

17 October 2023

Transforming our Region

The New Equation

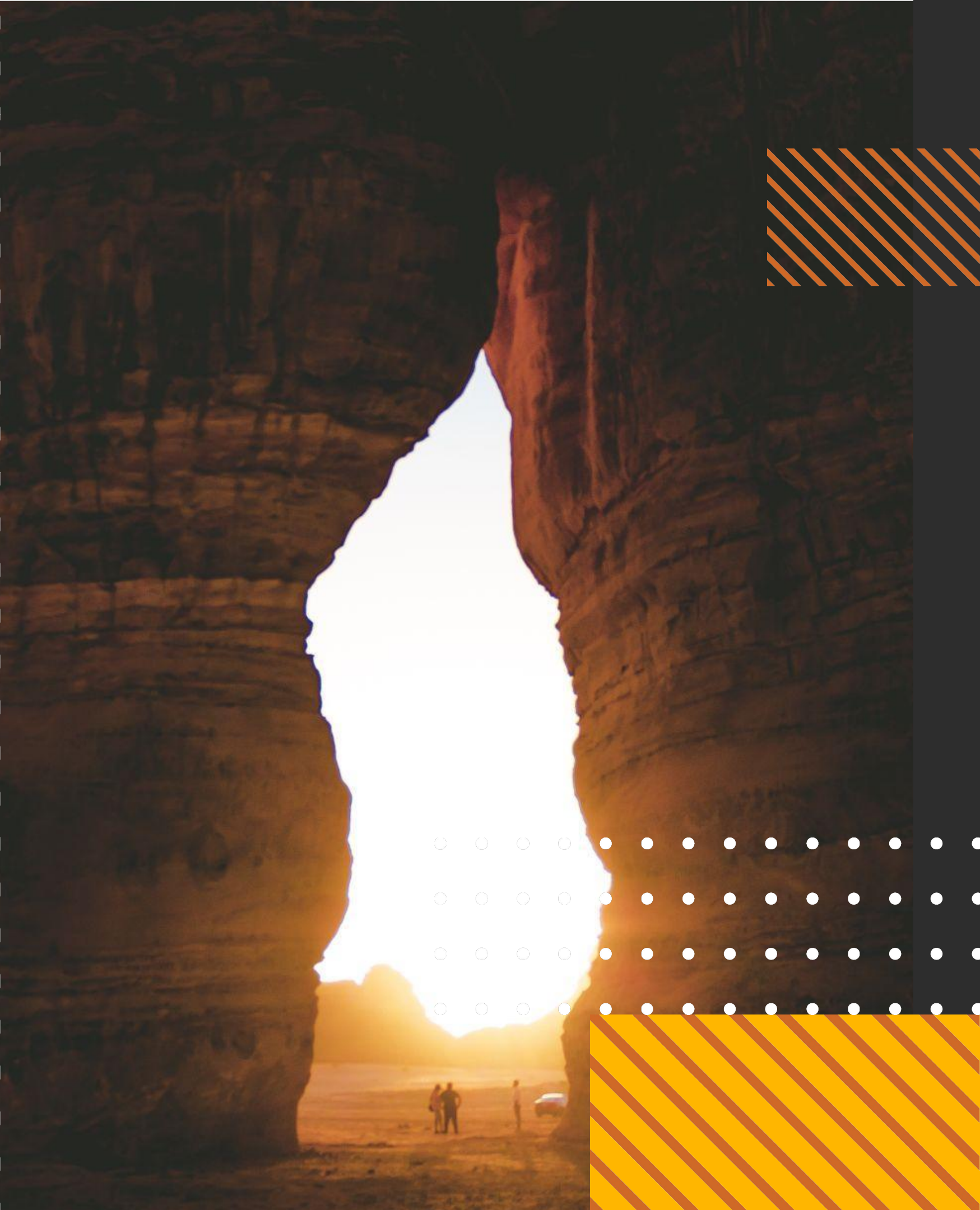


Welcome

Stephen Anderson

Strategy and Markets Leader
PwC Middle East

01



Welcome

Stephen Anderson
Strategy and Markets Leader
PwC Middle East

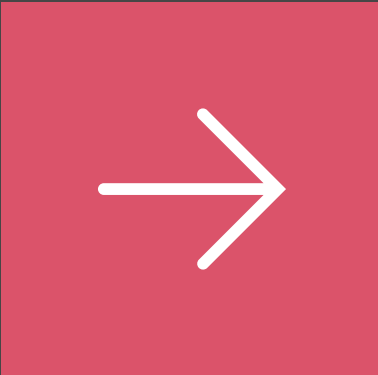
Economic Updates

Jing Teow
Director, Economics & Sustainability
PwC Middle East

Built Environment

Balsam Nehme
Head of Sustainability
Dar Al-Handasah

Sarah AlFeghali
Innovations and Moonshot Lead
Strategy&



Economic Update

Jing Teow

Director, Economics & Sustainability
PwC Middle East

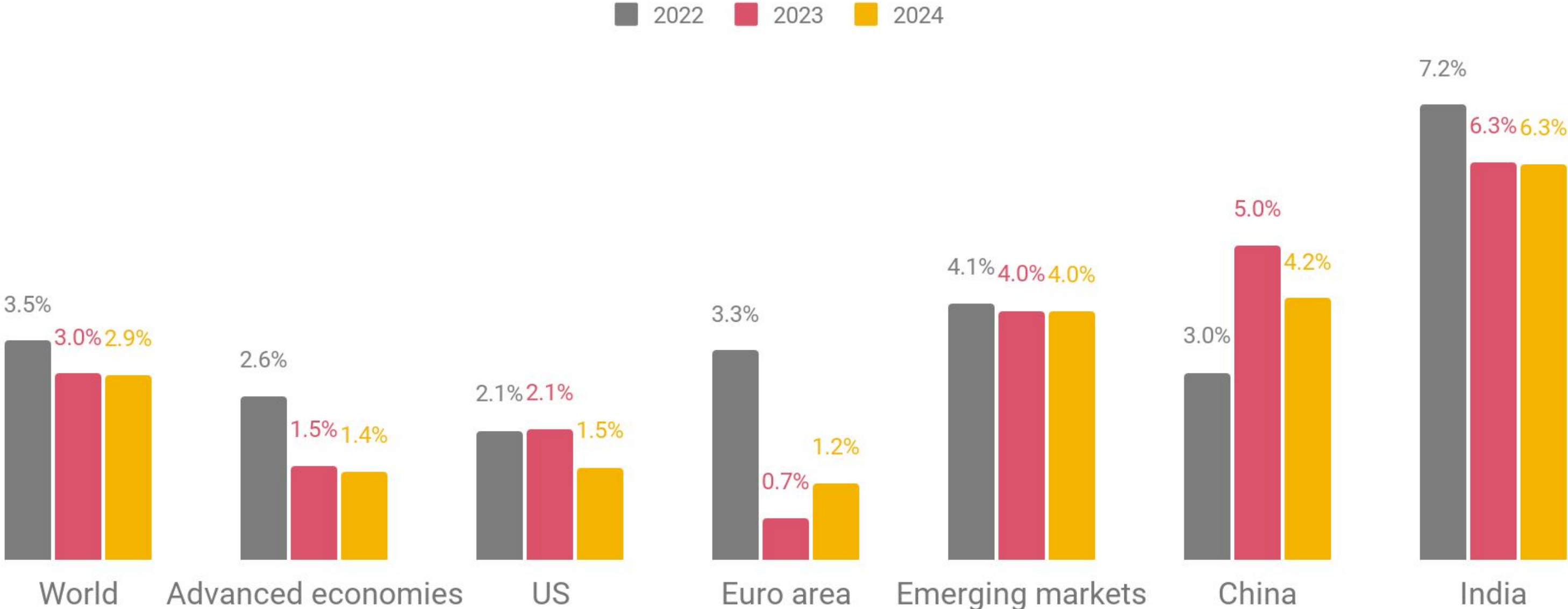
02



Economic Update

Global economic growth is expected to moderate as the recovery momentum slows

Real GDP growth projections % YoY

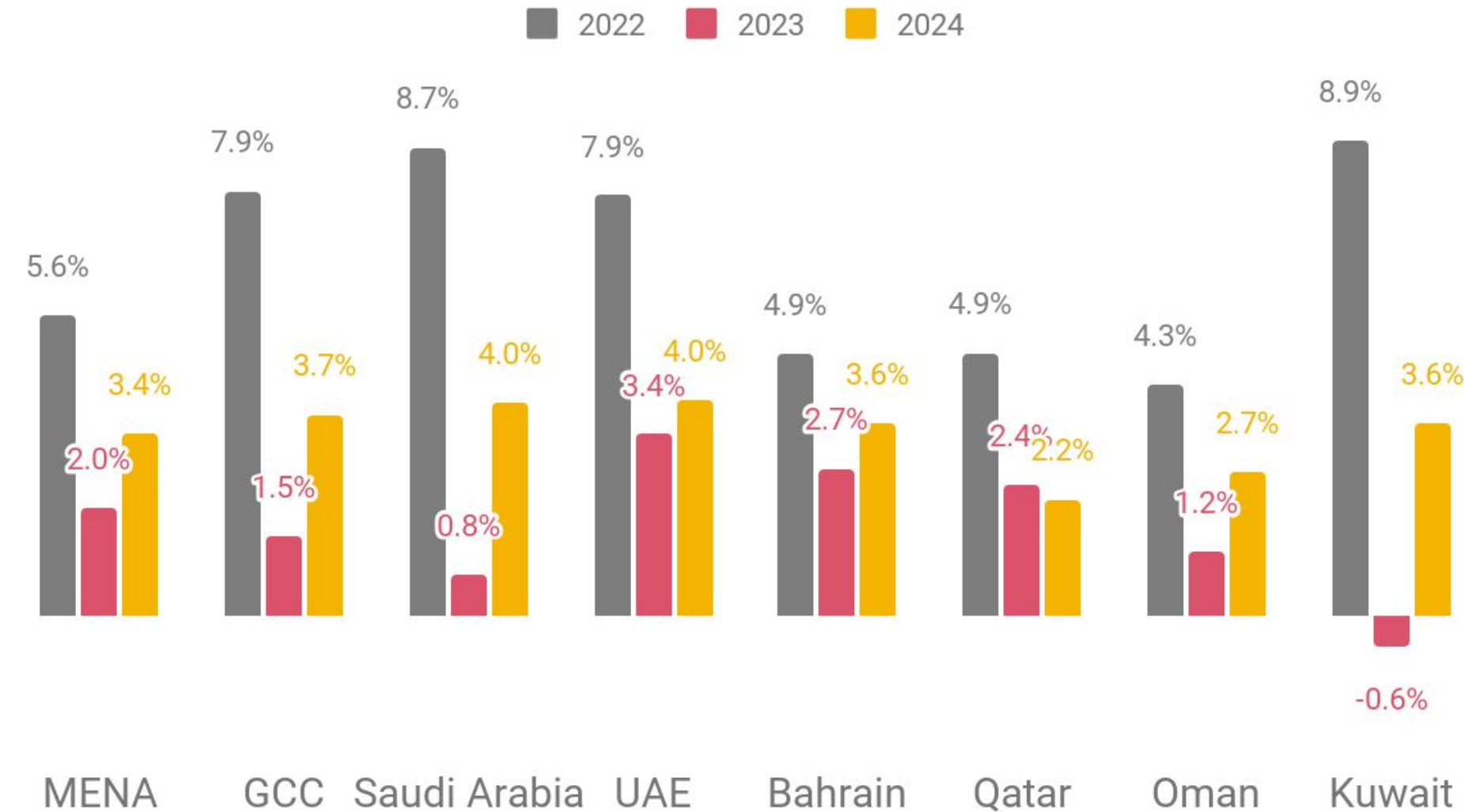


Source: IMF World Economic Outlook (October 2023)

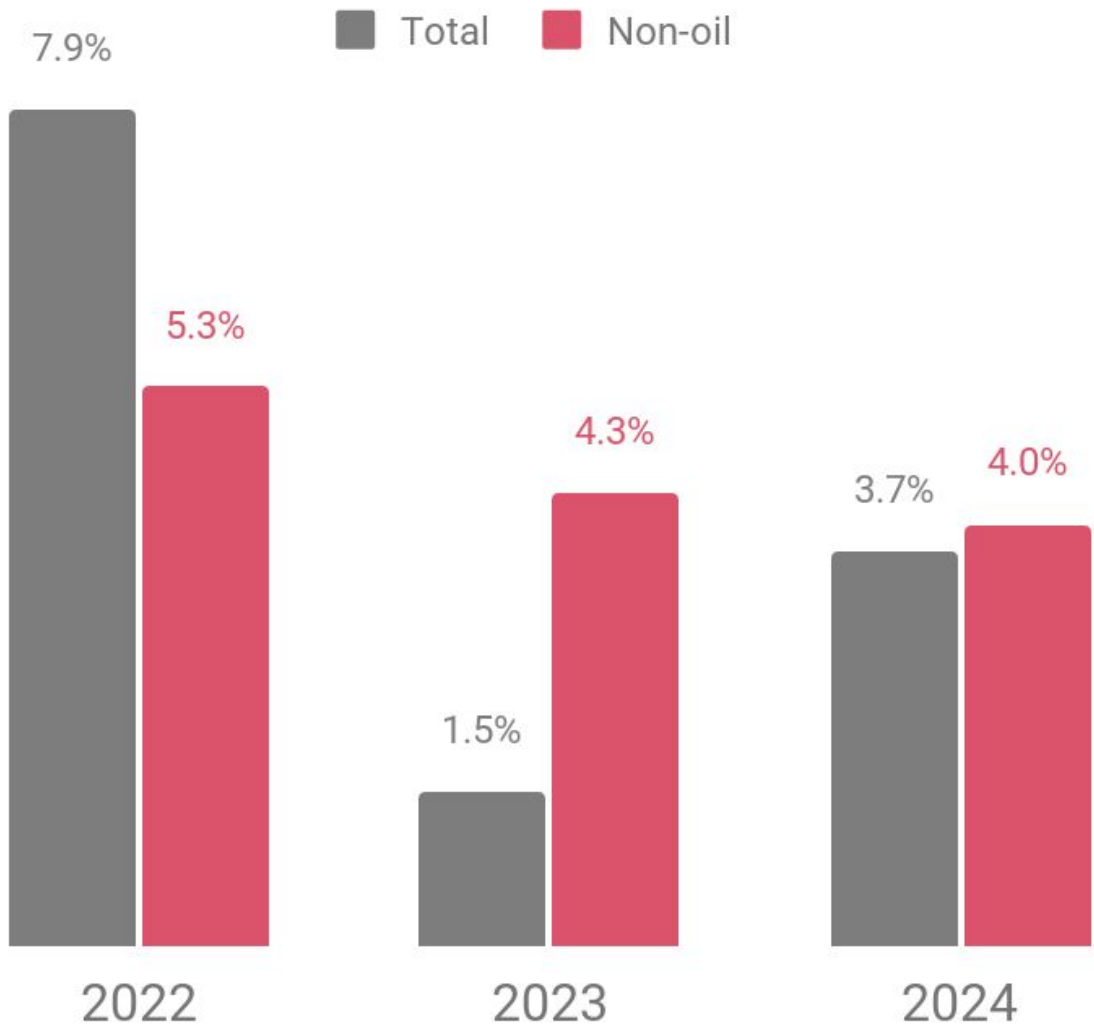
Economic Update

GCC economic growth will moderate in 2023, but growth is likely to pick up in 2024

GCC real GDP growth projections
% YoY



GCC real GDP growth projections
% YoY, total vs non-oil

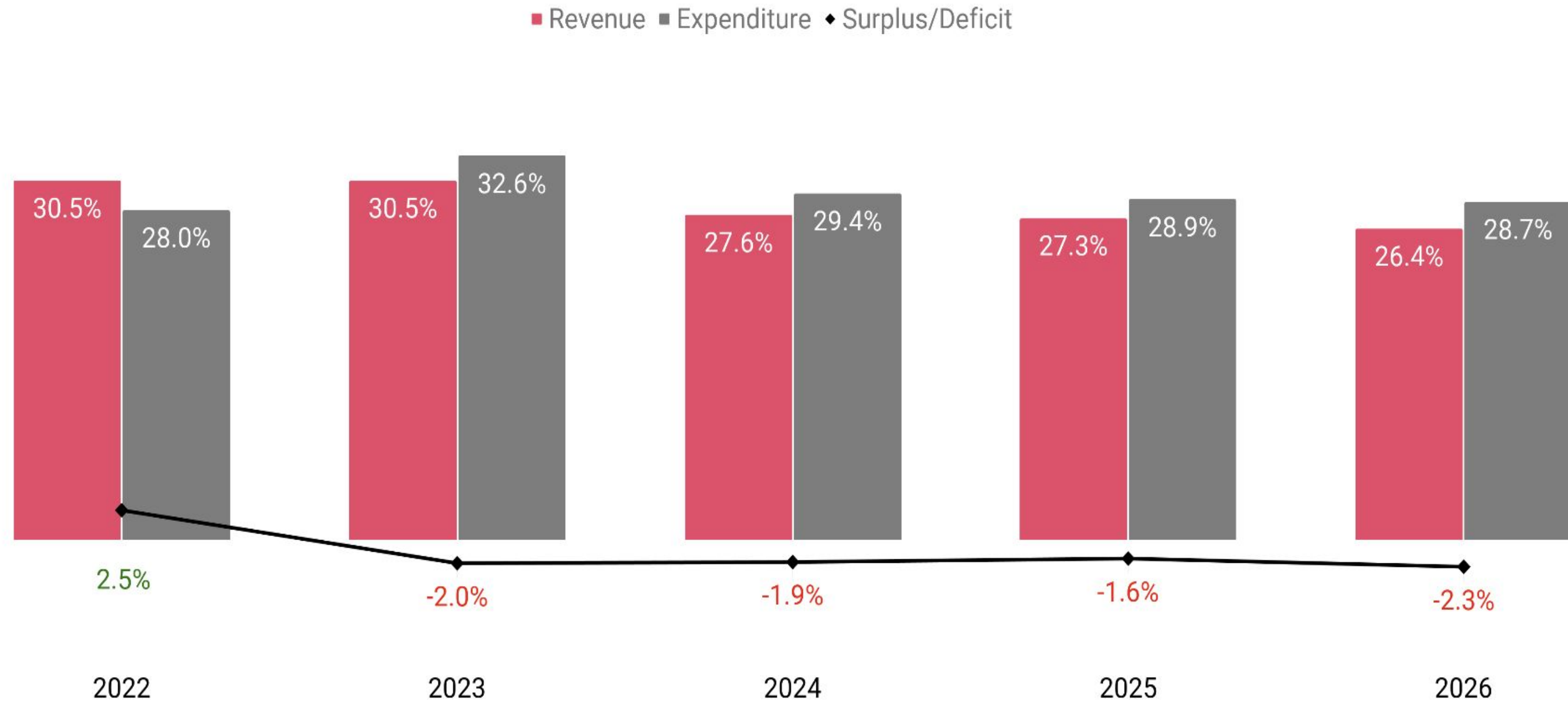


Source: IMF World Economic Outlook (October 2023), Regional Economic Outlook (October 2023)

Economic Update

Following a sharp hike in its spending plans, Saudi Arabia now expects fiscal deficits averaging -2% of GDP in 2023-26

KSA's fiscal position as a % of GDP



Source: KSA Ministry of Finance Pre-Budget Statement for FY 2024

Sustainability in the Built Environment

Balsam Nehme

Head of Sustainability
Dar Al-Handasah

Sarah AlFeghali

Innovations and Moonshot Lead
Strategy&

03



The real-estate market is on the cusp of disruption considering aspirations of government, developers, consumers, and financial markets

- Realise net zero commitments
- Enable the circular economy
- Meet demand swiftly
- Drive localisation

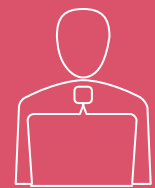


Built environment stakeholders



- Seek higher, sustainable quality of life centered on wellbeing
- Prioritise affordability

- Realise returns to shareholders
- Meet ESG aspirations



Developers



- Channel capital towards sustainable investments
- Meet ESG requirements

As a result, traditional development decisions are being augmented with three new objectives, creating a balancing act for stakeholders



◆ Traditional priorities ◆ New priorities

On the sustainability front, built environment is responsible for 37% energy consumption, 39% CO₂ emissions, and 40% material use



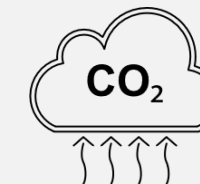
WHY THE BUILT ENVIROMENT



We must eliminate all CO₂ emissions from the built environment by **2040** to meet **1.5°** climate targets.



37%
of global
energy use



39%
of global
CO₂ emissions

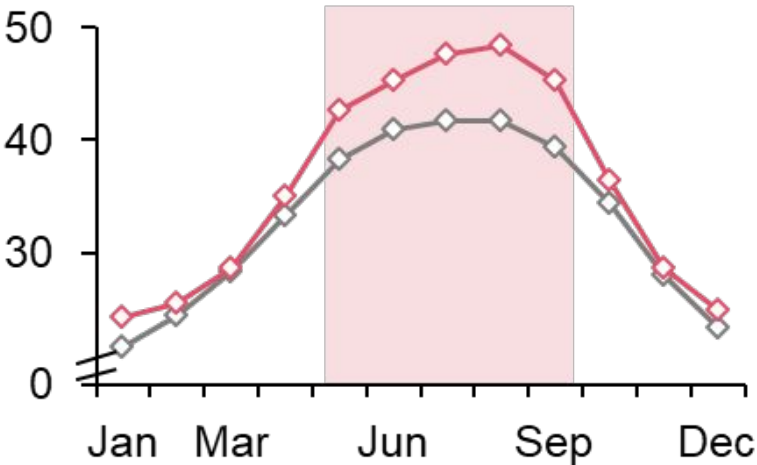


40%
of global raw
materials use

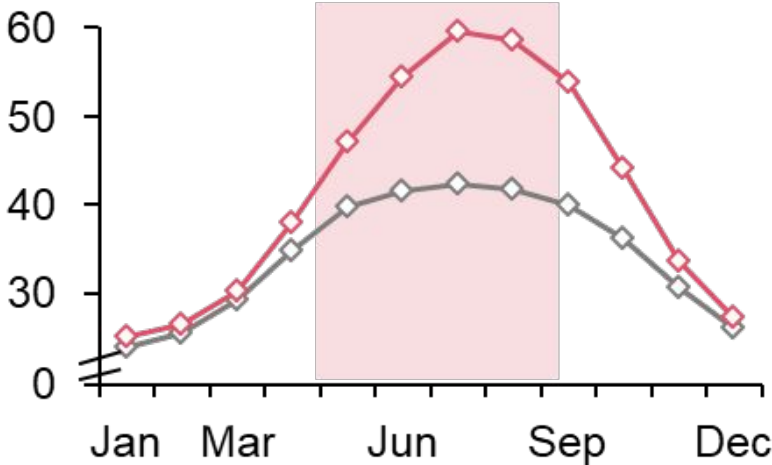
In the Middle East, the intensity of the challenge is exacerbated as a result of the severe climate conditions

MENA monthly average perceived temperatures, °C

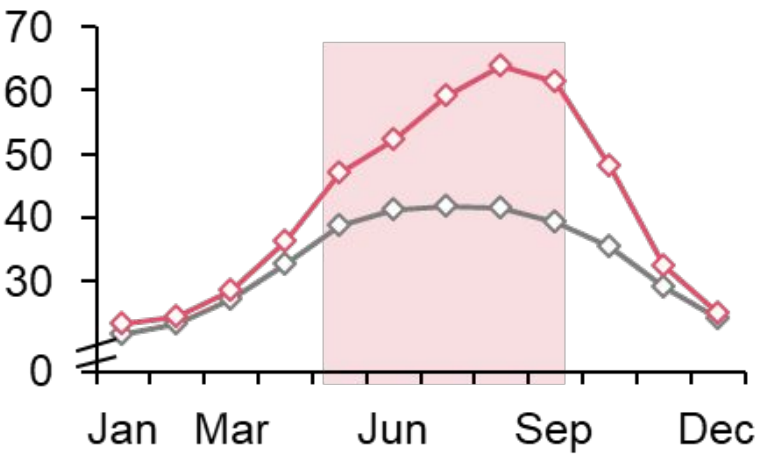
KSA



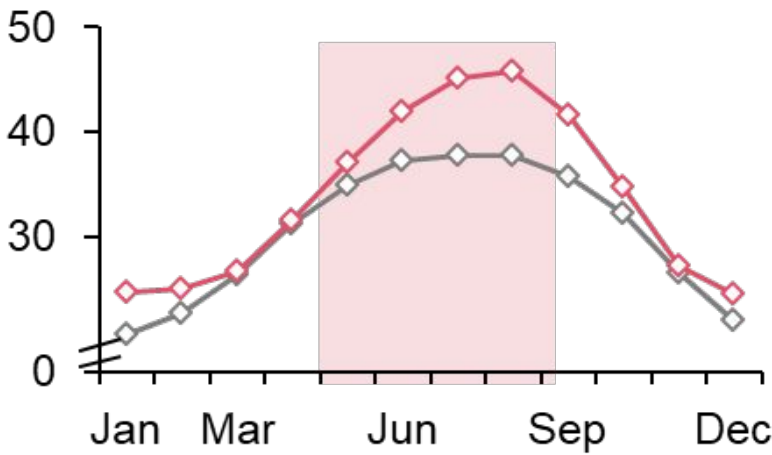
UAE



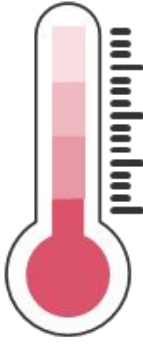
Qatar



Egypt



— Average Max Temperature — Heat Index Temperature



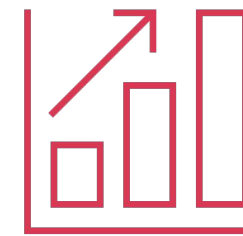
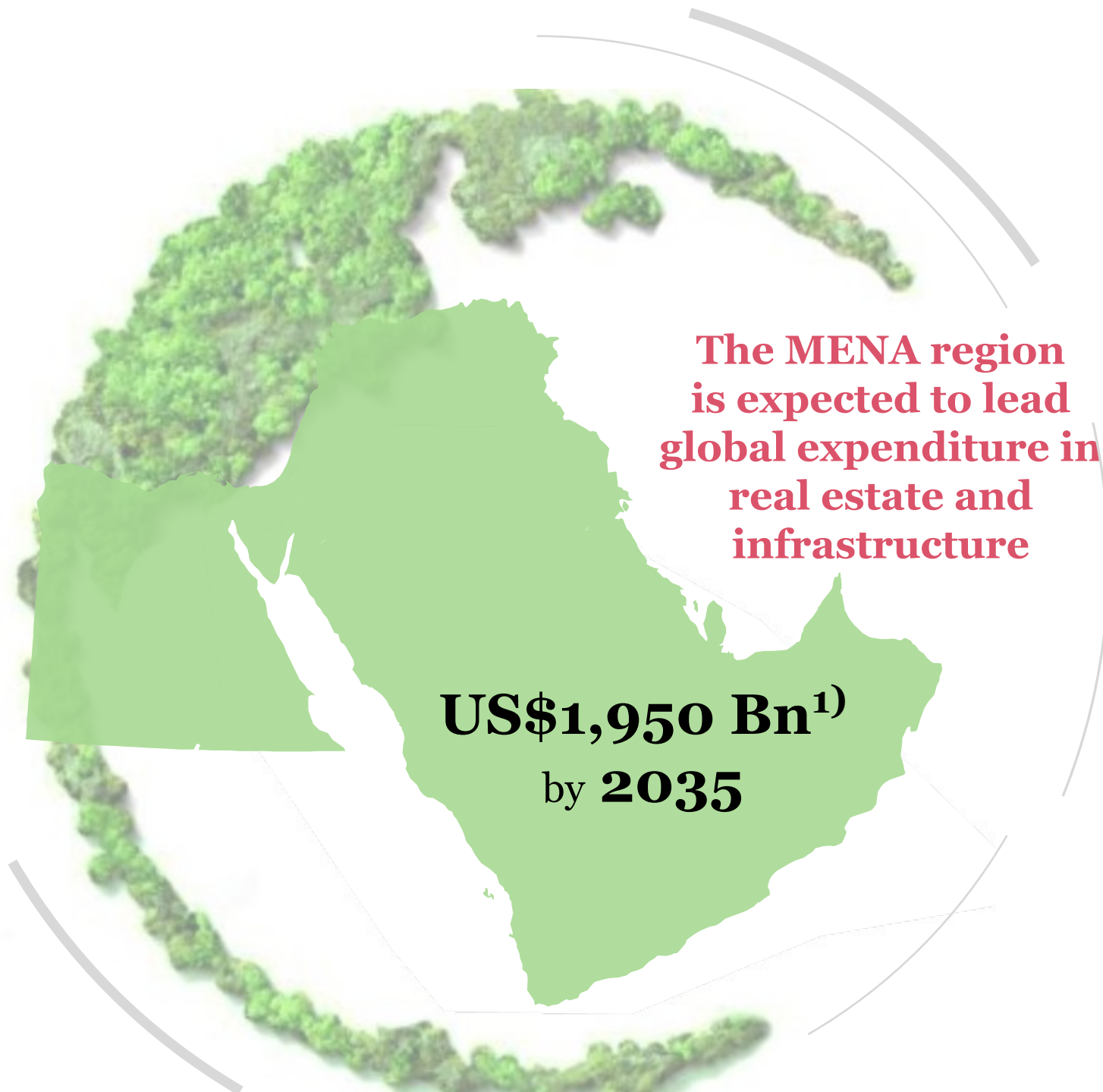
Temperatures hover above 40°C with high relative humidity during summer months limiting walkability and resulting in discomfort for residents



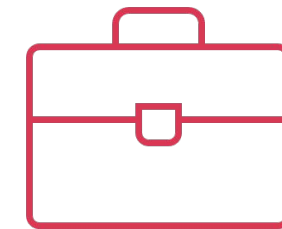
Note: Sensed temperature in oC is calculated based on air temperature in oC, dew point, and humidity (Humidex)

Source: World Bank Climate Change Knowledge Portal (1991 – 2020), worlddata.info , Strategy& analysis

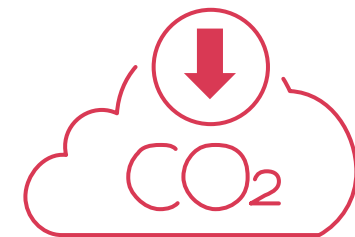
Yet, we have a significant opportunity - \$2tr. investment in the built environment will unlock economic development and contribute to net zero targets



~ **US\$280 billion**
Annual GDP Impact ²⁾



~ **4.3 million FTE**
Jobs Impact ³⁾



More than **50%** reduction
in carbon emissions

1) Led by KSA (\$1.06 trillion), UAE (\$337 billion) and Egypt (\$284 billion); 2) Revenues generated from construction activities and by suppliers for goods and services provided for construction for a CAPEX investment of \$195 Bn per annum; 3) Assumption: jobs created per million US dollar invested in efficient buildings is 15.2 (IEA)

Source: MEED, Strategy& analysis, DAR Al Handasah (Shair and partners)

So how can we build the future together? PwC, Strategy&, and Dar highlight 17 paradigm shifts to take on sustainability challenge in the built environment

1. Rethink developments density for sustainability
2. Decentralise power generation
3. Build storage for dynamic energy management
4. Decentralise water generation
5. Decentralise wastewater treatment
6. Achieve circularity with waste-to-energy
7. Adopt nature-based solutions
8. Electrify micromobility
9. Build sustainable pathways

Development/
urban planning



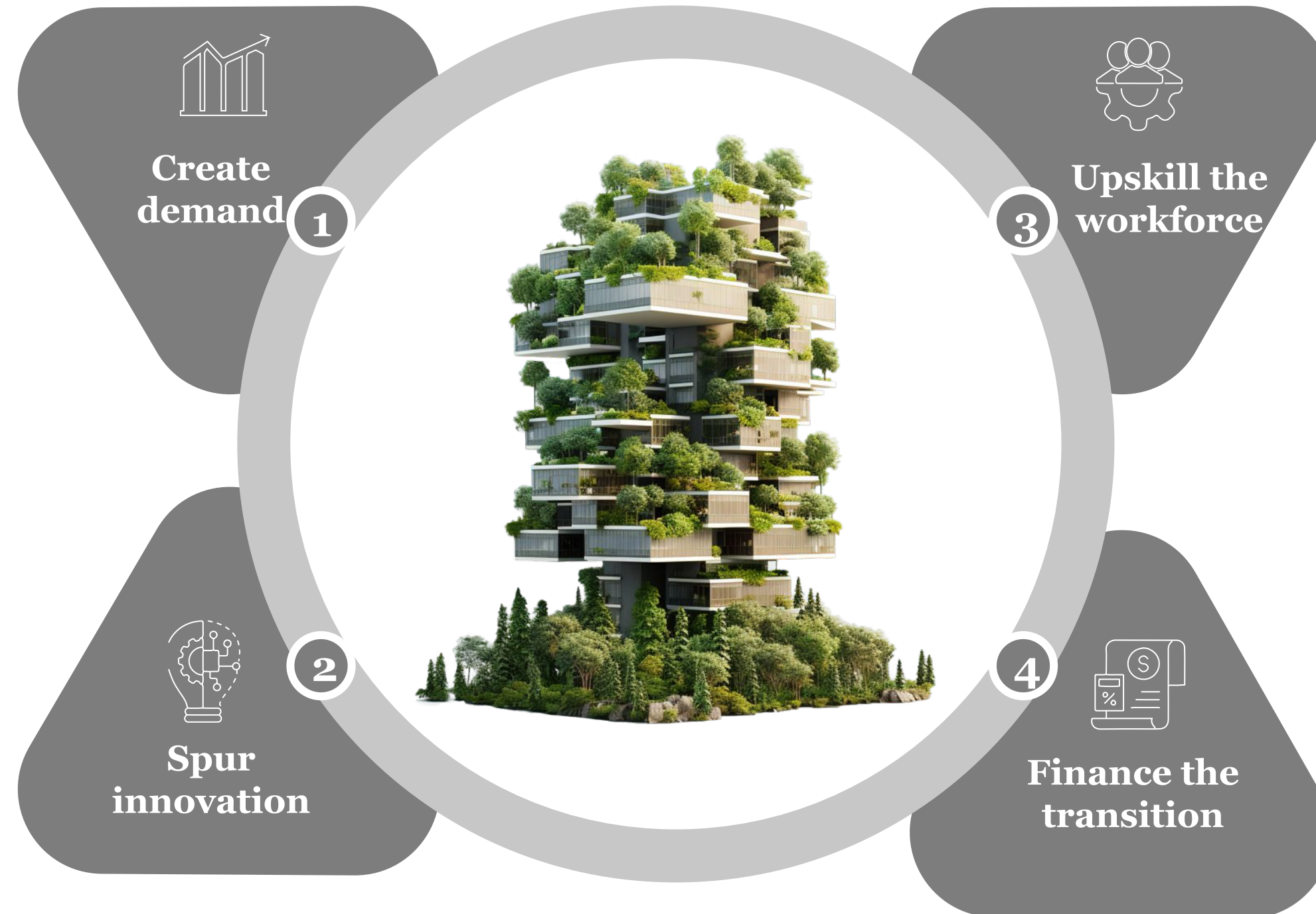
Asset/
building

10. Rethink façades for whole life energy saving
11. Give roofs a sustainability purpose
12. Rethink flooring for energy generation
13. Move to smart buildings with comfort-based systems
14. Eliminate embodied energy of HVAC systems
15. Electrify Mechanical, Electric and Plumbing (MEP) systems
16. Deploy sustainable materials
17. Design for Modular Assembly (DFMA)

Four key imperatives are crucial to make this happen, requiring the support of all built environment stakeholders

- **Innovative and comprehensive regulations and standards** with clear carbon reduction targets
- **Robust local content procurement policies** and give preference to sustainable, local companies

- **Clusters focusing on sustainable construction** research and material innovation
- **Partnerships with** research institutions and universities via **sustainability labs and accelerators**



- **Mandatory sustainability courses** across engineering and design curricula
- **Technical and vocational programs and apprenticeships** in partnership with leading innovators

- **“Sustainability Fund”** to incentivise the adoption of sustainable practices
- **“Sustainability bonds” and “green mortgages”**, with well-defined conditions and criteria



Q&A





Thank you

