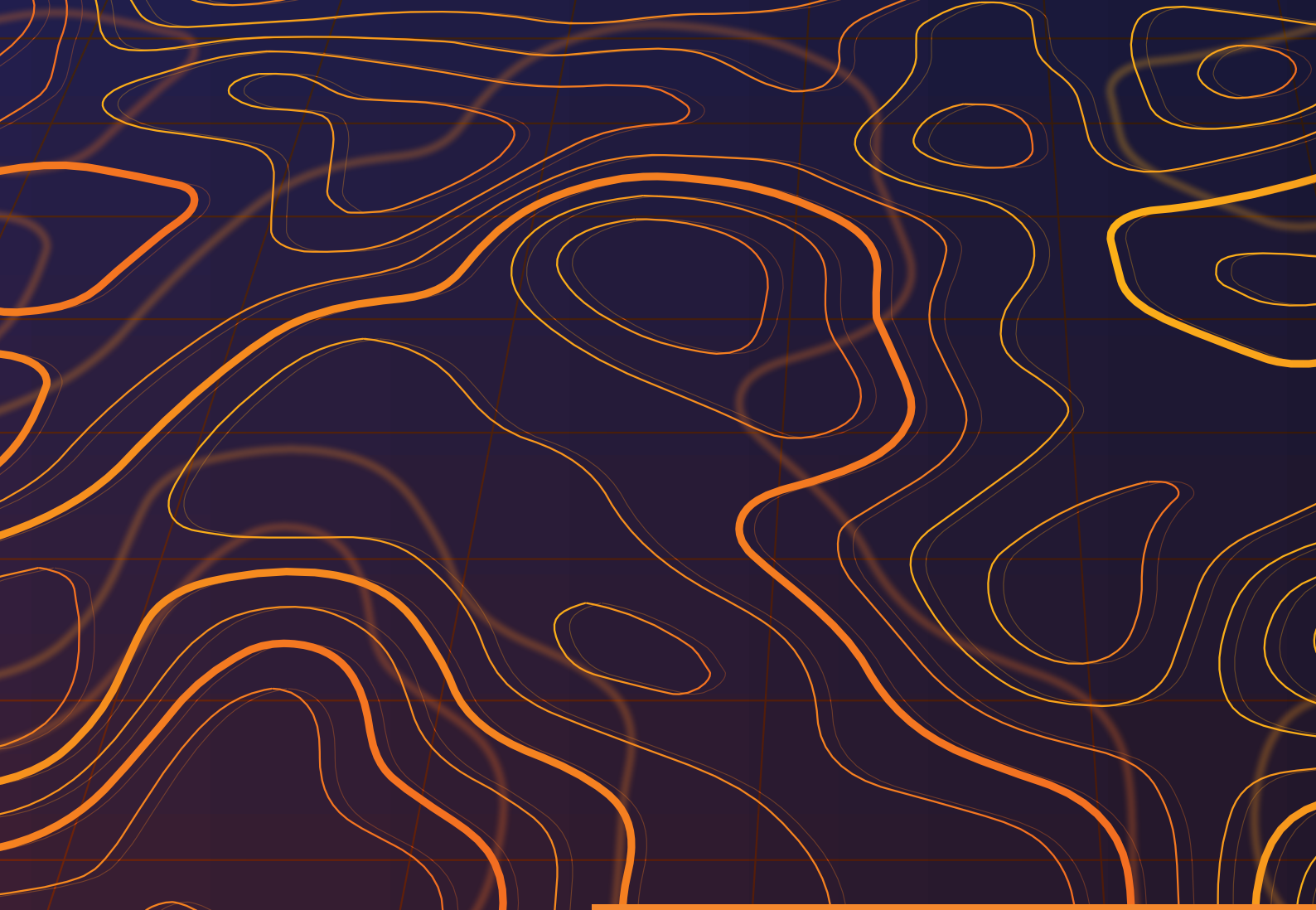

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MAPPING GULF SOVEREIGN WEALTH FUNDS IN THE GLOBAL ENERGY TRANSITION

Capital, Technology, and Diplomacy

Parul Bakshi

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INTRODUCTION

Over the past decade, the Gulf's political capitals have become increasingly important to understanding the geography of global state capital. The region's sovereign wealth funds (SWFs) illustrate how financial power is now central to industrial strategy, technology acquisition, and clean-energy diplomacy. Together, Gulf SWFs account for about 40 percent of global SWF assets, and six of the ten largest funds worldwide, underscoring their systemic weight.[1]

Gulf SWFs are, however, no longer passive financial actors but system-shaping institutions. By absorbing first-mover risks in commercially immature sectors, they de-risk the transition for private investors, accelerate project pipelines, and create investable ecosystems aligned with national diversification and global climate objectives.

Their patient, long-horizon capital enables the transfer of technology, operational know-how, and manufacturing capability across borders, helping local markets scale complex industries more rapidly. In parallel, their outward investments have become a form of economic statecraft, projecting capital to forge industrial alliances, reshaping supply chains, and extending diplomatic influence across multiple regions.

Once synonymous with oil rents and fiscal stabilisation, Gulf SWFs have evolved into active engines of diversification, diplomacy, and technological leadership. Investment activity reflects this dominance, according to Deloitte, Gulf SWFs invested USD 82 billion in 2023 and USD 55 billion in the first nine months

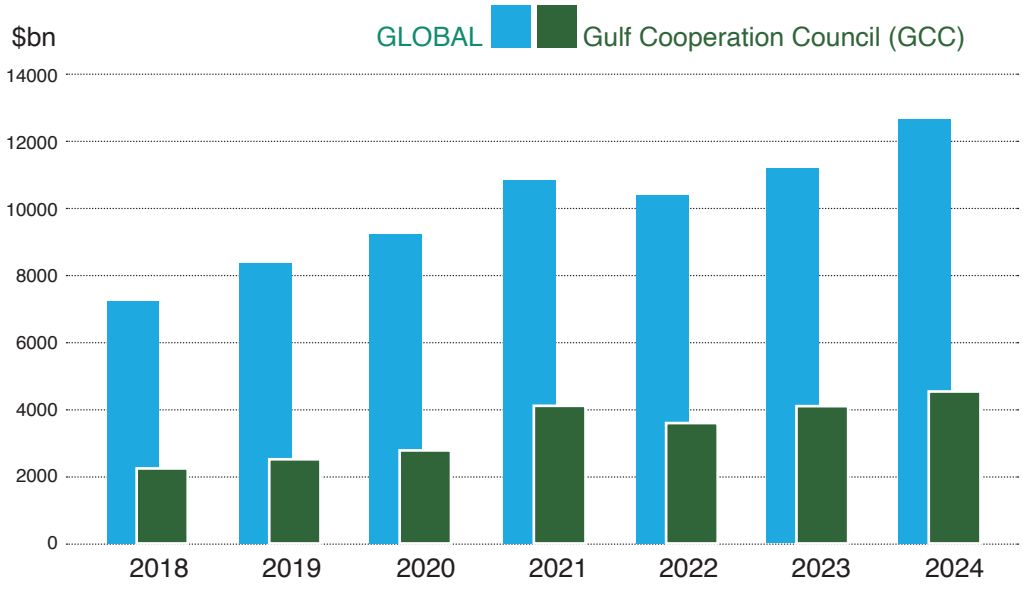
of 2024, accounting for nearly two-thirds of all sovereign wealth deployment globally.[1] Their strategies now extend beyond asset management to shaping the direction of energy systems and strategic industries.

As the global energy transition accelerates, Gulf SWFs are emerging as central actors in new clean-energy supply chains. They are deploying patient, long-horizon capital into renewable energy, hydrogen, critical minerals, green industrial manufacturing, and smart-grid infrastructure; sectors that simultaneously support domestic economic diversification and extend Gulf strategic influence across the Global South and Global North.

Their expanding role also reflects a shift away from traditional passive wealth management toward more interventionist climate and industrial mandates, raising new questions about the robustness of emerging green investment frameworks.

The scale of their impact is significant given how Gulf Cooperation Council (GCC) SWFs are projected to control no less than USD 18 trillion in assets by 2030, a roughly 50-percent increase from today.[2] Currently, the Gulf controls USD 4.9 trillion, representing 38 percent of all global SWF assets, concentrated primarily in the Abu Dhabi Investment Authority (ADIA), the Public Investment Fund (PIF), and the Kuwait Investment Authority (KIA).[3]

Total SWF Assets Under Management (AUM), in $bn



Source: Deloitte, 2025

Against this backdrop, this report undertakes a structured mapping of major Gulf sovereign and quasi-sovereign wealth funds (SWFs) in energy and clean-technology sectors. Its objective is to provide a concise, evidence-based landscape highlighting flagship transactions and partnerships, planned commitments, geographic footprints (Domestic/Global South/Global North), and the diplomatic linkages that enable or follow investment flows.

Scope and Coverage

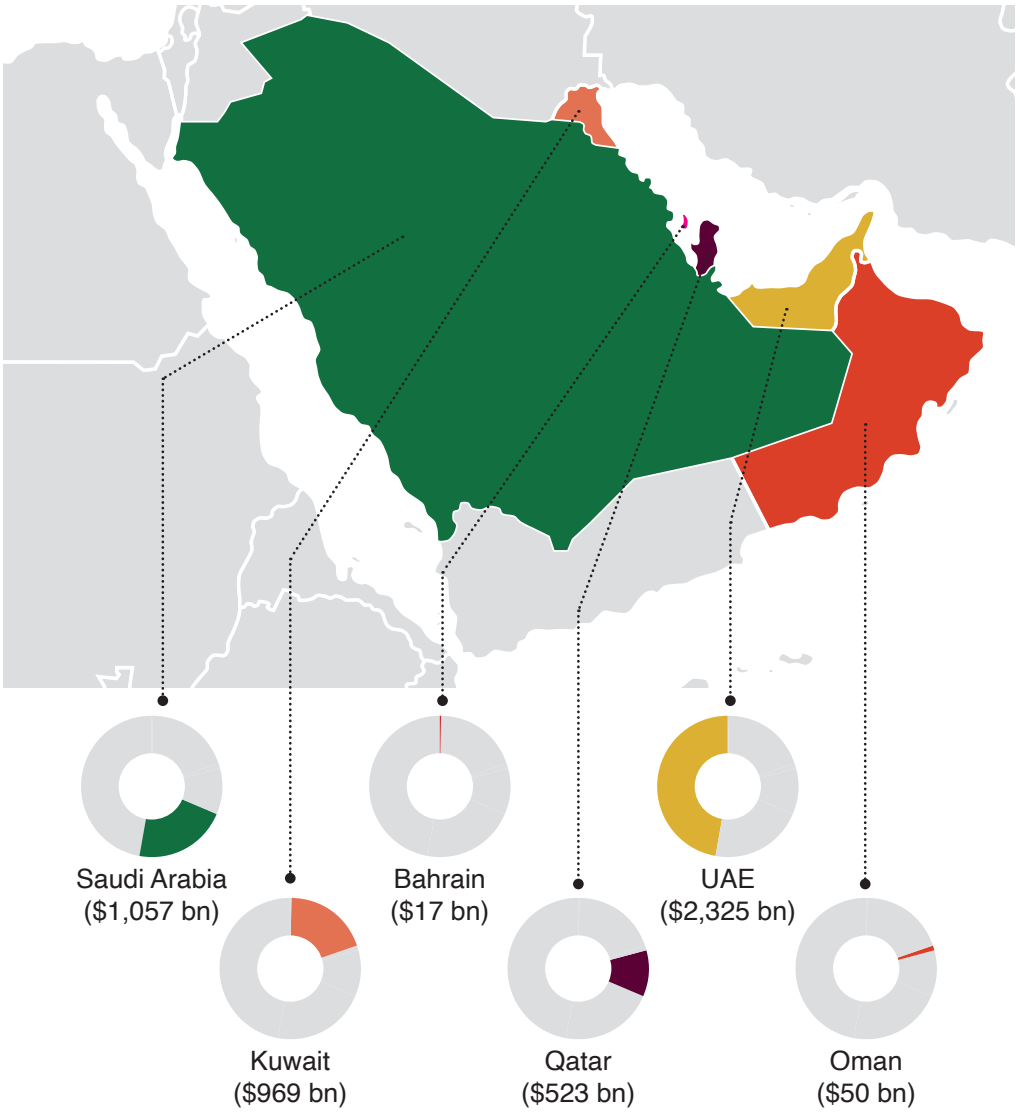
This mapping focuses strictly on fund-level investments and commitments, where SWFs act as direct equity investors or formally announced co-investors. Domestic project developers and operating arms (e.g., QatarEnergy Renewable Solutions, national utilities, and IPP SPVs) are treated separately unless the SWF explicitly appears in the project's equity or funding structure.

Many project details are based on public announcements, MoUs, and financial/industry media reporting. These often indicate *strategic intent* rather than completed deployment. SWFs often use subsidiaries, affiliates, or third-party funds (LP positions) that can obscure direct ownership. Equity participation is recorded only when explicitly disclosed by the fund, project sponsor, or credible financial media.

It should be noted that this is not an exhaustive record of all SWF-funded energy or technology projects. Rather, it synthesises publicly available information to assess directional flows of capital and strategic intent across the Gulf's leading funds.

As the figure below indicates, a small number of Gulf SWFs hold a disproportionately large share of regional assets. To reflect the political geography of these systems, this report follows the four principal Gulf capitals—Abu Dhabi, Doha, Kuwait City, and Riyadh—each anchoring a distinct architecture of state capital and investment strategy.

Estimated Total GCC SWFs, by Country's Assets Under Management

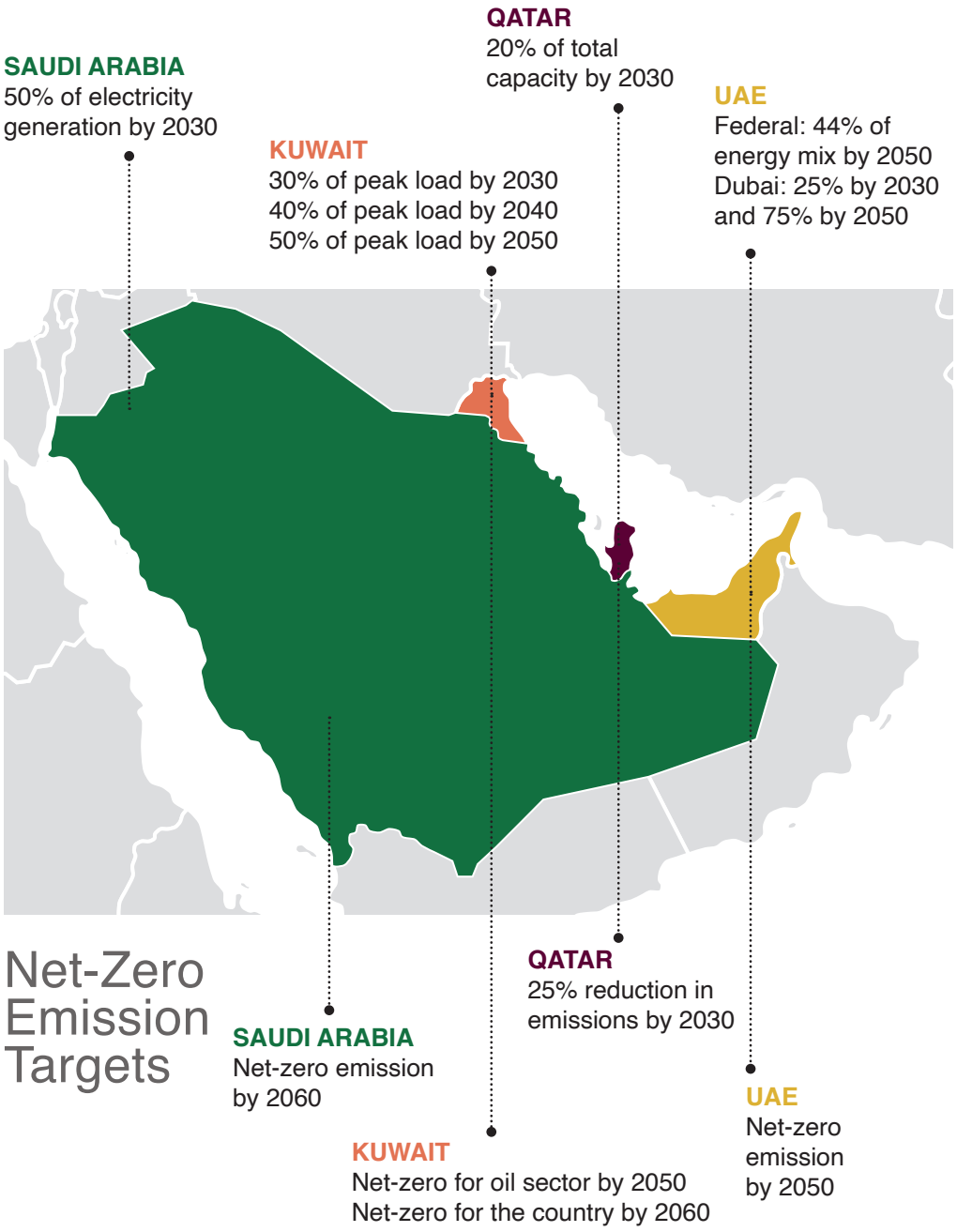


Source: Alhajaraf, 2025

The major Gulf SWFs included in this report are:

Across these four capitals, national decarbonisation strategies have been articulated alongside broader climate and competitiveness commitments. Their domestic energy targets and overseas investment patterns form part of a shared Gulf effort to reshape global energy systems while advancing long-term economic diversification.

Renewable Energy Targets



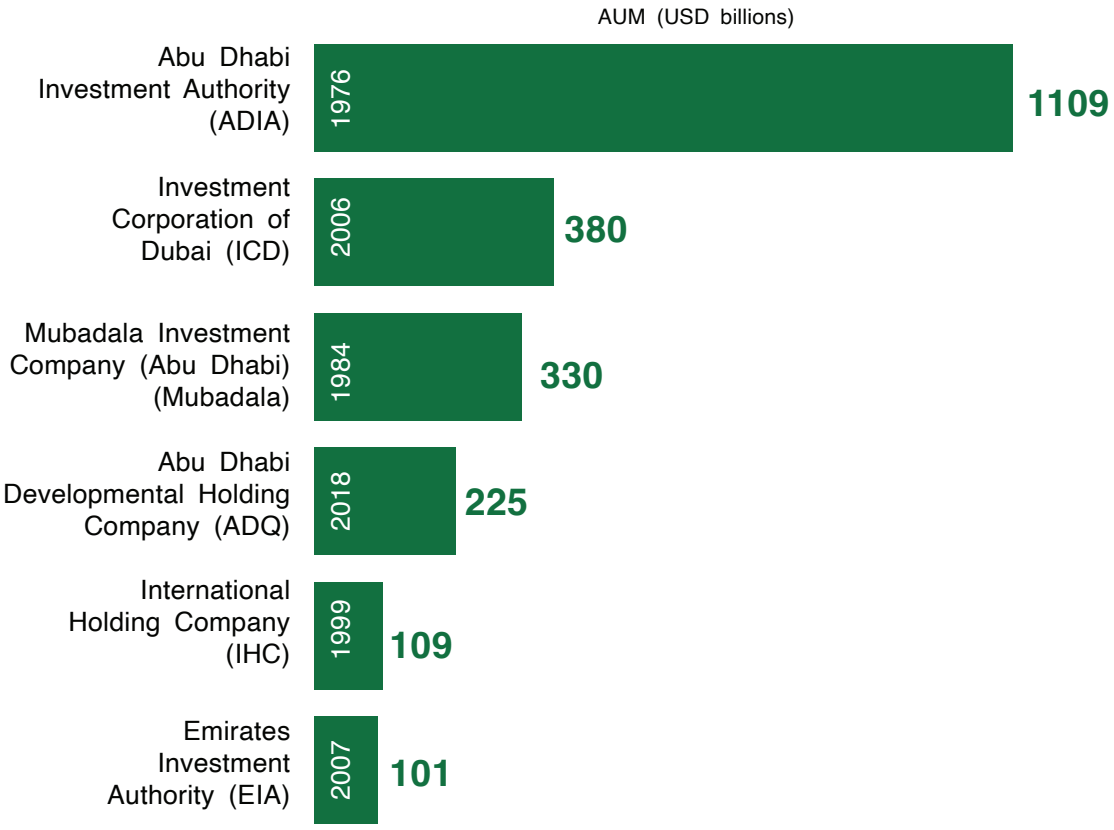
Sectors covered: Utility-scale renewables (solar, wind), green hydrogen and derivatives, grid and storage systems, green industrialisation (local manufacturing and supply-chain localisation), critical-minerals and mining tied to the energy transition, climate tech, and relevant finance instruments (green bonds, transition funds).

Together, these funds demonstrate how Gulf capital is shifting from passive wealth preservation to active global influence, reshaping domestic economies, enabling technology acquisition, and redefining the geography of the energy transition.

ABU DHABI - UNITED ARAB EMIRATES

The UAE's sovereign and quasi-sovereign funds form one of the world's most diversified and globally active investment ecosystems. A multi-fund architecture, spanning federal and emirate-level vehicles such as the Abu Dhabi Investment Authority (ADIA), Mubadala Investment Company, Abu Dhabi Developmental Holding Company (ADQ), the Investment Corporation of Dubai (ICD), the Emirates Investment Authority (EIA), and the International Holding Company (IHC), coordinates complementary roles in advancing the energy transition. Together, these institutions blend long-horizon capital with state-led industrial strategy to finance renewables, hydrogen, digital sustainability, and critical-mineral security. This multi-polar model enables the UAE to project economic influence across both the Global South and North, positioning it as a major capital hub for green and transition investments.

Reflecting this ambition, at the COP28 summit, the UAE's President, His Highness Sheikh Mohamed bin Zayed Al Nahyan, announced an initial USD 30 billion contribution to Alterra, a global climate-investment platform designed to mobilise USD 250 billion by 2030 for clean-energy and climate projects.[4] The UAE has also pledged USD 40–55 billion to promote and finance clean-energy initiatives.[3]

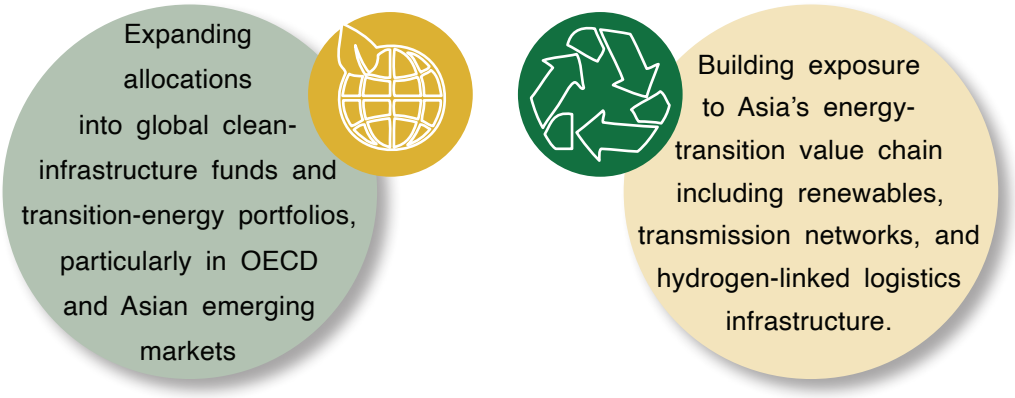


Abu Dhabi Investment Authority (ADIA)

ADIA, established in 1976, is among the world's largest sovereign wealth funds. As a matter of practice, it does not invest in the UAE, focusing its capital on global markets. ADIA primarily invests via external fund managers rather than through direct operating-asset ownership, often taking limited-partner (LP) positions in infrastructure, private equity and climate-aligned funds. It is a long-term institutional investor in funds managed by Brookfield, Macquarie, KKR, and BlackRock, and frequently co-invests alongside CPP Investments, Ontario Teachers' Pension Plan, GIC, and other large institutional peers in global infrastructure and energy-transition assets.

In 2023–24, ADIA expanded the mandate of its Infrastructure Division to include "energy transition" as a dedicated investment theme, emphasizing opportunities in renewables, grid modernisation, storage, and low-carbon transport. As of December 2023, through its partnerships and investments in six key companies, ADIA's Infrastructure team supports 22.5 GW of operating renewable energy projects, with additional 28.9 GW of projects under construction & development.[5] By investment value, ADIA's clean energy portfolio comprises 90.8 percent renewable energy and 9.2 percent solar projects, reflecting a conservative approach centred on proven technologies.[6]

Planned/Targeted Commitments



Representative ADIA Investments in Clean-Energy Assets

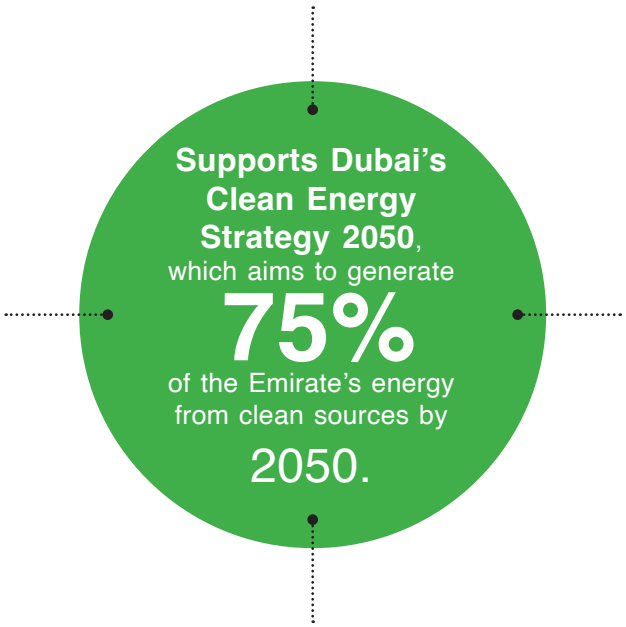
ADIA		
Project Name	**Industry**	**Year**
Clean Energy Infrastructure V JV LLC	Renewables	2016
India		
Adani Energy Solutions Ltd.	Renewables	2024
Greenko Energy Holdings	Renewables	2023
Greenko Energy Holdings	Renewables	2019
Renew Power Ltd	Solar	2019
Greenko Energy Holdings Pvt Ltd	Solar	2019
Renew Power Ltd	Solar	2019
Clean Energy Infrastructure VII JV LLC	Solar	2019
Greenko Energy Holdings	Solar	2018
Clean Energy Infrastructure V JV LLC	Solar	2017
Greenko Energy Holdings Pvt Ltd	Renewables	2016
Renew Power Ventures Pvt Ltd	Renewables	2015
Portugal		
Energias De Portugal S.A.	Renewables	2023
Singapore		
Equis Development Pte Ltd	Renewables	2020
UK		
UK Green Investment Bank Offshore Wind Fund LP	Wind	2015
US		
Climate Technologies	Renewables	2022
Arevon Energy Inc	Renewables	2021
Greenko Energy Holdings Pvt Ltd	Renewables	2018

Source: UICCA 2025

Investment Corporation of Dubai (ICD)

ICD is the principal sovereign wealth vehicle of the Government of Dubai, managing strategic state-owned enterprises across energy, transport, finance, and hospitality. Established in 2006, ICD manages assets exceeding AED 1.47 trillion (~USD 400 billion) as of 2024, encompassing a broad portfolio of holdings both locally and internationally across sectors that underpin Dubai's dynamic economy. It plays a pivotal coordinating role in Dubai's green-economy transition through its stakes in Emirates National Oil Company (ENOC), Dubai Electricity and Water Authority (DEWA), Emirates Global Aluminium (EGA), and Dubai Airports.

Planned/Targeted Commitments



Mubadala/Masdar

Mubadala is one of Abu Dhabi's principal sovereign wealth funds, managing over USD 330 billion in assets.[7] Through its subsidiary Mubadala Energy (formerly Mubadala Petroleum), it is expanding from conventional upstream portfolios into low-carbon and renewable projects, including carbon capture, blue hydrogen, and clean power partnerships across Asia and the Middle East. Mubadala has increasingly focused on emerging energy technologies, expanding into battery storage and renewables in 2020, followed by a USD 1.4 billion investment in green hydrogen in 2024. Its disclosed portfolio reflects this shift: green hydrogen (33.7%), wind (25.8%), battery storage (15.7%), renewable energy (13.4%), solar (6.3%), and hydropower (5.1%).[6]

Mubadala established Masdar in 2006 to advance the UAE's leadership role in the global energy sector, while supporting its economic diversification and climate agenda.[8] Masdar, now jointly owned by Mubadala (33%), Abu Dhabi National Oil Company (ADNOC, 33%), and Abu Dhabi National Energy Company (TAQA, 33%) following the 2022–23 restructuring, serves as the UAE's flagship clean-energy platform. The consolidation of these three national energy champions has positioned Masdar as the UAE's central vehicle for renewable and green-hydrogen expansion.

Masdar's mandate aligns directly with the UAE's Net Zero by 2050 Strategy, supporting both domestic renewable deployment and international clean-energy diplomacy through strategic co-investments. Its 2024-25 portfolio spans 40+ countries with cumulative installed (and under-construction) renewable capacity exceeding 51 GW, representing a 150 percent increase since 2022.[9]

Planned/Targeted Commitments

100 GW by 2030 Target: Masdar aims to develop and operate 100 GW of renewable-energy capacity worldwide by 2030, spanning solar, wind, and waste-to-energy projects.[24]

1 million tonnes of green hydrogen per year by 2030: Masdar and ADNOC jointly target building a hydrogen-export portfolio across MENA, Europe, and Asia, with early projects focused on the UAE, Egypt, and the UK.[25]

Green Finance Expansion: Masdar launched its first green bond issuance (USD 750 million, 2023) to finance global clean-energy projects, many of which will be in developing economies and climate-vulnerable countries that have a critical need for investment.[27]

Regional Integration Role: Masdar serves as the UAE's principal vehicle for renewable diplomacy in the MENA, Sub-Saharan Africa, and Central Asia regions, often co-financing projects with the IFC, ADB, and development banks.

Representative Mubadala Investments in Clean-Energy Assets

Mubadala		
Project Name	**Industry**	**Year**
Global		
Vortex Energy IV	Renewables	2021
Brazil		
Brasil PCH S.A.	Hydropower	2020
Germany		
Skyborn Renewables	Wind	2022
India		
Tata Power Renewable Energy Ltd	Renewables	2022
Hero Future Energies Pvt Ltd	Renewables	2019
Indonesia		
Pt Pertamina Geothermal Energy Tbk	Renewables	2023
Japan		
Pag REN I	Renewables	2024
Jordan		
Baynouna Solar Energy	Solar	2016
Tafila Wind Farm	Wind	2013
Serbia		
Cibuk 1 Wind Farm	Wind	2017
Spain		
Saeta Yield	Green Hydrogen	2024
Cepsa Masdar Renovables	Renewables	2020
UK		
Hywind Ltd	Wind	2016
Dudgeon Offshore Wind Farm	Wind	2014
London Array Offshore Wind Farm	Wind	2008
US		
Li-cycle Holdings Corp	Battery Storage	2021
Edf 1.5GW Portfolio of Battery Storage	Battery Storage	2020
Rocksprings Wind Farm	Wind	2019
Sterling Wind Farm	Wind	2019
Uzbekistan		
Zarafshan Wind Farm Development	Wind	2020

Source: UICCA 2025

Abu Dhabi Developmental Holding Company (ADQ)

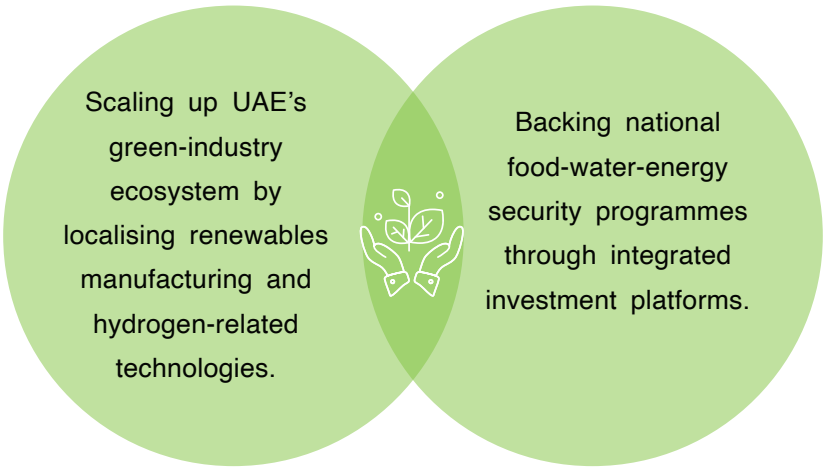
ADQ is one of Abu Dhabi's largest holding companies and an active strategic investor driving industrial diversification, energy transition, and supply chain resilience. Established in 2018, ADQ's expanding portfolio assets amounted to USD 225 billion (as at 30 June 2024)[11] and encompasses companies across numerous core sectors of the economy, including energy and utilities, transport and logistics, food and agriculture, and healthcare and life sciences. ADQ plays a central role in operationalising the UAE's decarbonisation and green-industrial agenda through ownership of key national utilities and infrastructure platforms.

Under its energy and utilities portfolio, TAQA (Abu Dhabi National Energy Company), in which ADQ is the majority shareholder, has committed to expanding renewables to 65 percent of its generation mix by 2030, targeting a total global capacity of 150 GW through solar, wind, and waste-to-energy assets.[12]

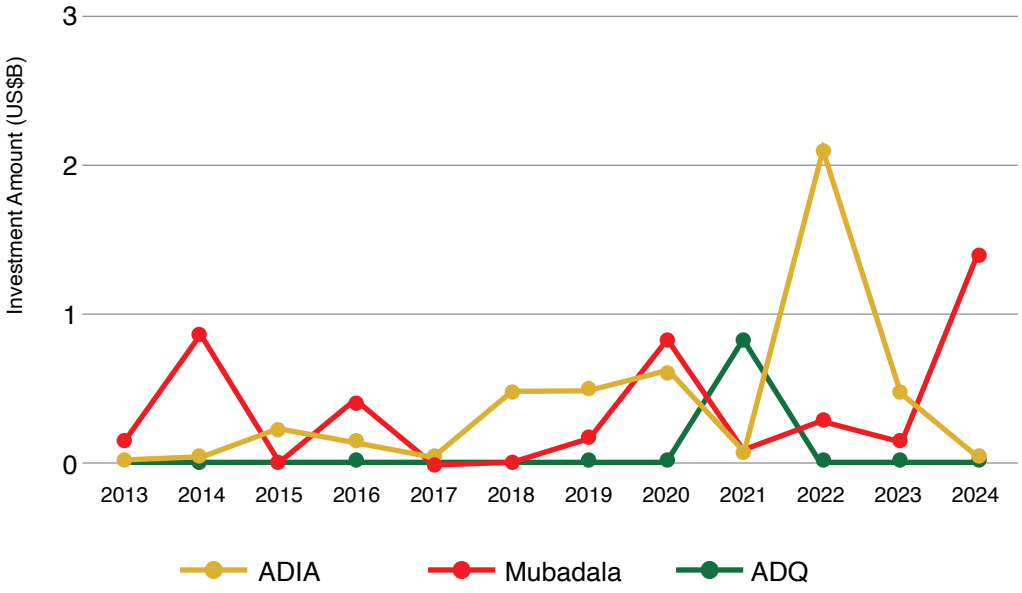
Emirates Water and Electricity Company (EWEC), also part of ADQ's portfolio, leads procurement for major renewable projects. Through Abu Dhabi Ports and its logistics affiliates, ADQ is advancing green-supply-chain infrastructure and hydrogen-export readiness, including clean-energy bunkering and port-decarbonisation projects.

Its industrial holdings such as Emirates Steel Arkan, Fertiglobe, and ADNOC Chemicals are integrating green hydrogen feedstocks, low-carbon steel manufacturing, and carbon-capture initiatives into their operations, linking industrial policy with climate commitments.

Planned/Targeted Commitments



UAE Top 3 SWFs Clean Energy Investment Trend by Amount (2013–2024)

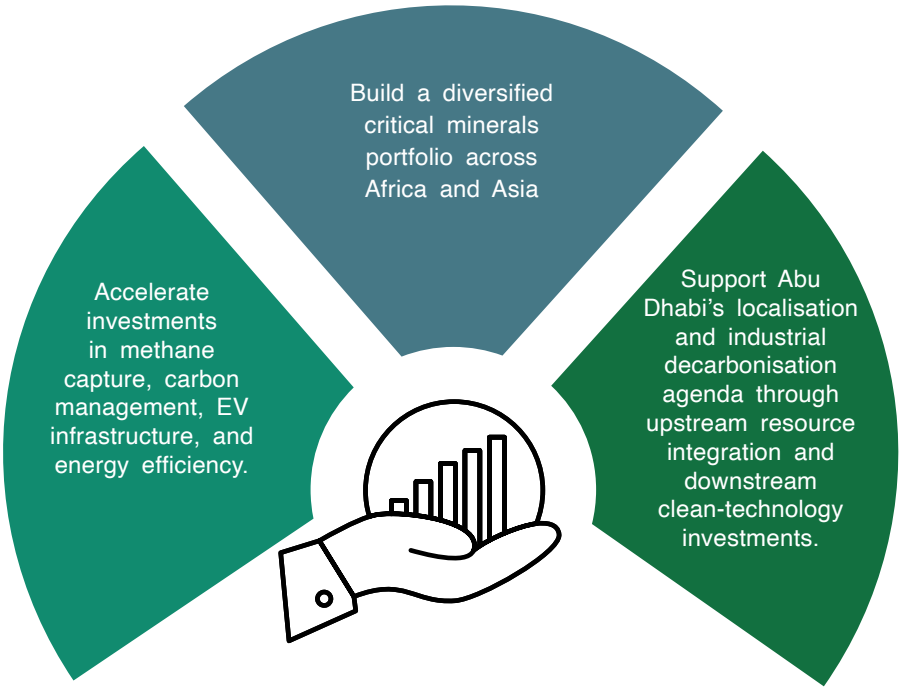


International Holding Company (IHC)

IHC is one of the fastest-growing conglomerates in the UAE, regarded as a quasi-sovereign entity due to its strategic alignment with Abu Dhabi's investment ecosystem. Controlled by members of Abu Dhabi's royal family, IHC maintains close institutional links with ADQ and Mubadala, reflecting a coordinated approach to industrial diversification and capital deployment.

IHC is expanding rapidly into energy transition, resource security, and critical minerals, primarily through its subsidiaries Sirius International Holding, Multiply Group, and International Resources Holding (IRH). These platforms invest across methane capture, carbon management, EV infrastructure, renewable utilities, and metals critical to the global energy transition.

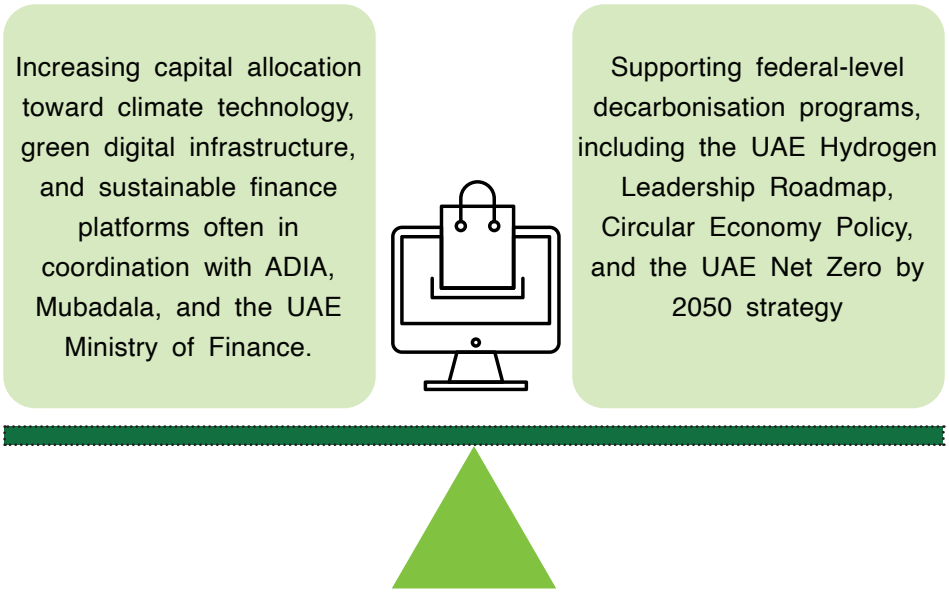
Planned/Targeted Commitments



Emirates Investment Authority (EIA)

EIA is the federal-level sovereign wealth fund of the UAE, overseeing investments on behalf of the national government (distinct from emirate-level funds such as ADIA, Mubadala, or ICD). Established in 2007, EIA manages a diversified portfolio across telecommunications, banking, logistics, and infrastructure, and acts as a financial coordination vehicle for federal strategic assets. Its clean-energy exposure primarily arises through equity stakes in national champions such as e& (formerly Etisalat), First Abu Dhabi Bank (FAB), and Emirates Integrated Telecommunications Company (du), all of which are expanding their climate-aligned, digital-sustainability, and green-finance portfolios.

Planned/Targeted Commitments



Current and Recent Projects

Domestic/Regional

- **Masdar–EWEC 24/7 Solar + Storage Complex:** In 2025, Masdar and Emirates Water and Electricity Company (EWEC) broke ground on a USD 6 billion gigascale solar and battery-storage complex combining 5.2 GW of solar PV capacity with 19 GWh of battery energy storage (BESS). The facility aims to deliver 1 GW of continuous clean power once operational by 2027, positioning the UAE at the frontier of dispatchable renewable baseload generation and grid stability innovation.[13]
- **Al Dhafra Solar PV Project:** At 2 GW, this Masdar-led joint venture with EDF Renewables and Jinko Power, overseen by EWEC, is one of the world's largest single-site solar PV plants. Commissioned in June 2023, it became the largest operating solar project globally at the time of completion.[14]
- **Polysilicon Facility:** In 2024, Mubadala signed a cooperation agreement with GCL Technology (China) to establish the UAE's first polysilicon production facility, aimed at localising solar-module manufacturing and strengthening the clean energy supply chain.[15]

- **ICD-backed DEWA Green Hydrogen Project:** The region's first solar-powered green-hydrogen pilot (10 MW) launched at the Mohammed bin Rashid Al Maktoum Solar Park in 2021, in collaboration with Siemens Energy and Expo 2020 Dubai. The project is led by DEWA, backed by the Investment Corporation of Dubai (ICD).[16]
- **Green Hydrogen Hub:** A flagship joint venture between Masdar, ENGIE, and Fertiglobe to produce green hydrogen for ammonia conversion and export. The companies will co-develop a globally cost-competitive green hydrogen facility in the UAE, with a capacity of as much as 200 MW, to support the production of green ammonia.[17]
- **First Abu Dhabi Bank (FAB) Green Bonds:** Backed by the Emirates Investment Authority (EIA), FAB remains one of MENA's largest sustainable-debt issuers, with cumulative green bond issuances exceeding USD 2.5 billion by 2024.
- **UAE–Saudi Private Power Agreements in Egypt:** Egypt signed USD 6 billion in private-sector power agreements with Masdar (UAE) and ACWA Power (Saudi Arabia) for renewable-energy generation projects.[18] These agreements follow the UAE–Egypt Strategic Energy Partnership, which has been central to bilateral clean-energy cooperation since COP27 in Sharm el-Sheikh. Projects include solar and wind developments along the Red Sea corridor and in Upper Egypt.

Global South

- **Microgrid & Island Projects:** Masdar has delivered renewable-energy and battery-storage systems across several small island and developing states, including the Republic of Seychelles, Kiribati, and Saint Vincent and the Grenadines, under the UAE-Pacific Partnership Fund. These projects enhance energy access and climate resilience in remote regions through solar PV and hybrid microgrid solutions.[19]
- **Clean-Energy Expansion in Africa:** Since 2023, Masdar has spearheaded large-scale renewable projects across Angola, Uganda and Zambia, targeting over 5 GW of new capacity to advance Africa's clean-energy objectives.[20]
    - At COP28, Masdar signed an agreement with Angola's Ministry of Energy and Water to develop a major 150 megawatt (MW) solar PV project in Angola, reinforcing UAE–Africa clean-energy diplomacy.[21]

- **Copper Investment – Zambia:** In 2024, International Resources Holding, a subsidiary of International Holding Company (IHC), acquired a 51 % stake in Mopani Copper Mines from Zambia Consolidated Copper Mines Investment Holdings.[22]
- **Esyasoft Smart Grids:** Through IHC's subsidiary Sirius International Holding, Esyasoft has implemented smart-grid and metering projects across India and the UAE, connecting over 22 million meters and driving grid modernization in Asia and the Middle East.[23]
- **Greenko Group and ReNew Power (India):** ADIA holds minority stakes in India's largest renewable developers, Greenko Group (≈ 7.5 GW operational, 12 GW pipeline) and ReNew Power (≈ 8.3 GW operational, 9 GW+ pipeline), reinforcing UAE's role in Asia's clean-energy buildout and financing ecosystem.[5]
- **Biofuels (Brazil):** Mubadala Energy's US$13.5bn investment in sustainable biofuels in Brazil.[5]
- **Indonesia:** Masdar signed an agreement during President Prabowo Subianto's 2025 Gulf tour to develop a 100-MW floating solar plant in West Java, its second project in the province.[24]
- **Philippines:** Masdar concluded a USD 15 billion deal to develop 1 GW of clean-power capacity by 2030, with an option to scale the programme to 10 GW by 2035.[24]

Global North

- **Terna Energy Acquisition (Greece):** In 2025, Masdar completed acquisition of Terna Energy, which is to play an important role in enhancing Masdar's portfolio across Europe as it targets 100GW global clean energy capacity by 2030.[25]
- **East Anglia THREE Wind Farm (UK):** Masdar co-invested with Iberdrola in the ~1.4 GW offshore wind farm project. Once operational, expected in the fourth quarter of 2026, East Anglia THREE will be among the two largest offshore wind parks in the world. This project builds on the strategic partnership formed at COP28 in 2023, where Masdar and Iberdrola committed to co-develop clean energy projects in key markets, including Germany, the UK, and the US, with the goal of tripling renewable capacity by 2030.[26]
- **Endesa Solar Portfolio (Spain):** Masdar acquired a 49.99-percent stake in Enel Green Power España's renewable portfolio, significantly expanding

its Iberian footprint and bringing its total gross operational capacity in the region to 3.2 GW.[27]

- **Hy24 Green-hydrogen framework:** Masdar and Hy24 (Europe-based clean hydrogen investor) signed a strategic framework agreement during COP28 in Dubai in 2023 to co-develop large-scale green hydrogen projects; with a potential co-investment pipeline of up to €2 billion.[28]
- **OMV LOI:** Masdar and OMV signed a non-binding Letter of Intent in April 2025, to cooperate on green hydrogen, eSAF and other sustainable products across Austria, the UAE and Central/Northern Europe.[28]
- **Alpha Generation (United States):** ADIA is investing $500 million in Alpha Generation, a U.S. power infrastructure company AlphaGen constitutes one of the largest portfolios of independent power assets in the United States, with more than 11 gigawatts of generation capacity spread across six states.[29]
- **UAE–U.S. PACE Partnership:** In March 2025, the UAE and the United States launched a 10-year, USD 1.4 trillion investment framework (PACE – Partnership for Accelerating Clean Energy) focused on AI, frontier technologies, energy, and manufacturing, aligning with the UAE's Net Zero 2050 Strategy. The initiative reflects the federal coordination role of the Emirates Investment Authority (EIA) in cross-border climate finance.[30]
- **Orion Resources Partners (US):** ADQ has launched a US$1.2bn joint venture in January 2025, with US-based global alternative investment firm Orion Resources Partners, targeting critical-mineral assets worldwide.[31]
- **Kalyon Enerji (Türkiye):** Headquartered in Istanbul, Kalyon Enerji manages Europe's largest integrated solar power plant (1,350 MWDC). The company leads renewable initiatives. Kalyon Energy is a Multiply Group company, a subsidiary of IHC.[23]
- **Arevon Energy and Sempra Infrastructure (United States):** ADIA and Abu Dhabi co-investors hold minority stakes in Arevon Energy (3.6 GW operational, 2.8 GW under development) and Sempra Infrastructure, a leading North American developer of solar, wind, and storage projects (1.4 GW operating, 3 GW pipeline).[5] These investments broaden UAE participation in the North American clean-infrastructure ecosystem.

The UAE's sovereign and quasi-sovereign funds have evolved into a global transition-capital network: domestic deployment platforms (Masdar, ADQ, ICD) anchor rapid renewable build-out at home, while institutional investors (ADIA, EIA) and industrial-capital vehicles (Mubadala, IHC) channel Gulf capital into major clean-energy, supply-chain and infrastructure assets across Africa, Asia, Europe and North America. Diplomacy, strategic partnerships and manufacturing localisation are all embedded in their portfolio logic. While the investment scale is impressive, the next frontier lies in translating capital into on-ground delivery, catalysing technology transfer and ensuring that Gulf-funded projects realise their full "impact" promise beyond headline announcements.

DOHA - QATAR

Qatar's approach to the energy transition is characterised by externalised green investment and internal hydrocarbon optimisation. Domestically, decarbonisation is driven through methane abatement, solar deployment, and efficiency measures led by QatarEnergy. Internationally, Qatar Investment Authority (QIA) deploys capital into critical minerals, renewable utilities, and next-generation clean technologies as part of a strategy to embed Qatar within global clean-energy value chains. This dual structure positions Qatar not as a high-volume renewable producer, but as a strategic financier and system node in the emerging net-zero economy.

Qatar Investment Authority (QIA)

QIA is Qatar's sovereign wealth fund and one of the world's largest global institutional investors, established in 2005. Over recent years, QIA has increased allocations into energy transition, critical minerals, and climate technology, deploying capital through direct equity stakes, specialised infrastructure funds, and strategic co-investment partnerships to secure supply chains and accelerate low-carbon development globally.

Planned/Targeted Commitments

Contributes to the implementation of Qatar National Vision 2030, which aims to diversify state revenue, build climate-resilient industry, and secure long-term strategic supply chains through targeted clean-energy investments. As of 2023, renewables account for 46 percent of QIA's power-generation assets, with over half of its portfolio classified as zero-carbon.[32]

QIA announced in 2020 that it would no longer make new hydrocarbon investments.

Geographical Focus

QIA's mandate, set by the Supreme Council for Economic Affairs and Investment, is to manage and grow Qatar's foreign reserves through international investments.

- Domestic renewable deployment is led by QatarEnergy and QERS, not QIA.
- QIA therefore focuses on international clean-energy assets, supply chains, and climate-aligned investment platforms, where it leverages capital as a tool of economic diplomacy and strategic alignment.

Current and Recent Projects

Global South

- **DRC and South Africa – Ivanhoe Mines (critical minerals):** QIA invested $500m (2025) in Ivanhoe Mines, securing exposure to the Kamoa-Kakula copper complex (DRC), Kipushi and Platreef (South Africa) key transition-metal assets.[33] The investment followed diplomatic engagement between Qatari leadership and Canadian officials in 2024.
- **TechMet (battery-metals platform):** $180m QIA investment backing nickel/cobalt (Brazil), tantalum (Rwanda), and lithium (Ireland) projects; TechMet is also backed by the U.S. DFC.[34]
  - The investment by the Qatar Investment Authority is considered a significant moment in the geopolitical tussle between the US and China for control over supplies of rare earths, lithium and cobalt used to power electric cars.
- **South Africa – 330 MW corporate PPAs (Air Liquide & Sasol):** Through Enel Green Power RSA (jointly controlled by Enel and QIA), three long-term PPAs were signed to supply 330 MW of wind power to Air Liquide and Sasol. The projects, located in the Eastern Cape, are due by 2026 and will add to an existing 730 MW platform.[35]
- **Colombia – ISAGEN (renewables utility):** QIA, an existing investor, committed an additional USD 535 million in 2025 to raise its stake to approximately 15 percent in ISAGEN, Colombia's largest pure-play renewables platform and its third largest power generator.[36]
- **South Africa & Zambia – Enel JV platform (800 MW pipeline):** QIA agreed to buy 50 percent of Enel Green Power's stake in operational and under-construction renewables in South Africa and Zambia and to co-finance, build and operate new projects in Sub-Saharan Africa.[37]
- **Indonesia - Danantara:** Following the restructuring of Indonesia's state-owned enterprise governance and the establishment of the new sovereign wealth fund Danantara Indonesia, Danantara and QIA agreed to invest USD 2 billion each in a joint platform to develop projects in the energy, healthcare, and mineral sectors.[24]

Representative QIA Investments in Clean-Energy Assets

QIA		
Project Name	**Industry**	**Year**
Asia		
EGP Matimba NewCo 1	Solar	2021
India		
Adani Green Energy Ltd	Renewables	2024
Adani Energy Solutions Ltd	Renewables	2024
South Korea		
SK on Co Ltd	Battery Storage	2023
US		
Ascend Elements Inc	Battery Storage	2023
QuantumScape Corp	Fuel Cells	2020
UK		
Rolls-Royce SMR Ltd	Nuclear	2021

Source: UICCA 2025

Global North

- **RWE (Germany):** QIA agreed to invest EUR 2,427.6 million in RWE AG to support RWE's accelerated 'Growing Green' strategy.[38]
- **Rolls-Royce Small Modular Reactors (UK):** In 2021, QIA joined the UK Government and BNF Resources as a cornerstone investor in Rolls-Royce SMR Ltd, supporting the commercialization of small modular nuclear reactors for deployment in the 2030s.[39]
- **Ascend Elements (USA):** QIA invested in Ascent Elements, a US-based manufacturer of sustainable, engineered battery materials for electric vehicles.[40]

Qatar's sovereign investment posture in the energy transition is defined less by large-scale domestic renewable deployment and more by strategic global positioning. Through QIA, Qatar is embedding itself in the upstream and midstream layers of the clean-energy supply chain. The result is not a rapid shift away from hydrocarbons but a deliberate hedging strategy—maintaining leadership in LNG for near-term energy security while investing internationally in the building blocks of a post-hydrocarbon economy. Qatar's sovereign capital thus functions as a lever of strategic interdependence, embedding the state within global clean-energy governance and supply-chain diplomacy.

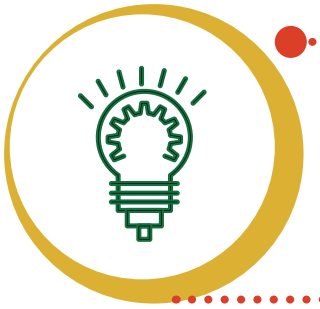
KUWAIT CITY - KUWAIT

Kuwait's energy transition approach is gradual and fiscally conservative, prioritising long-term stability while cautiously diversifying beyond hydrocarbons. While Kuwait Energy and Kuwait Petroleum Corporation (KPC) lead domestic decarbonisation efforts, the Kuwait Investment Authority (KIA) primarily acts as a global institutional investor rather than a direct infrastructure developer. KIA deploys capital through external managers, private equity platforms, and co-investments to gain exposure to clean-energy value chains, industrial decarbonisation technologies, and green infrastructure. This positions Kuwait as a financial participant in the energy transition leveraging its capital strength rather than a domestic renewable deployment driver.

Kuwait Investment Authority (KIA)

KIA is one of the world's oldest sovereign wealth funds, tracing its origins to the Kuwait Investment Board (1953). It manages the General Reserve Fund (GRF) and the Future Generations Fund (FGF), converting Kuwait's hydrocarbon revenues into diversified global financial assets. KIA invests primarily through international equity, fixed-income, infrastructure, and private-market mandates, typically as an LP (limited partner) rather than a direct operator. KIA maintains a low public profile, but has steadily increased exposure to energy transition-linked investments, including clean energy funds, critical minerals platforms, and green industrial technologies.

Planned/Targeted Commitments



Kuwait's National Renewable Goals:

Kuwait targets 30% renewable electricity by 2030, rising to 40% by 2040 and 50% by 2050, as part of national energy mix diversification.

Net-Zero 2060:

Kuwait announced a commitment to achieve net-zero emissions by 2060, aligning with Gulf peers' long-term decarbonisation pathways.

Portfolio Shift: KIA has gradually increased exposure to renewable energy, critical minerals, and climate-aligned infrastructure, primarily through its role as an anchor LP in global transition funds (e.g., Brookfield, Macquarie, EQT) and as a founding signatory of the One Planet Sovereign Wealth Fund Framework

Current and Recent Projects

Domestic/Gulf

- **Shagaya Renewable Energy Park (Kuwait):** KIA is reported to be linked to the financing structure of the Shagaya Phase 3 & 4 solar expansion (approx. USD 800 million) being developed under an Independent Power Producer (IPP) model with Chinese partners. Media sources indicate that KIA supported project preparation and is expected to hold up to 42.5 percent equity in the project consortium.[41] Kuwait has an MOU with China to accelerate renewable energy cooperation.[42]
- **Hydrom (Oman):** KIA has invested USD 3 billion in Oman's Hydrom project, launched in 2022 to structure and accelerate the development of the green hydrogen sector in Oman.[43]

Global South

- **India:** KIA, along with ICICI Venture and the Oman Investment Authority (OIA), is estimated to hold 74 percent of Resurgent Power Ventures, a Singapore-based company whose portfolio includes a 75-percent stake in Prayagraj Power Generation Co. and several transmission operators across northern India.[44]

Global North

- **Global Power Generation JV (Australia):** KIA holds ~25 percent of Global Power Generation (GPG), which was recently awarded the contract to build a 97 MW wind farm located at Hawkesdale in Victoria, Australia.[45]
- **EarthGrid – EnerTech Joint Venture (United States):** In 2024, KIA (through its subsidiary EnerTech) formed a joint venture with EarthGrid to develop underground tunnelling and transmission infrastructure aimed at accelerating U.S. clean-grid modernisation with an expected pipeline of USD 18 billion across phases. EarthGrid is expected to enable the addition of over 100 GW of renewable-energy capacity to the U.S. power grid.[46]
- **AI Infrastructure Partnership (AIP):** KIA is to become the first non-founder investor in the USD 30 billion AI Infrastructure Partnership (AIP) alongside

Microsoft, BlackRock, and other global partners. The platform focuses on developing data centers and associated clean-energy infrastructure, mobilising up to USD 30 billion in equity and USD 70 billion in debt financing to support the next generation of energy-efficient digital ecosystems.[47]

Representative KIA Investments in Clean-Energy Assets

KIA		
Project Name	**Industry**	**Year**
Australia		
Cunderdin Solar Power and Storage	Fuel Cells	2022
Turkey		
Zorlu Enerji	Electric Charging Station	2022
Zorlu Enerji Elektrik Uretim AS Mezzanine Loan	Wind	2018
US		
TAE Technologies Inc	Renewables	2021
Bloom Energy Corp	Fuel Cells	2015

Source: UICCA 2025

Kuwait is advancing the transition primarily through portfolio diversification managed by KIA. Through selective stakes in global renewable utilities, transmission platforms, critical minerals supply chains, and clean-technology funds, KIA positions Kuwait to benefit from the upside of the global shift. This approach reinforces Kuwait's longstanding emphasis on capital preservation and intergenerational wealth, while ensuring the country remains present in emerging clean-energy markets, even as domestic deployment continues at a measured pace. The trajectory suggests gradualist transition rather than transformative restructuring, consistent with Kuwait's broader economic governance and social contract.

RIYADH - SAUDI ARABIA

In 2016, Saudi Arabia launched Vision 2030, an economic diversification and governance blueprint designed to transform the Kingdom's oil-dependent economy into a resilient, innovation-driven system. The shift represents a structural break from pro-cyclical fiscal policy, redirecting hydrocarbon windfalls toward long-term, productivity-enhancing investments. Within this framework, SWFs have become central instruments for implementing industrial diversification, financing large-scale infrastructure, and positioning Saudi Arabia as a key global investor in the energy transition. The Kingdom's two principal sovereign investment vehicles are the Public Investment Fund (PIF) and the Kingdom Holding Company (KHC).

Public Investment Fund (PIF)

PIF is Saudi Arabia's principal sovereign wealth vehicle and the financial cornerstone of Vision 2030. Total assets under management (AUM) reached SAR 3,424 billion by year-end 2024, up from SAR 2,871 billion in 2023, reinforcing PIF's position among the world's largest and fastest-growing sovereign wealth funds.[48]

PIF invests domestically and internationally across renewable energy, hydrogen, critical minerals, logistics, and clean infrastructure. It operates both as a strategic developer, driving national industrial transformation and as a global investor, forging partnerships that position Saudi Arabia at the centre of the global energy transition.

An important arm is the Renewable Energy Localization Company (RELC), a wholly owned PIF subsidiary created in 2023, which focuses on creating partnerships between leading global manufacturers and the Saudi private sector to meet growing local and export demand for renewable energy, and to secure and strengthen local supply chains.

Also, in 2020, PIF increased its ownership stake in ACWA Power from 33.36 percent to 50 percent.[49] ACWA Power, a developer, investor, and operator of power generation and desalinated water plants, plays an integral role in the development of PIF's renewable energy program. PIF's relationship with ACWA Power was established in 2013 when PIF's fully-owned subsidiary Sanabil Direct Investments Company initially invested in ACWA Power. The relationship was further developed in 2018 when PIF made its first direct investment in ACWA Power.

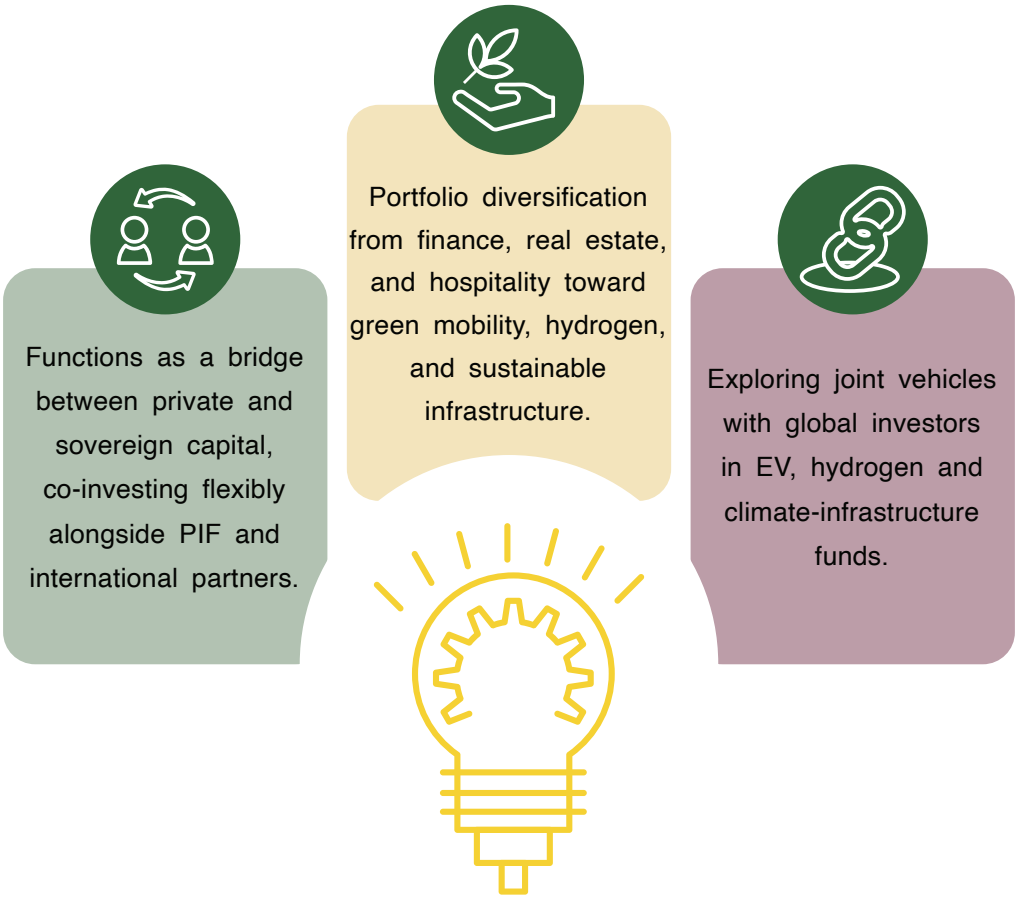
Furthermore, in 2024, PIF announced the launch of *Alat*, a PIF-owned company focused on advanced technology sectors, including semiconductors, smart devices, and industrial automation. By anchoring operations in clean energy and focusing on carbon-neutral industrialisation, Alat is expected to establish a new era of sustainable manufacturing. The company aims to attract USD 100 billion in investments by 2030 and create 39,000 direct jobs, helping position Saudi Arabia as a vital node in the global value chain – unlocking investment, strengthening supply chain resilience, and advancing Saudi Vision 2030.[48]


70% Renewable-Energy Target:
PIF is mandated to deliver roughly 70 % of Saudi Arabia's total renewable-energy buildout by 2030 under the National Renewable Energy Program.
Net-Zero Transition Strategy:
Reinforcing its ambition to be among the most impactful global investors and achieve net-zero by 2050, PIF developed its Net-Zero Transition Strategy, building on its established greenhouse gas emissions baseline across all investments.
Capital-Deployment Scale-Up.
PIF plans to raise annual domestic and international investment outlays to USD 70 billion per year, up from USD 40–50 billion, to meet Vision 2030 targets.[50]
Green Finance Framework.
PIF established its Green Finance Framework in 2023, setting out its strategy and roadmap to catalyse the Kingdom's green agenda and defining eligible sectors for green-bond and sukuk issuances (renewables, sustainable transport, water, green buildings, waste-to-energy).[51]
One Planet SWF Initiative.
Founding member alongside Kuwait Investment Authority (KIA), QIA (Qatar Investment Authority) and ADIA (Abu Dhabi Investment Authority), focusing on climate-risk disclosure and low-GHG investment alignment, and promoting best practices for sustainable sovereign investment

Kingdom Holding Company (KHC)

KHC is a publicly listed investment vehicle majority-owned by Prince Alwaleed bin Talal; PIF acquired a 16.9% stake in 2022, linking it formally to the sovereign-investment ecosystem. Traditionally focused on global blue-chip holdings, KHC has begun aligning with energy-transition and sustainable-infrastructure themes.

Planned/Targeted Commitments



Current and Recent Projects

Domestic/Regional:

- **Large-Scale Renewable Energy Expansion:** In July 2024, the Kingdom launched a USD 8.3 billion investment to build 15 GW of solar and wind capacity across four regions. The program, led by ACWA Power in partnership with Aramco Power and the Water and Electricity Holding Co. (both PIF-backed entities), comprises five solar farms and two wind projects. Riyadh will host two solar and two wind installations, while Mecca, Medina, and Aseer will each gain one solar facility. The projects are expected to reach operation by 2028, contributing to the national goal of generating 50 percent of electricity from renewables by 2030.[52]
- **Sudair Solar Plant:** One of the largest solar PV projects globally (1.5 GW), developed by Badeel (PIF) and ACWA Power under the National Renewable Energy Program (NREP). First project under The Public Investment Fund's (PIF) renewable energy programme, the project has recorded the second lowest cost globally for Solar PV electricity production [USD 1.239 cents/ kwh].[53]
- **Sakaka Solar Plant:** The first utility-scale renewable project in Saudi Arabia (300 MW), also by ACWA Power with a 70-percent stake. It achieved COD in 2019, generating approximately 700,000 MWh annually and supplying ~45,000 homes.[54]
- **Jeddah and Rabigh Projects:** Ongoing large-scale PV developments, Jeddah PV (300 MW) and Rabigh PV (300 MW) awarded under subsequent NREP rounds.
- **Rumah 1 and Nairiyah 1 Projects:** In 2024, ACWA Power signed a SAR 15 billion power-purchase agreement with the Saudi Power Procurement Company for two new gas-to-power and renewables-integrated plants (3.6 GW combined capacity) to reinforce national energy security and sustainability targets.[48]
- **Ma'aden Solar Heat Project:** The world's largest solar-process-heat plant is under development at Ma'aden's Ras Al Khair aluminum refinery (1,500 MW solar-steam capacity), expected to reduce carbon emissions by > 50 percent (around 600,000 tons annually). Ma'aden also became the world's largest producer of ultra-low-carbon ammonia, certified by DNV for 614,000 tons produced.
- **RELC JV:** In 2024, PIF's RELC signed three joint ventures for renewable-energy component manufacturing with Lumetech (China 40 percent), Vision Industries (Saudi 20 percent), and RELC (40 percent), covering solar modules,

wind towers, and inverters.55 PIF also launched three new renewable energy joint ventures to localise wind and solar energy components in partnership with global leaders including Envision Energy, Jinko Solar and TCL.[48]

- **BAP Al-Khair Steel JV:** A joint venture between PIF (25%), Saudi Aramco (25%), and Baosteel (50%) to develop a heavy-steel-plate facility in Ras Al Khair, supporting national industrial and energy-infrastructure projects while localizing advanced steel production.
- **Electric Vehicle Infrastructure Company (EVIQ):** PIF and SEC hold a 75% and 25% stake in EVIQ, respectively. EVIQ aims to build 5,000 high-speed charging points for EVs in 1,000 locations nationwide by 2030.[3]

Representative PIF Large-Scale Renewable Energy Projects Developed in the Saudi Market

Project	MW	PIF-Led Consortium
Shuaibah PV	2,660	Acwa Power; Badeel; Aramco Power
Haden PV	2,000	Acwa Power; Badeel; Aramco Power
Muwayh PV	2,000	Acwa Power; Badeel; Aramco Power
Saad 2 PV	1,125	Acwa Power; Badeel
Al Rass 2 PV	2,000	Acwa Power; Badeel
Al Khushaybi PV	1,500	Acwa Power; Badeel; Aramco Power
Al Kahfah PV	1,425	Acwa Power; Badeel
Sudair PV	1,500	Acwa Power; Aramco Power
Total PIF Capacity	**14,210**	

Source: Alhajaraf, 2025

EGYPT: ACWA Power and Japan's Itochu Corporation are exploring green-hydrogen ammonia production (targeting 600,000 tons/year) through a joint feasibility study in the Suez region.[48]

SYRIA: The Ministry of Energy of the Syrian Arab Republic and ACWA Power signed a Joint Development Agreement to assess ~2.5 GW of solar and wind capacity, energy-storage systems, and a national technical-training center.[56]

KUWAIT: ACWA Power signed a Letter Agreement with Kuwait Authority for Partnership Projects Authority KAPP and Ministry of Electricity, Water and Renewable Energy MEWRE for Az-Zour North Phase 2 & 3 IWPP (USD 4 billion, 2,700 MW capacity), to be developed under a 25-year BOT model.[57]

Flagship Energy-Transition Projects

- **NEOM Green Hydrogen Project:** Valued at USD 8.4 billion, this is the world's largest green hydrogen facility, a joint venture between ACWA Power, Air Products, and NEOM (Enowa). Powered by 4 GW of solar and wind capacity, it will produce approximately 600 tons of hydrogen per day (or 1.2 Mtpa of green ammonia) by 2026. By end-2024, 60 percent of construction was completed, with delivery of turbines, solar panels, and hydrogen storage vessels through the Port of NEOM. The new port terminal is on track for 2026 operations, and the project is estimated to cut up to 5 million tons of global CO_2 emissions annually.
- **Enowa,** NEOM's energy and water subsidiary, is pioneering the world's first at-scale, fully integrated renewable energy system. It has developed a blueprint for the world's first high-voltage smart grid powered entirely by renewable energy. This innovative grid system will supply 100% renewable electricity to the NEOM region while achieving a 50% reduction in the corridor footprint, setting a new standard for sustainable infrastructure.[48]

Financial Platforms and Strategic Partnerships

PIF–BlackRock Riyadh Investment Management Platform: A USD 5 billion fund (2024) designed to channel foreign capital into Saudi infrastructure, renewables, and private credit.

Brookfield Co-Investments: PIF continues to co-invest with Brookfield Asset Management in regional infrastructure and transition assets, complementing its global partnership network.

Goldman Sachs Gulf Infrastructure Fund: Announced in 2025, this platform will be anchored by PIF and target energy-transition and digital-infrastructure assets across the Gulf.[58]

Global South

- **India:** Saudi Arabia signed bilateral MoUs in 2023 on green hydrogen and ammonia exports with India, framing Saudi Arabia as a clean-fuel supplier for Asia's fast-growing markets and integrating the partnership into the India–Saudi Strategic Energy Dialogue.[59]
- **Malaysia:** ACWA Power agreed to an initial US$10 billion partnership with Malaysia to develop up to 12.5GW of capacity by 2040[24]
- **Azerbaijan:** ACWA Power signed a cooperation agreement with SOCAR, Azerbaijan's state oil company, in 2024, to assess green-hydrogen production aimed at decarbonizing SOCAR's downstream operations.[48]
- **Uzbekistan – Tashkent Riverside Project:** ACWA Power secured USD 533 million in financing for the Tashkent Riverside development, which includes a solar power plant and Central Asia's largest battery energy-storage system (BESS).[48]
- **Uzbekistan – Aral Wind IPP:** ACWA Power signed a PPA for the 5 GW Aral Wind Project, the largest wind farm in Central Asia, underscoring Saudi participation in regional grid decarbonization and clean-energy trade.[48]

- **Pan-African Cooperation:** At the Future Investment Initiative (FII9, Riyadh, 2024), ACWA Power announced a series of landmark agreements worth USD 10 billion across the GCC, China, Central Asia, and Africa, spanning renewables, energy storage, and technology R&D collaboration.[60]
- **Southern Africa – Chariot Energy Partnership:** ACWA Power signed an MoU with Chariot Limited to co-develop a utility-scale clean-energy platform serving the Southern African Power Pool (SAPP). The platform will combine renewable power, battery storage, gas-to-power, and energy trading, supporting regional energy security and industrial development.[60]
- **Brazil:** Vale Base Metals (VBM) Limited, headquartered in Brazil completed its ~US$2.5 billion sale to Manara Minerals, a joint venture between Ma'aden and PIF, under which Manara Minerals will acquire 10 percent of VBM.[61]
- ACWA Power, in partnership with Water and Electricity Holding Company (Badeel), a wholly owned company of PIF, and Saudi Aramco, exchanged documents of financing agreements, representing a total investment of USD 6.0 billion. cover multiple regions, including the GCC, China, Central Asia, and Africa, and encompass financing partnerships, renewable energy, and storage projects, as well as collaboration in research and technology development.[62]

Representative PIF Energy Transition Manufacturing Projects

	Technology	Annual Production Capacity	Joint Venture Partners
1	High-efficiency PV cells and modules	10 GW	RELC, 40%; Jinko Solar, 40%; Vision Industries 20%
2	PV silicon ingots and wafers	20 GW	RELC, 40%; LUMETECH, 40%; Vision Industries, 20%
3	Wind turbines and blade components manufacture and assembly	4 GW	RELC, 40%; Envision, 50%; Vision Industries, 10%
4	Ceer - EV	240,000 cars by 2030	PIF, Foxconn, and BMW
5	Lucid Motors - EV	155,000 cars by 2030	PIF through wholly owned subsidy Ayar Third Investment Company
6	Hyundai - EV and ICE	50,000 cars by 2030	PIF, 70%; Hyundai Holding, 30%

Source: Alhajaraf, 2025

Global North

- **Strategic Co-Investment Platforms:** PIF's co-investment platforms with BlackRock, Brookfield, and Goldman Sachs serve as vehicles for deploying Saudi capital in European and North American clean infrastructure.
- **United States - Lucid Group, Inc:** Since 2018, PIF has invested in multiple tranches in Lucid Group, Inc., a U.S.-based technology and automotive company that specialises in the manufacturing of technology-enabled and advanced luxury electric vehicles. By 2024, PIF's ownership stake reached ≈60%.[48] The investment aligns with Saudi Arabia's ambition to localize EV production through Lucid's first international factory in King Abdullah Economic City (KAEC), which began operations in 2023.
- **Renewable Energy Corridors with Europe:** In 2024, ACWA Power signed a multi-party MoU with leading European energy companies including Edison S.p.A. (Italy), TotalEnergies Renewables SAS (France), Zhero Europe B.V. (Italy), and EnBW (Germany). This MoU establishes a collaborative framework to assess the market demand and feasibility of developing large-scale renewable energy projects dedicated for export in Saudi Arabia and the creation of a corridor to deliver generated electricity to Europe.[63]
- **Saudi–UK Investment Partnership:** During Crown Prince Mohammed bin Salman's visit to London in 2023, PIF committed to expand investment in UK renewable-energy infrastructure and clean-technology sectors under the Saudi–UK Strategic Investment Partnership Framework.
- **Saudi–Japan Green Energy Dialogue:**
    - JERA–PIF MoU: Signed to conduct feasibility studies for green-hydrogen and derivative projects serving domestic and export markets.[64]
    - Financial Partnerships: PIF also concluded MoUs worth up to USD 51 billion with Japanese financial institutions Mizuho, Sumitomo Mitsui Financial Group, and MUFG to strengthen bilateral financing capacity for energy-transition and industrial projects.[65]

Saudi Arabia's sovereign investment landscape marks a decisive shift from oil-linked fiscal recycling to strategic industrial deployment. Through PIF and its affiliates, the Kingdom seeks to anchor renewable energy, hydrogen, and localised manufacturing as new pillars of growth, while selectively extending partnerships across Asia, Africa, and Europe. This dual orientation, domestic transformation and outward energy diplomacy, positions Saudi capital as both an engine of national diversification and a conduit for South–North clean-energy integration. However, the scale of announced capital still outpaces tangible delivery, underscoring that the next phase will depend less on capital availability and more on implementation, technology absorption, and export readiness to convert ambition into on-ground transformation.

THE EMERGING ROLE OF SWFs IN THE NET-ZERO GULF ECONOMY

Gulf SWFs have evolved from fiscal stabilisers to central architects of the global energy transition. Collectively managing more than USD 5 trillion in assets as of 2025, nearly 40 percent of total global SWF holdings they now shape the pace, geography, and technology mix of decarbonisation capital flows. By 2030, these assets are expected to surpass USD 7 trillion, underscoring the Gulf's systemic weight in global sustainable finance.[66]

Viewed through the political capitals that anchor them: Abu Dhabi, Doha, Kuwait City, and Riyadh, these sovereign vehicles reveal how state capital is being deployed as a strategic instrument beyond their domestic economies.

According to the Invesco Global Sovereign Asset Management Study (2023), over 90 percent of Middle Eastern SWFs now integrate sustainability as a core investment criterion.4 Once conservative managers of hydrocarbon surpluses, they now operate as transition capital platforms, deploying patient, long-horizon investments into renewables, hydrogen, critical minerals, and industrial decarbonisation technologies. Among the key players in the region, PIF of Saudi Arabia, along with Abu Dhabi's ADQ and Mubadala, are leading efforts in the volume and scale of investments in energy transition sectors.[3]

Their engagement now extends beyond ESG alignment into standard-setting power. Gulf funds have become co-architects

of frameworks such as the One Planet Sovereign Wealth Fund Initiative, the Alterra climate platform, and emerging regional carbon-pricing and green-finance mechanisms.

This evolution is both strategic and structural. By absorbing first-mover risks these state-owned investors de-risk green sectors that remain commercially immature. In doing so, they catalyse private capital entry, accelerate project pipelines, and create investable ecosystems that align long-term economic diversification with global climate imperatives. Their rising influence also reflects the growing use of investment diplomacy, through which outward capital shapes industrial alliances, supply-chain dependencies, and strategic partnerships.

Governance Architecture of Gulf SWFs

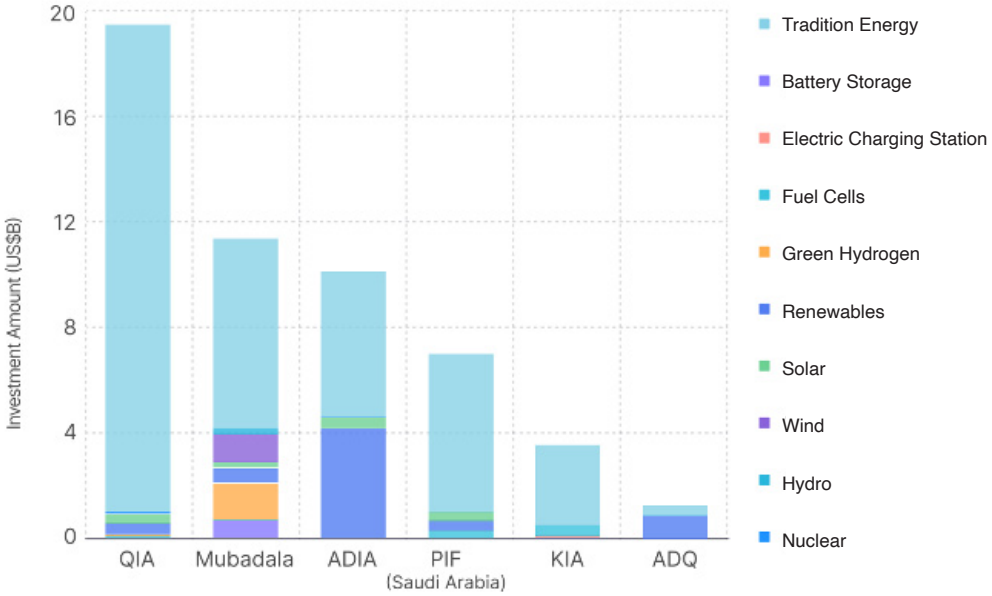
The distinctions across Abu Dhabi, Doha, Kuwait City, and Riyadh become clearest when examining how governance structures shape mandates, risk appetites, and technology-sector priorities. Although Gulf SWFs share state ownership, long-horizon mandates, and close alignment with national strategy, the mechanisms through which authority, oversight, and investment discretion are exercised diverge across the four capitals, resulting in distinct models of climate and industrial deployment.

Abu Dhabi operates the Gulf's most diversified sovereign investment ecosystem. ADIA, Mubadala, ADQ, and Masdar function as discrete entities under the Supreme Council for Financial and Economic Affairs (SCFEA), Chairman of the council is the Ruler of Abu Dhabi, and the Vice-Chairman is the Crown Prince of Abu Dhabi.

ADIA serves as a global generational-wealth investor with a conservative risk profile, employing multi-layered committees and a long-term return-maximisation mandate. Mubadala and ADQ serve strategic-industrial roles, investing in emerging technologies, advanced manufacturing, and infrastructure aligned with long-term diversification. This multi-fund model allows Abu Dhabi to combine ADIA's conservatism with Mubadala and ADQ's industrial experimentation while maintaining governance clarity.

UICCA data shows Mubadala allocates 36.6 percent to emerging technologies such as battery storage and green hydrogen, while ADIA has committed USD 4.13 billion (45 percent) of its transition portfolio to clean energy, focused on wind and solar.6 In 2022, disclosed investments of UAE reached their highest at $2,374 million, reflecting the nation's commitment to carbon neutrality and large-scale renewable projects.[6]

Energy Investment Amount by SWFs



Source: UICCA, 2025

Doha's QIA is governed by the Supreme Council for Economic Affairs and Investment, chaired by the Amir, ensuring strong alignment with national diplomacy. QIA remains the most commercially conservative of the Gulf funds with more than 95 percent of its USD 19.5 billion energy portfolio in conventional energy, with renewable and storage investments (~USD500 million) largely concentrated abroad (India, US) where risk-return profiles are clearer.[6]

Kuwait City's KIA, the region's oldest SWF, is governed by an independent board with parliamentary oversight. Its strict capital-preservation mandate and highly conservative governance structure prioritise low-volatility, long-term assets.

While it invests globally in infrastructure and digital-energy platforms through funds, its ability to drive domestic climate or industrial innovation is limited.

Riyadh's PIF operates under a centralised governance structure anchored in the Council of Economic and Development Affairs. It functions as the financial engine of Vision 2030, with a mandate for industrialisation, technology localisation, and sector creation. This affords PIF the highest operational autonomy and the broadest risk tolerance among Gulf SWFs. Although predominantly invested in traditional energy, PIF has begun scaling new technologies; from its USD 6.9 billion portfolio, USD 0.28 billion is allocated to fuel-cell technologies and other emerging sectors.[6]

As seen, these SWFs are bound by commercial mandates, limiting exposure to lower-return sectors like climate adaptation and nature-based solutions. However, a gradual shift is underway as improved climate-risk data (e.g., GEMs database) and insurance-linked instruments begin to make resilience-focused assets more investable.[6] Also, UICCA Report highlights the lack of standardised taxonomies, metrics, and financial instruments, which hinder scaling climate and nature-based investments.

This often raises questions about the robustness of emerging "green investment" frameworks, which often rely on internally defined criteria rather than standardised taxonomies. As a result, the risk of perceived or unintended greenwashing persists, particularly when energy-transition investments are framed as climate-aligned despite being primarily driven by economic diversification or geopolitical positioning.

Without common risk-weighting frameworks, projects remain bespoke, discouraging SWFs from entering at scale. Guarantees and blended-finance structures are being increasingly viewed as among the most effective tools to mobilise SWFs into climate finance while remaining within institutional mandates.[6]

Ultimately, governance acts as the hidden architecture determining whether a fund operates as a global investor, a geo-financial stabiliser, a developmental arm of the state, or a multi-fund industrial ecosystem and consequently shapes how state capital is deployed in the transition economy. But as climate risks become more quantifiable, SWFs are exploring resilience infrastructure, insurance-linked securities, and climate-protection assets, sectors once seen as

too low-return. These may define the next frontier of transition-aligned sovereign wealth deployment, provided de-risking mechanisms continue to strengthen.

Dimension	Abu Dhabi (ADIA, ADQ, Mubadala, Masdar)	Doha (QIA)	Kuwait City (KIA)	Riyadh (PIF)
Investment Mandate	Mixed: generational savings (ADIA) + strategic industrial development (ADQ, Mubadala) + global clean-energy expansion (Masdar).	Preserve & grow national wealth; global diversification; geopolitical hedging.	Capital preservation; long-term generational savings; low-velocity deployment.	Strategic development engine of Vision 2030; industrialisation; technology localisation.
Decarbonisation Objectives	UAE Net Zero 2050. Masdar: 100GW by 2030, 1Mt hydrogen by 2030.	Not net-zero driven; climate strategy secondary. Focus on global diversification rather than domestic energy transition.	Net-zero 2060, but KIA is not transition-led; indirect via global funds.	PIF targets net-zero by 2050; mandated to deliver 70% of Saudi renewable capacity by 2030.
Governance Structure	Multi-fund ecosystem; semi-autonomous entities under SCFEA; high institutional capacity.	Highly centralised under Supreme Council for Economic Affairs & Investment; alignment with state diplomacy.	Very traditional board-led structure; strict capital-preservation mandate; high independence.	Centralised under Royal Court and Council of Economic Affairs; PIF acts as state's industrial arm.

Investment Diplomacy and the Gulf's Expanding Geo-Economic Footprint

Investment diplomacy has become a defining characteristic of Gulf SWFs. They no longer simply attract external capital but project it outward, shaping industrial alliances and strategic dependencies. In doing so, they advance broader national objectives of economic diversification, technology acquisition, building soft power, and strengthening regional partnerships.

Beyond financial returns, SWFs now operate as instruments of geo-economic power. Their transactions can recalibrate bilateral relations, alter supply-chain geographies, and deepen political ties. A single well-placed investment can extend state influence across energy, technology, logistics, and digital infrastructure corridors. In this sense, Gulf capital is as much a lever of diplomacy as it is of development.

Strategic investments across Asia, Africa, and Europe serve dual purposes, i.e., securing access to advanced technologies and embedding Gulf economies within critical supply chains of the net-zero era. In Asia alone, Gulf SWFs invested USD 9.5 billion into China in the year ending September 2024, with ADIA and KIA among the top ten shareholders in Chinese A-share firms.[1]

The eastward shift is becoming more pronounced. Gulf SWFs increasingly channel capital into Asian non-oil sectors such as technology, logistics, and renewable infrastructure. Asia's share of Gulf SWF allocations rose to 17 percent, up from 12 percent in 2022, with China, Hong Kong, and India leading as preferred destinations.[24] This reflects a strategic effort to pair returns with knowledge transfer, co-manufacturing, and secondary investments that support domestic industrial diversification.

This logic is most evident in Abu Dhabi's Masdar-led green-hydrogen diplomacy; Riyadh's PIF-driven NEOM, mining, and green-industrial platforms; Doha's QIA expansion into critical minerals and SMRs; and Kuwait City's KIA participation in global infrastructure and AI-energy ecosystems. These investments extend national influence, deepen bilateral ties, and position the Gulf as a bridge between capital-scarce developing regions and capital-hungry clean-energy industries.

Despite shared objectives, the strategies emerging from Abu Dhabi, Doha, Kuwait City, and Riyadh remain distinct in form:

- **Abu Dhabi's multi-fund model** (ADIA–Mubadala–ADQ–Masdar) integrates industrial policy with global capital diplomacy, blending infrastructure investment with technology acquisition and manufacturing localisation.
- **Doha's QIA** operates as a geo-financial mediator, embedding the state in critical minerals, renewables, and climate-tech supply chains to reinforce its diplomatic reach and resilience beyond LNG.
- **Kuwait City's KIA** adopts a conservative, liquidity-to-leverage approach, prioritising capital preservation while incrementally expanding exposure to clean infrastructure and digital-energy platforms through global partnerships.
- **Riyadh's PIF** leverages state-led industrialisation to build domestic low-carbon capacity and export green commodities like hydrogen, steel, and ammonia, positioning itself as a future price-maker.

Together, these strategies form a distributed system of Gulf-led climate capital, one that blurs the line between financial power, industrial policy, and diplomacy. The emergence of Gulf SWFs as anchors of the net-zero economy marks a structural shift in both global finance and energy geopolitics. Their capacity to underwrite high-risk projects, absorb volatility, and operate across long time horizons enables them to fill the gap left by constrained public climate finance and hesitant private investors.

Yet, their future influence will depend less on the volume of capital deployed and more on the credibility of outcomes, measurable decarbonisation, technology transfer, and inclusive growth in the regions they invest in. The next phase of Gulf capital strategy will therefore hinge on converting financial depth into developmental depth ensuring that green investments deliver not just returns, but resilience, legitimacy, and shared value.

In this emerging order, Gulf sovereign wealth is not simply a byproduct of the fossil-fuel era, it is becoming one of the defining instruments of its transformation.

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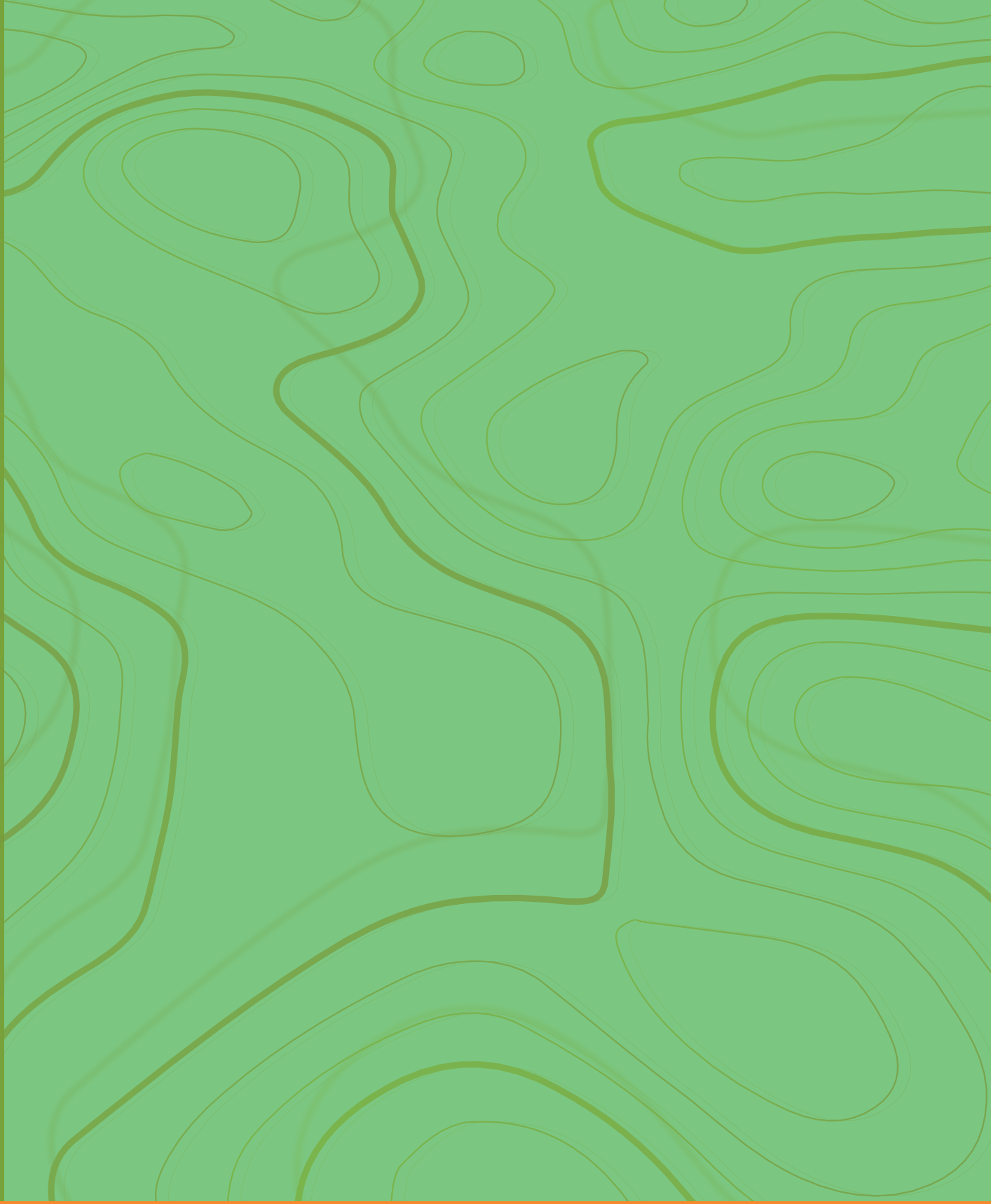

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