The Iraq SDG Investor Map
The Private Sector Breakthrough for the SDGs
Acknowledgment

The development of Iraq’s SDG Investor Map represents a collaborative effort between the Republic of Iraq’s Ministry of Planning (MoP) and the United Nations Development Programme (UNDP) in Iraq. This endeavor involved a meticulous blend of desk research and validation exercises with pertinent stakeholders.

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Their collaborative efforts and expertise were pivotal in the development and execution of the Iraq SDG Investor Map, marking a significant step towards achieving sustainable development goals in Iraq.

**Note:**

This report includes high-level summaries of the Iraq SDG Investor Map findings. For details on the market intelligence for investment opportunities highlighted herein, please visit the Iraq Country Page of the global SDG Investor Platform available at: https://sdginvestorplatform.undp.org/country/iraq.
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Content

Table of Figures .......................................................................................................................... 5
Abbreviations ............................................................................................................................. 6
1. The Case for Impact Investing in Iraq .................................................................................. 7
2. Priority Sectors ....................................................................................................................... 8
  2.1 Food and Beverage Sector ............................................................................................... 8
  2.2 Education ........................................................................................................................ 9
  2.3 Renewable Resources and Alternative Energy ............................................................... 10
  2.4 Transportation ................................................................................................................ 11
  2.5 Infrastructure .................................................................................................................. 12
  2.6 Health Care .................................................................................................................... 13
  2.7 Extractives and Minerals Processing ............................................................................. 14
3. Investment Opportunity Areas ............................................................................................ 15
  3.1 Food Processing ............................................................................................................. 18
  3.2 Mid-tech Greenhouses ................................................................................................... 19
  3.3 Specialty Dairy Products ............................................................................................... 21
  3.4 EdTech Platforms ......................................................................................................... 22
  3.5 Low-fee Private Schools ............................................................................................... 24
  3.6 Education Infrastructure ............................................................................................... 25
  3.7 Utility-scale Solar Farms ............................................................................................... 26
  3.8 Solar-based Green Energy Solutions ............................................................................. 28
  3.9 Railroad Infrastructure ................................................................................................. 29
  3.10 Pharmaceuticals Production ......................................................................................... 30
4. Emerging Investment Opportunity Areas ............................................................................ 32
  4.1 Social Housing ............................................................................................................... 34
  4.2 Water Resource Management Solutions ........................................................................ 35
  4.3 Flaring Solutions ............................................................................................................ 36
  4.4 Early Childhood Development ....................................................................................... 37
  4.5 Advanced Healthcare Services ...................................................................................... 38
5. References ............................................................................................................................ 39
Annex 1: Institutional Arrangement and Methodology ............................................................ 44
Annex 2: Selection of Literature of Development Documents for Iraq .................................. 46
Table of Figures

Figure 1: Data Points underpinning each IOA................................................................. 16
Figure 2: Key themes in their relation to IOAs ................................................................. 17
Figure 3: IOAs and Emerging Investment Opportunity Areas Categorization.................. 32
Figure 4: IOAs, Emerging IOAs and the four pillars of the NDP 2018-2022.................. 33
Improvements in impact investing in the region are

To address such challenges and improve its business

Abbreviations

B2B : Business-to-business
B2C : Business-to-consumer
CAGR : Compound Annual Growth Rate
CBI : Central Bank of Iraq
FOF : Fund of Funds
GCC : Gulf Cooperation Council
GHG : Greenhouse gas
GIIN : Global Impact Investing Network
GoI : Government of Iraq
IDP : Internally Displaced Persons
IOA : Investment Opportunity Area
IRR : Internal Rate of Return
KRG : Kurdistan Regional Government
KRI : Kurdistan Region of Iraq
MENA : Middle East and North Africa
MoE : Ministry of Education
NCD : Noncommunicable diseases
NDC : Nationally Determined Contributions
NDP : National Development Plan (Iraq)
NIC : National Investment Commission (Iraq)
PDS : Public Distribution System
R&D : Research and Development
ROI : Return on Investment
SDGs : United Nations Sustainable Development Goals
UNDP : United Nations Development Programme
WFP : World Food Programme
WHO : World Health Organization
1. The Case for Impact Investing in Iraq

Despite significant growth globally, the impact investing\(^1\) space in the Middle East and North Africa (MENA) region remains in its infancy, with only 1% of global impact investing assets under management in the region as of 2022.\(^1\) Notwithstanding the nascent market conditions, the region has been experiencing an influx of capital for impact investments growing at a compound average annual growth rate (CAGR) of 19% between 2015-2019 according to the Global Impact Investing Network (GIIN) 2020 Annual Survey.\(^2\) Improvements in impact investing in the region are strengthened by the growing number of incubators, financial authorities, and local investors who have increasingly become more aware of sustainable financing. Moreover, venture capital funding exceeded USD 1 billion during 2020, a first in the region’s history.\(^3\) Increased activity of venture capital firms who are aligning investment strategies with impact principles presents a promising trend for the impact investing ecosystem in MENA.

Iraq has a considerable and urgent need to channel private sector funds and efforts towards its pressing development requirements. The country’s economy predominantly relies on extractive industries, with oil rents constituting approximately 39.6% of the GDP.\(^4\) The need for economic diversification, particularly towards more sustainable sectors is clear. Moreover, following years of conflict with destabilizing forces such as the Islamic State, Iraq’s infrastructure is in dire need of recovery. In 2018, the World Bank has estimated the cost of reconstruction and recovery in the country to be near USD 88.2 billion.\(^6\) Housing is among the areas that requires a substantial amount of funds to be mobilized.\(^7\) Iraq is also among the Middle East’s most populous countries, hosting a great potential for local agri-food market development. Yet, the current investment environment demonstrates important challenges. Iraq ranks 172 out of 190 countries in the World Bank’s Ease of Doing Business Index. The Index evaluates the local enabling environment for establishing and conducting business in different country contexts. Iraq ranks low in metrics such as starting a business, enforcing contracts, completing tax filings and access to credit.\(^8\)\(^9\) Net FDI inflows to the country remain negative. The COVID-19 crisis has reversed an upwards trajectory of FDI that Iraq was experiencing in recent years.\(^10\) To address such challenges and improve its business environment, Iraq has recently initiated a reform process. In 2020, the Government adopted the White Paper for Economic Reform to re-evaluate the economy’s structural issues. Overall, there is existing momentum and policy initiatives to incubate an enabling ecosystem for private sector investments and clear demonstrable needs towards which such investments are to be allocated.

Promoting impact investing in Iraq could become instrumental in helping diversify the country’s economic activity and investment landscape, while unlocking international SDG-focused private capital. In efforts to establish an enabling environment for such targeted investments, it is important to take a snapshot of the current impact investing landscape in the country and identify impact investment opportunities to attract international and domestic investors. Moreover, as high-risk perception and limited access to market intelligence are among the main deterrents before investments in least developed and developing country contexts, increasing access to information and building a pipeline of bankable projects remain essential to mobilize private sector momentum towards SDG financing in Iraq.

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\(^1\) Impact investing is defined as the deployment of funds into investments that generate a measurable social or environmental impact alongside a financial return on investment. What distinguishes impact investing from other innovative financing mechanisms is its deliberate intention and commitment to achieve a positive impact, as defined in the investment objective from the very beginning. There are four key elements of impact investing: (i) intentionality, (ii) financial returns, (iii) range of asset classes, and (iv) impact measurement (Source: Global Impact Investing Network (GIIN). 2020. What You Need to Know About Impact Investing. https://theginn.org/impact-investing/need-to-know/%20#what-is-impact-investing).
2. Priority Sectors

SDG Investor Map follows a standardized methodology, provided in the annex of this report, comprising a filtering approach, from priority sectors to subsectors, and subregions, arriving at concrete business models. Based on the analysis of key themes that are prevalent across the literature, preliminary findings of the Iraq SDG Investor Map have revealed seven sectors that are prioritized as per business, policy and development priorities. The list of priority sectors for Iraq includes Food and Beverage, Education, Renewable Resources and Alternative Energy, Transportation, Infrastructure, Health Care, and Extractives and Minerals Processing. This section gives an outline of the rationale, by reviewing the intersection of sustainable development needs and public policy priorities, for sector selection as well as their significance for providing critical impact-driven intervention areas for the private sector.

2.1 Food and Beverage Sector

Sustainable Development Need

- The agricultural land in Iraq is underutilized, as only around 22% of land suitable for agriculture is cultivated. The agriculture production is characterized by prevalence of old farming techniques such as flood irrigation, poor management of post-harvest activities and inadequate large-scale farms.
- Iraq would require an additional financing of about USD 41 billion -based on a developing country scenario, between 2022-2030, for achieving the SDG 2, Zero Hunger.
- Iraq’s universal Public Distribution System (PDS) receives around USD 3.5 billion budget from the government and includes critical food items such as rice, wheat, sugar, and edible oils, which are mostly imported – 65 percent of wheat and 90 percent of rice consumption is met with imports.
- Sustainable agricultural production in Iraq is undermined by the climate change-induced weather extremes, prolonged droughts, decreasing soil fertility, and increased prevalence of sand and dust storms which hinder agricultural production. Climate change has exacerbated the pressure on Iraq’s water supply, alongside the decrease in transboundary water flows – Euphrates and Tigris rivers comprise about 98% of Iraq’s water supply- from neighboring countries and deficient water resource management. The two main rivers in country are expected to lose 50% of their flow by 2030 and the supply-demand gap in water resources is expected to reach about 11 million cubic meters by 2035.
- In Iraq, household size of the poorest 20% of the population is about 10.5 persons, much higher than the figure for the richest 20%, 6.2 person, and the poor is disproportionately impacted by the food inflation. Benefits from the use of public goods for agricultural production such as irrigation canals are not equally distributed, as in long canal structures, amid limited water availability, upstream farms could only access adequate amount of water.

Public Policy Priority

- The government invested about one billion dollars during the years 2018-2022, by focusing on supporting production inputs (fertilizers and seeds), final production (subsidizing the

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2 The sector categorization and nomenclature reflect an adaptation of Sustainable Industry Classification System (SICS).
prices of cereal crops), as well as attempts to develop irrigation methods that respond to water scarcity, in addition to anti-poverty policies that seek to improve farmers’ incomes, provide more rural employment, and improve effectiveness of cross-rural supply chains in all governorates. The National Development Plan (NDP) 2018-2022 sets the objective of increasing the GDP contribution of the agricultural sector to more than 5%, achieving a sector growth rate of 8.4% during the NDP period\textsuperscript{17}. It is expected that the new national development plan (2024-2028) will focus more on this sector and increase its growth rates.

- National Investment Authority supports 195 investment opportunities in ten governorates with an area of agricultural land of 2.3 million dunums\textsuperscript{18}.

\section*{2.2 Education}

\subsection*{Sustainable Development Need}

- The projected cost of delivering SDG 4 – Quality Education in Iraq for the period of 2022-2030 would be about USD 120 billion from a developing country base scenario, albeit the limited public spending on education, representing less than 10% of the government budget -below the MENA average\textsuperscript{19}. The Iraqi National Education Strategy, 2022-2031 pledged to achieve an increase in spending on education to 16% before 2030.

- Female labor force participation in Iraq is the second lowest in the world, at 10.6% as of 2021 (cf. 68% for males). In Iraq, mostly girls make up the 3.2 million children that are out of school\textsuperscript{20}.

- Marginalized communities, including the estimated 200,000 displaced households and people living in more than 470 informal settlements in Iraq, have significant challenges in accessing physical education facilities or bear the brunt of overcrowding, inadequate school facilities, and long distances to school. The need to work to provide extra income for their families impede displaced children’s inclusion in the education system\textsuperscript{21}.

- Iraq’s updated National Document for Population Policy of 2023 showcases that the illiteracy rate among females aged 10 and over is more than double that of males, 20% and 10% respectively. The disparity between rural and urban areas is also considerable, as the illiteracy rate, respectively, stands at 21% and 13%.

- Learning outcomes and skill levels in Iraq remain low amid high dropout rates (highest at the end of upper secondary education with 12%, in 2020) and repetition rates (over-aged children make up about one-third of the secondary school children), aggravated by declining teacher quality\textsuperscript{22}.

- Almost one-third of the Iraqi labor force are impacted by labor underutilization as of 2021, due to both high unemployment (16.5%) and underemployment (24%). Labor underutilization in Iraq is higher among women than men, and youth than adults. In 2021, the female unemployment rate was 28% compared to 15% for males, and youth unemployment was 36% with almost three times the figure for adults\textsuperscript{23}.

\subsection*{Public Policy Priority}

- Building human capacity is the first of the five sustainable development priorities set out by Iraq’s Vision 2030. The government envisions the domestication of the SDGs through the Ministerial Curriculum (2022-2025) which stipulates the adoption of a plan based on 23 axes, including the improvement of human capital endowment and efficiency in education as the 14\textsuperscript{th} axis.
• The Iraqi National Education Strategy, 2022-2031 lays the foundation for increasing financial commitments to achieve universal primary and secondary education, pledging to increase the share of public spending on education from below 10% to 16% before 203024.  
• The new National Development Plan 2024-2028 by the Ministry of Planning (MoP) is set to include a priority program that is designed to complete the public sector projects with a social dimension related to human capital development25. MoP envisages a greater role for the private sector in terms of inclusive human capacity development. The private sector could become instrumental in creating new job opportunities that are attractive to women and girls, improving women's capabilities in entrepreneurship and financial literacy, (co-) investing in digital education and its supporting infrastructure, and rehabilitating schools in conflict-affected provinces. This strategy continues the previous approach by building 2,000 new schools and completing 431 schools within the government investment budget, in light of improving the private sector's opportunities to pump more investments into the education and higher education sectors.  
• Iraq's updated National Document for Population Policy of 2023 stipulates on investments in demographic dividend to ensure the sustainability of decent living of Iraqi citizens. Education and Learning is positioned as the first of its 11 pillars. It also aims at empowering women and activating their participation, which includes confronting the culture of discrimination based on gender, strengthening their rights through legislation and laws, empowering them with job opportunities and participation, supporting programs to eradicate illiteracy among women, universalizing and compulsory education for girls, and preventing underage marriage.  
• The Iraq National Development Plan covering the years 2018-2022 sets the objective of adopting education technologies to modernize curricula within a dedicated chapter for Human and Social Development strategies. The Ministry of Education, in partnership with UNICEF, launched the online learning platform "Newton" in March 2020 as a response to the Covid-19 outbreak.  
• The National Development Plan (2018-2022) sets the rehabilitation, expansion, and development of new school buildings as a means of achieving its Human and Social Development pillar. In 2023, Iraqi government established a fund of funds (FOF) with a capital of about USD 765 million, including the education sector, and aims at constructing 1,000 new schools immediately 26.

2.3 Renewable Resources and Alternative Energy

Sustainable Development Need

• 4.5 GW of generating capacity were impaired due to the war and about twenty percent of the transmission infrastructure became inoperable. As the peak energy demand surged by 80% in 2017, Iraq experienced a large power shortage. Power outages and scheduled brownouts are not infrequent and contribute to civil unrest, particularly during the peak demand for air-conditioning27.  
• Low efficiency infrastructure, high levels of aggregated technical and commercial losses (>50%), and frequent outages result in heavy reliance on diesel-powered neighborhood generators, which generate expensive electricity, contribute to noise and air pollution. With overreliance on oil and gas power generation, alternative energy sources can accelerate the decarbonization28.  
• The access to formal electricity services is restrained to marginalized groups of women. Women in general appear to be uninformed regarding the delivery of energy services, their
rights and obligations as users, and options for bill settlement. Power outages negatively affect female attendance of educational institutions and significantly hinder the conduct of women-led small businesses, according to enterprise surveys29.

**Public Policy Priority**

- As part of its Nationally Determined Contributions (NDC) targets for 2030, Iraq commits to reduce its emissions by 1 to 2% unconditionally, and 15% on conditional basis, focusing on curbing the emissions from energy sector by legislation of the Renewable Energy Regulation Law, and deploying 12 GW renewable energy capacity30.
- The Iraqi government prioritizes solar generation projects in line with the SDG 7. The Electricity Law No. 53 of 2017 states its objective of supporting and encouraging the adoption of renewable energy, its activities and nationalization. The share of renewable energy in the total national mix is targeted at 10% by 203031.
- The Ministry of Electricity has adopted a future vision for low-carbon energy that requires pumping more investments in clean energy according to several tracks, including: the use of combined cycles, converting heavy-fuel electric power stations to the use of dry gas, and increasing the component of clean energies (solar, hydroelectric, combined cycles) to about a quarter of the energy produced until 2030. This would require an investment of nearly USD100 billion until that year32.

**2.4 Transportation**

**Sustainable Development Need**

- The traffic jams are common in Baghdad where about 30% of the total vehicles in the country are, and the number of cars increased by more than six-fold between 2007 and 2020, in the face of lack of urban rapid transport systems and less emitting public transport33.
- Iraq’s major cities lack urban transportation solutions, such as light rail systems, and public transport, disproportionately impacting women and poorer households’ participation in social and economic activities.
- Greenhouse gas (GHG) emissions from Iraq’s transportation sector has grown by 80% in last ten years, and accounts for 13% of the total GHG emission of the country and the main source of air pollution34.

**Public Policy Priority**

- The Development Road Initiative was launched by the government in May 2023. The event took place with the participation of transport ministers and officials from the GCC, and her neighbors Iran, Türkiye, Syria and Jordan. The multimodal transport project, which comprises the Al Faw port, rail and road links with neighboring countries, has an estimated worth of USD 17 billion and is expected to create 100,000 jobs35.
- In April 2023, Iraq’s acceded to international TIR convention, which is the sole customs transit system in existence globally and all of Iraq’s neighbors are partner to 36.
- The 2023 Investment Map of Iraq by the National Investment Commission (NIC) and Kurdistan Region of Iraq (KRI) investment plan for 2021 emphasize the activation of the public mass transit systems, including elevated rail system in Baghdad, network of trams
in Erbil (102 km), in Sulaymaniyah (60km), and in Duhok (55km), suspension train between Al-Najaf and Kerbela and monorail system in al-Najaf.37

2.5 Infrastructure3

Sustainable Development Need

- Investments in resilient infrastructure systems in Iraq are imperative for the achievement of SDG 9 – Industry, Innovation and Infrastructure and diversifying the Iraqi economy as the country has the lowest manufacturing value added as share of GDP in the Arab countries, standing at 0.87% in 2017, well below the average for Arab countries, 9.6%, and the world average of 16.4%38.
- Innovation and industry ecosystem in Iraq is intrinsically bound to human capacity development, which requires the expansion of adequate civic infrastructure including, restructuring hospitals and health centers, constructing new hospitals in remote areas, and improving school infrastructure especially for technical and vocational skills and facilitating access to decent work for women and youth.
- With significant urban-rural disparities prevailing, municipal waste collection, which covers only urban areas, reaches 67% of the population, as compared to 100% in Gulf Cooperation Council (GCC) countries39. Iraq produces approximately 30,000 tons of solid waste per day, which mostly end up in unregulated landfills causing direct soil and water pollution, notably in Tigris40.
- Iraq’s population prospects indicate a potential increase from 43 million people in 2023 to about 74.5 million by 2050, adding up to an acute shortage of about 2.5 million housing units in Iraq and informal settlements where around 7% of people reside41. The urban population has already reached 28.05 million (69.9%) based on 2020 estimates, accentuating the need case for low-cost housing and housing facilities42.
- Deficient wastewater treatment, aggravated by declining water flows, increased salinization and agricultural runoff, results in the reduction of the quality and unavailability of safe drinking water, especially in the southern Iraq. Contaminated water hospitalized around 100,000 people in Basra, in 2018.

Public Policy Priority

- The current government has adopted a new strategy to build 19 new residential cities in ten governorates with capacity of more than 700,000 housing units. On 7 March 2023, the Council of Ministers decided to form a government team to plan new cities with high service specifications, negotiate with developers and investors to implement infrastructure and other investment projects, and prepare innovative models for partnerships with the private sector by giving them investment opportunities in distinctive and economically viable places in Baghdad and the provinces, in exchange for encouraging them to establish low-cost infrastructure and houses in new cities43.
- In 2021, the Central Bank of Iraq launched an initiative to support the liquidity of the housing sector (Housing Fund and Real Estate Bank) to lend to citizens and employees wishing to buy housing units. These loans are divided into three types:

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3 As per the applied sector classification methodology, Infrastructure sector includes the real estate, utilities, and waste management subsectors.
i. Housing Fund loans in the amount of (75) million dinars to build housing units with an area of not less than (100) square meters or add a building in Baghdad and the centers of the provinces, and loans of (60) million dinars in the districts of the capital Baghdad and (50) million dinars outside the centers of the rest of the provinces, and loans in the amount of (75) million dinars to purchase housing units in investment residential complexes and these loans without interest except for a one-time administrative commission of (5%) of the loan value and a repayment period not exceeding (20) years, to facilitate the value of the monthly installment.

ii. Real Estate Bank loans in the amount of (100) million dinars to purchase housing units outside the investment residential complexes with an area of not less than (100) square meters, with a decreasing annual interest rate of (2%) of the loan value and a repayment period not exceeding (20) years.

iii. Loans amounting to (125) million dinars for the purchase of housing units in investment residential complexes, without interest, provided that a one-time administrative commission of (5%) is deducted from the loan value and with a repayment period not exceeding (20) years.

- The investment trajectory of the new National Development Plan, 2024-2028 incorporates infrastructure projects directly linked to the productive sectors (agriculture, tourism, and industry) to advance the sustainable development process and to direct more investment towards the infrastructure sector.

2.6 Health Care

Sustainable Development Need

- Noncommunicable diseases (NCD) are widespread in Iraq, amounting to 50% of total disease burden. It is estimated that 14% of Iraqis have diabetes, yet only 15% of them receive treatment. Likewise, it is estimated that 35.6% of Iraqis suffer from high blood pressure, of whom only 54% are receiving treatment, and only 8% of their blood pressure is under control.

- Transmissible diseases pose a threat due to their ease of spreading and are exacerbated by the low level of immunization (DPT3 at 84% and MCV2 at 81%) due to conflicts and medicine shortage.

- In 2020, Iraq had a ratio of 0.9 physicians per 1,000 people, which was significantly below the global upper-middle-income average of 2.2 (2019).

- In 2019, the value of locally produced pharmaceuticals amounted to USD 331.267 million, making up only 11% of the total market value. Inadequate pricing of the medicine perpetuates smuggling and large counterfeit drug market. In 2020, 150 people were killed by a shipment of fake drugs in Iraq.

- Iraq encounters a hurdle in providing healthcare services to internally displaced individuals (IDPs). Low-income families are compelled to buy the most affordable drug alternatives, although of inferior quality. Poorer communities are also more likely to encounter illegal and counterfeit products.

Public Policy Priority

- Iraq’s updated National Document for Population Policy of 2023 stipulates on investments in demographic dividend to ensure the sustainability of decent living of Iraqi citizens. Health
and Reproductive Health is positioned as the second of its 11 pillars, to improve the health status of the population.

- National Development Plan, 2018-2022: sets an objective of improving and updating the health care sector, particularly reducing the rates of transitional and non-transitory diseases and improving health prevention system. Likewise, the new National Development Plan 2024-2028 adopted goals that include expanding and developing health infrastructure, such as establishing specialized hospitals, increasing the number of primary health care centers and completing lagging hospital construction projects, as well as providing medicines and vaccines, in a way that ensures raising the efficiency of health unit services and ensuring the provision of supplies. And medical, service and laboratory equipment in all health institutions, improving the health prevention system and reducing morbidity rates.

- The National Health Policy 2014-2023 sets a goal to “ensure the availability of medicines, reagents and medical supplies and infrastructures” as well as “reduce the burden of disease, communicable, non-communicable, maternal and child mortality and increase life expectancy”. The policy provisions the support to private sector investments in the health care sector.

- In 2020, the U.S. International Development Finance Corporation (DFC) signed a memorandum of understanding with the Government of Iraq to support private sector-led development. DFC aims to invest USD1 billion over 4 years in private sector projects, including health sector.

- The National Investment Commission (NIC) introduced a 10-year tax break and tax-free imports of medical equipment. Additionally, customs were reduced from 10% to 0.5% on imported medicines and medical appliances according to order no. 255 on July 24, 2019.

### 2.7 Extractives and Minerals Processing

#### Sustainable Development Need

- Iraq is the second largest gas flare country globally and despite its easily extractable oil it has an emissions intensity 50% higher than the global average.

- Energy sector in Iraq accounts for about three quarters of Iraq’s total carbon emissions.

- Iraq is among the top ten countries with the most deaths from air pollution globally, alongside two other Arab countries, Egypt and Saudi Arabia.

#### Public Policy Priority

- Iraqi government has endorsed the “Zero Routine Flaring by 2030” initiative by the World Bank, pledging a conducive environment for upstream investments and treatment of associated gas, Iraq has been a long-standing member of the Global Gas Flaring Initiative.

- Iraq has committed to conditional NDC target of 15% reduction in GHG emissions.
3. Investment Opportunity Areas

This section presents high-level summaries of Investment Opportunity Areas (IOAs) identified by the Iraq SDG Investor Map. The summary of each IOA covers a combination of data points: (i) business model, (ii) user or beneficiary (i.e., impacted stakeholders), (iii) economic factors (e.g., market size and environment, indicative return, investment timeframe), (iv) enabling factors (covering regulations, financial environment and incentives), (v) risk factors (market and impact risks), (vi) impact management category, and (vii) impacted SDGs (showcased in two rows at the upper right corner, corresponding to a differentiation of primary SDGs addressed by the IOA -in the upper row, and secondary SDGs, which are indirectly or consequentially impacted by the increase in investments).

IOAs, summarized herewith this document, are underpinned by five broad data categories and 20 data points that are illustrated in the Figure 2. The comprehensive information on these data points, which can be used to inform due diligence and policy actions, are available on the SDG Investor Platform via Iraq Country Page: https://sdginvestorplatform.undp.org/country/Iraq.

The Iraq SDG Investor Map identifies ten investment opportunity areas (IOAs), standing at the intersection of national development needs, public policy priorities and impact investment qualifications. The latter is reflected in each IOA by the selection process of SDG-enabling investable business models in Iraq that fulfil the four business criteria:

- **Fundamentally marketable**, i.e., investments within which a private actor could invest independently of government co-investment, and where a private actor may be able to achieve a market- or above-market return, or viable with tailored arrangements, while using blended finance solutions, concessional loan or public private partnership.

- **Sufficiently specific** to the realm of an ‘opportunity area’, i.e., a field within which diverse kinds of deals/transactions could take place, but broad enough for an investor to decide what kind of financial vehicle is best suited to deploy.

- **Sufficiently at-scale** for investments to be able to achieve depth and duration of potential impact.

- **Largely already proven in-market**, i.e., by a transaction having taken place, and return/impact established.

Additionally, to ensure the selection of impact-driven business models, each IOA has been classified according to **ABC of Enterprise Impact**, an established norm by the Impact Frontiers for evaluating the impact intentions of an enterprise in three categories:

- **Act to Avoid Harm (A)**: The enterprise or investment sets an objective to improve the conditions brought about by the harm caused on livelihoods and the environment due to their operations.

- **Benefit Stakeholders (B)**: The enterprise or investment not only acts to avoid harm, but also generates various effects on positive outcomes for people’s well-being and the environment.

- **Contribute to Solutions I**: The enterprise or investment not only acts to avoid harm, but also generates one or more significant effect(s) on positive outcomes for otherwise underserved people and the planet.
As per the standardized 8-step methodology, the Iraq SDG Investor Map instigated a filtering down approach for identifying impact-driven business models, the Investment Opportunity Areas (IOAs), in Iraq, from key themes around sustainable development needs and public policy priorities in Iraq, discussed in the previous section. Figure 2 illustrates each IOA in relation to the major themes that have emerged consistently across multiple sectors. The literature review and the complementary consultations and validation exercises have guided the identification of three key themes for Iraq’s development landscape:

i. Sustainable Private Sector-led Growth to Diversify Away from the Oil Sector and Improve Manufacturing Sector Capacity

ii. Climate Resilient Infrastructure Systems and Effective Use of Water and Mineral Resources to Accelerate Just Energy Transition, Renewable Energy and Agriculture Sector Development


Each Investment Opportunity Area (IOA) put across by the Iraq SDG Investor Map requires financing and implementation mechanisms in a “tailor made” fashion, involving modifications to proposed business models or developing new ones as well. Therefore, structuring and adopting IOAs need deep dive feasibility studies and market assessments by the relevant investors and enterprises.
FIGURE 2: KEY THEMES IN THEIR RELATION TO IOAs

- Climate Resilient Infrastructure Systems and Effective Use of Water and Mineral Resources to Accelerate Just Energy Transition, Renewable Energy and Agriculture Sector Development
- Sustainable Private Sector-led Growth to Diversify Away from the Oil Sector and Improve Manufacturing Sector Capacity
- Human Development as an Enabling Factor for Improving the Returns on Human Capital, Developing Capacities for Crisis Recovery and Achieving Social Cohesion
- Solar-based Green Energy Solutions
- Flaring Solutions
- Utility-scale solar farms
- Railroad Infrastructure
- Water Resource Management Solutions
- Social Housing
- Low-cost Private Schools
- Education Infrastructure
- Early Childhood Development
- EdTech Platforms
- Advanced Healthcare Services
- Pharmaceuticals Production
- Specialty Dairy Products
- Food Processing
- Mid-tech Greenhouses
- Sustainable Private Sector-led Growth to Diversify Away from the Oil Sector and Improve Manufacturing Sector Capacity
3.1 Food Processing

Business Model:

Establish or improve techniques and technologies applied in industrial food processing facilities with locally sourced products, notably dates, tomatoes, potatoes, sesame for tahini production, pomegranate and grapes for juice production.

Smaller scale fruit processing plants could be established near the Internally Displaced People (IDP) camps and localities.

The processing facilities along the dates value chain could produce molasses and peat and prioritize repurposing the date palm fronds and leaves to be used as organic fertilizers. Industrial processing of tomatoes could develop along post-harvest value addition (such as cleaning and weighing), conveying, grading and sorting, washing, crushing, pasteurization and (robotic) palletization. The end products would mainly target the domestic market but would have export potential given the growing international demand for organic and upmarket varieties of processed tomato products, such as sundried tomatoes, and dates.

Retail sector may invest in production to overcome issues associated with the fragmented value chain.

User or Beneficiary

Investments in food processing, benefit rural and smallholder farmers by increasing their production, create jobs for women, offer export opportunities for businesses, stimulate local demand for diverse and high-quality products. In conflict-affected areas such as Nineveh, most of the vegetable producers are internally displaced people returning to homeland after displacement that could benefit from increased food processing activity.

Economic Factors

The demand for processed foods is expected to be around USD 1 billion, including USD 291 million for prepared tomatoes and USD 100 million for prepared potatoes.

Iraq is one of the world’s leading producers of dates, producing in 2020 about 735,350 tons of dates, constituting 10.2% of the production of Arab countries, and 7.8% of the world’s production of dates. The nation is home to more than 650 varieties of date and was used to be known to be the country of 30 million palm trees.

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4 This section aims at providing summary of IOAs identified by the Iraq SDG Investor Map. Full data points and sources could be resorted at the global SDG Investor platform, Iraq country page: https://sdginvestorplatform.undp.org/country/iraq.
A market for more than 43 million people, with population projected to be around 74.5 million by 2050, the demand is set to increase. Export opportunities are enhanced by easy road transport to neighbors. Increasing average income of individuals stimulates more spending on food and entertainment. 

**Indicative Return:** Benchmark from a prefeasibility study, with similar production capacity and SWOT analysis for Iraq, indicates an **Internal Rate of Return (IRR) of 21%** for date processing. Increasing R&D investments and innovation in other food processing areas, such as in tomato, may generate **IRR more than 30%**

**Investment Timeframe: Medium Term** as the investment in food processing in Iraq are expected to generate return in about five years.

<table>
<thead>
<tr>
<th>Enabling Factors</th>
<th>Investment projects are eligible for tax exemptions up to 15 years, outlined by the Legal Guide to Investment in Iraq by the National Investment Commission (NIC). Federal Budget 2023-2025 repurposes Agricultural Loan Fund for Farmers and Small Farmers, established in 2009 and attached to the Ministry of Agriculture instead of the Ministry of Finance, facilitating the launch of soft loans to support farmers and small farmers. Government of Iraq (GoI) plans to form smart green cities in Mosul, Diwaniyah, and Thi-Qar to ensure food security and support private sector initiatives to build agricultural cities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Factors</td>
<td>Food processing industry may aggravate challenges around water usage, soil erosion, chemical pollution, and deforestation. High cost of production, for instance in tomatoes, compared to countries of origin of imported products, lack of cheap grid electricity, and relatively high packaging costs may hinder the development of local processing facilities. Limited access to finance and credit facilities and skilled personnel may undermine the export and product diversification potential of the processing plants. Investments in agricultural activities in Iraq may aggravate the expansion of informal economy unless workers are formally registered.</td>
</tr>
<tr>
<td>Impact Management</td>
<td>IMP Classification <strong>C:</strong> Advance rural livelihoods, food security, and domestic value added in exports, providing decent work opportunities and diversifying the economy.</td>
</tr>
</tbody>
</table>

### 3.2 Mid-tech Greenhouses

**Business Model:**

Build and operate mid-tech greenhouses in proximity of food distribution and research centers, growing niche fruit and fresh vegetables such as cherry tomatoes and replacing imported cut flowers such as roses and carnations. The mid-tech greenhouses are characterized by qualities such as arched roof type, ventilation, climate control through time-based automated irrigation systems and soil-grown root environment. The greenhouse production is also associated with better packing practices and may enhance B2B sustainable packaging.
practices. Retail sector may invest in production to overcome issues associated with the fragmented value chain.

| User or Beneficiary | The poor households who are disproportionately affected by the imported food inflation benefit from local production and affordable products. Farmers benefit from improving crop yields, reducing losses, and increasing income through more efficient and sustainable practices. Consumers have more access to fresh produce. Pressure on land for cultivation and valuable water sources are mitigated. Tech-based agriculture solutions foster South-South and vertical partnerships for innovation in sustainable agriculture development. |
| Economic Factors | Iraq imported large quantities of foodstuffs with an estimated value of USD 8.879 billion in 2020. Population prospects, increasing downstream agricultural activities and climate change impacts would stimulate the promotion of innovations in the areas of smart agriculture and irrigation technologies, including technological improvements in greenhouses. In Iraq, the import demand for fresh products is the highest for tomatoes with USD 183 million, followed by potatoes with a projected demand of USD 135 million. **Indicative Return:** For the specified niche markets in Iraq the **ROI is greater than 25%** with an investment size of around USD 2 million and USD 20 thousand annual cost of maintenance. **Investment Timeframe:** **Short Term** as the mid-tech greenhouses at the scale of 8000 m² in Iraq is expected to yield positive returns in two to three years based on the product niche. |
| Enabling Factors | The three-year federal budget (2023-2025) repurposes Agricultural Loan Fund for Farmers and Small Farmers, established in 2009 and attached to the Ministry of Agriculture instead of the Ministry of Finance, facilitating the launch of soft loans to support farmers and small farmers. Government of Iraq (GoI) plans to form smart green cities in Mosul, Diwaniyah, and Thi-Qar to ensure food security and support private sector initiatives to build agricultural cities. |
| Risk Factors | The production of key fruits and fresh vegetables may cause inter-governorate competition. The diseases may impact the return expectations of the selected niche products. The family-driven farming businesses may not be able to adapt tech-intensive greenhouse investments. Investments in agricultural activities in Iraq may aggravate the expansion of informal economy unless workers are formally registered. |
| Impact Management | **IMP Classification C:** Mitigate imported food inflation and climate change-induced water stress, benefitting downstream agricultural activities with increased production and providing decent work opportunities. |
3.3 Specialty Dairy Products

**Business Model:**

Establish tech-intensive dairy farming plants, utilizing technologies such as rotary parlour systems that improve cow comfort, or modernize existing dairy processing plants with state-of-the-art handling, storage and processing equipment, energy-efficient refrigeration, and merchandise management system (MMS).

The product range includes sterilized quality milk, curd (from the Mosul buffalo milk), cream (including the Iraqi specialty Al-Qimar), and yoghurt for B2G (such as through national school feeding programs), B2B (notably with retailers) and B2C trade. Investments could be made in national investment zones and Mosul, Ninevah. Retail sector may invest in dairy farming and production to overcome issues associated with the fragmented value chain.

<p>| User or Beneficiary | Tech-intensive dairy production could make Iraqi specialty products competitive with imports at scale, decreasing imports and improving local manufacturing capacity that support post-conflict reconstruction. Adequate collection and processing technologies would improve youth and women’s visibility and access to markets with traditional and specialty dairy products. |
| Economic Factors | In Iraq, local production of the dairy products meets only 10% of the domestic demand. |
| | In 2022, the untapped export opportunity from new dairy products in Iraq accounted for a potential value of USD 2.4 billion. |
| | <strong>Indicative Return:</strong> Modernization of dairy value chain with the production of specialty products at scale is expected to generate more than 25% ROI. <strong>Investment Timeframe:</strong> Medium Term as investing in dairy products is expected to generate positive returns after five years, given the capital-intensive nature of the investment and associated costs of securing hygiene standards and conducting livestock surveys. |
| Enabling Factors | National Investment Commission (NIC) set out the strategy of establishing major investment zones across Iraq to facilitate production and technology use, including in dairy industry. |
| | Ministry of Education (MoE) is set to take over the School Feeding Programme, which has been provided by the World Food Programme (WFP) since 2013. Firms are contracted as service providers for sourcing, warehousing, and packaging the main food items. MoE aims at continuation of the programme and increasing its outreach to four million students (as of 2022 the supply from the project reaches to 500,000 students). Milk and yoghurt are some of the main items distributed with programme. |</p>
<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>High input prices (notably of feed), climate-change induced water scarcity, lack of adequate collection and storage infrastructure undermine the development of the dairy value chain and related investments. Tech-intensive farming could lead to competition over resources with rural dairy producers if not local sourcing and specialty production are accounted for. Investments in agricultural activities in Iraq may aggravate the expansion of informal economy unless workers are formally registered.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact Management</td>
<td>IMP Classification C: Improve value added from dairy value chain, contributing to economic diversification, reconstruction efforts and decent work opportunities in conflict-affected areas in Iraq.</td>
</tr>
</tbody>
</table>

### 3.4 EdTech Platforms

**Business Model:**

Design and develop online learning platforms, learning management systems (LMS) and applications, providing a wide range of online learning material and B2B and B2C educational services for children, students, fresh graduates, early professionals, parents, and corporates. Offer free and subscription-based online courses and learning tracks, in Arabic and Kurdish niche, generating revenue through payments in cash (by selling subscription cards at retail distribution centers), digital payments and transfers from international financial service companies (for sales outside Iraq, mainly to the diaspora), overcoming the limited use of credit cards in Iraq.

The e-learning platforms designed for children offer courses that aim at introducing technology to children at an early age to improve educational results through gamification in fields such as mathematics, to enable them to create animations and games, and to achieve breakthrough in learning frontier technologies, such as artificial intelligence (AI), robotics, and coding.

E-learning platforms and applications could offer a forum for bringing students, parents, and teachers together, improving parenting and teaching methods as well as mental health. The curricula for new graduates could focus on skills needed in the jobs market that would improve employability, such as copyrighting and accounting.
| User or Beneficiary | Increase in human capital could benefit all segments of the society through decreased poverty, improved stability, and inclusive socioeconomic and political life. Human capacity development attained through the use of educational technologies enhance social stability and national wealth. Digitalization in education sector improves employability outside government entities and support public efforts in financing education. |
| Economic Factors | Iraq’s nascent education technologies ecosystem has produced four e-learning companies and two learning management systems (LMS) since the establishment of the first EdTech platform in 2011. The market offers niche online learning material in Arabic and Kurdish that could target diaspora as well as the MENA region where the EdTech has grown with a CAGR of 54% between 2018 and 2021. Adoption of digital services in education sector is expected to increase in Iraq given the internet penetration rate of 74.9% in 2023 with a yearly increase of 7.3 million new internet users. Against the backdrop of the Covid-19 pandemic, in 2020, the Ministry of Education (MoE) released the Newton e-learning platform to provide live classes and online content based on official curriculum. The Ministry of Education of the Kurdistan Region of Iraq (KRI), with support from UNESCO, created the “Ewane” online educational platform that enabled more than 500,000 students at different educational levels (basic, preparatory, and vocational) to continue their education. Iraqi population is increasingly urbanized and youthful, as almost 50% of the population is under 19. The population, which is around 43.3 million as of 2023, is projected to exceed 51.2 million by 2030, and reach 74.5 million by 2050. |
| Enabling Factors | The Central Bank of Iraq (CBI) launched the 1 trillion-dinar initiative in 2015 to support SMEs with concessional financing. Bloom project, implemented by Cihan Bank, provides collateral-free loans of up to about USD 110K for SMEs in the Kurdistan Region of Iraq (KRI). Iraq Development Fund is established as a fund of funds (FOF) to manage USD 2.4 billion to be spent on sustainable development in six priority sectors including education and digital transformation. |
### Risk Factors
Disadvantaged groups, including rural communities and internally displaced persons (IDP), may not access online learning materials due to connection and affordability concerns. As a post-conflict country, Iraq experiences a gap between basic mobile penetration and mobile broadband penetration, which limits the customer base. Businesses are subject to potential change in the electricity and mobile broadband prices, given the need to renew infrastructure.

### Impact Management
**IMP Classification C:** Leverage technology-based distance learning for creating skills and employment, building human capacity, improving educational outcomes alongside socioemotional and digital skills.

### 3.5 Low-fee Private Schools

**Business Model:** Establish or operate a branch of low-fee private primary, middle, and high schools based on one of the three ownership structures, defining the scale: (i) owned by a local proprietor with skills in education and school development or business administration; (ii) cooperatives with established or discussed fundraising partnerships; (iii) corporate chains. Set fee affordability benchmark in terms of minimum wage, household income, or national poverty line such as less than 10% household income of families at twice the national poverty line, while ensuring accountability and quality of the education through government and third-party oversight.

<table>
<thead>
<tr>
<th>User or Beneficiary</th>
<th>Improved teaching methods and extracurricular activities may improve employability after school, as well as skill sets of the wider population, contributing to the need and objective of building new schools by the government.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Factors</td>
<td>Students enrolled in primary and secondary private schools in Iraq represent about 5% of the total and pay an average school fee that falls between USD 1000 to 2100 annually, vouching for a market size estimate above USD 300 million(^72). The number of private primary school in Iraq increased by 131% between 2015/2016-2018/2019 academic years. During the same period number of private secondary schools increased by 86%(^73). The demand for private schools in Iraq is high where the rate of students attending a public school per each student in private school is 21 nation-wide -while the figure is higher than 45 in some governorates, including Ninevah, Salah ad-Din, and Missan(^74). <strong>Indicative Return:</strong> With a growing investment appetite and ecosystem for chain private schools in the Gulf and Middle East and North Africa regions, a benchmark private equity investment generated 11 to 13% in IRR(^75). <strong>Investment Timeframe:</strong> Medium Term, as the investment timeframe for private school investment in the region are expected to be longer than established timeframe such as three years. A private equity investment in the region paid back in six years(^76).</td>
</tr>
<tr>
<td>Enabling Factors</td>
<td>The Iraqi National Education Strategy, 2022-2031: lays the foundation for increasing financial commitments to achieve universal primary and secondary education, targeting skills mismatch in the labor market by improving educational outcomes and improving education quality77. Investment projects in education are exempt from non-custom taxes for 10 years and are subject to exemption of import duties for raw materials, equipment and devices78. Iraq Development Fund is established as a fund of funds (FOF) to manage USD 2.4 billion to be spent on sustainable development in six priority sectors including education and digital transformation79.</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>Risk Factors</td>
<td>The private schools would be able to open a new branch or change the tuition fees, adapting to needs, at the turn of academic year, therefore have limited power in pricing and scaling up80. Sourcing well-educated teachers is hard as only about one third of teachers in Iraq have bachelor’s or higher degree81. Low salary and conflict hinder the practice of teaching. Lack of synergies between administrative units and limited flow of educational data undermine the long-term strategic and corporate planning amidst the conflict-induced uncertainty, if the fee-affordability and scholarship opportunities for marginalized communities are not accounted for the impact could be lower than expected.</td>
</tr>
<tr>
<td>Impact Management</td>
<td>IMP Classification C: Improve educational outcomes, skills development, and employability, introducing innovative teaching methods and creating a learning ecosystem favorable for extracurricular activities.</td>
</tr>
</tbody>
</table>

### 3.6 Education Infrastructure

**Business Model:** Build, reconstruct or rehabilitate elementary, middle and high school infrastructure through Public-Private Partnership (PPP) projects in allocated plots by the government, including those announced by the National Investment Commission (NIC) and agricultural land donated by the people, which according to the 2023-2025 three-year budget provision have become eligible for establishing schools. Adhere to inclusive school design principles such as optimizing connectivity and using large interior spaces for wide circulation areas, taking into account children with disabilities, special needs, and living in informal settlements.

**User or Beneficiary**

The more than 3 million children who are out of school, mainly girls, internally displaced persons (IDP), students attending multiple-shift schools benefit from access to education, benefitting the public and the government by improved national wealth.
### Economic Factors

The immediate need for construction of school buildings in Iraq is 8,000, while the figure is 12,000 for the longer-term. In the short term, school constructions are expected to create a market of more than USD 1.2 billion, including Iraqi and foreign contractors.

In Iraq, there are around 3.2 million school-aged children who are out of school as per estimates in 2023\textsuperscript{82}.

**Indicative Return:** Given the specific market considerations, PPP procurement for social infrastructure such as schools in Iraq would be expected to generate a return on equity between 20 to 25%\textsuperscript{83}.

**Investment Timeframe:** Short Term, as the immediate need to build schools in Iraq could translate to advantageous contractual arrangement and return in less than five years\textsuperscript{84}.

### Enabling Factors

In 2023, Iraqi government established a fund of funds (FOF) with a capital of about USD 765 million, including the education sector, and aims at constructing 1,000 new schools immediately\textsuperscript{85}.

Federal Budget 2023-2025 grants contractual privileges to private sector for construction of pre-university schools and higher education facilities such as teaching hospitals\textsuperscript{86}.

Reconstruction Fund for the Poorest Governorates was established by the government to improve public services with a capital of about USD 384.6 million.

### Risk Factors

The small-scale and local contractors could be overshadowed by larger deals and the associated risk of corruption and politicization of tender processes. If the hygiene and inclusive building design standards are not accounted for or monitored, the positive impact could be lower than expected.

### Impact Management

**IMP Classification C:** Foster access to education to lift more people out of poverty, improve livelihoods and stability.

### 3.7 Utility-scale Solar Farms

**Business Model:** Design, supply, install and operate a utility-scale solar power farm through tailor-made Public-Public-Private contracts or Private Partnership (PPP) modalities, such as Build-Operate-Transfer (BOT) or a Build-Own-Operate (BOO) model alongside obtaining Power Purchase Agreement (PPA). The project may be financed on a “back-to-back” basis where a PPA with a creditworthy off-taker such as national utility company can cover the key risks of the project.
People and corporates benefit from stable access to electricity and reduced blackout and brownout incidences, as well as improved air quality, which is polluted by the extensive use of diesel neighborhood generators. Reduced dependence on imported fuels and narrowing down the electricity-supply demand gap contribute to public budget and social cohesion. The Ministry of Electricity and Ministry of Environment benefit from supported grid system, consistent energy supply and reduced need for electricity tariff subsidies. The investments could facilitate methane abatement in oil and gas sector. Cost of doing nothing in energy transition could translate into stalled economic growth, disrupting Iraq’s fiscal balance.

<table>
<thead>
<tr>
<th>User or Beneficiary</th>
<th>Economic Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Iraq, 21 GW solar PV capacity could be deployed by 2030 to close the acute electricity supply-demand gap, 12 GW, one-third of Iraq’s electricity demand was unmet in 2021. Indicative Return: An academic study conducted for installation of a 10 MW PV plant in three locations in Northern Iraq showed an average pre-tax IRR of around 13%, and after-tax IRR of about 11% for fixed axis photovoltaic plants. Investment Timeframe: Medium Term, as simple payback period of the fixed axis photovoltaic plant system might take 7.1 to 7.2 years for a 10 MW PV plant in the north of Iraq.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enabling Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>In 2022, the Central Bank of Iraq (CBI) introduced the 1 trillion Iraqi Dinar initiative (about USD 750 million) which aims at promoting solar energy projects by offering concessional loans. The Investment Law No. 13 of 2006 offers certain tax exemptions and benefits for investing to contribute to the development of Iraq and diversification of its economy. The period of the tax exemption covers 10 years.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>High cost of green transition, weak and noncomprehensive legal framework and regulations in the field as well as highly subsidized electricity sector prohibit the development of the renewable energy sector.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMP Classification C: Provide steady, cheap, and clean energy to the population, boosting economic activity and improving employment opportunities, particularly for youth, women and IDPs.</td>
</tr>
</tbody>
</table>
### 3.8 Solar-based Green Energy Solutions

**Business Model:** Design, supply and install solar-based green energy solutions such as off-grid, hybrid, and grid-connected PV installations, including both ground-mounted and roof-mounted modalities, green retrofitting, solar carports, solar air conditioners, solar fridges, and solar power ventilations as an Independent Power Producer (IPP) in remote areas of Iraq, as well as in the Kurdistan Region of Iraq for the use of key infrastructure, including desalination plants, firms in the agro value chain, small businesses, and households.

<table>
<thead>
<tr>
<th>User or Beneficiary</th>
<th>People and companies improve their access to clean and stable energy solutions, effectively decreasing reliance on imported fossil fuels, and outdated ampere-based billing system that is prevalent due to use of diesel neighborhood generators. Public sector benefits from relieved national grid, cost savings for renewing the transmission lines and improved efficiency. In the longer term stable and reliable energy supports the economic growth and job opportunities for both low-, mid-, and high-skill levels.</th>
</tr>
</thead>
</table>
| Economic Factors | During the peak summer months, small oil-based generators are used to supplement grid’s power supply and mitigate some of the most severe shortages. In 2018, the total capacity of these small generators reached 5 GW.\(^{93}\)  
**Indicative Return:** An academic study conducted for installation of a 10 MW PV plant in three locations in Northern Iraq showed an average pre-tax IRR of around 13\%, and after-tax IRR of about 11\% for fixed axis photovoltaic plants.\(^{94}\)  
**Investment Timeframe:** According to SDG Investor Map consultations conducted in September 2023, green tech solutions company in Iraq has reached break-even point with financing including grants and investments after 5 years.\(^{95}\) This is substantiated by a study of a 5-kWp hybrid-connected rooftop solar system at Diyala, Iraq that showed a five year payback period given the tariff set at 0.2 USD/kWh.\(^{96}\) |
| Enabling Factors | The Central Bank of Iraq (CBI) introduced the 1 trillion Iraqi Dinar initiative (about USD 760 million) which aims at promoting solar energy projects by offering concessional loans \(^{97}\).  
The Investment Law No. 13 of 2006 offers certain tax exemptions and benefits for investing to contribute to the development of Iraq and diversification of its economy. The period of the tax exemption covers 10 years.\(^ {98}\) |
| Risk Factors | High cost of green transition, weak and noncomprehensive legal framework and regulations in the field as well as highly subsidized electricity sector prohibit the development of the renewable energy sector. |
### Impact Management

**IMP Classification C:** Foster self-sustaining and energy-efficient solar technologies in Iraq, relieving the energy supply-demand gap and improving the conditions for economic growth and decent work opportunities.

### 3.9 Railroad Infrastructure

#### Business Model:

Construct new railway lines with the public-private contract/agreement model implemented in Iraq, export credit agency (ECA) financing or the Public-Private-Partnership (PPP) model, offering turn-key solutions, or subcontracting, for the spectrum of services related to railroad infrastructure, including building station facilities, tracks, tunnels, and railway bridges. Iraq’s USD 17-billion multimodal transportation project, the Development Road Initiative, incorporates international railway linkages with neighboring countries and domestic connections between Umm Qasr to Basra and a high-speed railway between Baghdad and Basra.

#### User or Beneficiary

People and corporates benefit from enhancements in road and rail networks as well as related economic opportunities and access to trading routes. Population living in remote areas receive increased connectivity to urban centers and essential services. The public sector improves the transportation service provision and meets the goal of establishing an efficient transportation network, boosting the economy.

#### Economic Factors

The oil price volatility and regional trade connectivity has revitalized the railroad sector in MENA region, including Iraq where ongoing rail projects are estimated at a size of about USD 22 billion. Iraq’s operational rail network is about 2,000 km long.

**Indicative Return:** Internal Rate of Return (IRR) of between 15-20% for the original investment, and higher for rehabilitation investments, could be expected based on regional benchmarks.

**Investment Timeframe:** Long term as railroad investments are expected to generate positive return later than 10 years.

#### Enabling Factors

The Development Road Initiative was launched by the government in May 2023. The event took place with the participation of transport ministers and officials from the GCC, and her neighbors Iran, Türkiye, Syria and Jordan. The multimodal transport project, which comprises the Al Faw port, rail and road links with neighboring countries, has an estimated worth of USD 17 billion and is expected to create 100,000 jobs.

The Public-Private Partnership (PPP) law in Iraq was first introduced in 2017 and provides a legal framework for collaboration between the public and private sectors in the development of infrastructure and public services, including the establishment of a PPP unit to oversee project development and management, the preparation of feasibility studies and procurement processes, and the sharing of risks and benefits between the public and private sectors.
<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Given the high perception of corruption, large infrastructure projects may exacerbate governance and transparency issues. Railroad infrastructure and megaprojects may risk poor working conditions, relying on foreign labor force. If the resource planning is not well-planned, the project could be not completed. Although, Iraq has recently acceded to the New York Convention, if arbitration clauses are not well accounted for, disputes could remain politicized.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact Management</td>
<td><strong>IMP Classification C:</strong> Streamline post-conflict reconstruction with improved connectivity and freight capacity, enhancing economic growth, stability and, in the long term, the global trade movement between Asia and Europe.</td>
</tr>
</tbody>
</table>

### 3.10 Pharmaceuticals Production

**Business Model:** Manufacture generic pharmaceutical products in solid, semi-solid, liquid and other dosage forms as well as powders, aerosols and drops to serve the national needs and increase the presence of domestic products in the market. Establish the quality control testing at the site of the production to ensure compliance with national requirements and standards; partner with local authorities to safeguard the products and make sure that quality medicine is accessible and available for all. Invest in research and development (R&D) for raw material efficiency.

**User or Beneficiary**

Students and graduates of the medical institutions benefit from improved employment opportunities, pharmacists and doctors’ benefit from the high quality and more accessible medicines for their clients. The Ministry of Health is impacted by the decreased disease burden in the country and lower public expenditure of the drug procurement and subsidies. Businesses leverage innovation in manufacturing processes to enhance efficiency and provide means for raw material generation. Use of green technology in manufacturing processes minimize environmental impacts and improve production sustainability.

**Economic Factors**

In 2020, the legal pharmaceutical drugs market was worth between USD 3.5 and USD 4 billion with a growing participation of international companies. Additionally, an estimate from 2014 revealed that the market for counterfeit pharmaceutical drugs in Iraq worthed USD 1 billion.

According to the report of Assessment of Opportunities in Iraq in 2018, the potential growth in pharmaceuticals market was estimated by 10-12% of the compound annual growth rate (CAGR) for the period (2018-2022)\textsuperscript{101}.

**Indicative Return:** Although returns could be higher as much as more than 50% ROI, in 2020, the State Company for Drugs Industry and Medical Appliances in Samarra, Iraq received IQD 59.1 billion (~ USD 45 million) in revenues and incurred
IQD 45.7 billion (~ USD 35 million) in cost of goods sold, recording a **gross profit margin of 22.7%**\(^{102}\).  
**Investment Timeframe: Medium Term** as the capital-intensive investment in pharmaceuticals production could generate return in five to ten years, given the projected demand increase for locally produced pharmaceuticals in the MENA region.

| Enabling Factors | The National Investment Commission (NIC) introduced a 10-year tax break and tax-free imports of medical equipment. Additionally, customs were reduced from 10% to 0.5% on imported medicines and medical appliances according to order no. 255 on July 24, 2019\(^{103}\).  

In 2020, the U.S. International Development Finance Corporation (DFC) signed a memorandum of understanding with the Government of Iraq to support private sector-led development projects, investing USD 1 billion, over four years, including in the health sector\(^{104}\).  

In 2015, the Ministry of Health was to grant priority in public procurement to goods produced by local manufacturers. The NIC also created favorable incentives to hire foreign workers, receive visa and residency process as well as land lease allowances\(^{105}\). |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Risk Factors</td>
<td>Dependency on imported raw materials and foreign workforce may affect the delivered impact of the business model. Quality control testing in the sector suffers from major delays, the proper regulation for importing medical equipment and pharmaceutical products is lacking, as well as widespread corruption prohibits the development of the sector.</td>
</tr>
<tr>
<td>Impact Management</td>
<td><strong>IMP Classification C:</strong> Enhance affordability and accessibility of pharmaceutical products and increase competitiveness of Iraq's healthcare industry while providing decent work opportunities and diversifying the economy.</td>
</tr>
</tbody>
</table>
4. Emerging Investment Opportunity Areas

The Iraq SDG Investor Map identifies ten IOAs with the business and impact qualifications in line with the four business criteria and impact management standards. In addition to these critical investment areas for private sector it also looks at emerging investment opportunity areas which are differentiated by IOAs due to lack of proven domestic business models. The Iraq SDG Investor Map identifies five of such emerging IOAs that speak to a strong national development need and form part of public policy but still need to be supported and proven in the market. Figure 3 illustrates the notion of emerging IOAs, in terms of categorizing different impactful business models in the country.

**Figure 3: IOAs and Emerging Investment Opportunity Areas Categorization**

The emerging IOAs identified by the Iraq SDG Investor Map aims at instigating reform within the high potential development areas for Iraq. It incorporates the pillars of the NDP 2018-2022, and categorizes the IOAs, and emerging IOAs within the prism of NDP pillars. Figure 4 explores the relation between investment areas for private sector and their expected development impact on NDP goals and objectives.
Emerging Investment Opportunity Areas

The Iraq SDG Investor Map identifies ten IOAs with the business and impact qualifications in line with the four business criteria and impact management standards. In addition to these critical investment areas for private sector, it also looks at emerging investment opportunity areas which are differentiated by IOAs due to lack of proven domestic business models. The Iraq SDG Investor Map identifies five of such emerging IOAs that speak to a strong national development need and form part of public policy but still need to be supported and proven in the market. Figure 3 illustrates the notion of emerging IOAs, in terms of categorizing different impactful business models in the country.

FIGURE 3: IOAS AND EMERGING INVESTMENT OPPORTUNITY AREAS CATEGORIZATION

The emerging IOAs identified by the Iraq SDG Investor Map aim at instigating reform within the high potential development areas for Iraq. It incorporates the pillars of the NDP 2018-2022, and categorizes the IOAs under the prism of NDP pillars. Figure 4 explores the relation between investment areas for private sector and their expected development impact on NDP goals and objectives.

4.1 Social Housing

**Draft Business Model:** Build social housing units for low-income Iraqis, supported by Building Information Modelling (BIM) designs and green building principles, leveraging efficient resource use and waste management. As per the National Investment Commission’s target of developing 1,000,000 new housing units and new administrative city initiatives, such as Al-Rafeel City, integrate cost-efficiency, building standards set by the State Commission of Housing, and mortgage scheme and monitoring conditions of the Trade Bank of Iraq (TBI) into the business model.

| Development Need | Iraq's population prospects indicate a potential increase from 43.3 million people in 2023 to about 74.5 million by 2050, adding up to an acute shortage of about 2.5 million housing units in Iraq where prolonged conflict, poverty, water shortages and climate change-induced vulnerabilities on rural livelihoods, that are predominantly based on agriculture, pushed more people to urban centers, resulting in informal settlements that accommodate at least 8% of the population. |
| Emerging Private Sector and Market Potential | The demand for housing in Iraq is increasing by about 3,000 units annually, with the current housing deficit estimated at 3 million. Therefore, the investment map issued by the National Investment Authority in 2022 has adopted ambitious goals to establish 900,000 housing units, including 700,000 housing units suspended or under implementation in all governorates except the Kurdistan region, and to build 100,000 newly designed housing units to fill part of the expected housing deficit, and another 100,000 housing units suitable for the requirements of the return of families displaced by terrorist and military operations and slums. |
| Policy and Regulatory Momentum | To support the development of the social housing units in Iraq, urban housing standards could be updated by setting up inter-ministerial working groups and integrating green building principles and coordinating electricity and water use incentives accordingly. Subsidized loan schemes could be offered to low-income Iraqis based on annual household income and age benchmarks building on extensive consultation within ministries, departments, and agencies, and development partners, supported by financial literacy and capacity building efforts, simultaneously at the Ministry of Construction and Housing, the Central Bank of Iraq (CBI) and the social housing fund under the fund of funds (FOF), the Iraq Development Fund. |
### 4.2 Water Resource Management Solutions

**Draft Business Model:** Build mobile solar-powered desalination units for treating seawater, brackish water and high-salinity freshwater and introduce innovative small-scale water purification solutions such as UV C-LED water disinfection units designed for use in neighborhoods and by villages and rural communities, including herders.

<table>
<thead>
<tr>
<th>Development Need</th>
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</thead>
<tbody>
<tr>
<td>Agriculture is the main water user and uses around 78-90%, followed by domestic (4-8%) and industry use (6-15%)(^{107}). The limited availability of water is an impediment to social cohesion, for instance, causing inter-community antagonism while using the water from irrigation canals, as waterhoses are deployed by the farmers to bring more water from the canals canals which are deficient in water volume, and cause costly removal operations by irrigation patrols(^{108}). Climate change has exacerbated the pressure on Iraq’s water supply, alongside decrease in transboundary water flows - Euphrates and Tigris rivers comprise about 98% of Iraq’s water supply- from neighboring countries and deficient water resource management.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emerging Private Sector and Market Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 2014 Strategy for Water and Land Resources in Iraq (SWLRI) estimates that approximately 12.5 million cubic meters of drinking water are produced daily. However, Baghdad governorate has the capacity to treat over 3.5 million cubic meters daily, while most other regions can only manage up to 1 million cubic meters, with many limited to just 0.5 million cubic meters.(^{109}) The infrastructure sectors, including water management, together account for about half the estimated investment up to 49.5%. The need for the water sector together with electricity was estimated to approximately 20.2 trillion dinars for the next five years.(^{110}) The two main rivers in country are expected to lose 50% of their flow by 2030 and the supply-demand gap in water resources is expected to reach about 11 million cubic meters by 2035(^{111}).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy and Regulatory Momentum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministerial Curriculum of the Government of Mohammed Shia Al-Sudani (2022-2025) include completion of a large-scale desalination plant in southern Iraq and adoption of water conservation measures. The government could further its work through implementing smaller-scale models, leveraging funding and partnerships, and improve capacity building programs and incentives for efficient water systems.</td>
</tr>
</tbody>
</table>
### 4.3 Flaring Solutions

**Draft Business Model:** Develop infrastructure for gas capturing and transportation technologies, to overcome the issue of flaring of the associated gas emanating from conventional power production processes, including methane from oil fields, and distribute to rural areas and other end-users for generating heat or electricity.

<table>
<thead>
<tr>
<th>Development Need</th>
<th>Iraq is the second most gasflaring nation in the world, although an acute energy supply-demand gap of about 12GW constrains the development landscape and Iraq’s flared natural gas represents 10 GW unutilized electricity generation opportunity as per 2020 figures.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging Private Sector and Market Potential</td>
<td>Iraq’s flared gas represents an annual unutilized value of USD 2.5 billion. Iraq’s Conditional NDC target of 15% reduction in GHG emissions supports private sector partnership opportunities for the government.</td>
</tr>
<tr>
<td>Policy and Regulatory Momentum</td>
<td>Iraq could develop a conducive ecosystem and mobilize resources for development of gas capture technologies based on global best practices such as the UNDP GEF-SOCAR project in 2019, for which SOCAR installed pilot Gas Capturing equipment in the Siyazan oilfields. The project resulted in the use of the captured methane as a source of power generation and heating, therefore reducing the methane emissions between 2013 and 2019 by more than 42%.</td>
</tr>
</tbody>
</table>

### 4.4 Early Childhood Development

**Draft Business Model:** Provide Early Childhood Education (ECE) facilities, teacher training programmes and hybrid solutions based on a curriculum which aims at developing physical and motor skills, cognitive capacity, and socioemotional of preschool children.

<table>
<thead>
<tr>
<th>Development Need</th>
<th>Over 60% of people in Iraq are under 25 years of age, vouching for one of the youngest and fastest-growing populations globally. To translate this demographic dividend into national economic growth and increased lifetime earnings for individuals, Iraq needs to expand investments in early childhood development.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emerging Private Sector and Market Potential</strong></td>
<td>Iraq National Education Strategy (INES) for the period 2022 to 2031 aims at achieving 30% of early childhood education (ECE) enrolment, while reserving the role for private sector to provide one-quarter of ECE.</td>
</tr>
<tr>
<td><strong>Policy and Regulatory Momentum</strong></td>
<td>In 2022, the Government of Iraq, in collaboration with UNICEF, launched the National Strategy on Early Childhood Development (ECD), showcasing the public priority for promotion of well-being of children, alongside INES 2022-2031. However, the government could improve the implementation case for these national strategies by developing an ECE roadmap and conducive legal system whereby the inter-sectoral linkages with private sector as well as with the community (including, not only civil society organizations but also community-based provision of ECE such as by repurposing of an existing community-owned facility or at home) could be coordinated in terms of financing, infrastructure, teaching quality and staffing, and data collection and monitoring.</td>
</tr>
</tbody>
</table>
### 4.5 Advanced Healthcare Services

**Draft Business Model:** Construct specialized hospitals, including in ophthalmology, cardiac surgery, oncology, gynecology, and medical centers with integrated digital services that support development of electronic medical records, telemedicine provisions, advanced surgical planning and 3D Planning and printing of customized medical equipment.

<table>
<thead>
<tr>
<th>Development Need</th>
<th>In Iraq, NCDs account for at least half of the diseases burden, with notably high incidence of diabetes, hypertension, cancer, and cardiovascular diseases. Hospitals are not able to meet the diversified needs of patients in terms of providing diagnostics and monitoring equipment, referral systems, and therapeutic medications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging Private Sector and Market Potential</td>
<td>Iraq has an ongoing shortage of at least 370 hospitals across the country, public and private, as per the National Investment Commission (NIC)-applied planning standards. Foreign companies have showcased an accrued interest in managing hospital in Iraq, as the Iraqi Ministry of Health awarded contracts to foreign enterprises to manage hospitals as of 2024.</td>
</tr>
<tr>
<td>Policy and Regulatory Momentum</td>
<td>Although Iraqi National Health Policy 2014-2023 sets the goal of “ensuring the availability of medicines, reagents and medical supplies and infrastructures” and the government stimulating foreign companies to manage hospitals across the country, for the modernization of medical systems and specialized treatment in the country, government could enact specific laws and regulations that target the digital health and telemedicine services and introduce guiding standards for advanced medical services.</td>
</tr>
</tbody>
</table>
5. References


children-more-needed#:~:text=The%20Iraqi%20education%20strategy%20sets,currently%2045%25%2C%20as%20well%20as


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Dates, grapes, tomatoes and wheat. Bagdad.

Roadmap to a Brighter Future.


World Bank Group. 2023. Altered Destinies: The Long-Term Effects of Rising Prices and Food Insecurity in the Middle East and


UNDP SDG Financing in Iraq project team consultations with Iraqi public sector stakeholders in November 2023.


UNDP SDG Financing in Iraq project team consultations and discussions with Iraqi private sector stakeholders.


UNDP SDG Financing in Iraq project team consultations and discussions with Iraqi private sector stakeholders.


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but more is needed. https://blogs.worldbank.org/arabvoices/iraq-new-schools-and-improved-learning-bring-hope-poorest-
https://iea.blob.core.windows.net/assets/fb1f67b9-3515-4b5a-bb40-06ca0b83ef70/Iraq_Energy_Outlook.pdf

The New Arab. 2022. Iraq's burgeoning private schools prioritise profit at expense of education for all.
Issue 1, The Business of Education: Examining the Growth of Private Schools and Universities.


Transformation in Iraq.

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Annex 1: Institutional Arrangement and Methodology

Republic of Iraq, Ministry of Planning (MoP) has partnered with UNDP Iraq in April 2023 for the SDG Financing in Iraq project with the aim of analyzing the investment landscape in the country. The project targets at identifying areas where private sector capital could be directed towards to channel diversified sources of capital for the achievement of the Sustainable Development Goals (SDGs). UNDP Iraq worked in collaboration with UNDP Istanbul International Center for Private Sector in Development (ICPSD) for the technical execution of the project. The Iraq SDG Investor Map, narrated by this document, is one of the four main activities of the SDG Financing in Iraq project. The project includes another knowledge product, the Iraq Impact Investing Ecosystem Study alongside, SDG-aligned business pipeline development that offers a list of investment-ready MSMEs and startups.

ICPSD, in collaboration with SDG Impact and other units, applies a holistic approach to creating an enabling environment for impact investments and attracting investors towards the SDG-anchored investment opportunity areas in Iraq:

<table>
<thead>
<tr>
<th>ICPSD Activities</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Implementation Support for the SDG Investor Map</td>
<td>The SDG Investor Map is a market intelligence tool to help private investors (funds, financiers, corporations) identify investment opportunities and business models that have significant potential to advance the SDGs.</td>
</tr>
<tr>
<td>Impact Investing Ecosystem Study</td>
<td>Built on comprehensive desk research and in-depth interviews with major stakeholders, this study showcases opportunities in a market for international and local impact investors, identifies high-potential areas and challenges and provides policy recommendations to foster the impact investing ecosystem.</td>
</tr>
<tr>
<td>Project Pipeline Development and Innovative Financing Mechanisms</td>
<td>Pipeline development identifies projects that are aligned to the SDGs and the prioritized investment areas, which are outcomes of the SDG Investor Map and Impact Investing Ecosystem Study for Iraq. Findings are further developed into comprehensive data sets, covering both impact and business case for the projects, and defining the necessary financing instruments.</td>
</tr>
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</table>

The technical implementation of the Iraq SDG Investor Map was made possible with the execution of the standardized global methodology, comprised of eight steps:

- Collecting information on national development needs and policy priorities.
- Synthesizing needs and policies into a set of national priority sectors.
- For each sector, collecting information on sectoral development needs and investment policies.
- Synthesizing needs and policies into a set of priority subsectors.
• Identifying subregions most aligned to each subsector.
• Synthesizing the information into a set of priority subregions to dig deeper into each subsector.
• Identifying potential business models that could tackle sub-sectoral and sub-regional development needs whilst capitalizing on policy and investment momentum.
• For each business model, adding a range of supporting information that can enable investors to perform diligence and eventually shape impactful deals.

The methodology resorts to synthesis exercises with local stakeholders for validation after the research and analysis of sectors, subsectors, subregions, and business models, respectively. The Iraq SDG Investor Map consultative process comprised of a total of 42 stakeholder meetings with the representatives from the Government of Iraq (GoI), private sector, multilateral organizations, academia, and civil society. 13 meetings with government and other public sector stakeholders, at both federal and Kurdistan Regional Government (KRG) level, 21 meetings with firms and other private sector representatives including microfinance institutions (MFI), accelerators and incubators, and 4 development finance institutions (DFI) and other multilateral organizations were organized to validate and sensitize findings. Additionally, an inter-agency UN Workshop was organized in July 2023, in Baghdad with the participation of 12 agencies in Iraq, including experts of SDGs, gender, and migration. The project team participated in UNDP’s MSMEs Development Roadmap Workshop in Erbil, which was organized in September 2023, and hosted roundtable discussions with development partners, academia, and the private sector.

**Figure: The standardized 8 steps of the SDG Investor Map Methodology, including research phase and synthesis exercises with stakeholders**
Annex 2: Selection of Literature of Development Documents for Iraq

National Documents
11. Republic of Iraq, Ministry of Planning |2018|Strategic Planning Vision for Iraq’s Ports until 2035

Development Documents
17. United Nations Development Programme Iraq|2022|Mainstreaming Anthropocene Considerations in Local and National Policy Recommendation in Fragile Countries: The Case of Iraq
18. United Nations Economic and Social Commission for Western Asia (UNESCA)|2020|Arab Sustainable Development Report 2020
23. The US department of State|2022|2022 Investment Climate Statements: Iraq
24. ILO, Central Statistical Organization (CSO) and the Kurdistan Region Statistics Office (KRSO)|2022|Iraq Labour Force Survey 2021
25. ILO|2021|Advancing Livelihoods through Financial Inclusion in Iraq
26. ILO|2021|A diagnostic of the Informal Economy in Iraq

5 The selection of literature for the Iraq SDG investor Map intends to showcase only a sample of key documents that have been reviewed as per the implementation of the map methodology.
The selection of literature for the Iraq SDG investor Map intends to showcase only a sample of key documents that have been reviewed as per the implementation of the map methodology.

Sector-specific Documents

1. World Bank | 2021 | Iraq Economic Monitor: The Slippery Road to Economic Recovery
2. World Bank | 2021 | Iraq Economic Monitor: Seizing the Opportunity for Reforms and Managing Volatility
4. ACTED | 2020-2021 | ACTED IRAQ Country Strategy
7. Australian Government, Department of Foreign Affairs and Trade | 2020 | Iraq Market Insights 2021
10. UNESCO | 2019 | Iraq Solar Energy: From Dawn to Dusk
11. World Bank | 2020 | Iraq Economic Monitor: Navigating the Perfect Storm
17. United Nations Development Programme | 2022 | Iraq Socio-Economic Response Plan
18. World Bank | 2020 | Strategic Planning Vision for Iraq's Ports until 2035
20. ACTED | 2020-2021 | ACTED IRAQ Country Strategy
22. Friedrich-Ebert-Stiftung (FES) | 2020 | Societal Challenges for Iraq's Lived Reality: Policy Perspectives
23. Australian Government, Department of Foreign Affairs and Trade | 2020 | Iraq Market Insights 2021
27. World Bank | 2021 | Iraq Economic Monitor: The Slippery Road to Economic Recovery
30. ACTED | 2020-2021 | ACTED IRAQ Country Strategy
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33. Australian Government, Department of Foreign Affairs and Trade | 2020 | Iraq Market Insights 2021
34. World Bank | 2020 | Iraq Economic Monitor: Navigating the Perfect Storm
36. Food and Agriculture Organization of the United Nations (FAO) | 2017 | Iraq - Agriculture Damage and Loss Needs Assessment
37. Food and Agriculture Organization of the United Nations (FAO) | 2021 | Agricultural value chain study in Iraq – Dates, grapes, tomatoes and wheat
38. Goal and Big Heart Foundation | 2016 | Agricultural Market Assessment: Al Shikhan
40. Friedrich-Ebert-Stiftung (FES) | 2020 | Iraq Solar Energy: From Dawn to Dusk
43. UNICEF | 2021 | Annual Results
44. World Bank | 2021 | Building Forward Better to Ensure Learning for All Children in Iraq: An Education Reform Path
45. KAPITA | 2021 | Iraq Education Sector Overview
46. Oxfam | 2017 | Gender and Conflict Analysis in ISIS affected communities of Iraq
47. Education Consortium of Iraq (ECI) | 2022 | Gaps in Formal Education in Iraq
48. UNICEF | 2017 | Child Poverty in Iraq
49. KAPITA | 2021 | The Reality of Information and Communication Technology In Iraq: Ecosystem Reflection, Challenges, and Opportunities
50. World Bank | 2020 | New Economy in Iraq: Digital Transformation
51. UNCTAD | 2020 | Iraq eTrade Readiness Assessment
52. UNESCO | 2019 | Assessment of the Labour Market & Skills Analysis: Iraq and Kurdistan Region-Iraq: Information and Communication

Sub-regional Documents

54. Kurdistan Region Statistical Office (KRSO), Kurdistan Regional Government (KRG), Ministry of Planning, the United States Agency for International Development (USAID) and the United Nations Development Programme (UNDP) | 2022 | Mixed Formal and Informal Micro, Small, and Medium-sized Enterprises Surveys in the Governorates of Erbil, Sulaymaniyah and Duhok

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56. **KRI Vision 2030**

57. Kurdistan Regional Government, Ministry of Planning, United Nations Development Programme (UNDP), and USAID|2020| **Kurdistan Public-Private Partnership Framework**

58. RAND|2014| **Strategies for Private Sector Development and Civil Service Reform in the KRI**

59. Kurdistan Regional Government (KRG)|**Digital Transformation Strategy**

60. KRG High Council of Women Affairs|2017-2030| **Ten-Years Strategy to Confront Violence Against Women**