS implemented or scheduled, ETS or carbon tax under consideration
- ETS and carbon tax implemented or scheduled, ETS or carbon tax under consideration

Regional Supply and Demand, 2030 and 2040

(TWh)^{1,2,3}

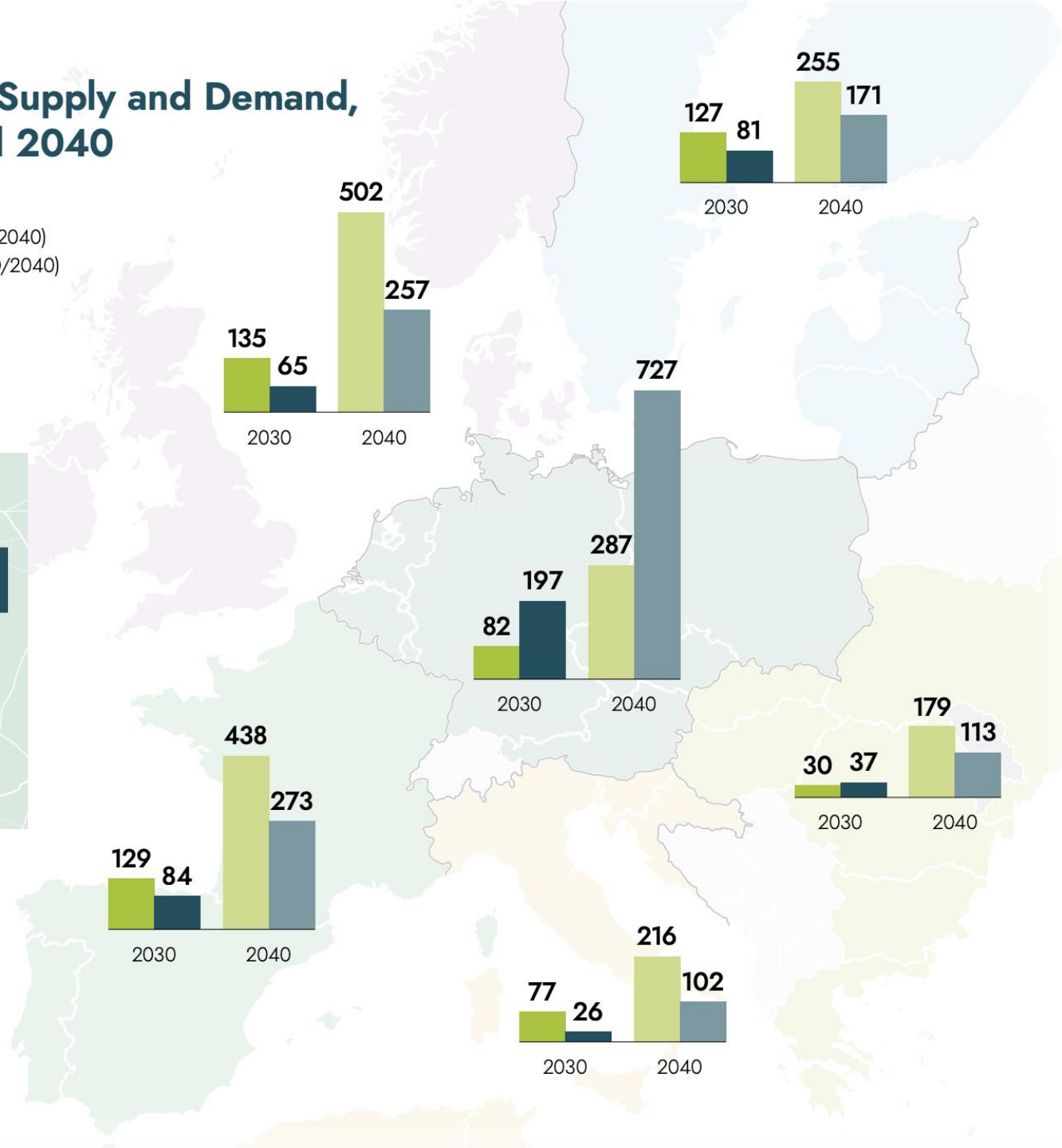
■/■ Supply (2030/2040)
■/■ Demand (2030/2040)

Five hydrogen supply corridors for Europe in 2030

Executive Summary

EUROPEAN HYDROGEN BACKBONE

MAY 2022



Five supply corridors are key to the EHB vision and can deliver access to abundant and low-cost hydrogen supply by 2030

To deliver the 2030 hydrogen demand targets set by the RePowerEU plan, **five large-scale pipeline corridors are envisaged**.

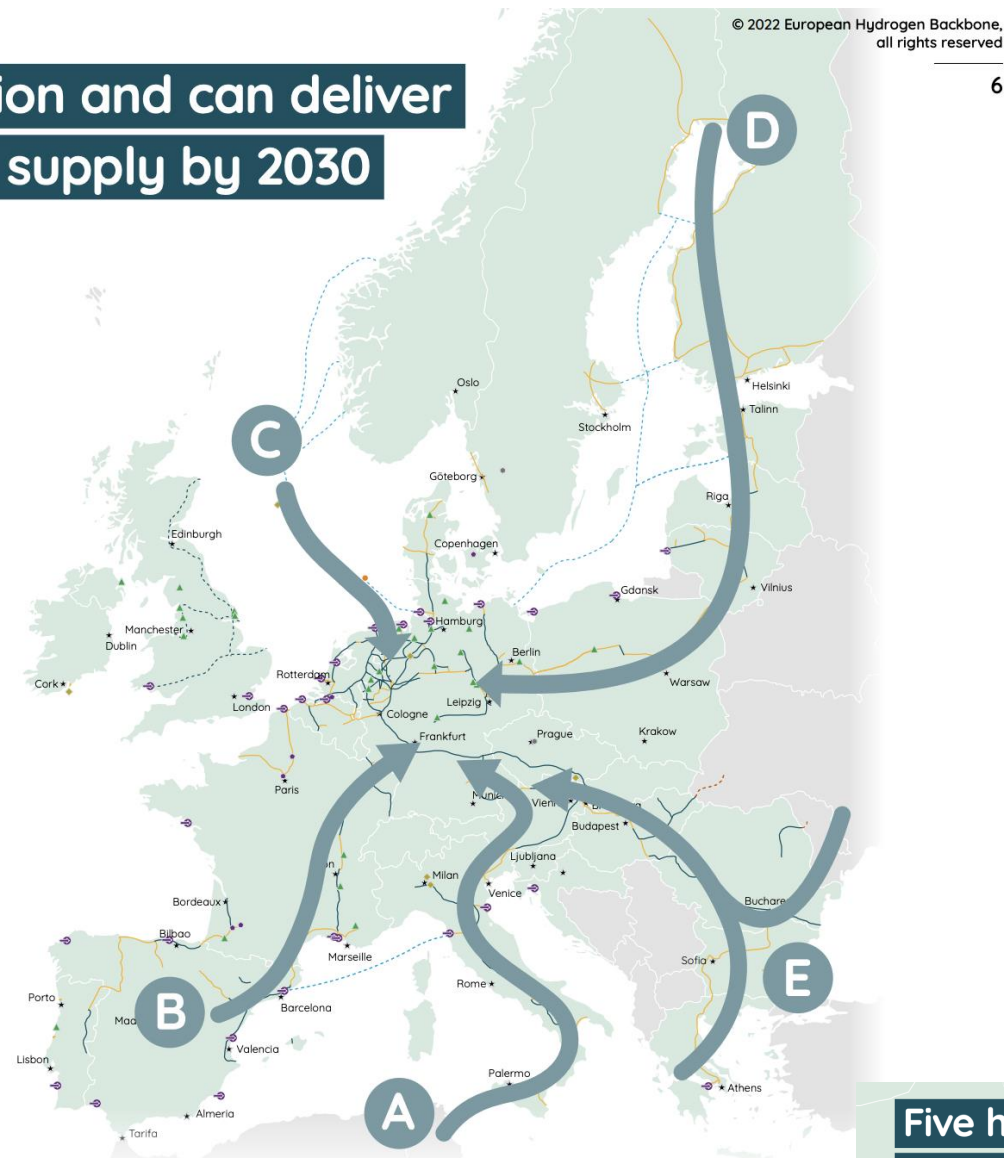
The corridors will **initially connect local supply and demand** in different parts of Europe, before expanding and **connecting Europe with neighboring regions** with export potential.

Certainty about the deployment of this infrastructure will **enable market actors to develop** supply and demand more rapidly

The five hydrogen supply corridors are:

- Corridor A: **North Africa & Southern Europe**
- Corridor B: **Southwest Europe & North Africa**
- Corridor C: **North Sea**
- Corridor D: **Nordic and Baltic regions**
- Corridor E: **East and South-East Europe**

These five corridors **span across both domestic and import supply markets**, consistent with the **three import corridors** identified by the RePowerEU plan, including a corridor via the **Mediterranean** (Corridors A and B), via the **North Sea** (Corridor C) and via **Ukraine** (Corridor E)



**Five hydrogen supply
corridors for Europe in 2030**

Executive Summary

EUROPEAN HYDROGEN BACKBONE

MAY 2022

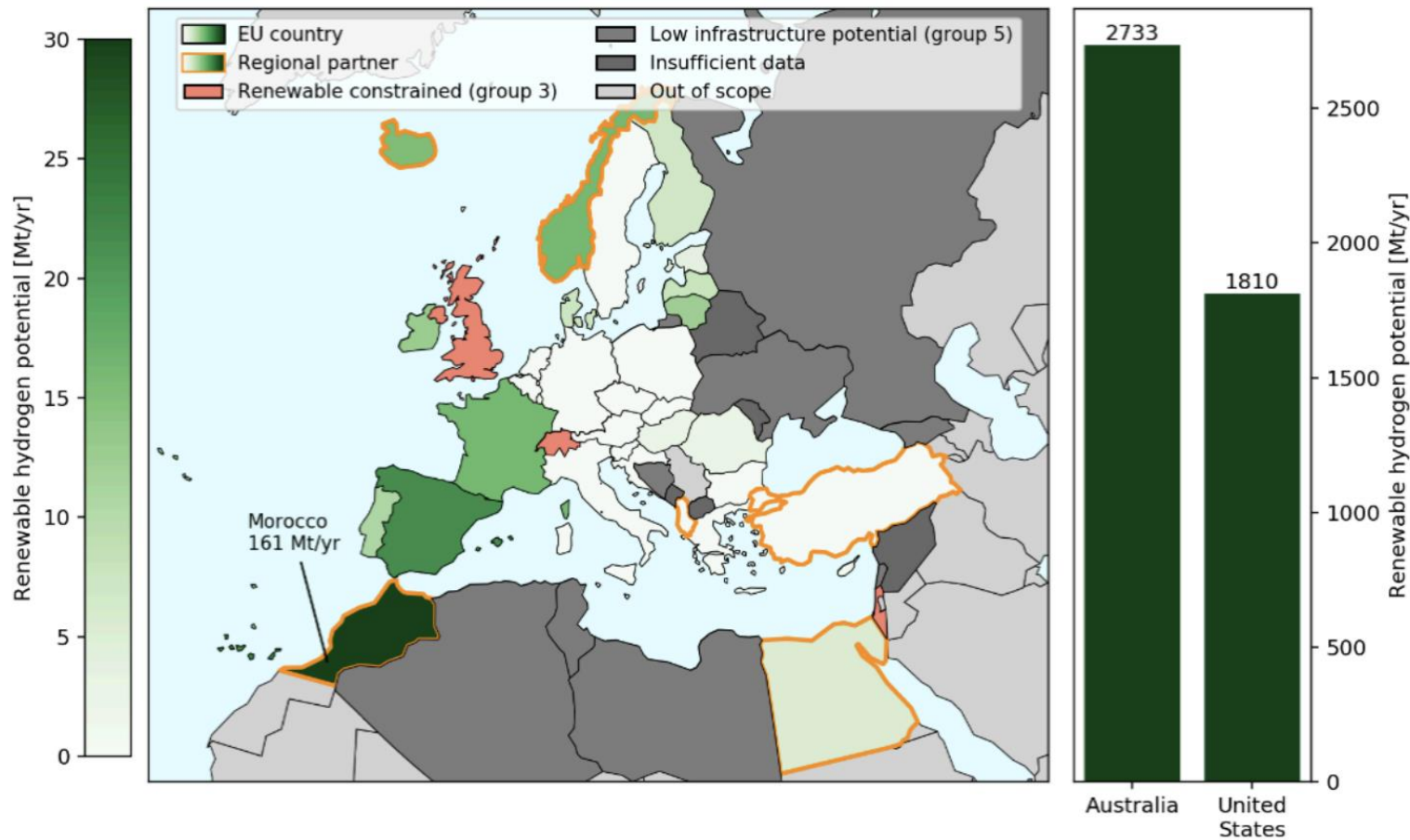


Figure 6. Renewable hydrogen potentials by 2050
Source: Authors' analysis

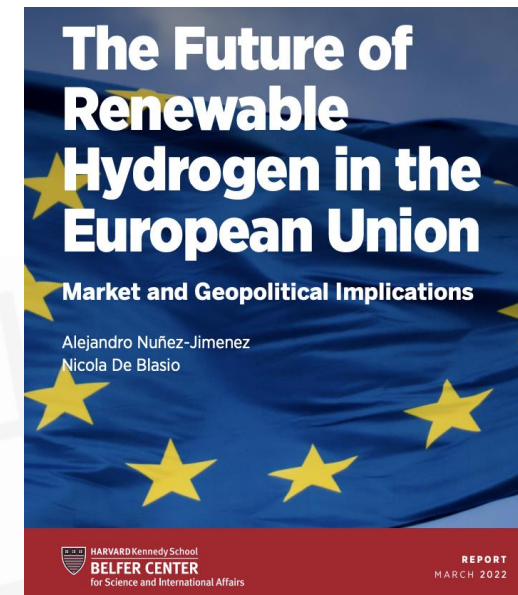


Table 2. Country classification
Source: Authors' elaboration based on Pflugmann and De Blasio (2020) *Geopolitical and Market Implications of Renewable Hydrogen*

Group	European Union countries	Regional partners	Long-distance partners
1. Export champions	-	Morocco, Norway	Australia, United States
2. Renewable-rich but water-constrained	Cyprus, Hungary, Malta	Egypt	
3. Renewable-constrained with high infrastructure potential	Austria, Belgium, Czech Republic, Germany, Italy, Luxembourg, Netherlands, Slovenia		
4. Resource-rich with high infrastructure potential	Croatia, Denmark, Estonia, Finland, France, Greece, Ireland, Latvia, Lithuania, Poland, Portugal, Spain, Sweden	Albania, Iceland, Turkey	
5. Resource-rich with low infrastructure potential	Bulgaria, Romania		

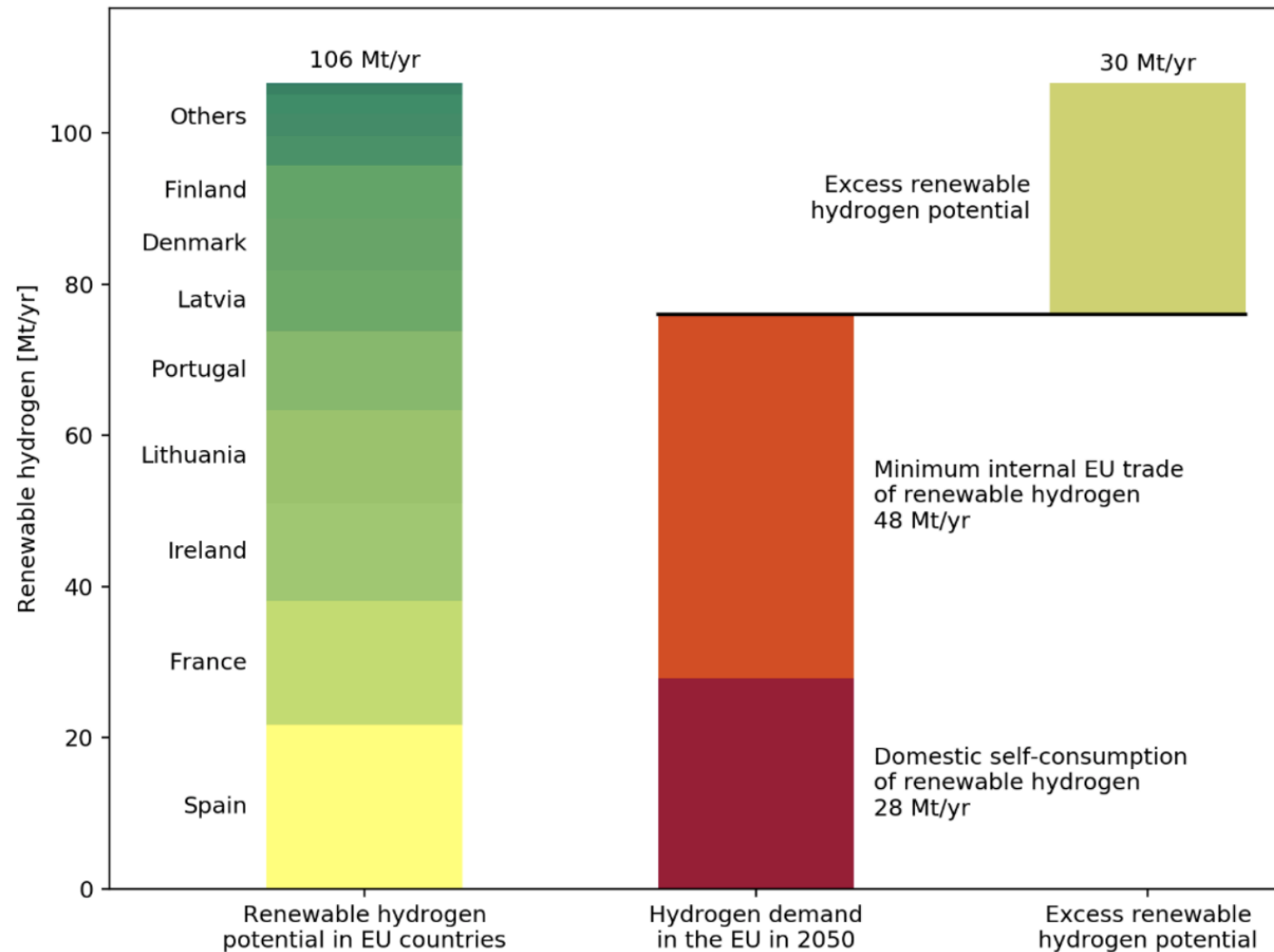
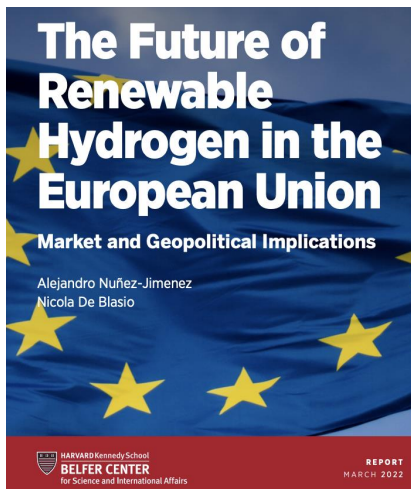


Figure 7. EU 2050 renewable hydrogen market outlook
Source: Authors' analysis



Masterplan of Mediterranean Interconnections

March 2023

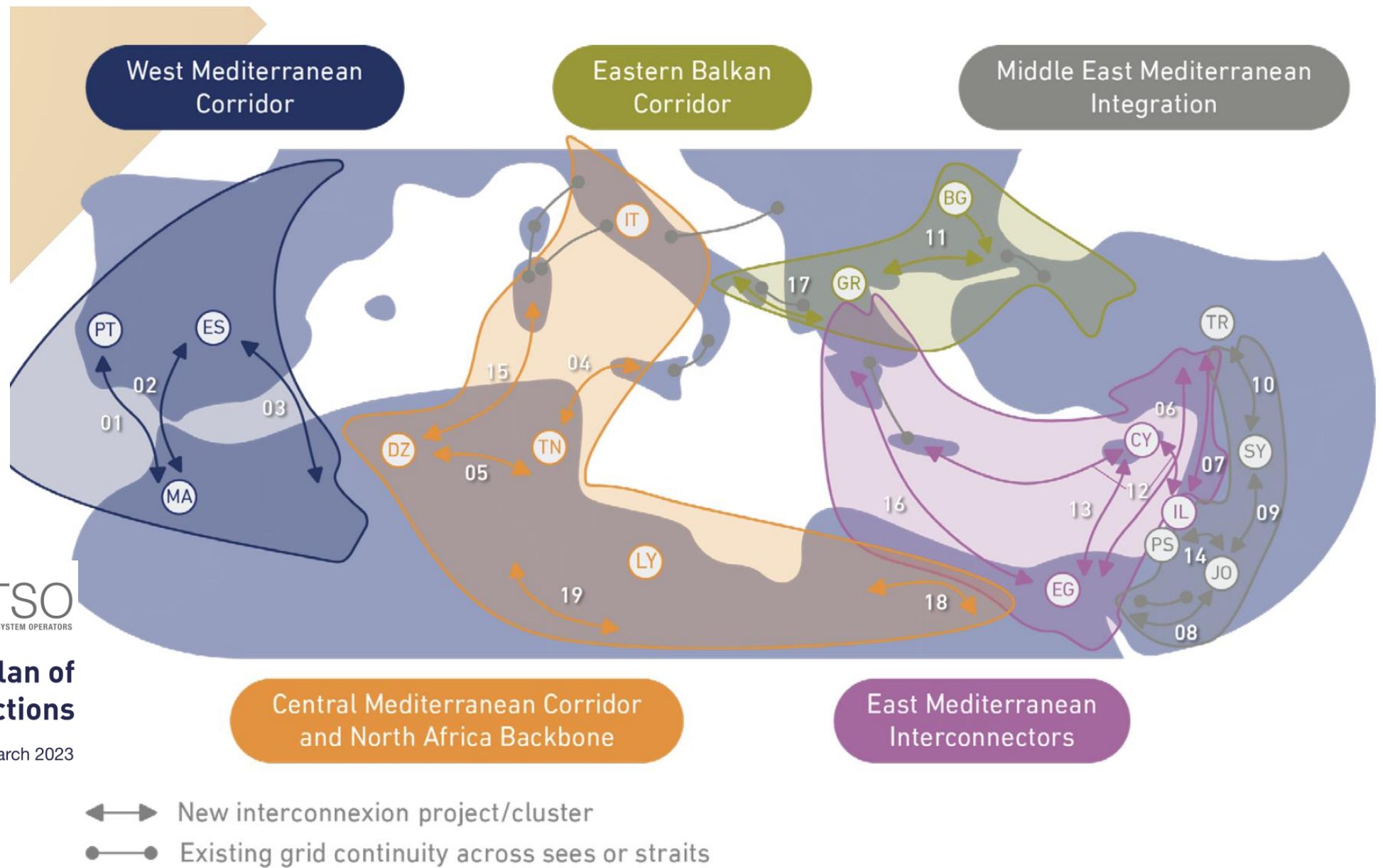
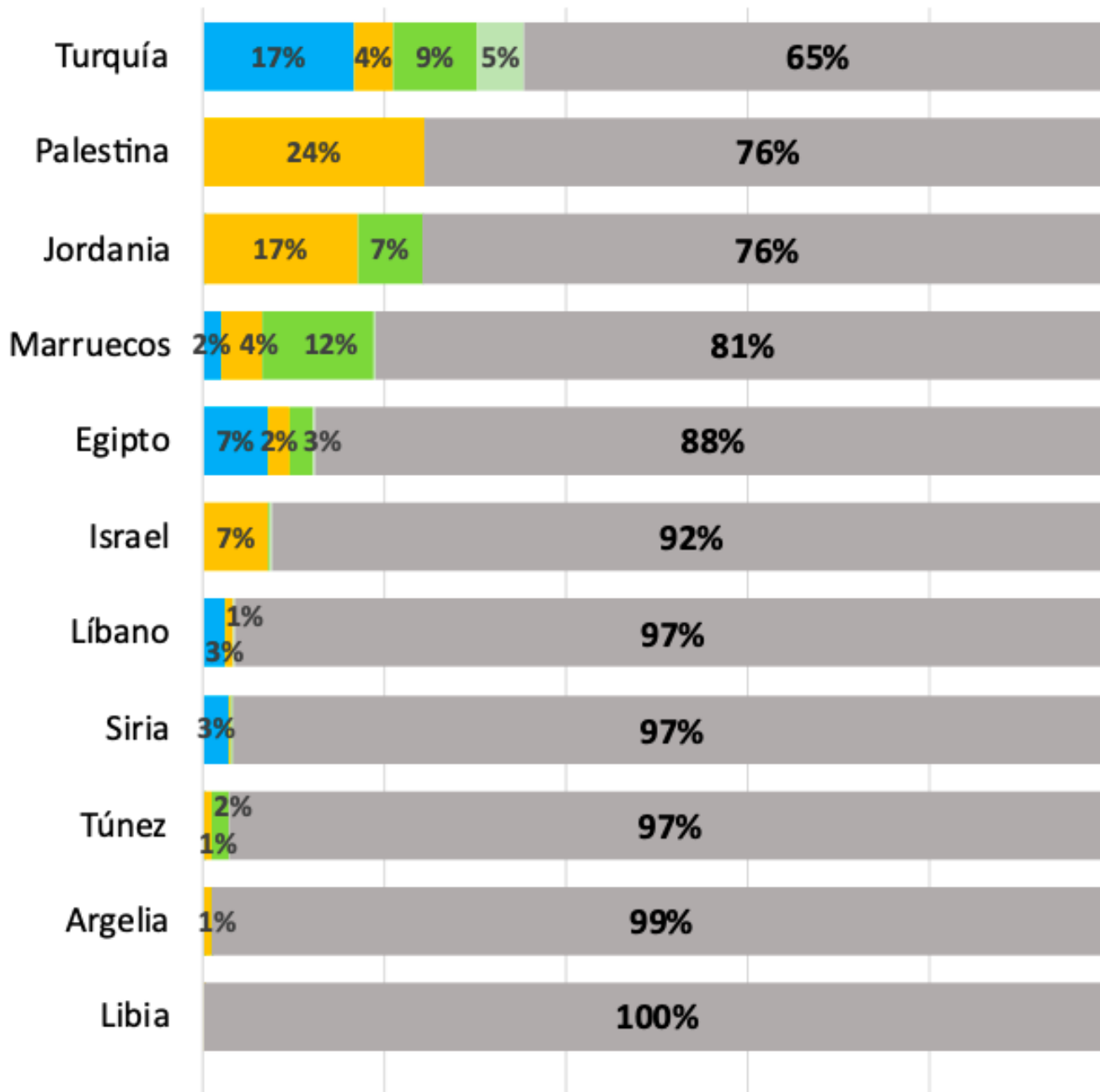


Figure 3. Project grouping mapping in the Mediterranean Area

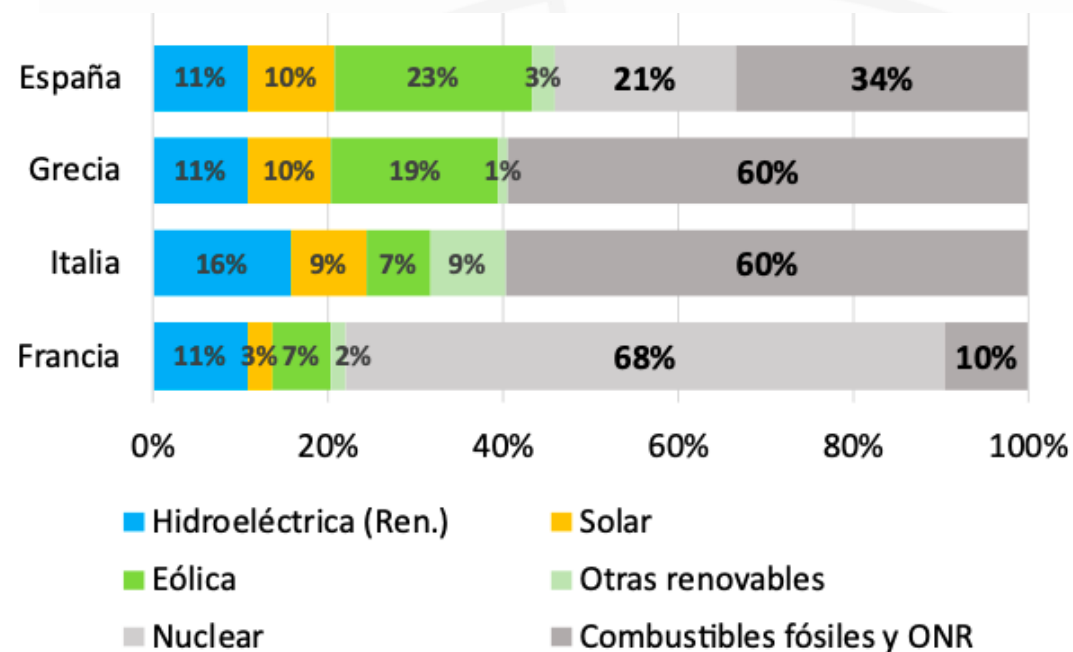


EUROAFRICA AND EUROASIA INTERCONNECTORS





Mix eléctrica en países mediterráneos seleccionados (2021)



Nota: ONR, Otras fuentes de energía No Renovables.

Fuente: IRENA (2023)



CLIMA Y ENERGÍA

Policy Paper

La diplomacia energética y climática de la nueva Comisión Europea



Gonzalo Escribano



Lara Lázaro Touza

// Publicado el 11 Jun 2024

Conclusiones:

- 1 Energía y clima en el foco, pero contexto diferente
- 2 Un legado notable por aplicar
- 3 Greenshoring como patrón de descarbonización competitiva abierta
- 4 Sortear los riesgos geopolíticos del régimen fósil
- 5 CBAM y nueva geoeconomía del carbono
- 6 Mitigar los riesgos geopolíticos de la descarbonización
- 7 Diplomacia climática y aceptación social
- 8 Implicaciones de acción exterior europea en perspectiva española

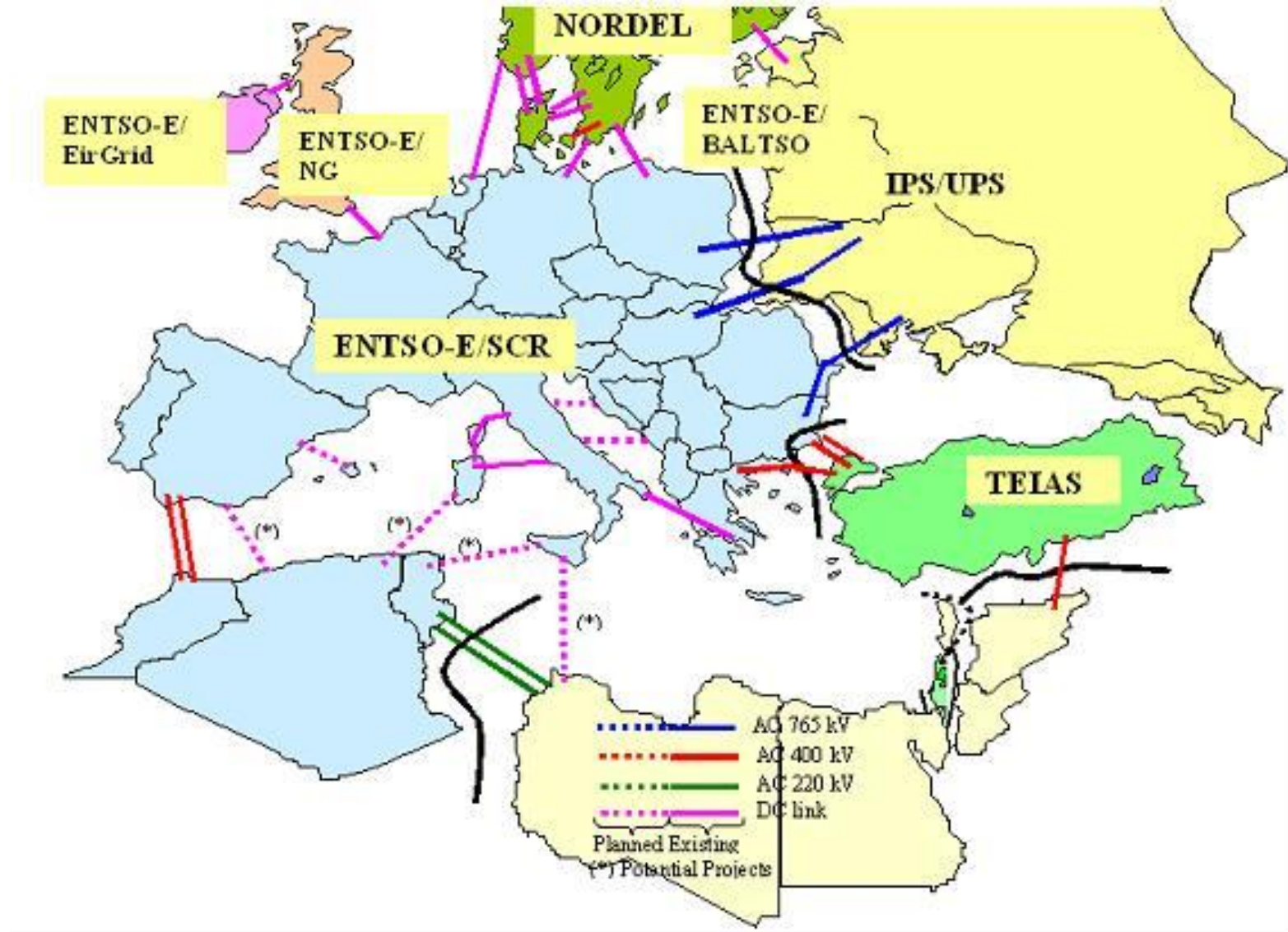
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Whither energy security in the Mediterranean?



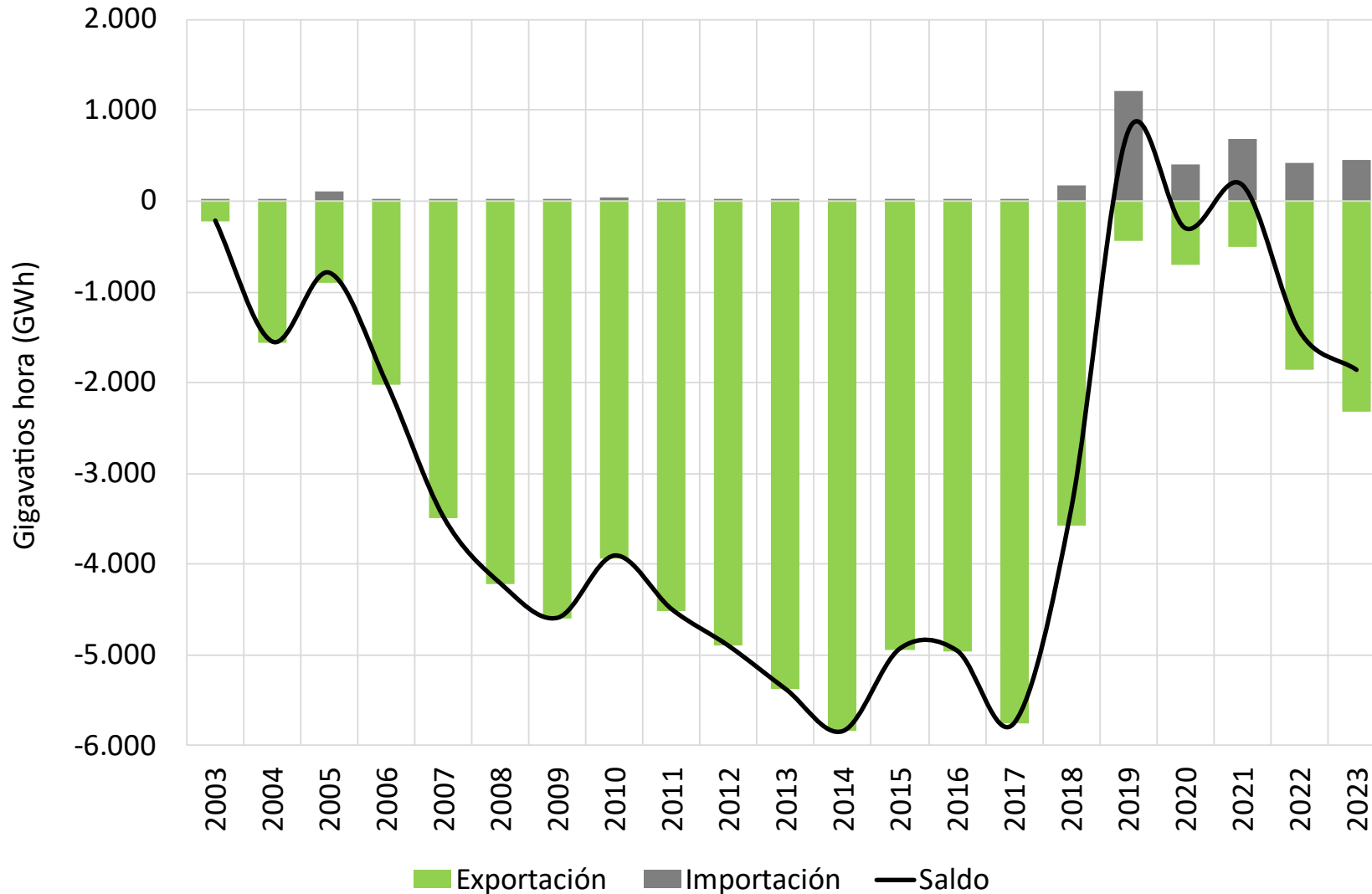




Med electricity interconnections

- Three interconnections with **Turkey** connecting Bulgaria (2) and Greece (1); as well as
- Two interconnectors with **Morocco** – all to Spain.

Exports, imports and net electricity balance of Spain with Morocco



Spain's Hydrogen Ambition

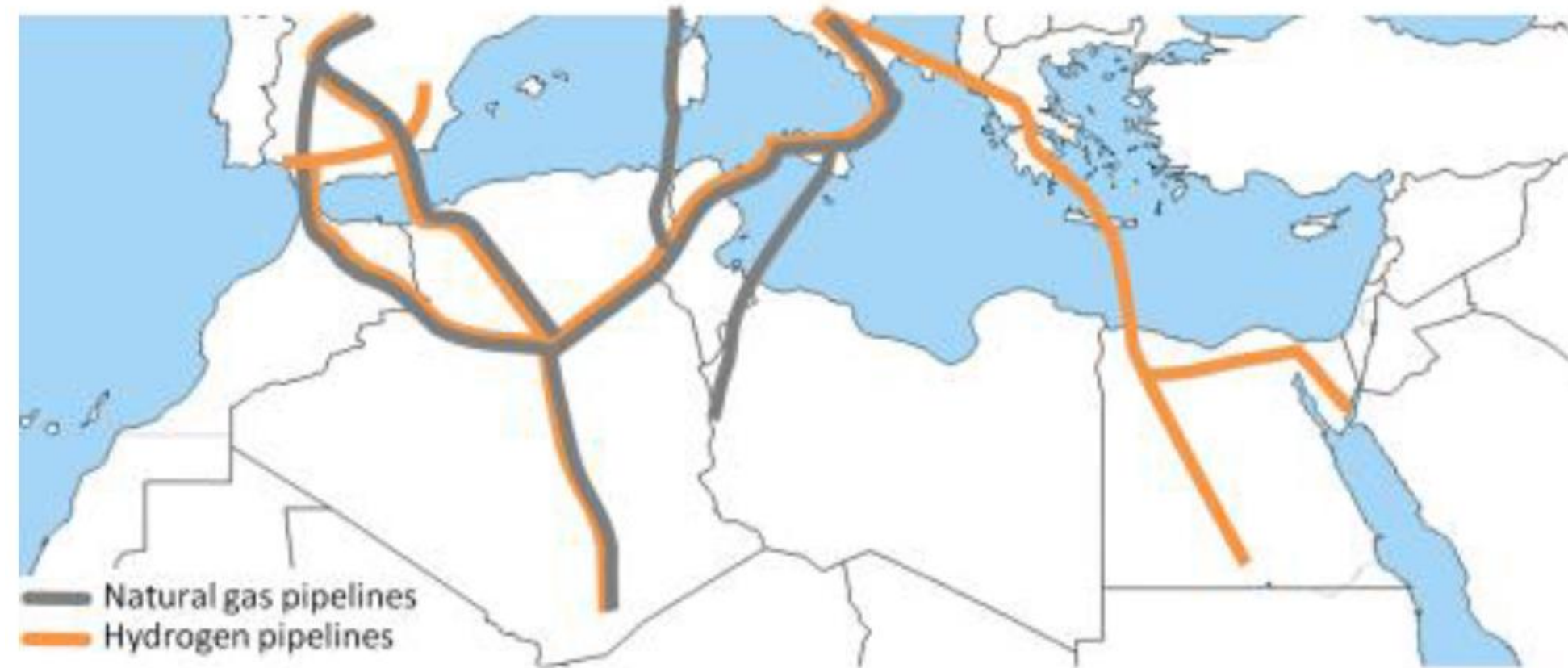
Between reindustrialisation and export-led energy integration with the EU

Gonzalo Escribano & Ignacio Urbasos

Part of a series edited by Yana Zabanova and Rainer Quitzow



Europe-North Africa hydrogen backbone



¿Por qué importa América Latina a la UE en energía? Diversificación, compañeros de transición y nuevas cadenas de valor



Gonzalo Escribano



Ignacio Urbasos Arbeloa

// Publicado el 21 Mar 2023

CLIMA Y ENERGÍA

Tema

Se abordan las relaciones energéticas entre América Latina y la UE, su potencial y sus limitaciones.

Los ciudadanos ante el cambio climático



Lara Lázaro Touza



Carmen González Enríquez

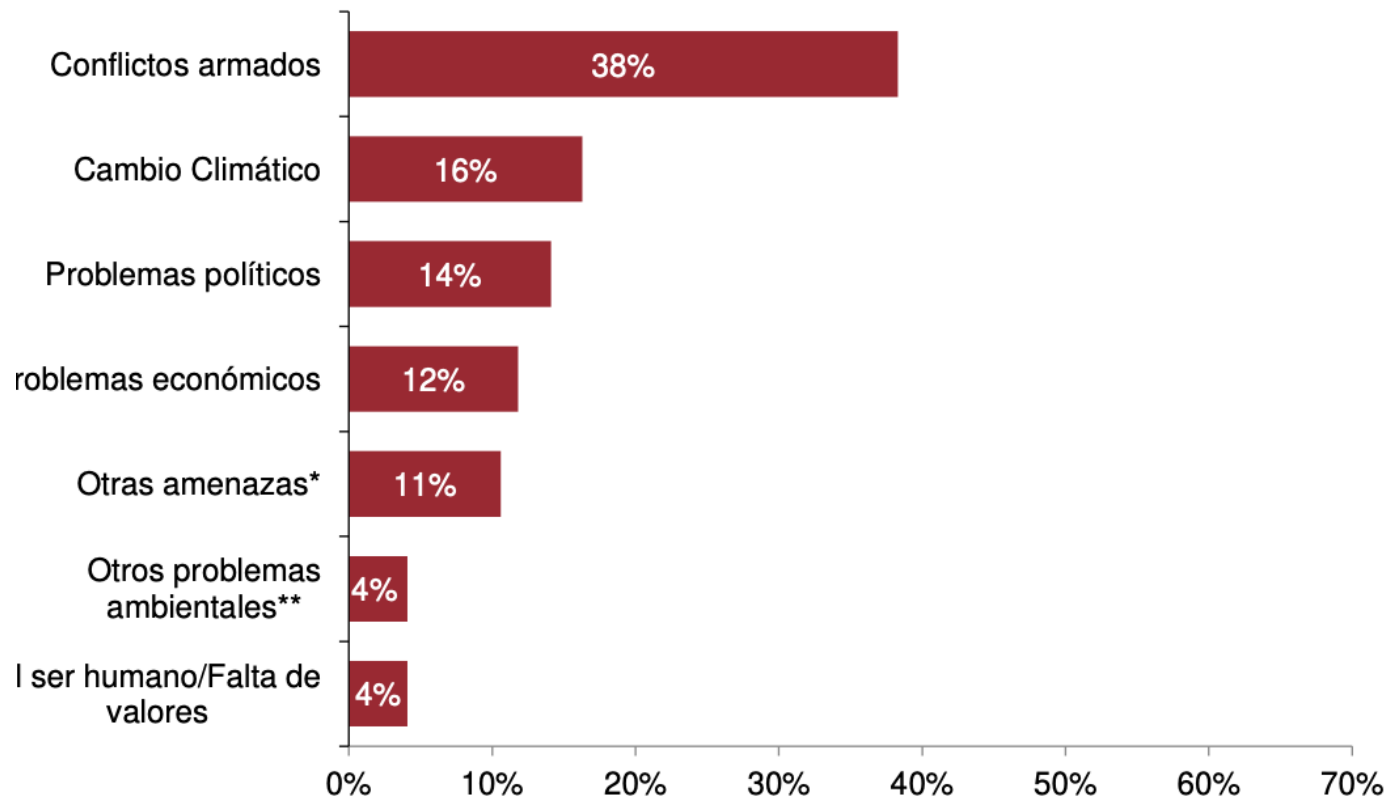


José Pablo Martínez

CLIMA Y ENERGÍA

// Publicado el 06 Jun 2024

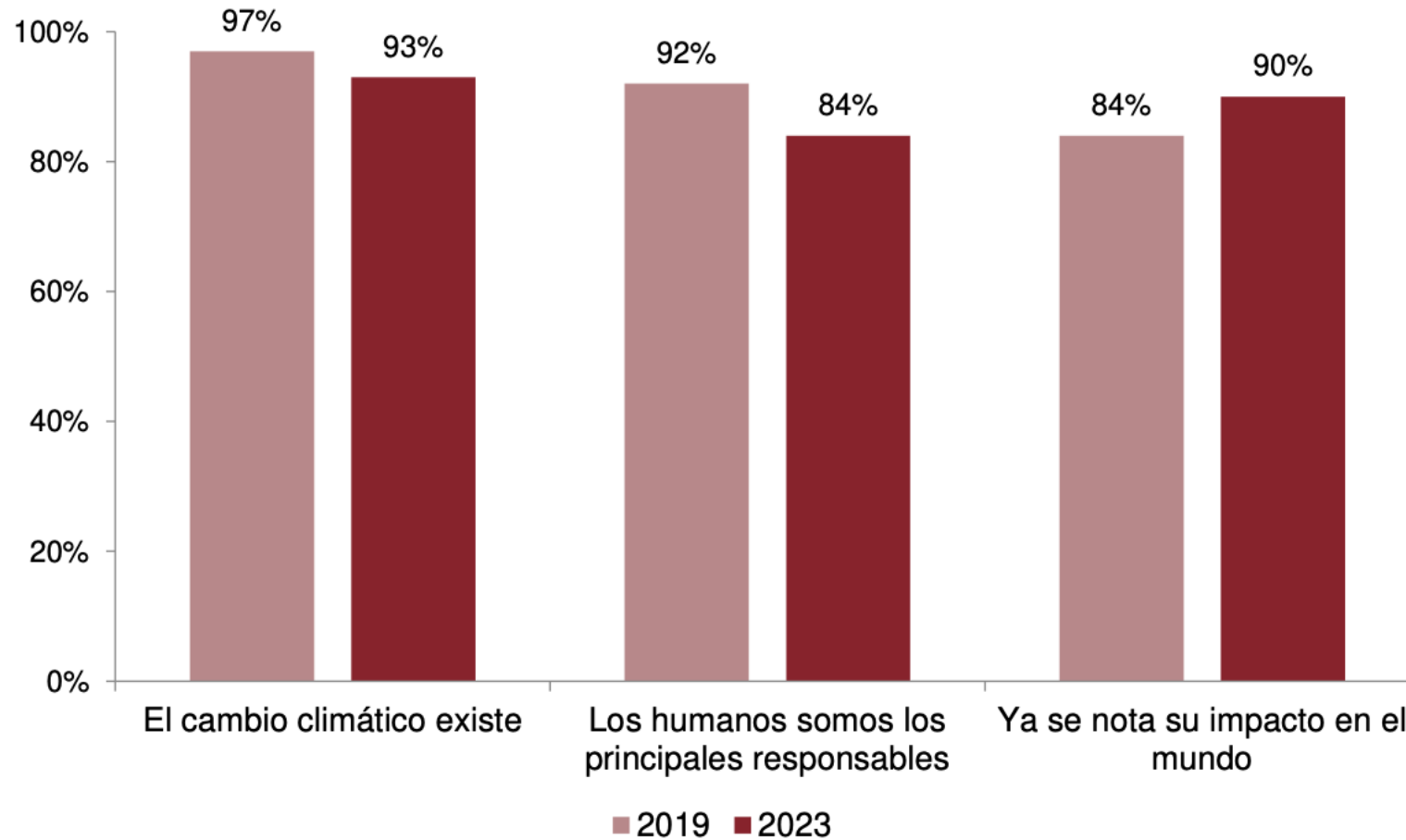
Figura 2. Mayor amenaza a las que se enfrenta el mundo (por orden de elección; base=1.000)



* Dentro de la categoría “Otras amenazas” se engloban algunas tales como las epidemias, el terrorismo, la inteligencia artificial, la desinformación y las migraciones.

** Como, por ejemplo, la contaminación.

Figura 17. Evolución de la percepción del cambio climático (base 2019= 990; base 2023=1.000)



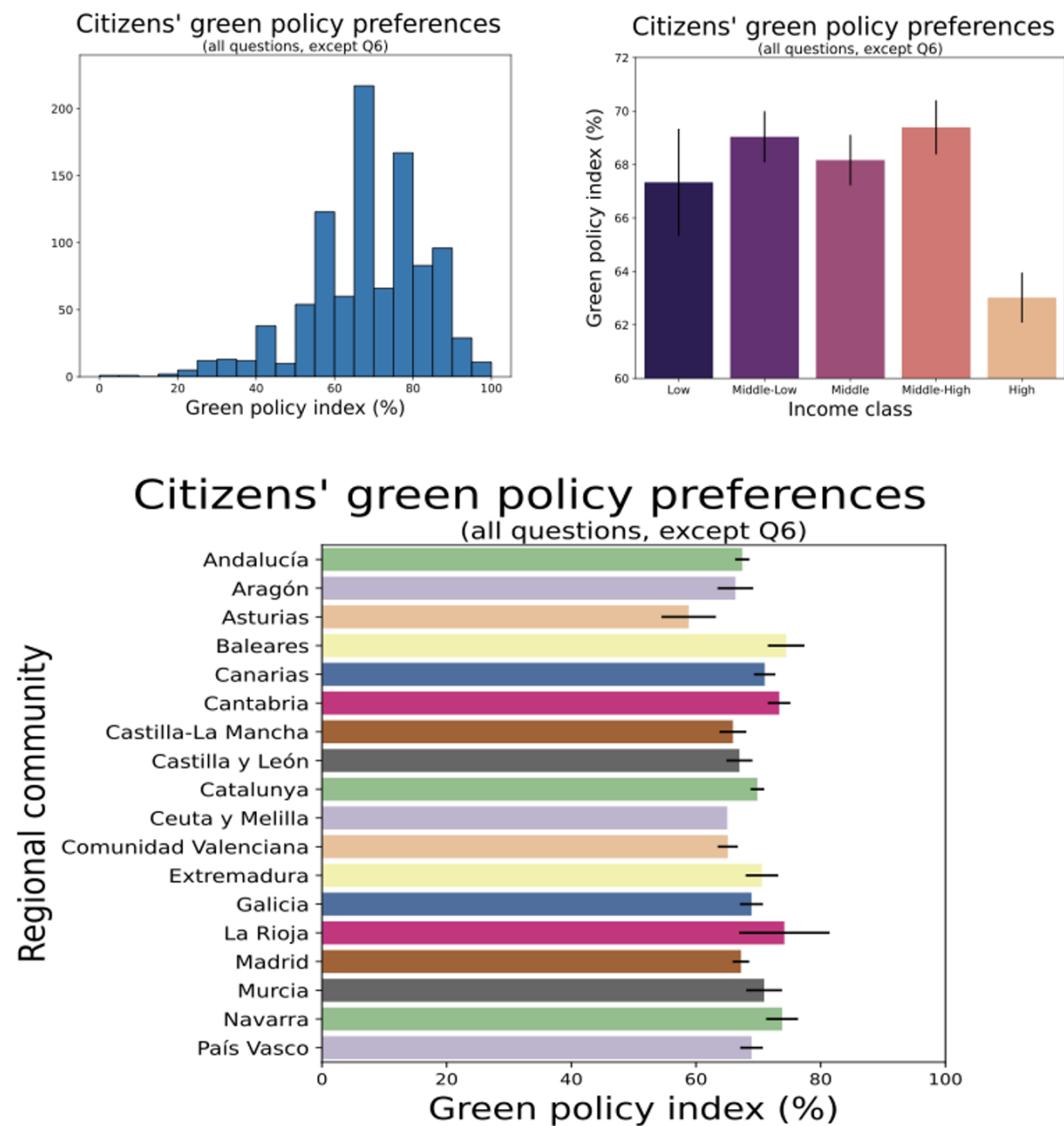
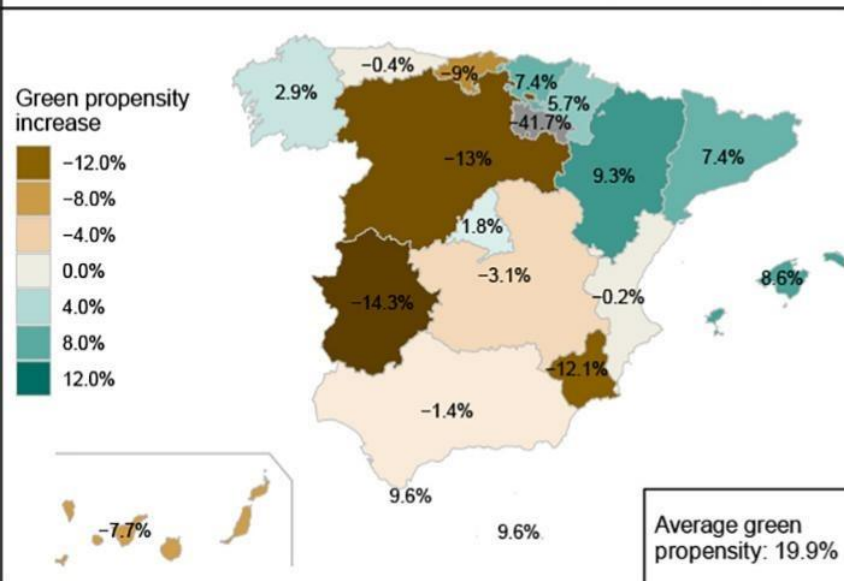


Figure 5: Distribution of the index “citizens’ green policy preference”, and with respect to Income and Regional Distributions.

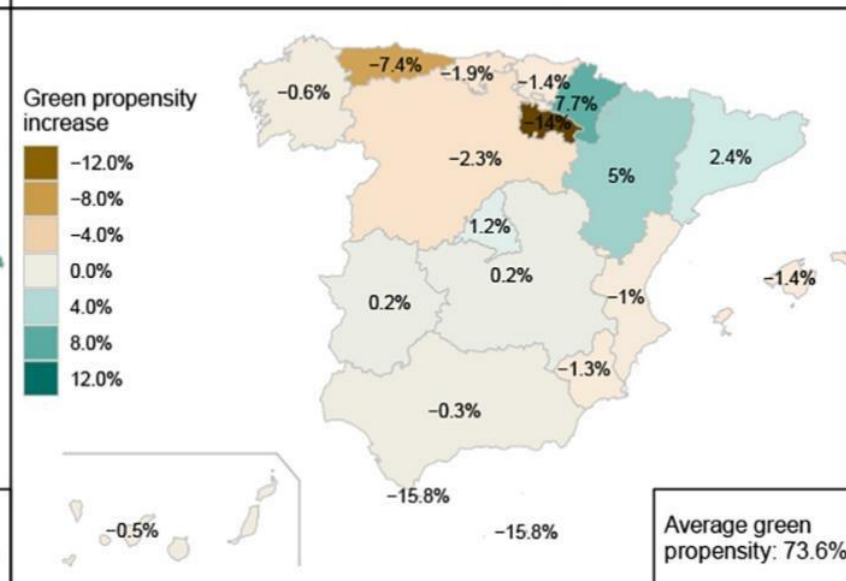
When the design of climate policy meets public acceptance: An adaptive multiplex network model

Francesca Lipari ^{a b} , Lara Lázaro-Touza ^{e f}, Gonzalo Escribano ^{e g},
Ángel Sánchez ^{b c d}, Alberto Antonioni ^b

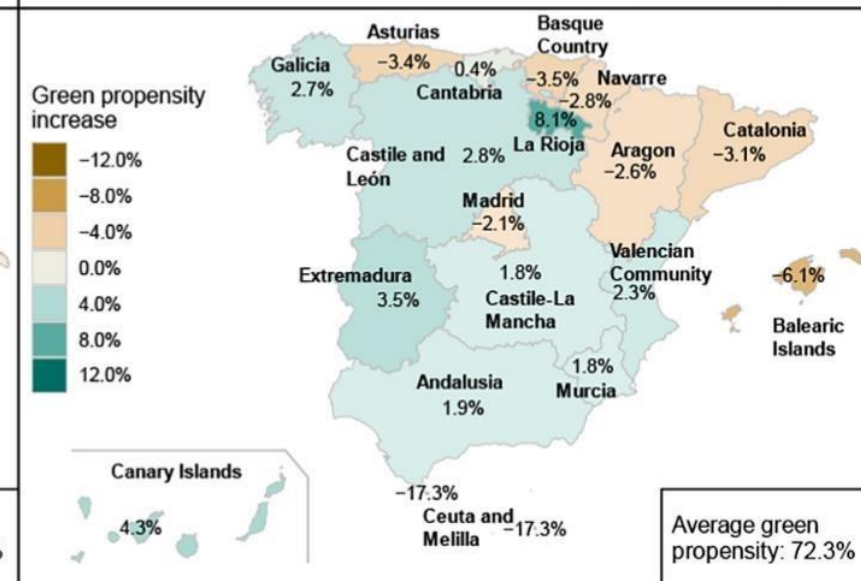
Regressive green policy



Middle green policy



Progressive green policy



¡GRACIAS POR LA ATENCIÓN!



@g_escribano

RQ2: How does citizens' engagement impact differently at the regional level?

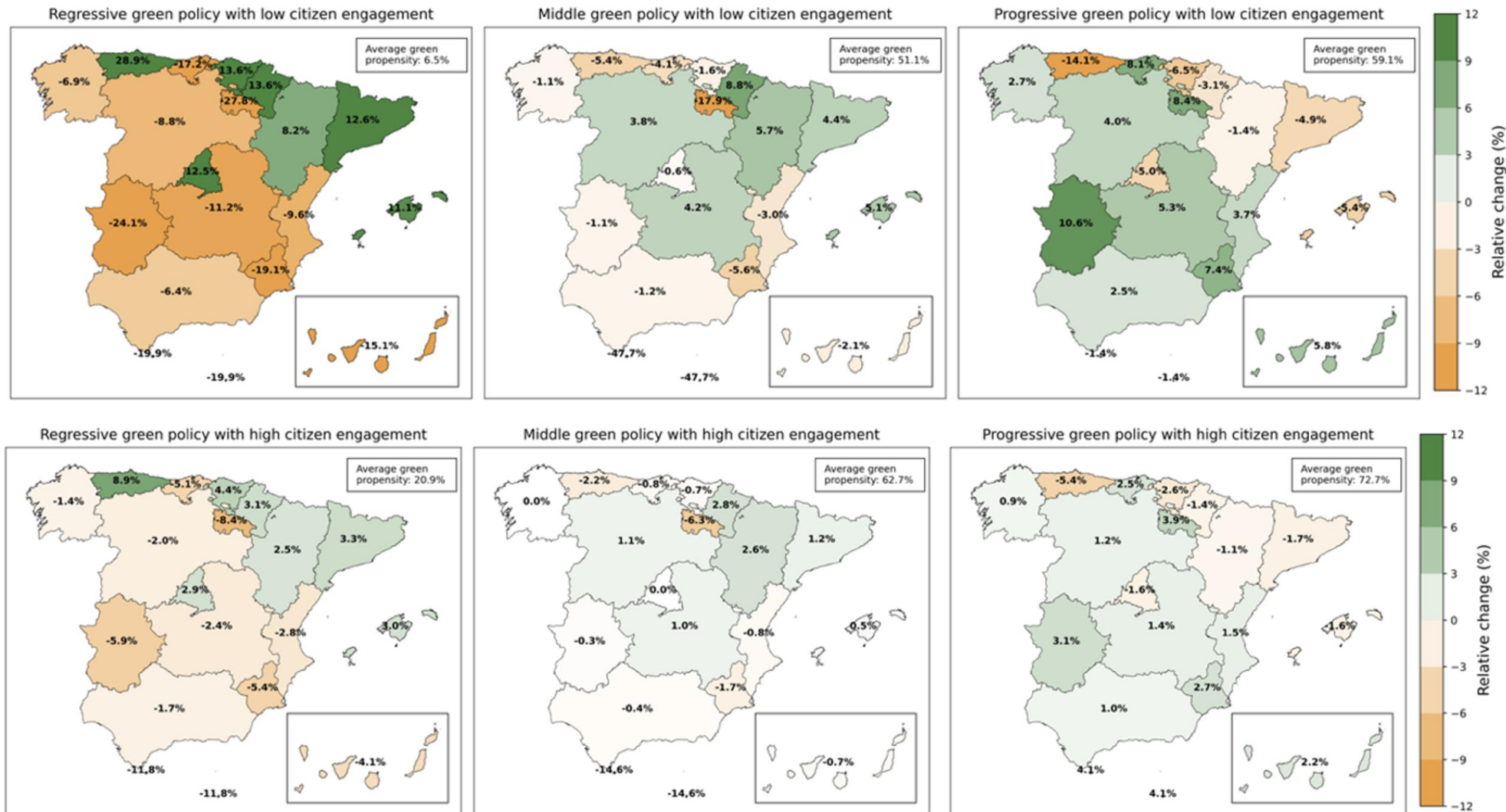


Figure 8: Regional green propensity variation for three main policy scenarios (i.e., regressive, middle, and progressive green policy). The regional green propensity variation is computed as the normalized difference between the average regional green propensity, and the average national green propensity. Positive variations are colour coded with green while negative variations are in orange. Peer pressure (σ) was set at 0.25, but similar results were obtained for other values. We plot three different scenarios for citizen engagement: high, medium and low.

¿En su opinión cómo de responsables son del cambio climático...?

Figura 19. Consideración de diferentes actores como muy responsables del cambio climático, según género (base=1.000)

