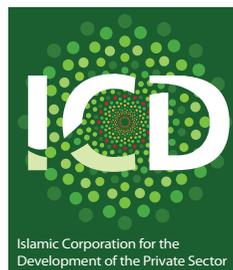


ICD-REFINITIV  
OIC INFRASTRUCTURE OUTLOOK 2023

# CREATING OPPORTUNITIES, ENHANCING LINKAGES



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# FOREWORD

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**Refinitiv, the world's largest provider of financial markets data and infrastructure, and the Islamic Corporation for the Development of Private Sector, the private sector development arm of the Islamic Development Bank (IsDB) Group, are pleased to present this joint report outlining the first systematic sizing of the OIC infrastructure gap, with breakdowns of these estimates by sector and region.**

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Developing the right infrastructure is the foundation of any country's growth and advancement, as it can help to connect cities and nations, strengthen national unity, and serve governments' broader economic and social visions. This report has projected the combined OIC infrastructure gap over the 25-year period from 2016 to 2040 at \$2.7 trillion. As Islamic markets grow in global importance due in part to their large, youthful populations and plentiful natural resources, and as their potential expands as markets for consumption and investment, it is becoming increasingly vital that the gaps are filled.

But funding the development of major infrastructure projects is not always straightforward. Funding can be complex and require substantial investment, and its long-term nature will mean there needs to be proper governance of the projects and of their execution and monitoring processes.

This report outlines some of the newer and increasingly popular means of raising funds for infrastructure building in OIC countries, such as public-private partnerships and Islamic infrastructure finance. It also outlines the key ingredients of a successful infrastructure

policy framework such as defining objectives, planning and budgeting in ways that look to the needs of all stakeholders; identifying, allocating and effectively managing risk; and ensuring robust legal and regulatory frameworks, particularly in regard to Islamic financing structures.

The report also highlights some of the key challenges that OIC countries are facing in their efforts to develop the infrastructure they need, but also points to the significant opportunities becoming available to boost economic growth, trade and overall prosperity, as well as tighten countries' energy security and strengthen resilience to climate change.

**Mustafa Adil**



Head of Islamic Finance, Refinitiv

**Eng. Hani Salem Sonbol**



Chief Executive Officer, ITFC  
Acting Chief Executive Officer, ICD

# Executive Summary

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**Despite the central role played by infrastructure development in growing a nation's economy, significant funding gaps remain for the 57 countries of the OIC, with the total they need having been projected at \$2.7 trillion over the 25-year period 2016-2040.**

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The largest infrastructure funding gaps among OIC countries are in Türkiye, Egypt, Nigeria, Bangladesh and Iran, which between them make up 44% of the total. Each of these countries is a regional powerhouse undergoing rapid transformation in an attempt to move higher along the value chain and so unlock further economic growth.

Of the seven sectors considered in this report, roads show the largest funding gap across the OIC, making up 53% of the total. The next largest gaps are found in telecoms, electricity and water, which between them contribute 38% of the gap, followed by rail, ports and airports with a combined 9% of the total.

The MENA region has the largest funding gaps by sector for five of the seven sectors. There are also significant gaps in Sub-Saharan Africa and Europe & Central Asia across most sectors. Sub-Saharan Africa has the largest regional funding gap in both telecoms and electricity – two crucial building blocks of the physical infrastructure behind the digital economy.

Low-income and lower-middle-income economies comprise 63% of the OIC infrastructure gap, and lower-middle-income economies have the largest gaps in six of the seven sectors. Roads are the exception, where upper-middle-income countries account for the largest shortfall in funding. Middle-

income countries are looking to escape the middle-income trap and as such are likely to feature prominently in the OIC's infrastructure needs until at least 2040.

The key challenges facing OIC countries in developing the infrastructure they need are identified as a lack of funding, limited institutional capacity, vulnerability to political risk, weak legal and regulatory frameworks, and the environmental and social implications of any infrastructure projects.

There are, however, significant opportunities to support economic growth and boost prosperity, increase trade, enhance social welfare, improve energy security and climate resilience, and improve regional integration.

One increasingly used method of sourcing funding for infrastructure projects is the public-private partnerships. PPPs are an effective way of transferring the life-cycle costs of projects out of public-sector budgets while creating investable assets for the private sector. They can be beneficial for both the public and private sectors in terms of efficiency, costs and access to expertise and resources, but there are drawbacks to consider such as the complexity of such arrangements, including in how they allocate risk, as well as the costs of their administration and the potential for public opposition.

Islamic finance is another growing source of funding in OIC countries, and there is a lot of latent potential for developing greater linkages with infrastructure financing. Both types emphasise asset-backed financing and have a natural affinity for risk-sharing. PPP deals also allow for a relatively straightforward process of identifying assets, which is important for Islamic finance transactions as well. Various types of sukuk have been used to provide Shariah-compliant infrastructure financing, and these are sometimes used alongside conventional finance.

In order to formulate comprehensive approaches to addressing their infrastructure financing strategies, it is recommended that OIC governments consider conducting country-specific needs assessments and business

case appraisals that incorporate cost-benefit analysis, as well as looking at financing options such as PPPs, loans, grants, bonds/sukuk, and blended finance. They should also look to ensuring active stakeholder engagement, and that projects comply with national regulations and permitting requirements, including environmental, safety and land-use regulations.

Infrastructure investment capacity can be improved by creating a favourable investment climate; building institutional capacity to effectively plan, design, build and manage infrastructure projects; developing a comprehensive national infrastructure plan; encouraging PPPs for infrastructure development, and promoting systematic and effective stakeholder participation.

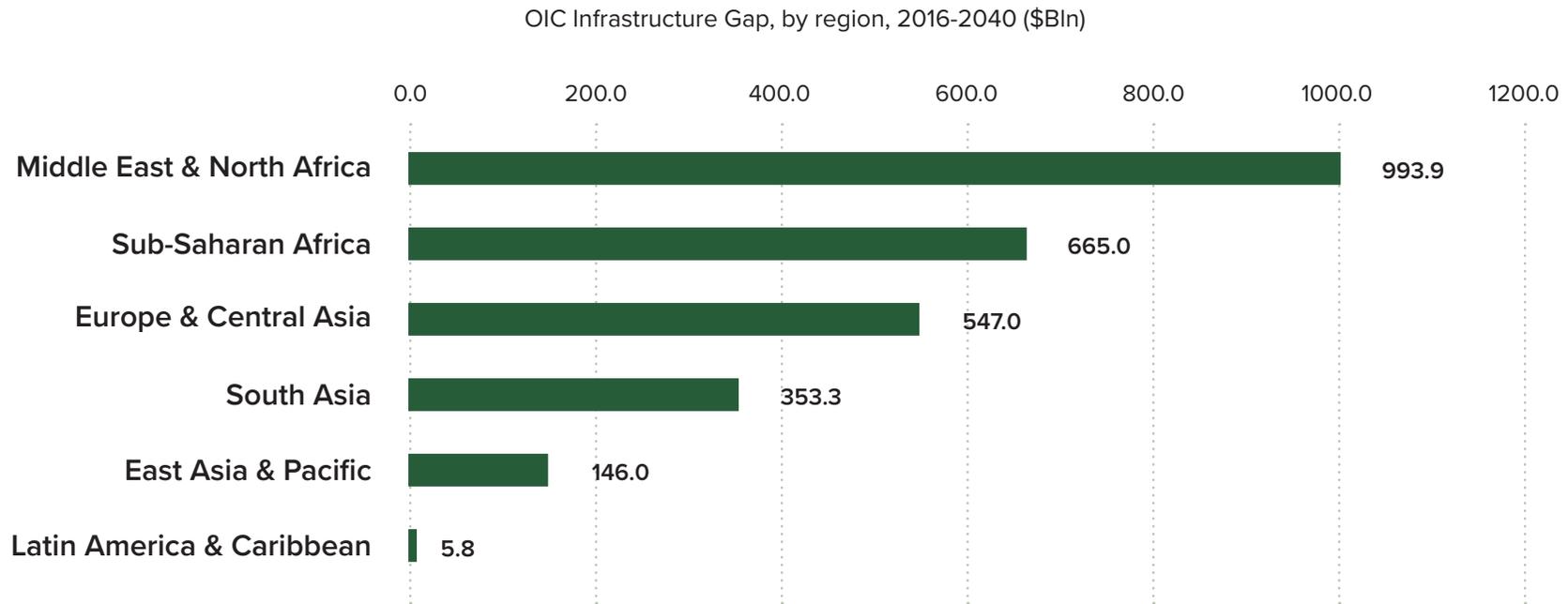


**Islamic finance is another growing source of funding in OIC countries, and there is a lot of latent potential for developing greater linkages with infrastructure financing.**

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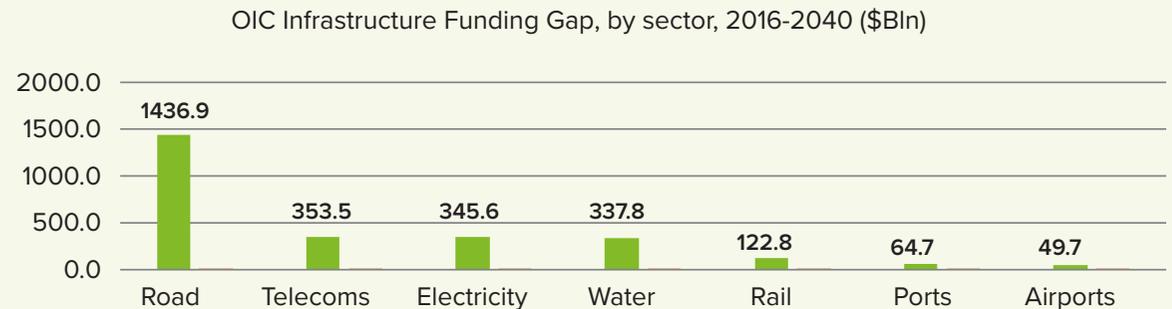
# Summary Infographic

## Regional Analysis: The OIC Infrastructure gap is largest in the MENA and Sub-Saharan African regions



Source: ICD-Refinitiv OIC Infrastructure Outlook 2023

## Sector Analysis: Roads has by far the largest funding gap across the OIC, followed by Telecoms, Electricity, and Water

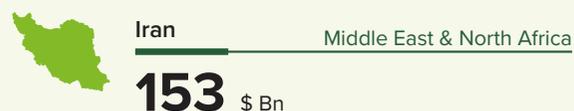
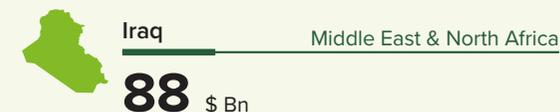
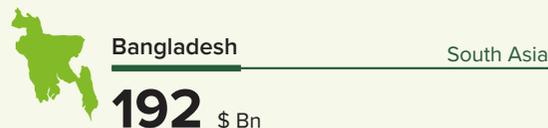
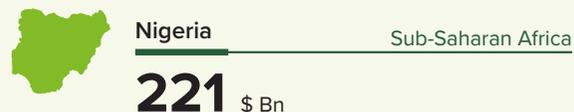


Source: ICD-Refinitiv OIC Infrastructure Outlook 2023



Estimated overall OIC infrastructure funding gap for all 57 OIC nations, combined across seven sectors, over a 25-year period (2016-2040)

## Country Analysis: Top 10 OIC countries, by projected infrastructure funding gap (2016-2040) – Top 10 make up 62% of overall OIC gap



Source: ICD-Refinitiv OIC Infrastructure Outlook 2023

## Heatmap Analysis: Regional OIC infrastructure gaps by sector, 2016-2040 (\$ Bn)

								
Region	Roads	Telecoms	Electricity	Water	Rail	Ports	Airports	Regional Totals
Middle East & North Africa	684.9	65.2	27.4	110.8	47.3	33.6	24.7	993.9
Sub-Saharan Africa	211.5	178.6	126.3	80.3	42.5	15.4	10.4	665.0
Europe & Central Asia	414.0	16.4	79.4	7.8	20.8	1.2	7.4	547.0
South Asia	56.1	89.2	111.6	73.9	10.0	7.7	4.8	353.3
East Asia & Pacific	70.0	3.0	0.0	65.0	0.0	6.0	2.0	146.0
Latin America & Caribbean	0.4	1.1	0.9	0.0	2.2	0.8	0.4	5.8
<b>Grand Totals</b>	<b>1436.9</b>	<b>353.5</b>	<b>345.6</b>	<b>337.8</b>	<b>122.8</b>	<b>64.7</b>	<b>49.7</b>	<b>2711.0</b>

■ Largest ■ Smallest

Source: ICD-Refinitiv OIC Infrastructure Outlook 2023

Chapter

**1**

# OIC LANDSCAPE OVERVIEW

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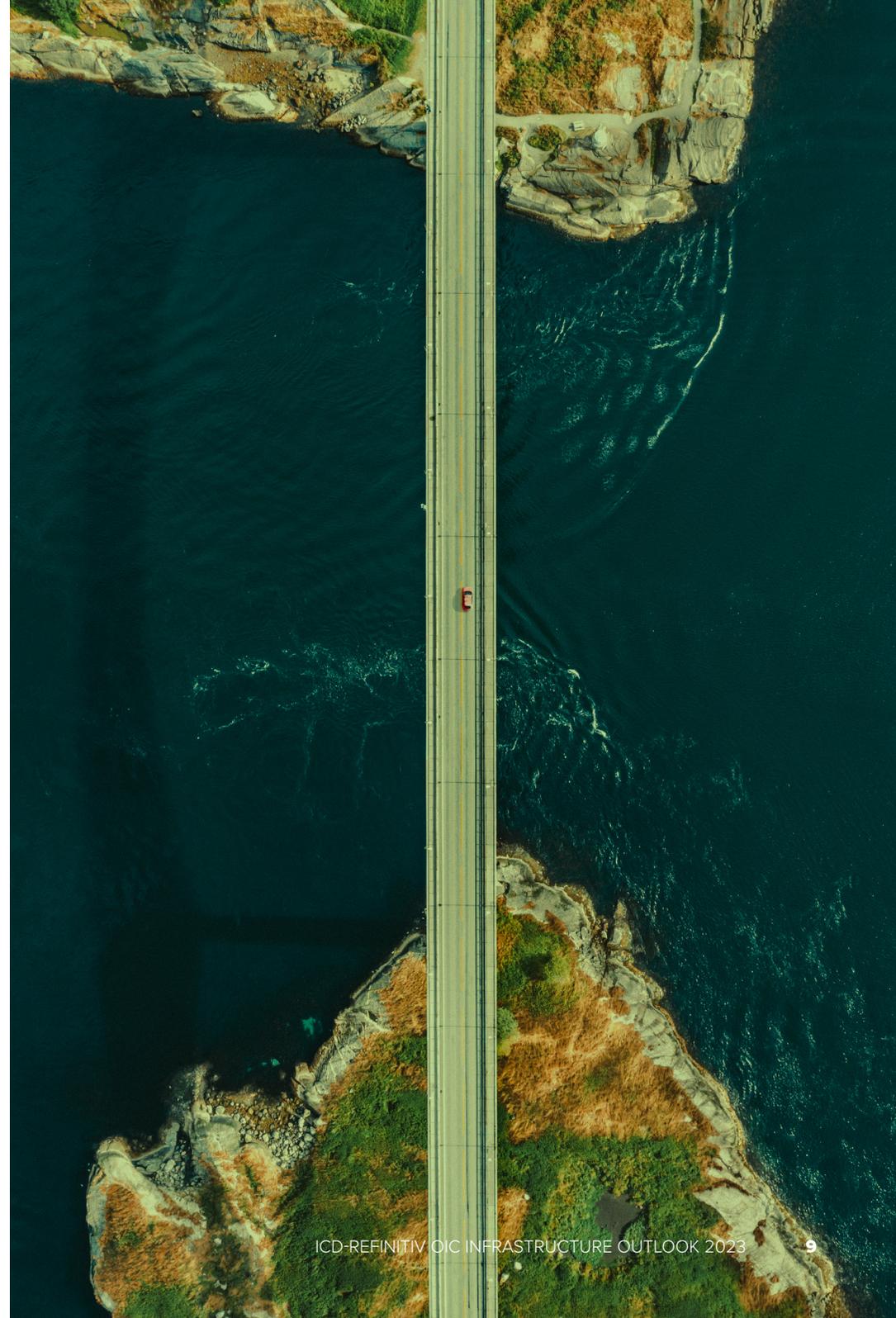
# 1.1 Infrastructure Ecosystem

## Infrastructure Policy Frameworks in OIC Countries

Infrastructure is essential to achieving economic growth as it unlocks connectivity within and between cities and nations, promotes national unity, and serves broader government goals. The complexity, investment size, and long-term nature of infrastructure funding necessitates proper governance of projects as well as execution and monitoring processes.

Key ingredients of a successful infrastructure policy framework include well-defined goals and objectives; a comprehensive planning and budgeting process that considers the needs and priorities of all stakeholders; the identification, allocation and management of risk and uncertainty through a project's entire life cycle; and the efficient delivery and monitoring of infrastructure services. In the absence of a firmly established and coherent infrastructure investment and procurement framework, it would be challenging to establish a business-enabling environment and produce a pipeline of bankable infrastructure projects. This could result in higher transaction and development costs, and would thereby deter private sector participation.

Infrastructure policies in OIC countries have varied widely, although there are some policies and initiatives that have been implemented in several OIC countries. Scaling up infrastructure investment is widely seen as a key pillar of national development strategies, and a country's infrastructure plans are usually aligned with its national government strategy, as highlighted below:



# Selected OIC countries with infrastructure policies in place

## National plans with infrastructure development as a priority



### Malaysia

The country's infrastructure policy is guided by the 12th Malaysia Plan (12MP) for 2021-2025, for which the government has allocated RM400 billion (\$88.9 billion) towards new and existing infrastructure projects.<sup>2</sup>



### Indonesia

The National Medium-Term Development Plan (RPJMN) 2020-2024 outlines the government's priorities for infrastructure development, with several strategic priority projects in place across different sectors.<sup>3</sup>



### United Arab Emirates

There are ambitious targets for sustainable and resilient infrastructure development under the Abu Dhabi Economic Vision 2030. Other supporting plans and programmes include the UAE Railway Programme, Dubai 2040 Urban Master Plan, Surface Transport Master Plan (Abu Dhabi), Fujairah 2040 Plan, and Dubai Autonomous Transportation Strategy.<sup>4</sup>



### Türkiye

Policy is guided by the 11th Development Plan (2019-2023), which outlines the government's priorities for infrastructure development.<sup>5</sup>



### Egypt

Under the urban development programmes outlined in Egypt Vision 2030, the country aims to upgrade infrastructure and expand the provision of utilities, while several economic development programmes and projects are outlined, including promoting PPPs and developing transport networks.<sup>6</sup>



### Saudi Arabia

The National Transformation Program intends to build the infrastructure and create the environment that will enable the public, commercial and non-profit sectors to achieve the country's Vision 2030.<sup>7</sup>



### Kuwait

The main goals of Kuwait Vision 2035 include providing new infrastructure and creating a business environment that is conducive to development.<sup>8</sup>



### Morocco

The government has prioritized road-building and modern infrastructure development, and has set a \$4.16 billion annual infrastructure budget through the current decade. It has also announced numerous sector-specific infrastructure plans including its 2040 Rail Strategy, Vision 2020 tourism plan, 2030 National Port Strategy, and Noor Ouarzazate solar plant.<sup>10</sup>

## Regulatory and Legal Framework in OIC Countries

Given that infrastructure development requires long-term investments, sound governance is imperative. Indeed, poor governance is often cited as a major reason for infrastructure projects failing to meet their timeframe, budget and service delivery objectives.<sup>11</sup> As such, legislative and regulatory frameworks must be drawn up and enforced to lower such risks and establish core standards of investor protection.<sup>12</sup>

To support infrastructure development, several OIC countries have implemented regulatory and institutional reforms to improve their business environments and attract private investment. For example, in the past decade, OIC countries have simplified licensing procedures, streamlined regulatory frameworks, and improved the governance and transparency of public institutions. Privatization laws have also been enacted to promote private sector involvement in public works.

In addition, countries including Indonesia, the UAE, Saudi Arabia, Qatar and Türkiye have introduced dedicated legislative frameworks to govern public-private partnership (PPP) projects. These laws are key to attracting private-sector financing for infrastructure. While introducing PPP laws is an option rather than a requirement for developing PPP programmes, the implementation of such laws provides a structured, transparent and governed approach to public procurement for large projects. Such a framework can also attract crucial, long-term foreign direct investment. Several countries have also issued guidelines in relation to PPP or infrastructure investment as a reference for potential investors. In most cases, these are not strictly speaking law, but in practise they need to be

followed during a PPP procurement process.

In countries looking to attract investors in PPP projects, the elaboration of a PPP Policy and PPP Law can also be a useful mechanism for guiding procurement agencies, raising awareness, and reflecting a government's policy stance with respect to private participation in infrastructure.

Many OIC countries have also established regulatory bodies overseeing infrastructure investments. These bodies are responsible for ensuring that infrastructure projects are developed in accordance with legal and regulatory requirements, and that they are managed in a way that is consistent with the public interest.

On top of this, many OIC countries have dedicated PPP units in place to help promote, facilitate and assess PPP opportunities. These include Egypt (the PPP Central Unit), Qatar (Public Public-Private Partnership Department), Saudi Arabia (The National Center for Privatization & PPP (NCP)), Türkiye (PPP Unit Türkiye), Malaysia (PPP Unit – UKAS Malaysia), Indonesia (PPP Directorate of Bappenas), Bangladesh (Public-Private Partnership Authority and Infrastructure Investment Facilitation Centre), Bangladesh (Public-Private Partnership Authority and Infrastructure Investment Facilitation Center), Kazakhstan (PPP Center), Nigeria (Infrastructure Concession Regulatory Commission), and Pakistan (Infrastructure Project Development Facility).

OIC countries have also enacted laws and regulations aimed at encouraging foreign investment in infrastructure projects. Some of these laws include provisions for tax incentives and reducing bureaucracy.



## Selected Privatization and PPP Laws in OIC Countries



Türkiye

- Law No 3096 on the Generation, Transmission, Distribution and Trade of Electricity by entities other than the Turkish Electricity Agency, enacted in 1984, was an early example of PPP.
- Law No. 4046 regulating the principles for privatization, enacted 1994.
- Law No. 3996 on the Realization of Certain Projects under the Build-Operate-Transfer (BOT) Model, enacted 1994.<sup>13</sup>



Saudi Arabia

- Private Sector Participation Law (PSP Law) for public utilities or assets that directly or indirectly provide public services, enacted 2021.<sup>14</sup>



Qatar

- Law No. (12) of 2020 Regulating Public Private Partnerships.<sup>15</sup>



Jordan

- A new PPP Law was approved in 2020, amending the Public-Private Partnership Law No. 31 of 2014.<sup>16</sup>



Benin

- A new PPP Law was approved in 2020, amending the Public-Private Partnership Law No. 31 of 2014.<sup>17</sup>



Egypt

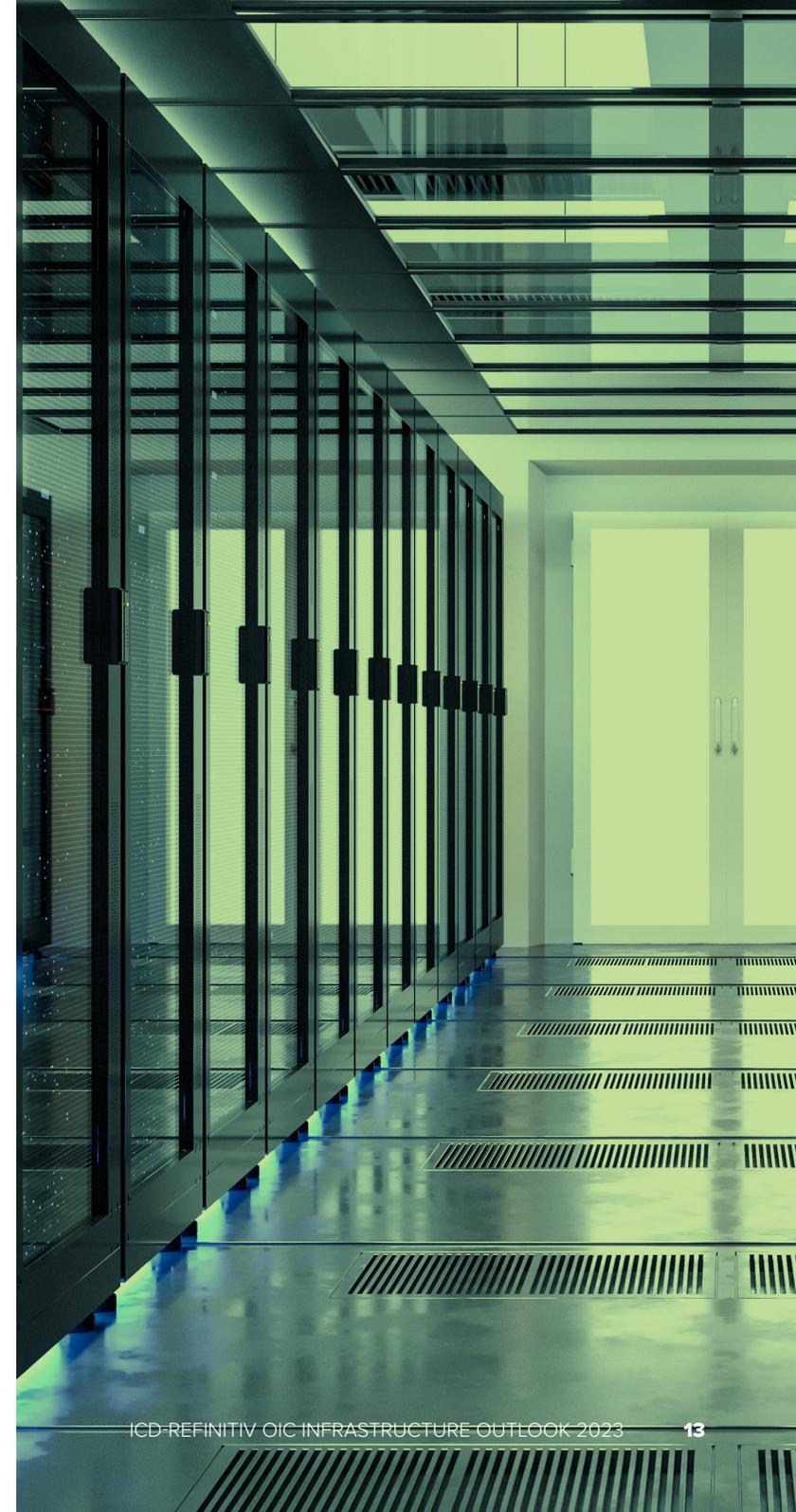
- The Public Partnership Law of 2010 (Law 67), with later amendments. The PPP Executive Regulation of Law No. 67 is the main legal framework for procuring PPPs in Egypt.<sup>18</sup>

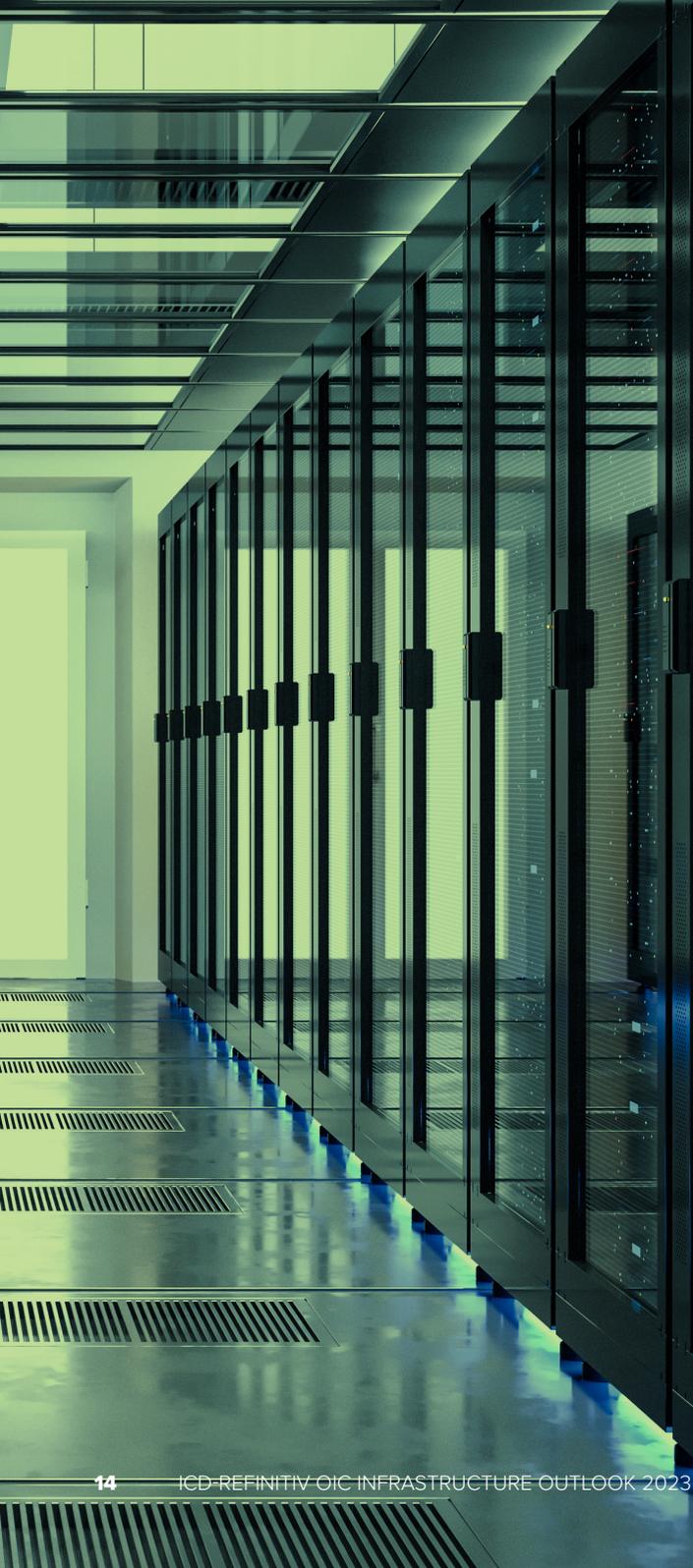
## 1.2 Sizing: OIC infrastructure funding gap

### Context and Methodology:

**The first report to estimate the OIC infrastructure gap at both country and sector level for all 57 OIC Islamic markets, using our proprietary sizing methodology**

The G20, in collaboration with Oxford Economics, in 2018 projected the global infrastructure gap over a 25-year period from 2016 to 2040 at \$15 trillion.<sup>19</sup> However, there has been no publicly available estimate of the infrastructure gap for the OIC region. With the growing economic importance of these 57 OIC Islamic markets due to their large, youthful populations, abundant natural resources, and potential as markets for consumption and investment, now is a pressing time to calculate this gap. This report presents the first systematic sizing of the OIC infrastructure gap, with country-level estimates for all 57 OIC markets and breakdowns of these estimates by sector. The seven sectors are: Road; Rail; Airports; Ports; Telecoms; Electricity; and Water. The Appendix to this report contains more details on the sizing methodology.





## The OIC infrastructure funding gap is estimated to total \$2.7 trillion

The overall OIC infrastructure funding gap for all 57 OIC Islamic markets combined across seven major sectors, over a forward-looking 25-year period (2016-2040), is \$2.7 trillion. This figure represents 18% of the global infrastructure funding gap over the same period (\$15 trillion) as estimated by the G20 and Oxford Economics.

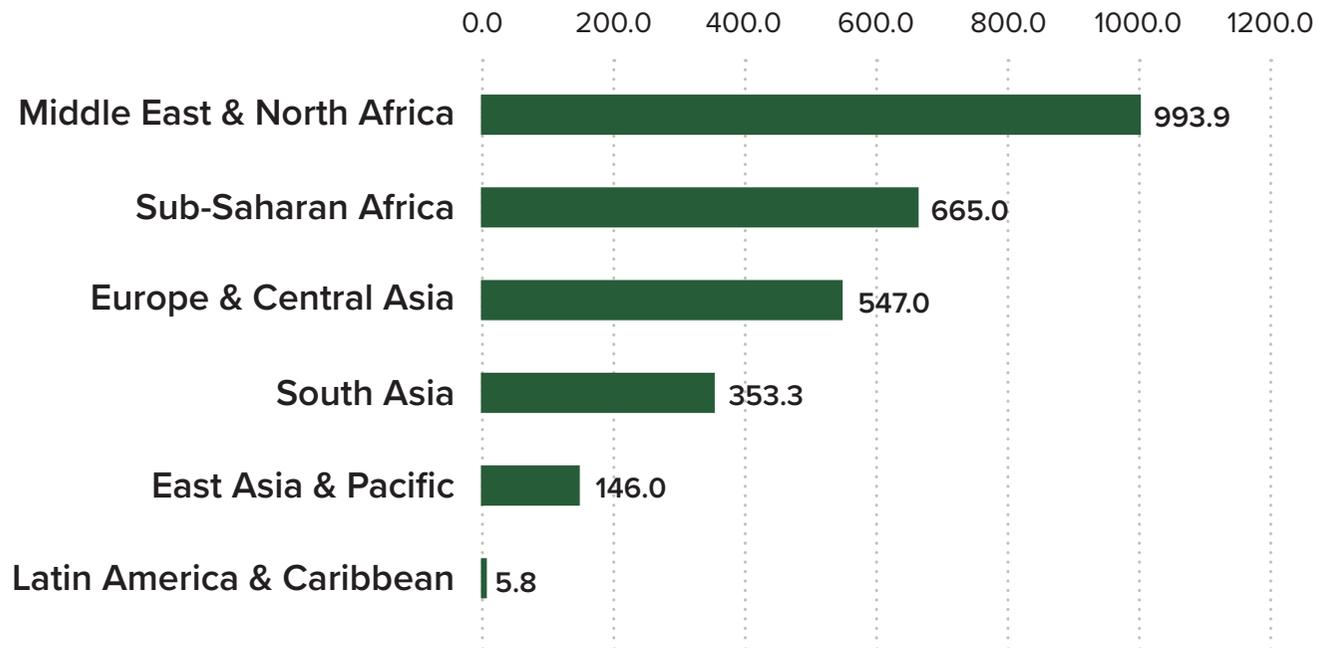
The Middle East & North Africa (MENA), Sub-Saharan Africa, and Europe & Central Asia have the largest regional infrastructure gaps, collectively making up 81% of the OIC total.<sup>20</sup> Another region requiring large amounts of infrastructure spending is South Asia, which makes up 13% of the OIC total.

The region requiring the most infrastructure spending is the Middle East & North Africa (MENA). Possible causes for this are its strategic position at the crossroads of trade routes linking Europe and Asia, historically low levels of investment in infrastructure, and continuing economic growth in the region's transition economies, which is making necessary high levels of infrastructure spending to unlock the next phase of economic development. Egypt, Iran and Saudi Arabia together account for \$498 billion, or 50%, of the region's projected funding gap.

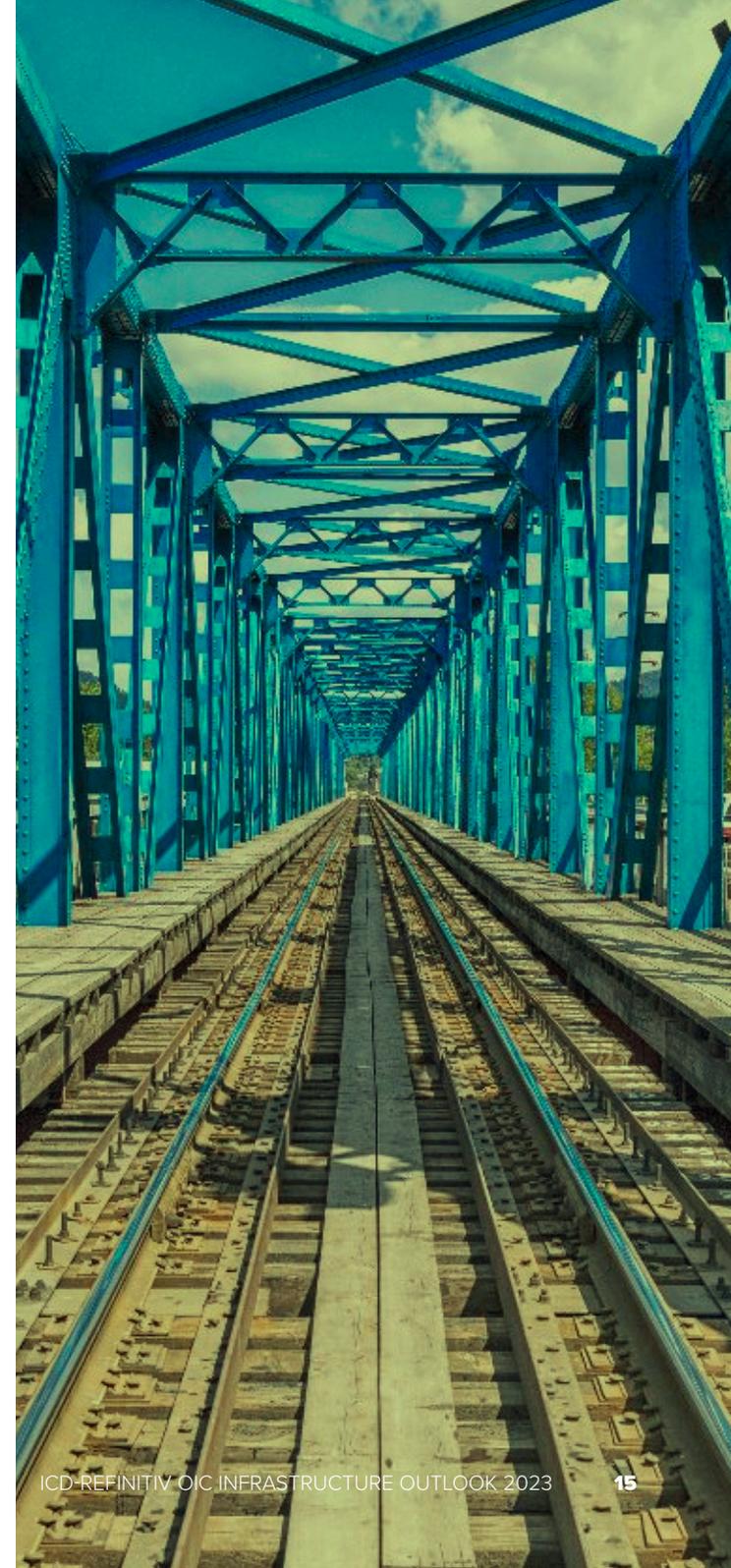
Nigeria leads the way in Sub-Saharan Africa, accounting for \$221 billion, or 33%, of the projected funding gap for the region. In Europe & Central Asia, Türkiye leads with \$405 billion, or 75%, of the projected funding gap, while in South Asia, Bangladesh has the largest projected funding gap at \$192 billion, or 54% of the regional total. Countries in East Asia & the Pacific and Latin America & the Caribbean present a much smaller proportion of the OIC infrastructure gap, with both regions together accounting for only 6% of the OIC gap.

One key insight emerging from the regional analysis is that one or two countries dominate each region's need for infrastructure development, and these countries tend to be regional demographic powerhouses. For example, Egypt (109 million), Nigeria (213 million) and Türkiye (84 million) have the largest populations in MENA, Sub-Saharan Africa, and Europe & Central Asia, respectively. Similarly, Bangladesh (169 million), has the second-largest population among OIC nations in South Asia.

## OIC Infrastructure Gap, by region, 2016-2040 (\$Bln)



Source: ICD-Refinitiv OIC Infrastructure Outlook 2023



Chapter

# 2

# OIC INFRASTRUCTURE GAP ANALYSIS

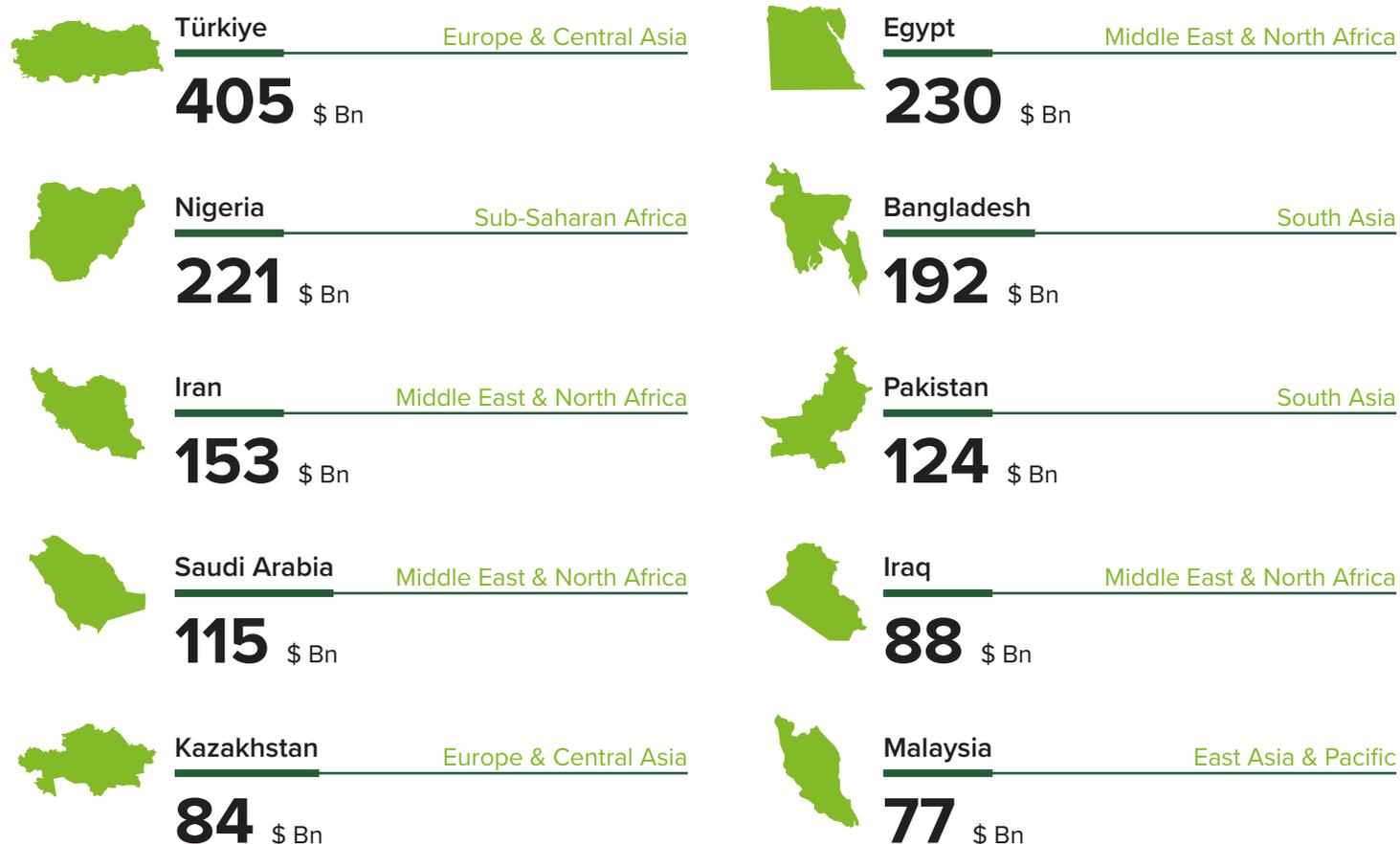
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## 2.1 Country-level analysis

The leading 10 countries contribute 62% of the projected OIC infrastructure gap; the top 5 account for 44%

The leading 5 countries by size of projected infrastructure gap are Türkiye, Egypt, Nigeria, Bangladesh and Iran. Between them, they make up 44% of the OIC total. As noted, these countries are regional powerhouses. Additionally, they are each undergoing rapid transformation as they seek to move higher along value chains and unlock further domestic development and growth.

### Top 10 OIC countries, by projected infrastructure funding gap (2016-2040)



Source: ICD-Refinitiv OIC Infrastructure Outlook 2023

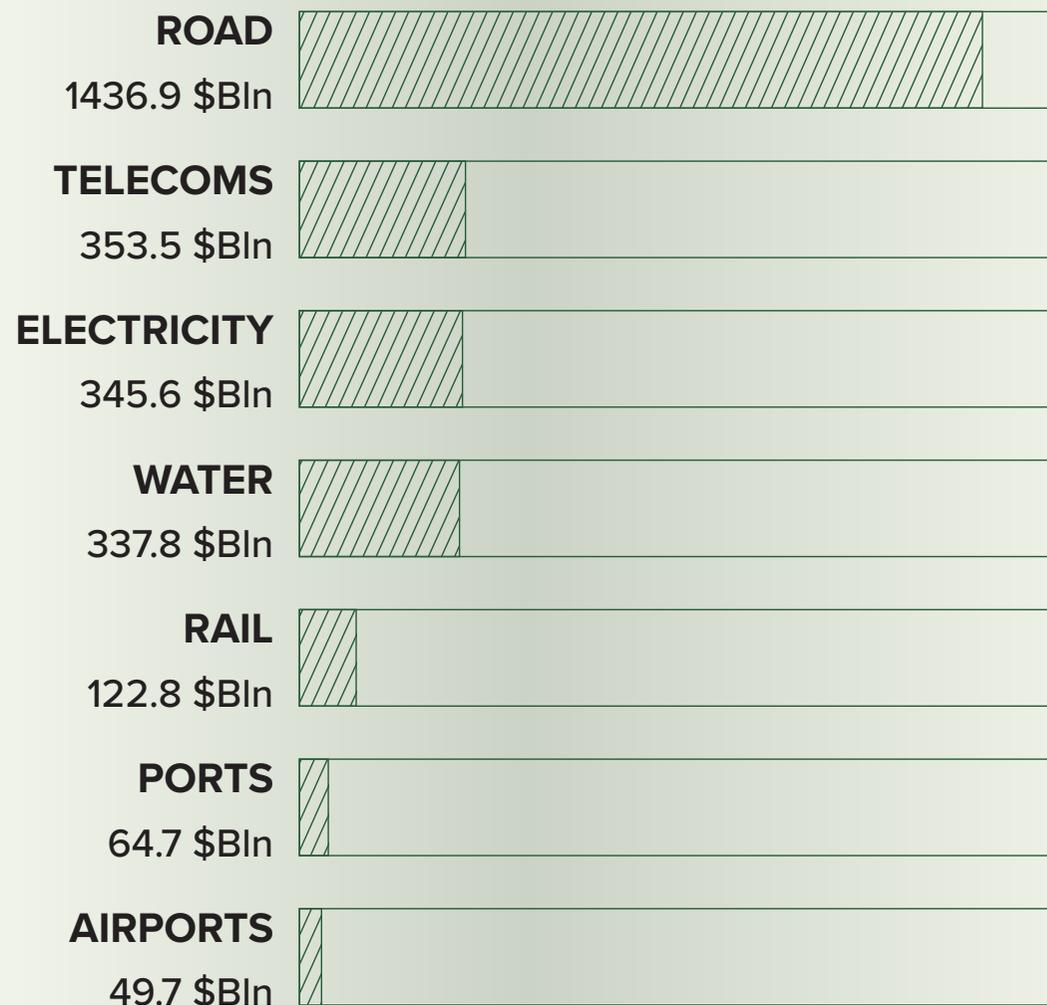
## 2.2 Sector-level analysis

**Of the seven sectors, Roads has by far the largest funding gap across the OIC.**

The Roads sector makes up 53% of the overall projected OIC infrastructure gap.

The next largest gaps are found in Telecoms, Electricity, and Water (38% collectively). Rail, Ports and Airports between them contribute just 9% of the total.

### OIC Infrastructure Funding Gap, by sector, 2016-2040 (\$Bln)



Source: ICD-Refinitiv OIC Infrastructure Outlook 2023

## Top 5 by sector: High concentrations of funding needs, with some OIC countries appearing repeatedly

Certain countries appear several times in lists of the Top 5 countries in terms of infrastructure gap size for each sector. Nigeria appears in six of the seven lists, while Bangladesh, Pakistan and Iran show in four each. This suggests a link between infrastructure needs and the specific attributes of

a country such as its population size or stage of development. Each of the four countries is classified by the World Bank as a 'lower middle-income economy' <sup>21</sup>.



## The tables below show the Top 5 countries in terms of infrastructure funding gap for each sector

### Roads



Top 5 as % of Sector Total

53%

### Telecoms



Top 5 as % of Sector Total

54%

### Electricity



Top 5 as % of Sector Total

68%

### Water



Top 5 as % of Sector Total

63%

### Airports



Top 5 as % of Sector Total

45%

### Rail



Top 5 as % of Sector Total

62%

### Ports



Top 5 as % of Sector Total

49%

## 2.3 Regional Analysis

### Sub-Saharan Africa funding gaps in Telecoms and Electricity potentially hampering development of digital economy

MENA has the largest funding gaps by sector for five out of seven sectors. Aside from MENA, there are sizeable funding gaps in Sub-Saharan Africa and Europe & Central Asia across most sectors. Sub-Saharan Africa has the largest regional funding gap in two of the seven sectors: Telecoms and Electricity. These sectors are crucial building blocks of the physical

infrastructure behind the digital economy. With the increasing importance of the global digital economy and its potential to level the playing field for OIC countries with the rest of the world, it is essential that the funding gaps in these sectors are addressed.

The heatmap below illustrates regional funding gaps by sector:<sup>22</sup>

#### Regional OIC infrastructure gaps by sector, 2016-2040 (\$ Bn)

Region	 Roads	 Telecoms	 Electricity	 Water	 Rail	 Ports	 Airports	Regional Totals
Middle East & North Africa	684.9	65.2	27.4	110.8	47.3	33.6	24.7	993.9
Sub-Saharan Africa	211.5	178.6	126.3	80.3	42.5	15.4	10.4	665.0
Europe & Central Asia	414.0	16.4	79.4	7.8	20.8	1.2	7.4	547.0
South Asia	56.1	89.2	111.6	73.9	10.0	7.7	4.8	353.3
East Asia & Pacific	70.0	3.0	0.0	65.0	0.0	6.0	2.0	146.0
Latin America & Caribbean	0.4	1.1	0.9	0.0	2.2	0.8	0.4	5.8
<b>Grand Totals</b>	<b>1436.9</b>	<b>353.5</b>	<b>345.6</b>	<b>337.8</b>	<b>122.8</b>	<b>64.7</b>	<b>49.7</b>	<b>2711.0</b>

 Largest  Smallest

Source: ICD-Refinitiv OIC Infrastructure Outlook 2023

## 2.4 Income Group Analysis

### Low-income and lower-middle-income economies make up 63% of the OIC infrastructure gap

The finding that low-income and lower-middle-income economies make up 63% of the OIC infrastructure gap is unsurprising given that these countries have too few resources to afford the long-term capital expenditures that infrastructure development requires. At a more granular level, lower-middle-income economies account for the largest gaps by income group in six of the seven sectors. Roads are the exception, with upper-middle-income countries accounting for more of the sector funding gap than any other income group.

Middle-income nations aim to combat poverty and escape the middle-income trap – a situation where these nations are unable to continue competitively producing standardised, labour-intensive goods because wages are relatively high, but at the same time cannot advance to high-income status as they are unable to compete in higher value-added markets due to relatively low productivity.<sup>23</sup> It is therefore inevitable that these nations will feature prominently in the OIC’s infrastructure needs until at least 2040.

The heatmap below explores sectoral gaps by income group further:<sup>24</sup>

#### OIC infrastructure gaps by income group and sector, 2016-2040 (\$Bln)

								
Region	Roads	Telecoms	Electricity	Water	Rail	Ports	Airports	Regional Total
Lower middle income	533.2	172	204.6	214.1	56	35	26.8	1241.7
Upper middle income	589.1	26.3	62.2	18.8	38.1	17	11.8	763.3
Low income	152.9	135.8	51.4	89.4	25	12.7	11.1	478.3
High income	161.7	19.4	27.4	15.5	3.7	0	0	227.7
<b>Grand Totals</b>	<b>1436.9</b>	<b>353.5</b>	<b>345.6</b>	<b>337.8</b>	<b>122.8</b>	<b>64.7</b>	<b>49.7</b>	

 Largest  Smallest

Source: ICD-Refinitiv OIC Infrastructure Outlook 2023

Chapter

**3**

**KEY  
CHALLENGES AND  
OPPORTUNITIES**

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## 3.1 Key Challenges

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Developing modern and efficient infrastructure that is sustainable and resilient is a complex undertaking. Similar to other countries, OIC countries face a number of challenges in this regard. These include:

- **Lack of funding:** Lack of funding for infrastructure projects is one of the most commonly cited challenges. It is often a result of weak financial systems, low levels of private sector participation, and significant risks associated with developing new projects. Many OIC countries struggle to attract foreign investment and private capital due to political instability, weak institutions, or high levels of corruption. Many also have limited access to international capital markets, which can make it difficult to raise funds. Whether funded by public or private capital, there will be a need to enhance and bring innovation to funding models for infrastructure assets in OIC countries.

- **Limited institutional capacity:** Many OIC countries lack the institutional capacity needed to plan, procure, implement and monitor large-scale infrastructure projects. Successful infrastructure development requires inclusive planning, disciplined oversight, transparency, rigorous review, and tight control of budgets. Without proper management and oversight, there can be delays in project implementation, cost overruns, underperformance, and an overall lower quality of infrastructure assets.

- **Vulnerability to political risks:** Political instability and conflict can disrupt infrastructure projects and deter investment, as they shake investor

confidence and undermine projects' long-term viability. This is a particular challenge for those OIC countries that are prone to conflict or exhibit high levels of political instability. Policies established by one administration or legislature can be disrupted or halted by the next, which creates uncertainty even where policies are viewed as positive.

- **Weak legal and regulatory frameworks:** Some OIC countries suffer from a lack of legal and regulatory coherence for infrastructure investment. There might be unpredictable and restrictive regulations, red tape, or opaque legal frameworks. Not only do these raise the costs of doing business, they can deter private sector capital and expertise from participation in infrastructure projects, as legal certainty is a vital ingredient in building investor confidence. A weak legal and regulatory framework can lead to poor-quality infrastructure, corruption, and substandard maintenance.

- **Environmental and social implications:** Infrastructure projects can have significant environmental and social impacts, which can lead to public opposition, delays, and soaring costs. Many OIC countries lack the policies and institutional frameworks that enable them to manage these risks effectively.

Addressing these challenges will require harmonised efforts by governments, development partners, the private sector, and other stakeholders to promote the policies and institutional frameworks that can facilitate investment and ensure the sustainability of infrastructure assets.

## 3.2 Key Opportunities

Despite the pressing need to shrink the OIC infrastructure funding gap, drawing infrastructure investments into OIC countries has run into a protracted series of challenges, as highlighted above. However, there are also present significant opportunities. OIC countries show some of the world's fastest-growing demand for infrastructure, with a variety of needs spread across different sectors. The economic and social benefits of infrastructure development in OIC countries are closely related. Key benefits include:

- **Supporting economic growth and raising prosperity:** Investing in infrastructure is key to competing in global markets. New infrastructure can create jobs, promote enterprise development, stimulate economic growth, and increase productivity. This in turn helps to reduce poverty and improve quality of life.
- **Increasing trade:** Developing infrastructure such as transportation networks, seaports, and airports can improve connectivity and integration between countries and supply chains, and the efficient carrying of goods and services across borders. This facilitates trade, which attracts greater foreign investment and boosts economic activity.





- **Enhancing social welfare:** Investments in infrastructure can improve access to basic services such as healthcare, education, and water supply. Modern infrastructure can also meet the changing needs of ageing societies.

- **Improving energy security and climate resilience:** Modern infrastructure such as power plants, green transmission lines, and renewable energy systems can boost energy security, reduce reliance on imported energy, and help to mitigate climate change. While infrastructure networks may be affected by the physical impacts of climate variability and change, they also play an essential role in building resilience against such impacts.

- **Regional integration:** Infrastructure development can boost regional integration, leading to greater cooperation and collaboration among countries, and this helps to build political stability and reduce conflict.

Infrastructure is the backbone of economic capacity, and investing in its development in OIC countries can bring about significant economic and social benefits, while promoting regional integration and stability. Furthermore, there is a growing need to build or retrofit infrastructure assets so as to boost resilience against the effects of climate change and to protect against any other changes that may occur over their lifetimes.

## 3.3 Public-Private Partnerships (PPP) in OIC Countries

Public-private partnerships (PPPs) are an effective way of transferring the life-cycle costs of infrastructure projects out of public-sector budgets while creating investable assets for the private sector. Such partnerships play a pivotal role in financing infrastructure and can be deployed in a wide range of sectors such as transportation, healthcare, education, and waste management. PPP models vary from short-term, simple management or operating contracts (with or without investment requirements) to concessions to full privatization, depending on the level of private sector involvement. It is a commonly accepted notion that due to the risk-, reward- and resource-sharing nature of PPPs, they can be beneficial for both the public and private sectors in terms of improved efficiency, reduced costs, and increased access to expertise and resources. However, there are also drawbacks to consider, which are not unique to OIC countries. These include the following:

- **Complexity:** PPPs can involve multiple parties, intricate contractual arrangements, and complicated financing arrangements. The complexity can make it difficult to manage and implement a project effectively, resulting in longer delivery timeframes and increased costs. In addition, there is often a lack of clarity on the roles and responsibilities of the various parties to a PPP arrangement.

- **PPPs are risky in nature:** PPPs share risks between the public and private sectors, and the proper distribution of project risk is one of the main ways in which a PPP can achieve value for money. However, there is a possibility that one party may bear a disproportionate share of the risks or that risks may not be adequately identified or managed. Such complex risk allocation requires strong governance institutions to be in place.

- **Costly administration:** PPPs can be more expensive than traditional procurement methods, particularly if they involve private financing. The costs associated with negotiating and implementing PPPs can also be significant. Complex infrastructure projects are also prone to cost overruns and implementation delays.

- **Public scrutiny and resistance to private sector involvement in public services:** PPPs involve public assets and services, and there is likely to be a degree of public scrutiny and criticism if the private sector partner is perceived to be benefitting at the expense of the public sector partner or the public. Civil society groups may also have concerns that PPPs come with social and environmental consequences. Therefore, active engagement and clear communication with civil society must be an integral part of the process to ensure that PPPs are transparent and accountable to the public.



- **Managing political risks:** Political stability has a big impact on PPP project opportunities. PPPs can be affected by changes in political priorities or leadership, which can lead to delays or cancellations. Examples include changes in taxation, harsh regulatory decisions, and contract defaults.

- **The need for well-established and functioning legal and regulatory frameworks:** PPPs require a strong and clear regulatory environment to govern the relationship between the public and private sectors, and to ensure that they deliver the intended objectives through consistent policies and procedures to identify, formulate, appraise and approve PPP projects. In countries where the legal and regulatory frameworks are not so well-developed or are too open to interpretation, this can create uncertainty and increase risk.

Overall, while PPPs have demonstrated their value for many projects around the world, a prerequisite for their successful use is a clear, predictable and legitimate institutional framework supported by competent and well-resourced authorities that are entrusted with clear mandates to ensure a prudent procurement process and clear lines of accountability.

## PPP experience in OIC countries

The PPP landscape in OIC countries is still underdeveloped when compared to some other regions of the world. However, in general, PPP has risen in importance in the development agenda of many OIC countries in recent years, as many seek to attract private sector investment and expertise to finance and deliver public infrastructure and services.

Some OIC countries, such as Malaysia, Türkiye, and the United Arab Emirates, have implemented successful PPP projects in various sectors such as transportation, healthcare, energy and infrastructure. The public sectors of these countries have rich histories of collaboration and engagement with private sector stakeholders.

Türkiye has to date invested \$80 billion through 257 PPP projects,<sup>25</sup> while Malaysian PPP investments since 1990 have amounted to roughly \$54 billion across 126 projects.<sup>26</sup> In Indonesia, 135 PPP projects across various sectors achieved financial close between 1990 and 2019, totalling around \$63.5 billion.<sup>27</sup> Kazakhstan has also seen an increase in PPP projects, with 806 projects valued around \$3.26 billion having been implemented, mostly in the education and healthcare sectors. While there remains room for improvement, these countries have established legal and regulatory frameworks to support PPPs, which has helped to attract private investment and improve delivery of public services.



## Examples of PPP projects in the OIC



### Malaysia

- The North-South Expressway
- The Light Rail Transit (LRT)
- Kuala Lumpur International Airport



### Türkiye

- Marmaray Tunnel
- Zafer Airport
- Istanbul-Izmir Motorway
- Göcek Tunnel motorway service stations
- Yamula hydro power project in Kayseri



### Nigeria

- Ado Ekiti – Grain Storage Facility
- Ajaokuta-Kaduna-Kano (AKK) Gas Pipeline
- Bakalori Dam
- Apapa Container Terminal



### Bangladesh

- Dhaka Bypass Expressway
- Mongla Economic Zone
- Mirsarai Economic Zone



### Indonesia

- Central Java Power Project
- Umbulan Springs Bulk Water Supply Project
- Jakarta-Cikampek II Elevated Toll Road



### Côte d'Ivoire

- The Henri Konan Bédié Bridge
- The construction of the 1,716-MW Vridi Gas-Fired Power Plant
- Abidjan Port expansion



### United Arab Emirates

- Mohammed bin Rashid Al Maktoum Solar Park Phase 4
- Dubai Waste Treatment Centre
- Mirfa Seawater Treatment & Transportation Facility



### Kazakhstan

- Almaty Light Rail Transit project
- Shymkent Bypass Toll Road
- Almaty Ring Road



### Saudi Arabia

- Prince Mohammad bin Abdulaziz Airport (PMAA) expansion in Madinah



### Morocco

- Jorf Lasfar Coal Fired Power Plant



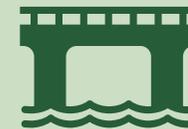
### Egypt

- Suez Canal
- Kom Ombo solar plant
- New Cairo Wastewater Treatment Plant
- The country's first high-speed rail line (the Sokhna-Matrouh connection)

Source: ICD-Refinitiv OIC Infrastructure Outlook 2023

# Strengthening PPP in OIC countries

Many OIC countries still face significant challenges in implementing successful PPPs. Despite this, there is much potential for PPPs in OIC countries given their extensive infrastructure needs and growing interest from private investors. To address these challenges, many OIC countries are working to improve their legal and regulatory frameworks and to build the institutional capacity needed to support PPPs. They are also seeking to attract greater private investment and to improve public awareness and understanding of the benefits of PPPs, which taken together could lead to an increase in PPP activity in OIC countries in coming years.



Chapter



# THE ROLE OF ISLAMIC INFRASTRUCTURE FINANCE



## 4.1 Current state: Islamic finance instruments for infrastructure

Although much untapped potential remains for Shariah-compliant infrastructure financing, there are several reasons why Islamic finance and infrastructure financing are a suitable match, and there is much latent potential for developing greater linkages. Both types emphasise asset-backed financing and have a natural affinity for risk-sharing.<sup>28</sup> Moreover, public-private partnership (PPP) deals allow for a relatively straightforward process of identifying assets, which is important for Islamic finance transactions as well.

Various types of sukuk have been used to provide Shariah-compliant infrastructure financing, and are sometimes used alongside conventional finance. The sukuk are typically based on a few of the main Islamic financing modes, such as ijara, murabaha, istisna, musharaka, and mudaraba. Some examples of the use of Islamic infrastructure finance in OIC Member States include the Hajj terminal at Medina Airport in Saudi Arabia and Queen Alia Airport in Jordan, as well as Shariah-compliant investment guarantees and political risk insurance in Djibouti and Indonesia, respectively.<sup>29</sup>

For a visual overview of these main Islamic financing modes for infrastructure, see the Appendix. The table below summarises some salient features of these modes:<sup>30</sup>



# Islamic finance modes for infrastructure

## IJARA (Leasing)

### Description

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Ijara is a contract where the asset owner sells a specific usufruct (right to enjoy the use of the property) of the asset in exchange for a periodic rent.

### Use case in infrastructure finance

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One of the most commonly used Islamic finance instruments, ijara is well suited to financing fixed assets and capital equipment such as machinery. A key advantage of ijara in infrastructure finance is its flexibility. Islamic finance providers can facilitate infrastructure PPP projects through ijara finance in instances where the government wants to retain the title to a project's assets, due to the assets' public nature.

## MURABAHA (Deferred Sale)

### Description

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Ijara is a contract where the asset owner sells a specific usufruct (right to enjoy the use of the property) of the asset in exchange for a periodic rent.

### Use case in infrastructure finance

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One of the most commonly used Islamic finance instruments, ijara is well suited to financing fixed assets and capital equipment such as machinery. A key advantage of ijara in infrastructure finance is its flexibility. Islamic finance providers can facilitate infrastructure PPP projects through ijara finance in instances where the government wants to retain the title to a project's assets, due to the assets' public nature.

## **ISTISNA** (Manufacturing/ Construction Sale)

### **Description**

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Istisna is a sale contract where the transaction is completed before an asset exists. Typically, a purchaser orders a manufacturer or engineering, procurement and construction (EPC) contractor to build a customised asset according to the purchaser's specifications and to arrange for delivery at a pre-agreed date for a pre-agreed price, which can be paid in a lump sum or instalments.

### **Use case in infrastructure finance**

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Islamic finance providers use istisna on a medium- to long-term basis. Istisna is particularly suited to greenfield infrastructure projects, as the assets need to be built to bespoke specifications.

## **MUSHARAKA** (Partnership)

### **Description**

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Musharaka is a partnership-based mode of finance in which the parties involved share profits or losses in line with pre-agreed ratios.

### **Use case in infrastructure finance**

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Under a musharaka structure, both Islamic financial institutions and customers (the equity investors) contribute to the project. For example, the government would provide land for the infrastructure and set the project's legal and regulatory requirements, while the private sector partners would supply capital, expertise and construction.

## **MUDARABA** (Joint Venture)

### **Description**

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A mudaraba investment partnership is a contract between a capital provider and a partner who provides the expertise to manage the venture. Profits earned are shared in line with a pre-agreed ratio, while any loss is taken solely by the capital provider, except in instances of negligence or misconduct by the managing partner.

### **Use case in infrastructure finance**

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This type of contract resembles infrastructure fund management in conventional finance, where the fund manager is responsible for investing the fund's capital in eligible infrastructure projects, with the capital providers or investors taking the investment risks.

## 4.2 Future state: Key growth drivers for Islamic infrastructure finance

There are several key growth drivers that bode well for the growth of Islamic infrastructure finance.<sup>31</sup> As a recent IFSB working paper highlights, these success factors include:

### **The ongoing OIC need for Islamic infrastructure finance:**

Several factors such as declining public spending on infrastructure, fiscal limitations, rising public debt, and limited development assistance for OIC countries suggest there is a considerable amount of funding needed over the foreseeable future for these countries' infrastructure development, and Islamic infrastructure finance can play an essential role in helping to plug the gap.

### **Islamic finance's structural move towards infrastructure finance:**

Despite several challenges, Islamic capital markets and Islamic insurance (takaful) can help reduce the Islamic infrastructure financing gap by providing greater variety in available Islamic debt and equity infrastructure financing instruments,

along with a diversification of risk that matches institutional investors' investment horizons and risk profiles. The Islamic capital markets and takaful segments could potentially access more than \$150 billion in assets under management (AuM) from institutional investors. Moreover, a recent IFSB survey showed that most jurisdictions indicated that infrastructure development is a key driver of sukuk issuance.<sup>32</sup> For example, in the GCC region, \$22.8 billion was awarded in infrastructure projects during H1 2022.

### **Improvements in legal frameworks for Islamic infrastructure finance transactions:**

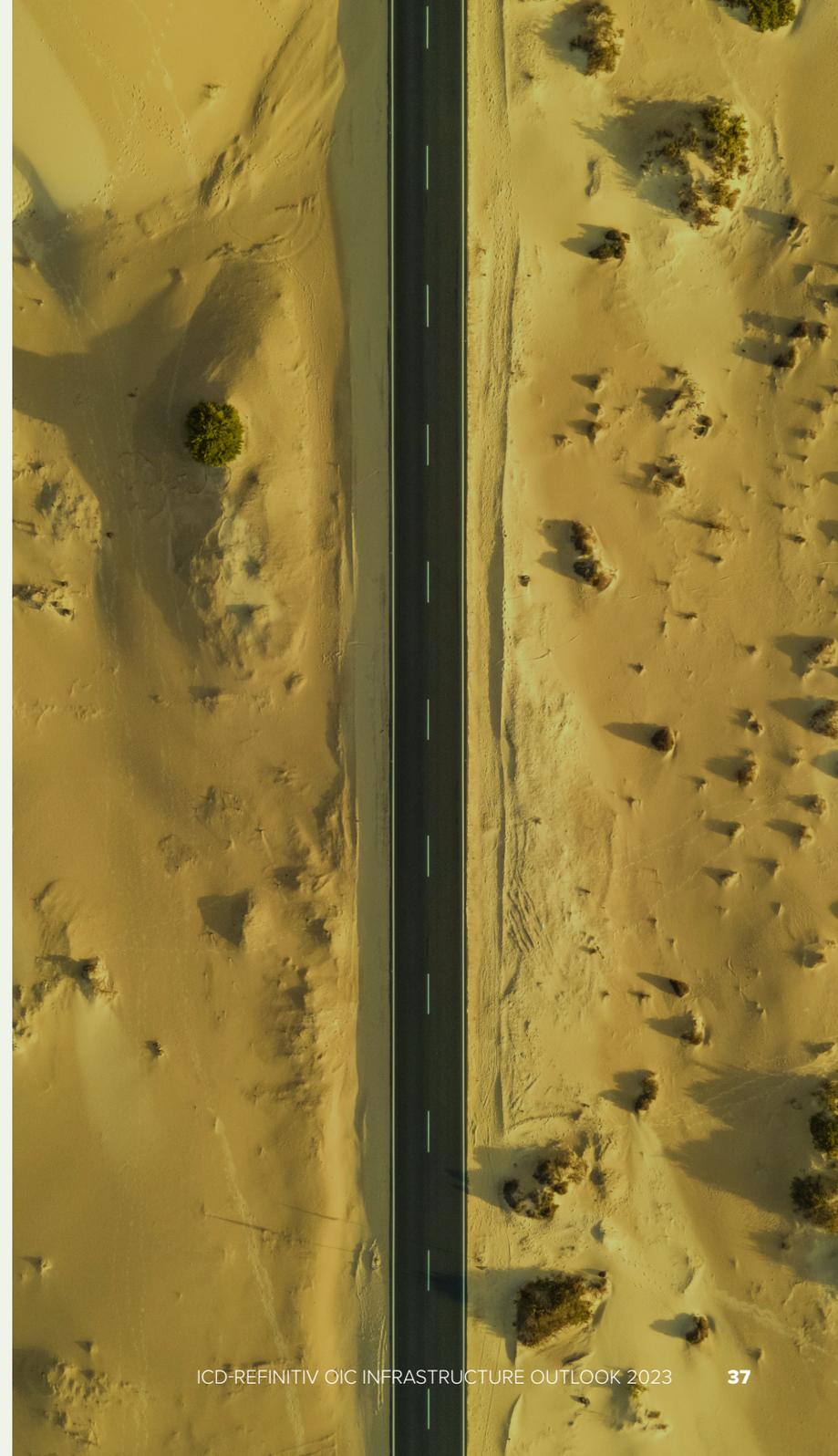
Legal dispute resolution frameworks and a lack of Shariah standardisation have been longstanding issues hindering the growth of Islamic infrastructure finance. However, there have been considerable improvements on these fronts,

specifically in the standardisation of contracts and development of legal frameworks, which are enabling the use of Islamic and conventional finance side-by-side in infrastructure projects across the OIC. These are important developments, as they build investor confidence on issues such as legislative limitations, hedging against risk, tax-related issues, and documentation concerns. For example, they give investors confidence where new regulations may retrospectively affect existing contractual arrangements, or in cases where a new government unilaterally reviews an existing contract entered into by a previous government.

### **The rise of Islamic sustainable finance and impact investing:**

The potential opportunity for Islamic sustainable finance and impact investing is substantial, with a \$30-50 billion opportunity for green and sustainability sukuk in delivering the SDGs. Moreover, green and sustainability sukuk reached a new high of \$6.1 billion and ESG bond issuance breached the \$1 trillion mark in 2021,<sup>33</sup>

with sustainability-related sukuk issuance in Indonesia, Malaysia, Türkiye and other new and existing markets that year suggesting growth of such instruments will continue into future years as well. In line with the anticipated growth of Islamic sustainable finance and impact investing, which will likely include infrastructure projects across the OIC as a major component, regulators in key Islamic finance markets have made notable strides in introducing frameworks to facilitate the continued growth of the market. Some examples include Malaysia's Sustainable and Responsible Investment (SRI) Sukuk Framework, Saudi Arabia and Oman's sustainability-related debt frameworks issued in 2021, the IsDB Sustainable Finance Framework in 2019, the State Bank of Pakistan (SBP)'s Prudential Regulations for Infrastructure Projects Financing in 2016, and Bank Negara Malaysia's (BNM) Value-based Intermediation Financing and Investment Impact Assessment Framework (VBIAF) in 2019. These regulatory developments augur well for the development of Islamic infrastructure as well.



Chapter

5

**OIC SUCCESS  
STORIES IN  
INFRASTRUCTURE  
FINANCE**

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## 5.1

# Indonesia: Climate adaptation<sup>34</sup>

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### Background

Indonesia is a biodiverse and coastal nation in Southeast Asia which is highly susceptible to the effects of climate change. It is also a major market for Islamic finance and is home to the world's largest Muslim population. With these attributes in mind, and with the rapid unfolding of climate change, it is unsurprising that Indonesia is at the forefront of green sukuk issuance and the development of blue (marine-related) sukuk.

In May 2022, Indonesia issued its largest-ever green sukuk tranche, a 10-year tranche worth US\$1.5 billion, as part of a dual-tranche US\$3.25 billion issuance. The sukuk met strong demand from investors, and the green tranche was eventually distributed 38% to investors in Asia, 27% in the Middle East, 20% in the US, and 15% in Europe. A combined wakala-ijara structure was employed.

### Key challenges and opportunities

The sukuk were issued under Indonesia's global medium-term note programme, but amendments were needed to the existing Islamic structure to align it with market standards and facilitate the sukuk's wide distribution. Regulatory developments in the UAE's Shariah standards also had an impact, with this issuance being the first-ever Asia Pacific (APAC) sukuk to be fully compliant with the UAE's Higher Shariah Authority standards, which are in line with AAOIFI principles. Some of the technical challenges and concepts involved included new partial loss concepts, tangibility event put rights, and consequential dissolution events. Addressing these matters strengthened the sukuk documentation and set a positive precedent for future regional transactions, thereby creating new opportunities in the market.

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## Outcomes

The proceeds from the green tranche were earmarked exclusively to finance and refinance eligible SDG-related expenditures, focusing on green and blue expenditures as per Indonesia's SDGs Government Securities Framework 2021. This framework also addresses the blue economy by helping to champion marine economic development with a twofold purpose: to create economic growth, and to reduce current and future damage caused by humans to the marine environment. Issuances such as this will potentially make a tangible impact in mitigating against the effects of climate change in Indonesia, a key country in the world's environmental ecosystems.



## 5.2

# Pakistan: Hydroelectric Power<sup>35</sup>

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### Background

A key part of the Pakistan government's attempts to reduce dependency on imported fossil fuels is hydroelectric power. The Khwar Hydropower Project, which consists of three electricity plants in the Khyber Pakhtunkhwa province, is one of 12 energy projects in Pakistan supported by the Islamic Development Bank (IsDB).

The plants have provided 1.6 million people with a reliable source of clean electricity since the project's completion in 2014. The Khwar Hydropower Project has also played a major strategic role in Pakistan's shift towards renewables. It enabled the construction of high-head hydropower stations with a combined capacity of 323 MW capturing the latent energy of three Indus River tributaries: the Khan Khwar, Duber Khwar, and Allai Khwar. The total project cost was \$632 million, to which IsDB contributed \$141 million to cover the construction of weirs to channel water to the chutes, and for consultancy and auditing costs. The Government of Pakistan financed the remaining costs.

### Key challenges and opportunities

The geology of the region presented several technical challenges during construction. For example, the area is mountainous and remote, making existing excavation slopes for the reservoirs unstable. The slopes needed reinforcement ahead of the project's start. Moreover, the October 2005 earthquake and 2010 floods caused setbacks due to infrastructure damage. However, employment opportunities in the area have subsequently increased, with nearly 200 permanent jobs created. Some of these electricians, maintenance workers and supervisors have progressed to applying their new skills on other infrastructure projects across Pakistan, and their careers represent a considerable opportunity for a region where most of the population survive via subsistence farming and keeping livestock.

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## Outcomes

On top of enhanced employment opportunities, there have been several other benefits for local communities:

- **Better education standards:** Education in the region has seen more emphasis placed on subjects such as science and technology. This is important, as Northern Pakistan experiences high levels of poverty, unemployment and illiteracy.
- **Infrastructure improvements:** Infrastructure has improved in the area as well due to the project, enabling the growth of trade and commerce. For example, work on improving the roads to the Allai Khwar created access to the site but also connected the previously isolated Sichbiar village, while several remote communities were also connected via secondary roads to Duber Khwar.
- **Other benefits:** Living standards have increased across the region due to the project's social responsibility initiatives. For example, connecting water pipes to local houses eliminated the need to fetch water from elsewhere, while medical standards have also improved, partly because the improved electricity supply meant pharmacies could stay open longer.



## A Case in Point

**Can Saudi Arabia become an example of sustainable mobility? Saudi company Electromin is busy helping the Kingdom do exactly that by laying down the physical and technological infrastructure for a greener future.**

For anyone just landed in Saudi Arabia the impression is immediate: this is a country going places ... and quickly. Already an economy growing faster than any other G20 member, the Kingdom's ambitions not only extend to leadership in finance, tourism, infrastructure, energy and technology – but to do all this sustainably.

This vision rests on innovative companies like Electromin. The business (part of Saudi car services group Petromin) isn't a household name yet, but that is likely to change as it designs and deploys a sustainable e-mobility ecosystem across the Kingdom. In so doing, Electromin is helping defy the critics who say oil-dependent and car-loving Saudi Arabia can't build a truly green transport sector.

The challenge is immense however. Today, transport accounts for more than a fifth of Saudi Arabia's emissions, of which the vast majority are produced by entirely petrol and diesel-powered trucks and cars on its gleaming multi-lane highways. The number of electric cars in Saudi Arabia is likely still less than 100.

To reduce the pre-eminence of the internal combustion engine therefore, the government is on a drive to electrify: first its public transport system (particularly high-speed rail and electric buses) and secondly through electric vehicles. Within two years, it wants to see 700,000 light-duty vehicles (10% of the total fleet) on Saudi roads and to have electric vehicles making up 30% of Riyadh's traffic by the end of the decade. All this will be backed by a domestic EV industry producing more than 300,000 units a year and 60 GW of renewable energy generation (enough to power 40 million American homes), again by 2030.

As for who provides the hardware and technological infrastructure to make all this possible? That's where Electromin comes in.

The Jeddah-based company has already deployed the densest network of EV charging stations in the GCC – stations that will be able to deliver a full charge in 30 minutes by the end of this year. Its big plan is to install over 23,000 by the end of the decade – in people's homes, at gas stations (some are going into Petromin forecourts this year) and across retail and hospitality spaces, so consumers can charge up while they grab lunch, enjoy a coffee or nip to the shops.

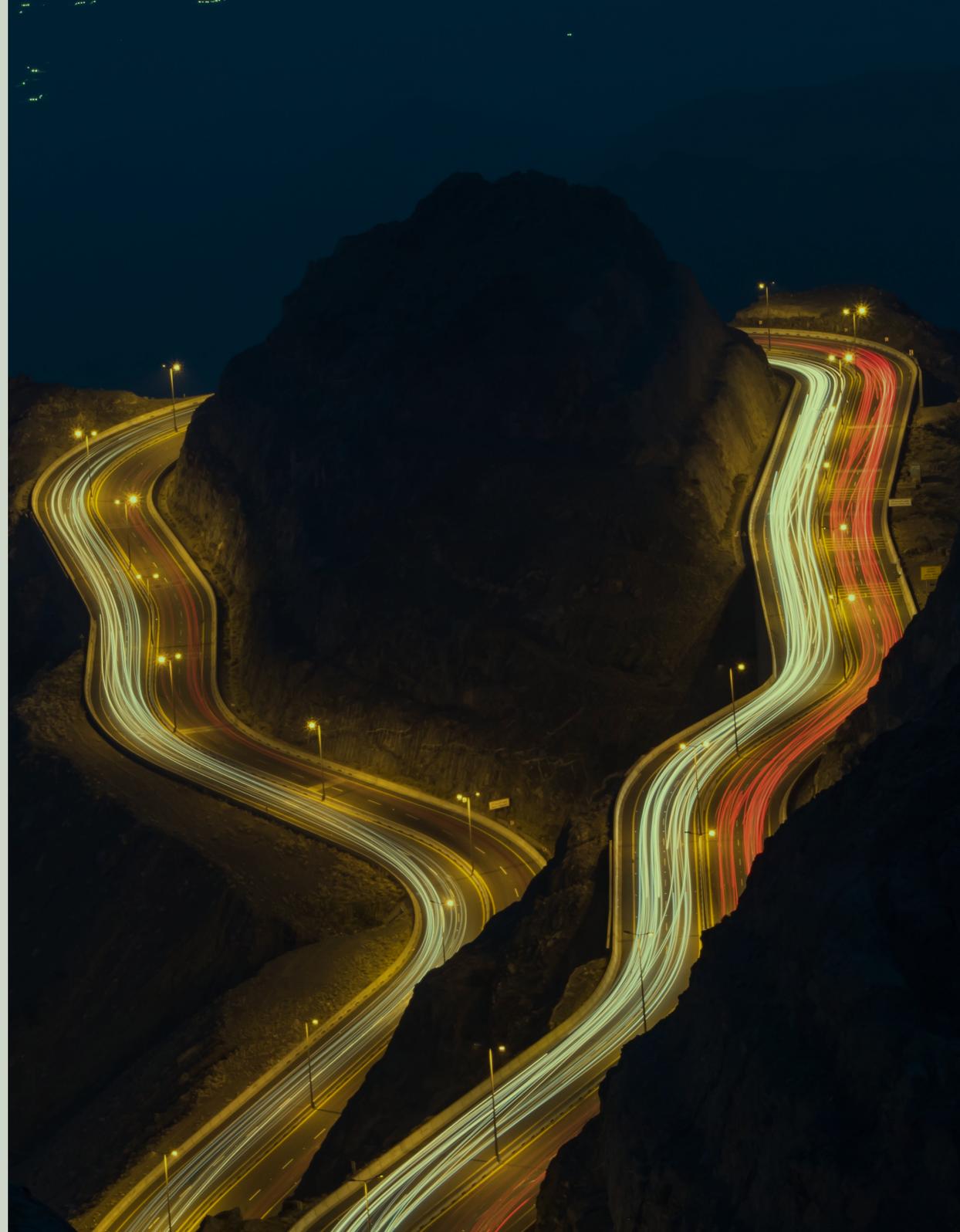
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## A bold ambition

Creating this charging network is just the start of their ambition says Mark Notkin, Head of Electromin and Petromin's Chief Innovation Officer. Electromin's larger ambition is to deliver a completely integrated suite of e-mobility solutions across the Kingdom: a single IT platform that enables users to access almost all forms of transport – from bikes and electric buses to trains and EVs.

“We can't look at cars on the road in isolation,” says Notkin. “The effective transition to EVs is fundamentally linked to the entire infrastructure, from airports and malls, to universities, residential infrastructure and municipalities. Successful transition needs to be an end-to-end smart mobility play that takes the entire infrastructure into account.”

What sets Electromin apart from much of the green-tech sector is that it not only embraces this vision and has the know-how, but is also building and beginning to operate those same smart mobility solutions, on the ground. Take its work in the new Riyadh Front business district of the capital, where Electromin engineers and Ministry of Transport and Logistics officials are busy putting an autonomous electric bus from France's NAVYA through its paces. They want to understand how such vehicles could work on Saudi roads – and what rules and regulations are needed ahead of deployment.



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## Finance and other challenges

Notkin is unapologetic about the scale of Electromin's vision, but he is also clear-eyed about what still needs to happen to accelerate adoption.

- First there is the Kingdom's terrain and climate. Saudi Arabia is larger than Western Europe and will need a charging network that is both extensive and extremely resilient. In the summer its EV infrastructure will bake in 40C+ temperatures and chargers along the coast will have to contend with the corrosive effects of salt spray. The need for adaptations such as ventilation and anti-corrosive coatings make environments like Saudi Arabia some of the toughest in the world for equipment providers.
- Second, is getting the policy framework right. The transport ministry is already working through the process of certifying models and offering generous incentives that could tempt EV manufacturers to the Kingdom, including long-term loans; cheaper electricity; subsidised wages and help with import duties and export development.

Investors will now want to see more to drive demand for EVs – not just giving reassurance that there are enough charging points but also incentives so that owning an EV makes financial sense in a country where gasoline prices remain some of the cheapest in the world.

- Third is the need to educate and inspire Saudis about the advantages of clean transport. "It's a chicken and egg situation," says Notkin. "Since people don't see EVs on the streets or ride electric buses each day, they don't realise there's been a revolution in terms of the performance, range and reliability of these technologies, like EVs which can cover 100km on four minutes' charge."
- Putting in place sufficient finance is the final piece of the puzzle. With a bill eventually running into the tens of billions of dollars, investors will want significant reassurance on returns and who can blame some reluctance given uncertainties around how consumers will adopt clean transport?

To overcome this, Notkin argues for the creation of an ecosystem of clean transport investors. This would bring together banks, asset owners, managers and multilateral organizations such as the IsDB to share and spread investment risk using tools such as blended finance, encouraged by green incentives. "Funding this level of infrastructure build is considerable, but that can absolutely be found with creative capital raising mechanisms".

Whether its financial institutions coming together; joint ventures between technology and infrastructure; or public and private partnerships, collaboration is the key says Notkin. Crack that and within a decade Saudi Arabia can look forward to a transport system that's sustainable both economically and environmentally. "It's a big agenda," says Notkin. "But the opportunity is immense."

Chapter

6

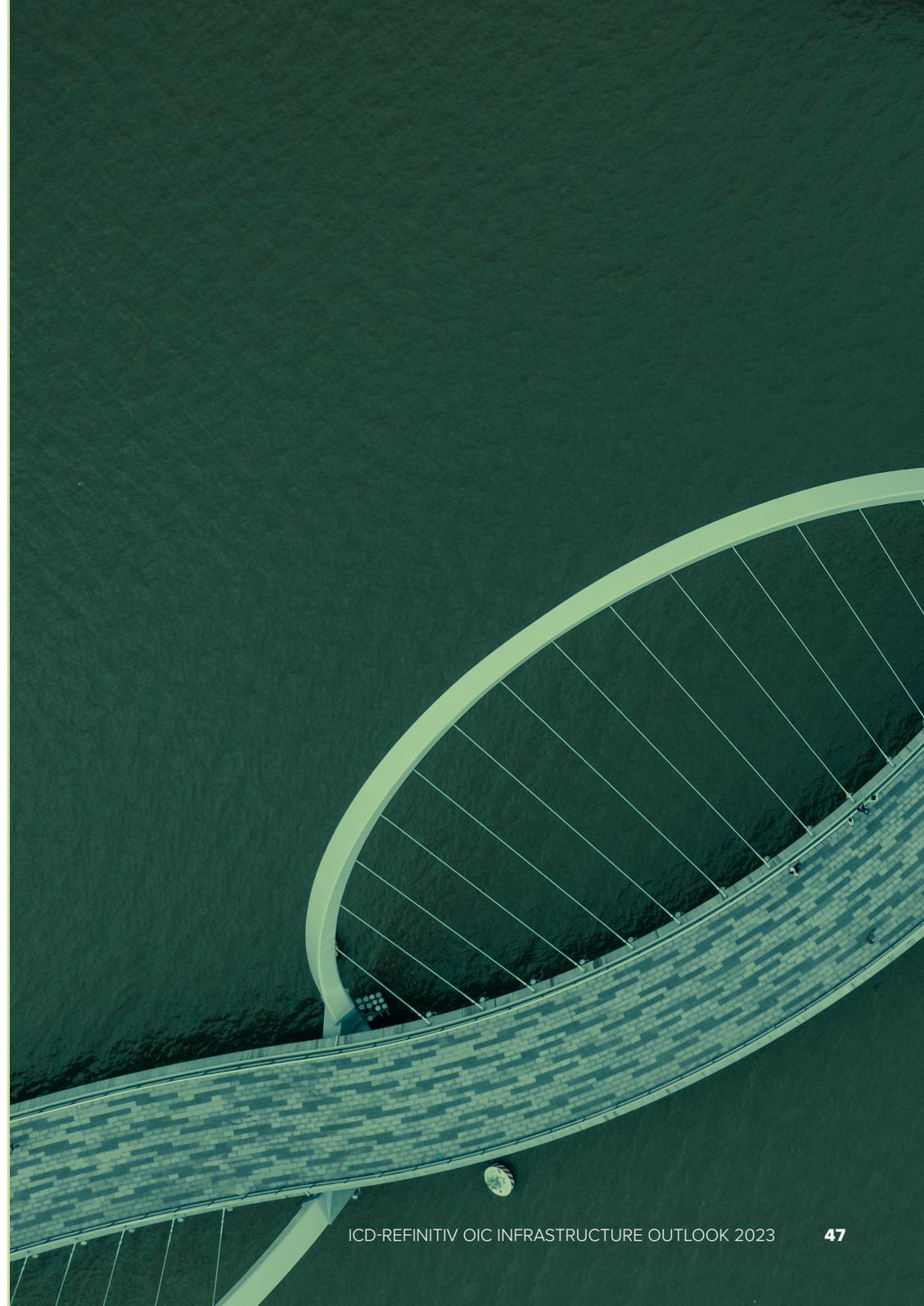
# CONCLUSIONS & RECOMMENDATIONS

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## 6.1 Strategic Considerations

The increased demand for infrastructure development and the associated financing gaps in OIC countries highlight the need to navigate the increasing complexity and uncertainty in addressing bottlenecks and trade-offs and to improve the returns on public and private investments. To this end, OIC governments must consider factors at the local, regional, national and global levels and formulate comprehensive approaches to ensure that resources are used effectively and efficiently. Some key strategic considerations include:

- **Country-specific needs assessment:** Conducting a thorough needs assessment to identify the most pressing infrastructure needs is a critical first step in the development process. This can involve analysing existing infrastructure and the increasing interactions within and between different sectors, gathering on-the-ground input from stakeholders, and considering future trends and projections such as climate change and how it can affect infrastructure provision and operations.
- **Business case appraisals that incorporate cost-benefit analysis to guide investments:** Infrastructure development can be expensive, and it is essential to ensure that investments are justified by the expected benefits. A compelling business case appraisal incorporating cost-benefit analysis can help to evaluate the economic, social and environmental benefits of an infrastructure project, as well as its feasibility, costs and affordability, potential risks and uncertainties, and a concrete plan for delivery.



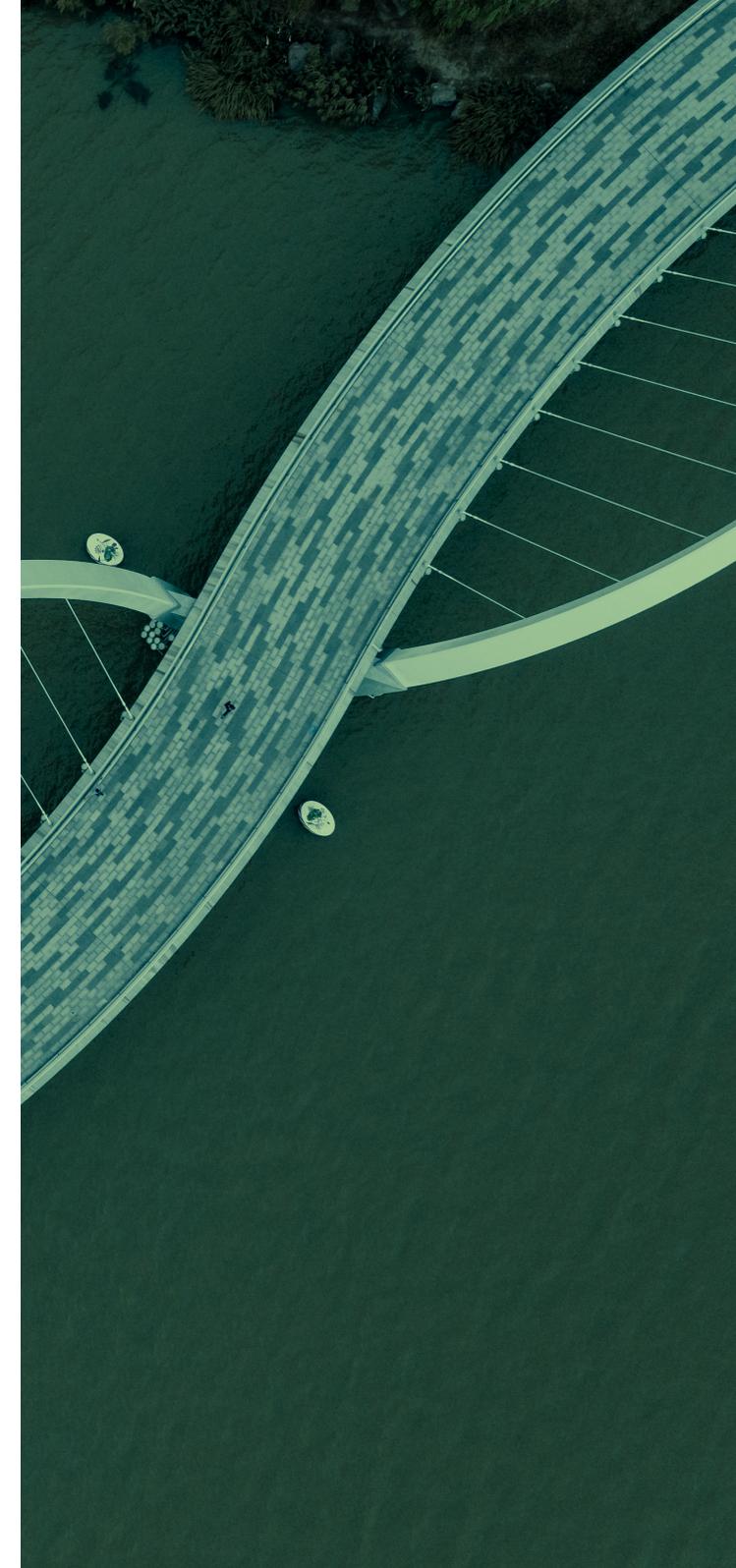
• **Sound long-term planning:** In continuation of the above point, infrastructure projects can have a lifespan of decades, and it is essential to consider their long-term sustainability and adaptability. On a project level, this can involve evaluating potential risks and uncertainties, designing for flexibility and scalability, and considering a project's potential to adapt to changing economic, social and environmental conditions. On a national level, a practical and actionable roadmap for infrastructure reform that is cross-sectoral in scope should target a country's current and future needs.

• **Financing options, securing necessary resources, and effective resource deployment:** Infrastructure investments have traditionally been financed through public funds, although as of late budgetary pressures in many OIC countries have necessitated alternative sources of financing. In this regard, infrastructure projects can be financed using different capital channels and involve different financial structures and instruments, including public-private partnerships, loans, grants, bonds/sukuk, and blended finance. Identifying and choosing the right financing mechanism is critical, as it can impact the project's cost, risk and

sustainability. Multilateral financial institutions are well placed to catalyse private financing for infrastructure by serving as intermediaries between governments and private investors. Lastly, securing necessary resources, not only on the financing front, is also crucial. Recruiting, training and retaining skilled infrastructure workers will be especially important in the years to come.

• **Active stakeholder engagement:** Infrastructure development can affect a wide range of stakeholders, including local communities, businesses, and government agencies, which can make it challenging to aggregate into a coherent view. Engaging with stakeholders throughout the development process can help to ensure that their needs and concerns are addressed and that the project is aligned with their priorities.

• **The importance of regulatory compliance:** Infrastructure development is subject to various regulations and permitting requirements, including environmental, safety and land-use regulations. Compliance with these regulations is critical to avoid legal and financial liabilities and to ensure that the project is socially and environmentally responsible.



## 6.2 Policy Recommendations

Building on the analysis and findings of this report, several policy recommendations on steps that could be taken to improve the capacity for infrastructure investments are outlined below

### **Creating a favourable investment climate is key to ensuring infrastructure investment at the necessary scale:**

Having a conducive policy and regulatory framework is essential. OIC governments should focus on outlining policies and regulations and implementing reforms so as to encourage quality private sector investment in infrastructure. This includes providing various targeted incentives, tax breaks, subsidies, or other type of financial support, reducing bureaucracy, and streamlining procedures for project approval. OIC governments should also identify and address unnecessary regulatory barriers to investment.

### **Building institutional capacity to effectively plan, design, build and manage infrastructure projects:**

OIC governments can strengthen institutional and individual capacity for project planning, preparation and implementation by hiring or training staff with specific technical skills or through collaboration with external partners. Establishing partnerships with the private sector can also promote innovation and best practices.

### **Developing a comprehensive national infrastructure plan:**

As infrastructure development serves multiple objectives with multiple policy goals such as growth and productivity, OIC governments should develop an integrated national strategic plan aligned with long-term ambitions that lays emphasis on the infrastructure needs and priorities of the country and sets out a clear roadmap for their achievement. The strategy must be coordinated across different levels of government and should be

linked to explicit infrastructure funding envelopes, with project pipelines identified where possible.

### **Encouraging PPPs for infrastructure development:**

As outlined in the previous section, OIC countries can benefit from PPPs for infrastructure development. Amongst other advantages, governments can share the risks associated with such projects with private investors in order to encourage them to invest. To achieve this, a country can consider establishing a dedicated PPP unit or launching special PPP programmes that are tasked with overseeing the development, financing and management of PPP projects. Such units or programmes can enhance the capacity of OIC governments to successfully manage the risks associated with the increasing number and value of PPPs.

### **Promote systematic and effective stakeholder participation:**

To increase trust and ownership of infrastructure planning and delivery, effective communication and engagement with a broader range of stakeholders must be prioritized and OIC governments must provide a platform to enable stakeholders to debate the issues in question. This can be done through community hearings, public hearings, or other outreach programmes. Stakeholders should also be provided with timely and accessible information on project updates, timelines and potential impacts and risks involved, with concerns and feedback appropriately addressed. A stakeholder engagement plan works well in ensuring that projects are successful, sustainable, and meet the requirements of all stakeholders.

# APPENDIX

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# A1. Profiles of top 3 countries by domestic infrastructure gap

## Türkiye

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With a key geostrategic location between Asia, Africa and Europe, Türkiye is an essential component of the global and OIC trade ecosystems. This will create a high degree of demand for domestic infrastructure over the foreseeable future, to help meet the needs of a rapidly growing economy and facilitate further regional and international trade. Türkiye's projected domestic infrastructure gap (2016-2040) is \$405 billion, with the largest sector funding gaps over that period in roads (\$335 billion), electricity (\$48 billion) and rail (\$19 billion).



## Egypt

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Similar to Türkiye, Egypt occupies a geostrategic location as a transcontinental nation. Egypt also has the largest population in the MENA region (109 million), which is creating strong and pressing demand for domestic infrastructure. Egypt's projected domestic infrastructure gap (2016-2040) is \$230 billion, with its largest sector funding gaps over that period in roads (\$177 billion), water (\$49 billion) and ports (\$5 billion).



## Nigeria

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Nigeria is the dominant economy in sub-Saharan Africa, with the largest GDP in the region (\$440 billion in 2021, or 23 percent of sub-Saharan Africa's GDP)<sup>38</sup> and the largest population (213 million). Although it is the biggest market in sub-Saharan Africa, Nigeria suffers from relatively underdeveloped infrastructure, to the extent that in 2022, the Lagos Chamber of Commerce & Industry (LCCI) cited poor infrastructure as the country's greatest challenge.<sup>39</sup> Nigeria's projected domestic infrastructure gap (2016-2040) is \$221 billion, with its largest sector funding gaps over that period being in roads (\$84 billion), electricity (\$61 billion) and telecoms (\$47 billion).



## A2. Sizing Methodology

### Context

An ongoing issue with infrastructure data globally is the scarcity of reliable data at the country level, including credible projections for funding gaps. This is especially an issue with OIC countries. A 2017 report by G20 and Oxford Economics and their supplementary report on select African countries in 2018 included coverage of only 17 OIC countries.<sup>40</sup> Using this report's country-level estimates for 17 OIC countries as a starting point, we then estimated the projected infrastructure funding gap for the period 2016-2040 for the remaining 40 OIC countries using our proprietary sizing methodology. We chose

the time period for two reasons: infrastructure investment is typically long-term in nature, and a forward-looking estimate allows OIC stakeholders to plan ahead and address the infrastructure gap across OIC member states; and the period 2016-2040 aligns with the G20/Oxford Economics data, allowing us to build further on that information. Our methodology allowed for country- and sector-level estimates, but we have included selected summaries so that the report remains concise.

### Methodology

Our methodology took a comparables-based approach, where we estimated the projected gaps for the remaining 40 OIC 'target' countries using their closest comparable OIC member state, which was selected on a case-by-case basis for each of the 40 countries. In rare instances, where no OIC comparable was suitable, we used a non-OIC comparable from the 2017 G20/Oxford Economics dataset (e.g. Albania, the only European OIC country). Some of the rationales used for choosing the comparable country were economic (e.g. proximity in

GDP/capita to target country), geographic (e.g. neighbouring country or same sub-region), and demographic (proximity in population size to target country). In many instances, two or more of these rationales were applicable. Along with the aspect of clear and logical rationales for selecting comparable countries, we further strengthened the methodology by sense-checking the estimates for each of the 40 target countries.

# A3. Common Islamic financing modes for infrastructure

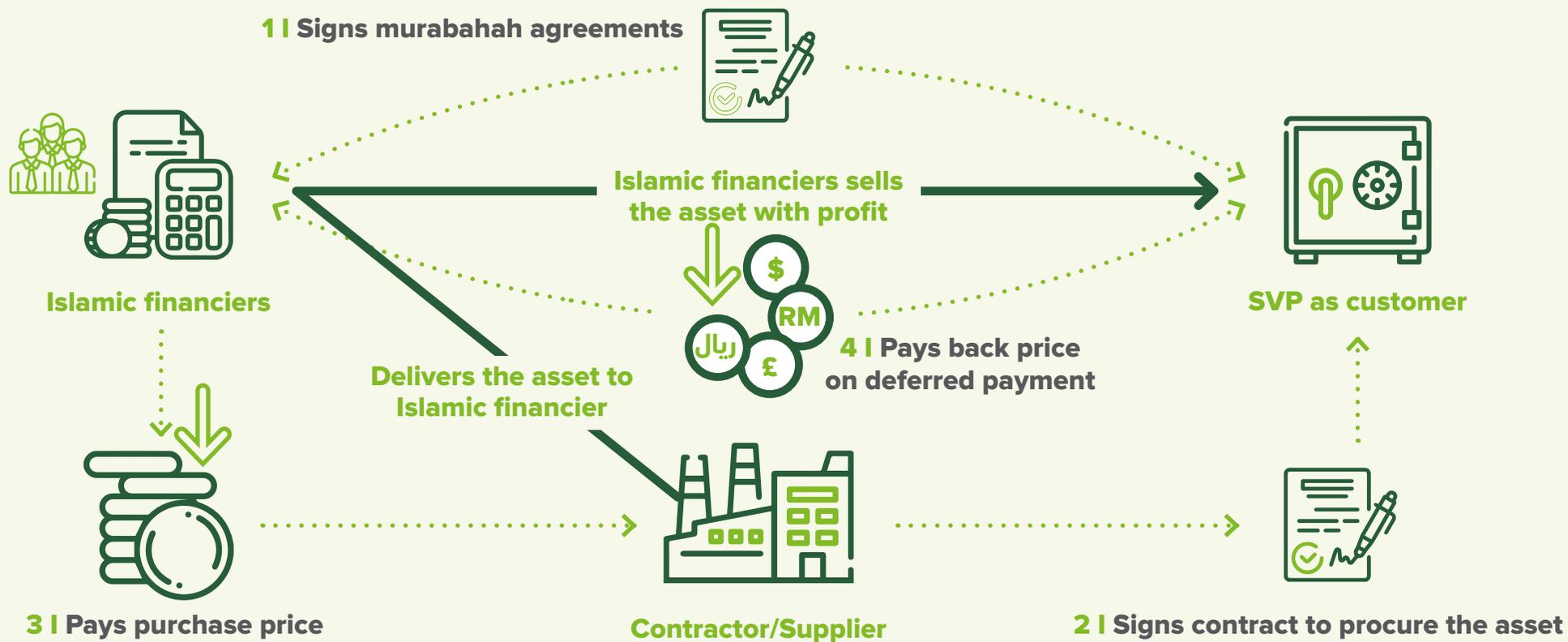
## Ijarah Structure and Related Steps



Source: World Bank

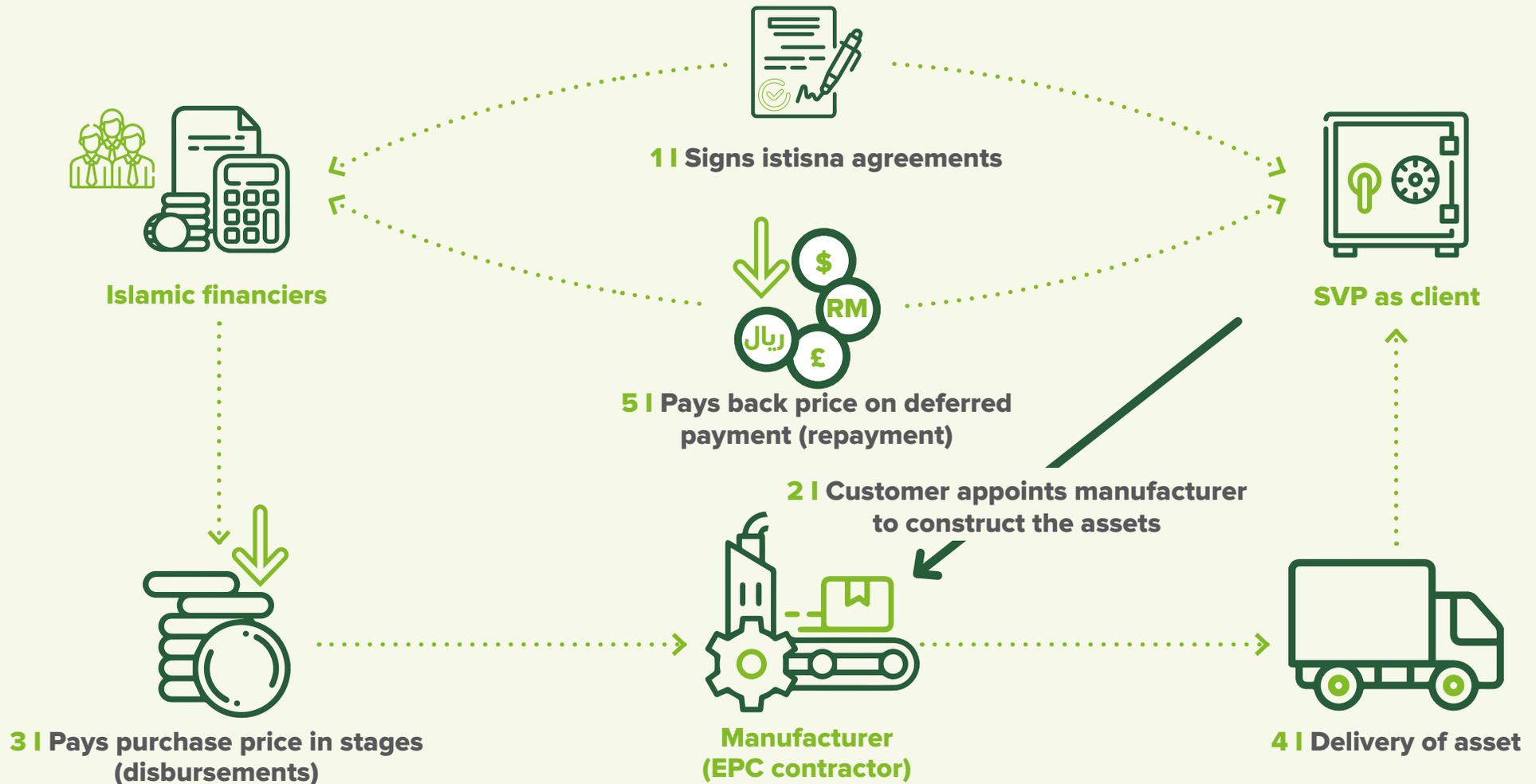
Note: SPV = special purpose vehicle.

# Mudarabah Structure and Related Steps



Source: World Bank  
 Note: SPV = special purpose vehicle.

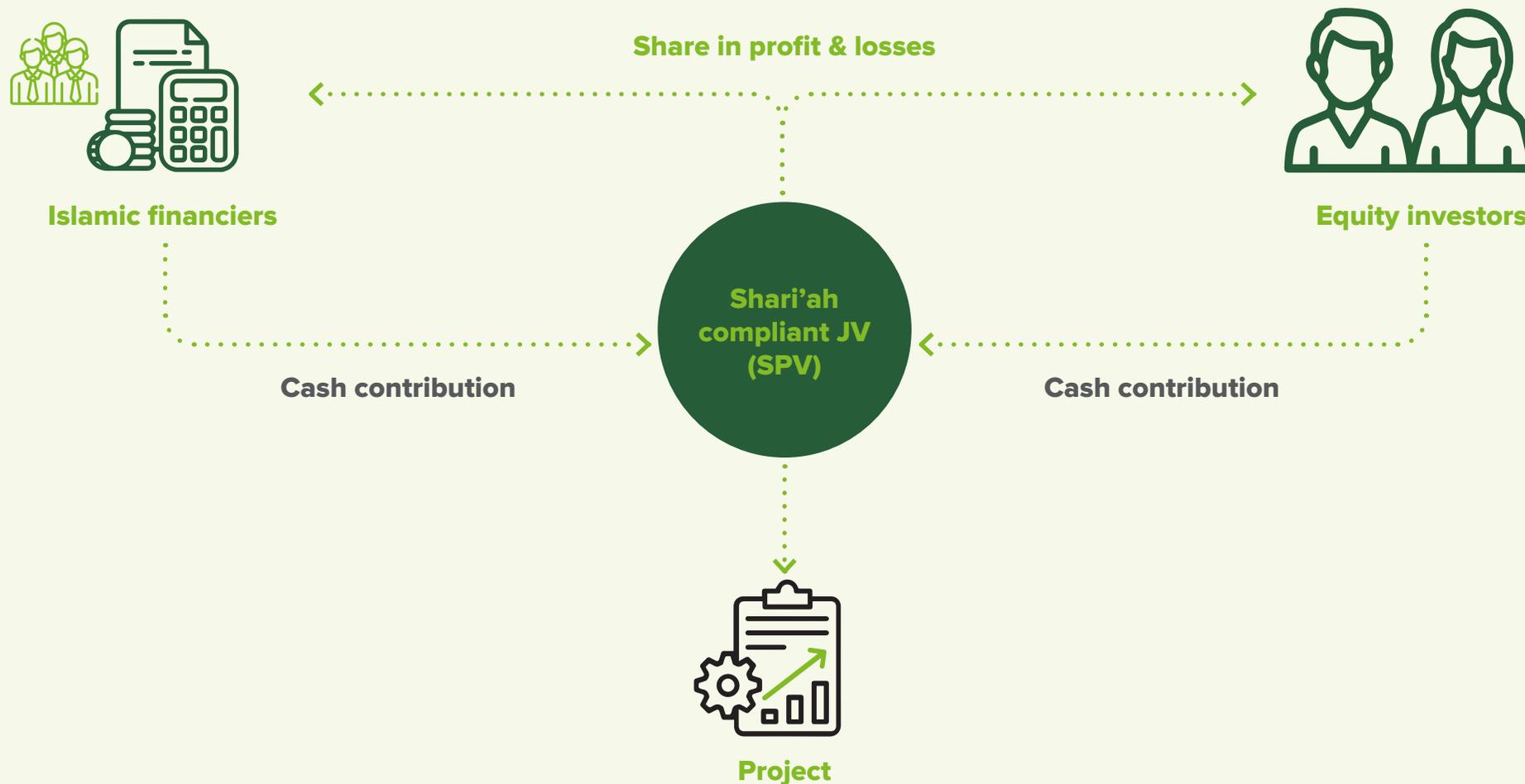
# Istisna' Structure and Related Steps



Source: World Bank

Note: EPC = engineering, procurement, and construction; SPV = special purpose vehicle.

# Musharakah Structure and Related Steps



Source: World Bank

Note: JV = joint venture; SPV = special purpose vehicle.

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20. For the list of OIC country classifications by region, see Appendix.
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22. Grand totals in the heatmaps and for the overall OIC infrastructure funding gap may not tally exactly due to approximation.
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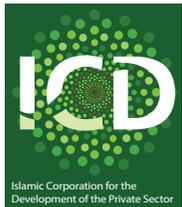
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