

المشروع الوطني لحماية الأصول ,كفاءة الطاقة و الامتثال البيئي

The National Project for Asset Protection,
Energy Efficiency & Env. Sustainability

AIMS- CMS - & Env. Compliance.



Foundation for Strategic
Studies & Research



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01 Introduction

المشروع الوطني لحماية الأصول , كفاءة الطاقة و الإمتثال البيئي

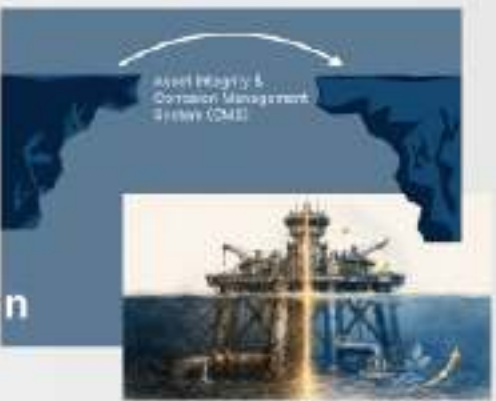
The National Project for Asset Protection, Energy Efficiency & Env. Sustainability

AIMS- CMS - & Env. Compliance.



التحالف
الاستراتيجي والحل

The Bridge & The Solution



Power of Decision



Strategic Returns Value



Vision

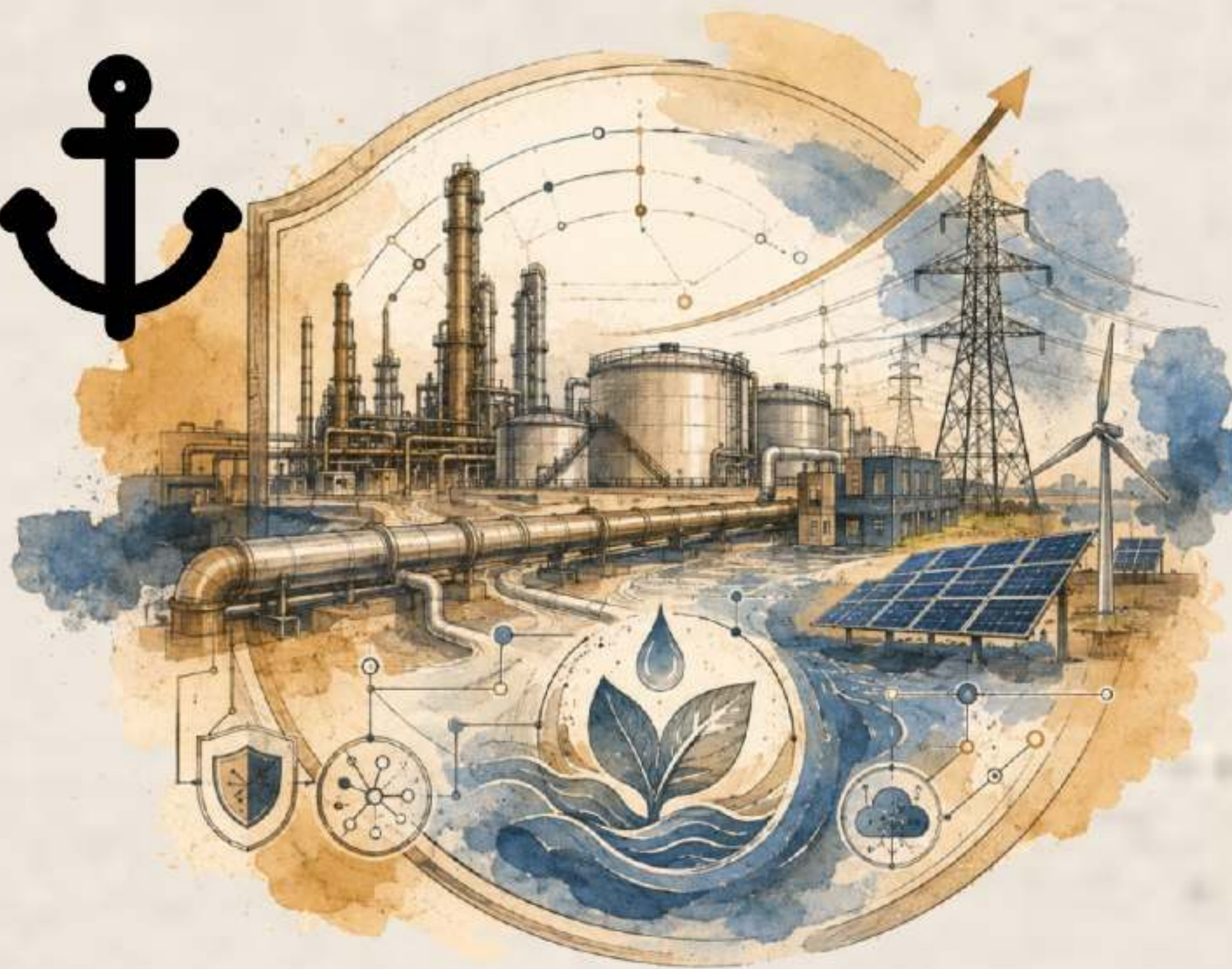


" صيانة الثروة الهيدروكربونية للعراق، القضاء على الهدر المالي والطاقة، استقطاب
الاستثمارات المناخية،

وبناء مستقبل اقتصادي مستدام للأجيال القادمة."

02 Current Status

واقع الحال

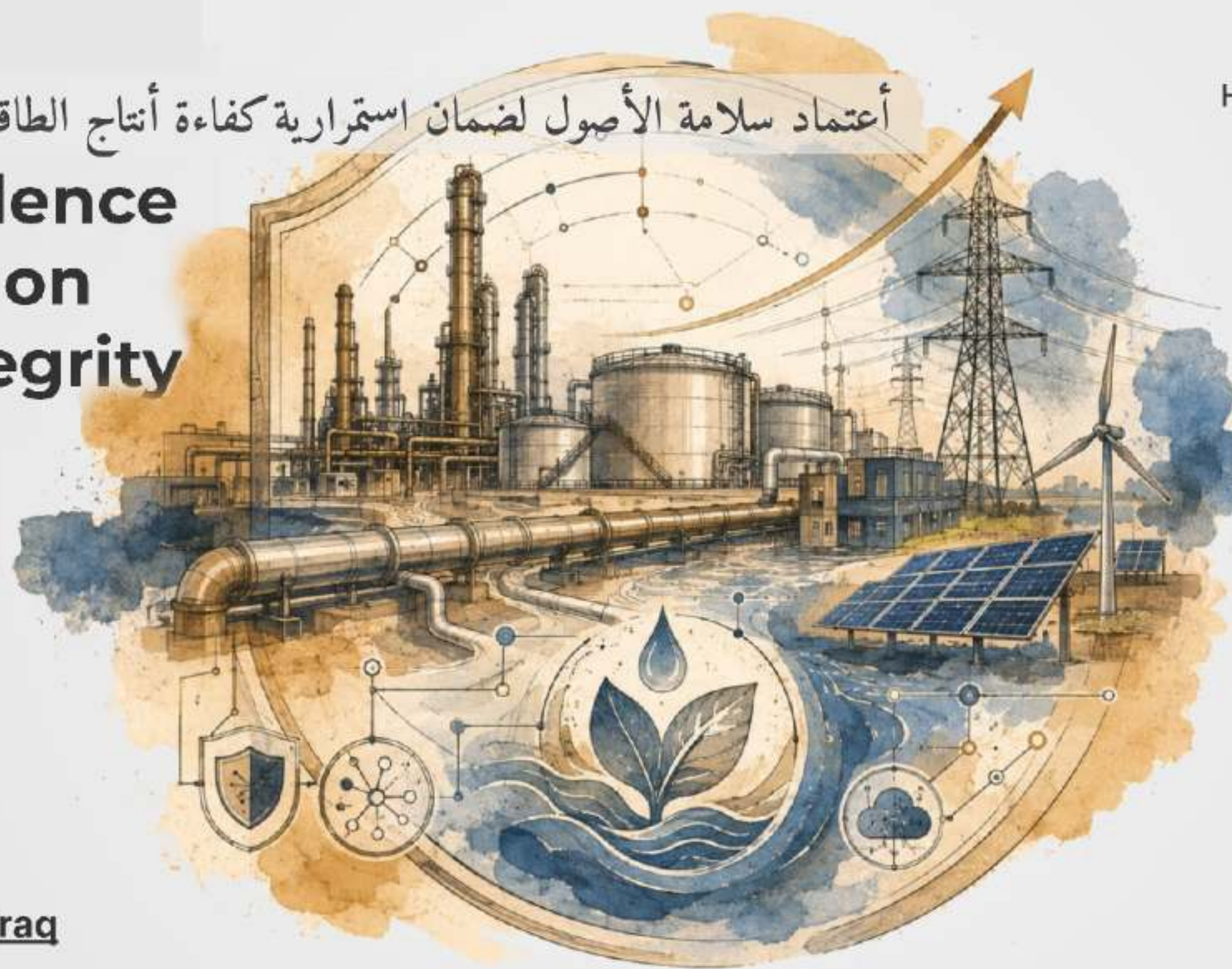


Current Status

Energy Independence Depends on Asset integrity

أعتماد سلامة الأصول لضمان استمرارية كفاءة إنتاج الطاقة

Iraq's resource base is globally significant. Sustainable competitiveness increasingly depends on the reliability, integrity, efficiency and emissions performance of the infrastructure that converts resources into national value.




Higher efficiency


Reliable uptime


Protected infrastructure


Lower Operating losses


Less flaring & methane


Trusted environmental data


Investment readiness


Demonstrable compliance

Current Status -- attached link

01

Where We Are Right Now

Current status

Iraq's downstream independence depends on reliable, protected and environmentally compliant assets.

الوحدات القديمة والمجمعات الحديثة تشترك في خطر واحد يهدد سلامتها وهيكلتها الفنية

Legacy units and modern complexes share one integrity risk

LEGACY REFINING UNITS

Vintage 1970s trains, pipelines and utilities

Asking for largely incomplete damage, complete records and needed repairs increases uncertainty around condition and remaining useful life.

MODERN PROCESSING COMPLEXES

Newer, highly integrated assets

Complex lowdown, known operating conditions, and high consequence of failure demand standard risk-based integrity from day one

01

Thermal fatigue

Cycling, heating, cooling and ageing can weaken and produce cracking and loss of structural integrity.

02

Corrosion mechanisms

Internal, external and process-related degradation through various piping, tanks, piped vessels and utilities.

03

Fragmented integrity data

Condition, inspection, maintenance and incident records are often separated from operational and environmental datasets.

تطبيق لغة مخاطر موحدة، ونموذج بيانات موحدة، وإطار حوكمة موحدة عبر كامل قطاع التكرير والمعالجة والتسويق

Apply one risk language, one data model and one governance framework across the full downstream estate.

One failure. Eight connected losses.

SINGLE EVENT

Corrosion, pipeline or equipment failure

01

Production loss

Upstream downstream and interruption

02

Safety risk

Exposure to process-related hazards

03

Contamination

Oil, water and chemical leaks, spills

04

Methane leakage

Direct greenhouse gas emissions

05

Continued flaring

Carbon capture emissions data unavailable

06

Higher cost

Using legacy maintenance and repair records

07

Shorter asset life

Flare valves and separators

08

Waxier data

No data set, some or none is available

Asset integrity is directly connected to flare reduction.

Operational reliability is directly connected to environmental performance.

The global cost of corrosion — historic benchmark

\$2.5 T

Estimated annual global corrosion cost for the global AMET/STANAG-BBNAQ (Grand total)

3.4%

As a % of GDP, the benchmarked cost of corrosion is relatively low, but it is a significant financial burden for many countries.

15–35%

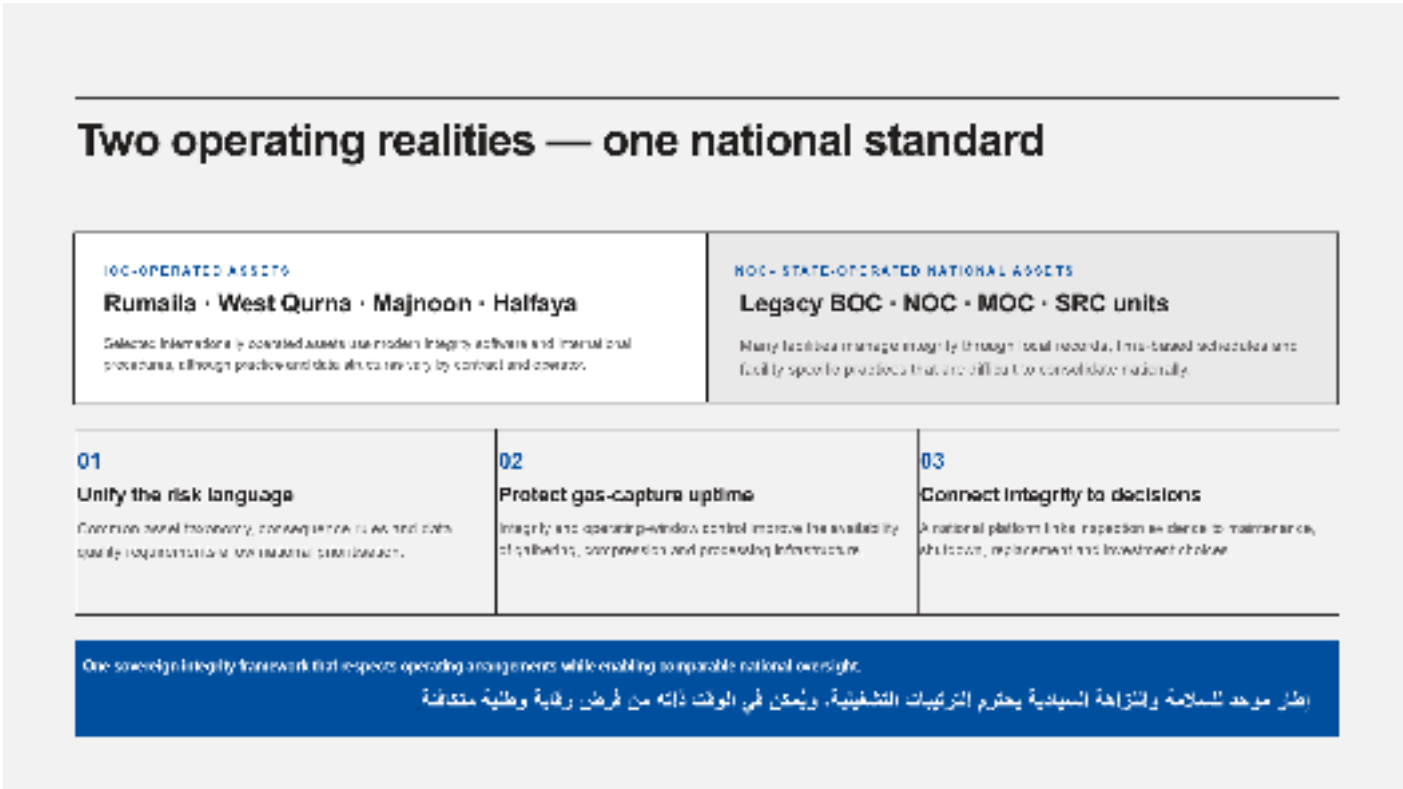
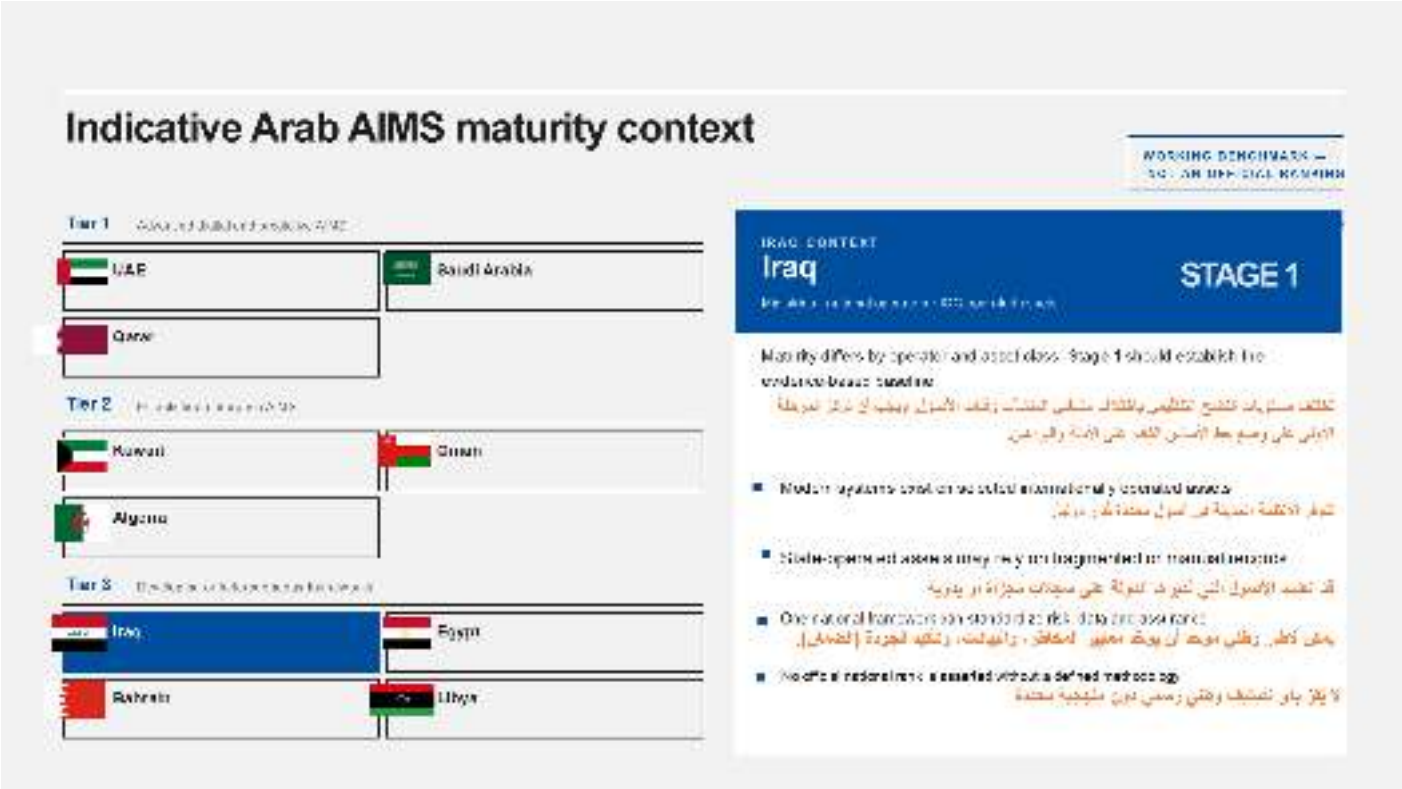
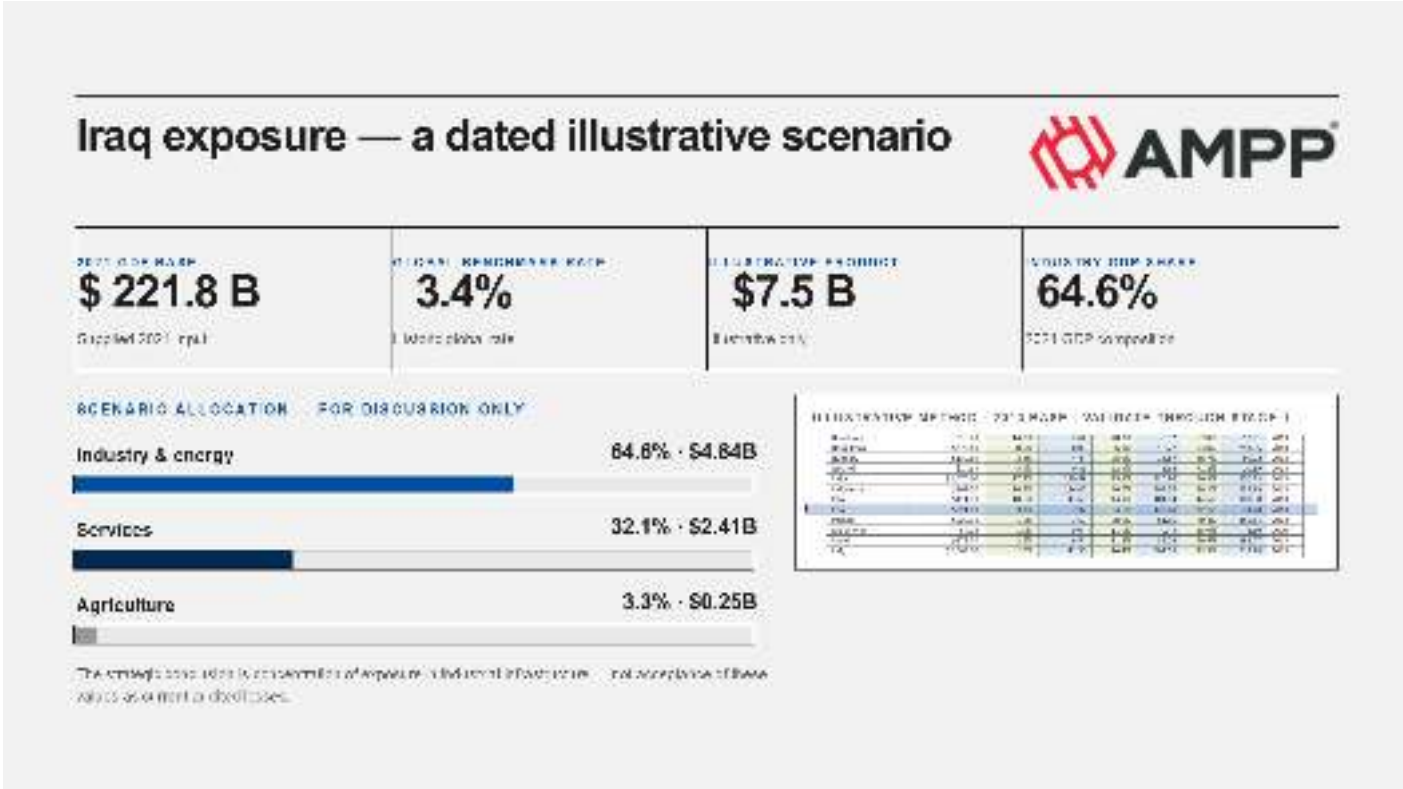
As a % of GDP, the benchmarked cost of corrosion is relatively high, but it is a significant financial burden for many countries.

Global Cost of Corrosion by Region by Sector (Billion USD 2013)

Process Sector	Refining	Chemicals	Services	Total	Total	% of GDP
	1991-2000	2001-2010	2011-2020	1991-2000	2001-2010	2011-2020
North America	1.1	1.1	1.1	3.3	3.3	1.1%
Europe	1.7	1.7	1.7	5.1	5.1	1.7%
Asia-Pacific Region	1.8	1.8	1.8	5.4	5.4	1.8%
Latin America	1.1	1.1	1.1	3.3	3.3	1.1%
Middle East	1.1	1.1	1.1	3.3	3.3	1.1%
Africa	1.1	1.1	1.1	3.3	3.3	1.1%
Oceania	1.1	1.1	1.1	3.3	3.3	1.1%
Global	11.1	11.1	11.1	33.3	33.3	3.3%
Refining	1.1	1.1	1.1	3.3	3.3	1.1%
Chemicals	1.1	1.1	1.1	3.3	3.3	1.1%
Services	1.1	1.1	1.1	3.3	3.3	1.1%
Total	11.1	11.1	11.1	33.3	33.3	3.3%

Historic AMET/STANAG-BBNAQ benchmark. Historic data are audited. Historic benchmark is based on reported data and governance framework.

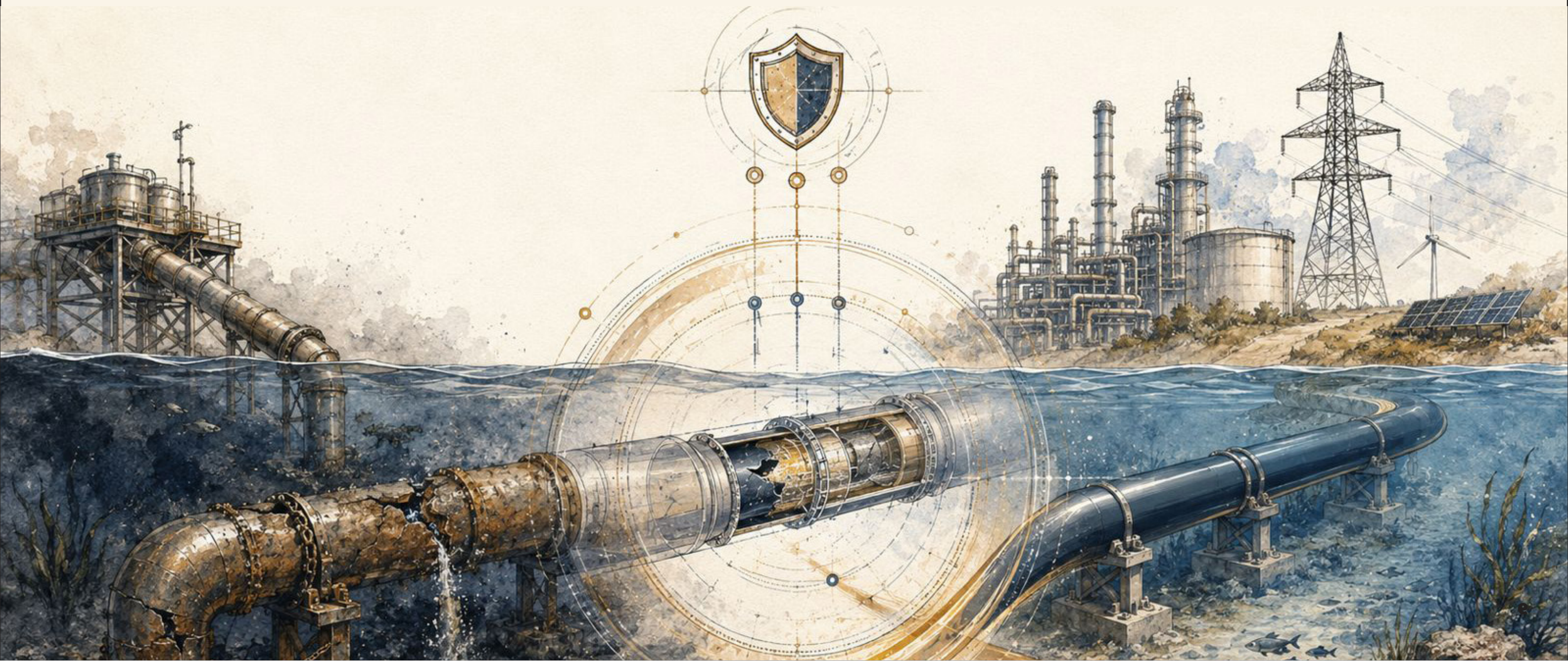
Current Status -- attached link



03 How Assets Integrates

1. Case Studies

2. How Assets Integrates



1. Case Studies



MOLGROUP



DRONE INSPECTION



VAPOUR RECOVERY UNIT

MOLGROUP

MOLGROUP

- Operations in over 30+ Countries
- Employs over 25000 people
- Upstream (Exploration and Production)
- Gas Midstream
- Downstream – Refining and Petrochemicals
- Consumer Services – Retail and Mobility



Hungarian Headquartered Integrated Oil & Gas Company



Center Of Competency / 10/2024

MOL Downstream Business - Background

3 Refineries
2 Petrochemical units
11 Countries
Employees 9,300

- Sales of 17 MTPA refined products
- 15 MTPA Petrochemical products
- 360 MBPD Refinery Capacity
- 890 MTPA Steam Cracker Capacity

Business Overview



Integrated Sites across 3 countries



Center Of Competency / 10/2024

Downstream - Challenges

- What is the Driving Force to Improve?
- Falling long-term **gasoline demand** across Europe, leading to overcapacity.
- Tough **competition** in a difficult market
- **Ageing assets**
- High level of **failures / unplanned** outages as a result of miss integrity
- Lack of **consistency and standardization** across the group
- **Local initiatives** have not led to improvements

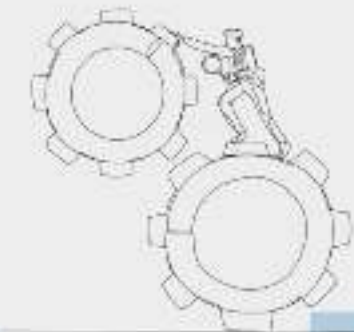
Metegrity are working across 4 sites – 2 in Hungary, 1 in Croatia and 1 in Slovakia



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AIM Transformation Project Objectives & Charter

- Development of a **business case, ROI and objectives**
- **Transition MOL** from reactive to predictive / preventative maintenance, by basing decisions on equipment condition and risk
- The **adoption of AIM** to identify critical assets and focus inspection and remediation on the highest level of risk (from both safety and production)
- Work as **"one team"** across the sites
- **Knowledge transfer** – ensure we pass on Metegrity expertise across to MOL through the delivery



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Methodology Adopted



Knowledge Transfer and Digitization



Underpinning Sustainability Multiple sites & languages,



Differing competencies,



Site specific procedures and software



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Active Windows
for creating business value

Methodology Adopted



Center Of Competency / 03/2024

Active Windows
for creating business value

MOL Transformation Project KPI's

Transformation project that will drive increased asset integrity assurance, through the implementation of standardized AIM approach and software across MOL's downstream plants, leveraging technology and process data.



Integrity assurance Increased by **25%**



Unit availability to increase by **10%**



Non-Intrusive Inspection (NII) To increase to **30%**



15% Reduction in TAR duration



10% Reduction in TAR cost



Center Of Competency / 03/2024

MOL Transformation Process & Benefits

- Integrity lead a **3 Year collaboration project** to help MOL Downstream Business transform asset integrity across the sites and upskill the asset engineers.
- **Digitizing Asset Integrity with Vocus Enterprise Asset Integrity Management Software**
- **Updating** equipment criticality
- **Development of Corrosion Control Documents**
- Conducting **Risk Based Inspection** across the sites
- **Developing Inspection Plans**
- **Upskilling**



Center Of Competency / 03/2024

MOL Transformation Process & Benefits

- **Benefits**
 - **Systematic improvement** and standardization of mechanical integrity utilizing Visions
 - **Reduction** in unplanned outages #1
 - **Transformation** of asset integrity and reliability performance and mindset
 - **Knowledge transfer** to ensure sustainability
 - **Typical Benefits** & Payback: <1 year



Center Of Competency 52320204

Summary

إذن كيف تنجح في تحسين السلامة وزيادة الإنتاج وتقليل النفقات التشغيلية؟
So how do you succeed in Improving Safety, Increasing Production and Reducing OPEX?



- فهم المشروع هو مشروع التحول وتغيير الثقافة
Understand the project is a transformation and culture change project
- وجود محركات قوية - مثل بقاء الشركة / السوق التنافسية وما إلى ذلك
Having strong drivers - such as company survival / competitive market etc
- التوافق مع ثقافتك الحالية وتاريخك وتنظيمك
Aligning with your existing culture, history & regulation
- إشراك الإدارة العليا بروية وطاقة
Having senior management engaged with a vision & energy

Center Of Competency 52320204

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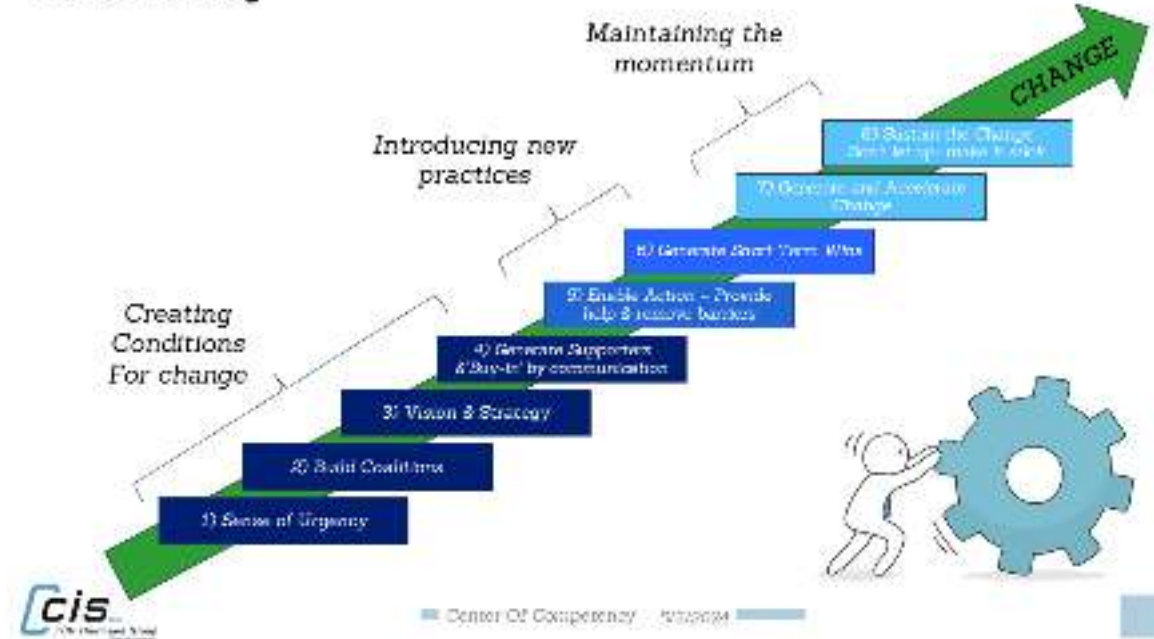


- الالتزام الحقيقي والدعم للتغيير في جميع أنحاء المنظمة
Real commitment and support for change throughout the organization
- تحدي الافتراضات التنظيمية بشكل إيجابي : مع بيانات قوية
Positively challenging regulatory compliance with strong data
- الشفافية بشأن التأثير العام لسلامة الأصول
Transparency on the overall impact of asset integrity
- المتابعة - جزء "اجعلها تلتصق" من عملية 8 خطوات
Persistence - the 'make it stick' part of the 8 - Step process



Center Of Competency 52320204

Summary



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DRONE INSPECTION

OPERATIONAL VALUE

09/18

Rashpetco proof point: critical indications found with both flares online

Units 260-B-8320 and H7-280-S-8330
Demonstrate remote screening without a planned shutdown for the UMW mission.

2

FLARE DETECTION

The existing IPI is visual

8+

CRACK INDICATIONS

Cracks visible on all critical welds

0

FLARE SHADOWS

Detail not visible with existing IPI

80%+

REPORTED CRACK VOLUME

Consistent crack volume accuracy

MISSION SCOPE

ASSETS

Unit 260-B-8320
HP-260-G-4300
Two elevated flare systems

FLIGHT PLAN

DJI Mavic 353 RTK
RTK positioning
Remote stand-off capture

INSPECTION

Weld scans and joints
Pilot and burner condition
Supports, clamps, hardware

OUTPUT

Mapped observations
Thermal / combustion evidence
Repeat-flight reference points

Real-time interpretation, video capture from remote access, accessible evidence, engineering review and repeat flight monitoring that protects production and safety.

CONCEPT: DRONE INSPECTION FOR UMW

OPERATIONAL VALUE

09/18

Findings register and engineering actions

The imagery supports screening and prioritization. Qualified NDT and engineering decisions remain needed.



8+

WELD CRACK INDICATIONS

100% of welds inspected with 8+ crack indications

2

UNIQUE WELD SCANS

100% of welds scanned with 2 unique weld scans

1

DETACHED SUPPORT

1 detached support identified

100%

FLANGE HARDWARE SCANS

100% of flange hardware scanned

CONCEPT: DRONE INSPECTION FOR UMW

OPERATIONAL VALUE

09/18

Controlled inspection converts flight data into an auditable decision record

The operating chain links permits and capture quality to engineering disposition and repeat-flight closure.

01

Define aerial map

Identify key areas, points of interest, and flight path

02

Approve flight plan

Get permits, approvals, and clearances

03

Capture evidence

Acquire data, process and store

04

Map and review

Register observations by location and condition

05

Close and trend

Link back to permit and flight plan for repeat flight

KEYNOTE CONTROL

QUALITY

Drift-free
Provides wide, zoom and low-hanging sensors. Radiometric temperature measurement requires RTK or another validated radiometric payload.

OPERATING CONTROL

On-stream work remains conditional on site authorization, wind limits, gas-drawdown controls and the approved hazardous-area operating procedure.

CONCEPT: DRONE INSPECTION FOR UMW

OPERATIONAL VALUE

09/18

Remote access improves safety, continuity and inspection economics

Base-to-deck benchmarks require scope equivalence, site-risk confirmation and current quotations.

Operational feature	Traditional access	UMW inspection	Summary value
Time to inspection	3-4 hr. 2-3 hr. to deck	45-60 min. to deck	75-90% time reduction
Production downtime	Hourly to 2-3 days	Less downtime	4250-4500 min. exposure avoided / protected
Setup and execution	2-3 hours	2-3 hours	No static execution, less downtime
MPV exposure	10-15 min. to 1 hr.	Max 10 min. per person, max 10 min.	MPV exposure reduced for operators and deck
Trend evidence	Raw data, photos, and photos	Calculated high-resolution time series	Repeatable crack and condition comparison

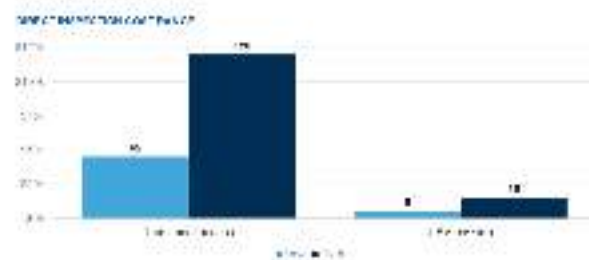
Repeatability control: submillimeter data made verifiable across sample distance, camera accuracy, distance, focus and a baseline crack reference.

CONCEPT: DRONE INSPECTION FOR UMW

DRONE INSPECTION

Financial scenarios

Source ranges: \$20k-\$115k direct saving and \$0.75m-\$7.12m exposure when UAV inspection substitutes for off-line access.



CONSERVATIVE SCENARIO

\$30k-\$115k

Conservative: \$45k - \$15k = \$30k
Upper: \$120k - \$5k = \$115k

Source reported savings: 75%-85% cost reduction, 87% Offshore

Scenario	Offshore days	Cost/km	Direct saving	Exposure avoided
Conservative	5	\$250k	\$30k	\$0.75m
Reference	5	\$250k	\$25.75	\$0.80m
Upper	5	\$115k	\$1.15m	\$7.12m

Percentages are based on a 100% cost reduction. Actual savings may vary based on site, complexity, weather, permits, and other factors. Exposure is based on a 100% cost reduction.

Source: OGC, OGC, OGC, OGC, OGC, OGC

Remote inspection extends across integrity, emissions and spatial evidence

Aerial and ground-based inspection can extend across integrity, emissions and spatial evidence.



EMERGENCY RESPONSE

On-site inspection and evidence collection for emergency response.

PIPELINE INTEGRITY

Collaborative platform for data and information under qualified procedures.

EMISSIONS MONITORING

Thermal and VOC visualization. High-risk LDAR and pipeline right-of-way scanning.

SPATIAL EVIDENCE

LIDAR point cloud and reality mesh. Rapid imagery for risk, mapping and forensics.

DEPLOYMENT | **HARD-WARE** Components: pointing | **FIXED** 24/7 monitoring and alarms | **AERIAL** Stand-off coverage

Accurate control: approved VOT, precise and calibrated, validated OGC method, survey-grade LIDAR accuracy, structured data and evidence and collection response ownership.

Source: OGC, OGC, OGC, OGC, OGC, OGC

OGI detection, quantification and LDAR

The capability to detect, quantify and measure emissions when survey findings lead to repair closure.

DETECTION

Locate and document a visible plume under suitable environmental and operating conditions.

QUANTIFICATION

Requires a validated measurement method, calibration inputs, gas-specific and uncertainty control.

>75%

Source-to-sink ratio with time (years)

EMISSIONS MONITORING

Wellhead, pressure control, compressor station and gathering process.

EMISSIONS MONITORING

Heavy hydrocarbon units, distillation, petrochemical, refineries and base stocks.

EMISSIONS MONITORING

Landfill, digestor, wastewater treatment plant.

A reference thermal-based model is used to estimate the OGI (pointed). The LDAR (leakage) and time included, and the emission and independent verification confidence.

Source: OGC, OGC, OGC, OGC, OGC, OGC

AIMS evidence-to-closure workflow

AIMS refers to the proposed asset integrity management system data chain, interfaces and governance requiring approval.

WORKFLOW TO CLOSURE



WORKFLOW TO CLOSURE

SENSOR & CAPTURE

Confirm payload and calibration. Define GSD, distance, angle and scale reference.

MEASUREMENT

Set reference, calibration and uncertainty limits. Define OGI detection and quantification method.

OPERATIONS & DATA

Approve flight plan, HSE and gas detection controls. Set data ownership, retention and cyber controls.

Proposed integration within the AIMS framework, data chain, interfaces and governance requiring approval by the relevant key asset owners and stakeholders.

Source: OGC, OGC, OGC, OGC, OGC, OGC

DRONE INSPECTION



DECISION AND DISCUSSION

Drone inspection can become a repeatable national integrity capability

Authorize facility screening, site-data validation and a scoped operational deployment under the full Iraq partnership.

- Iraqi asset ownership
- Safety-controlled access
- Auditable engineering evidence
- AIMS and emissions integration

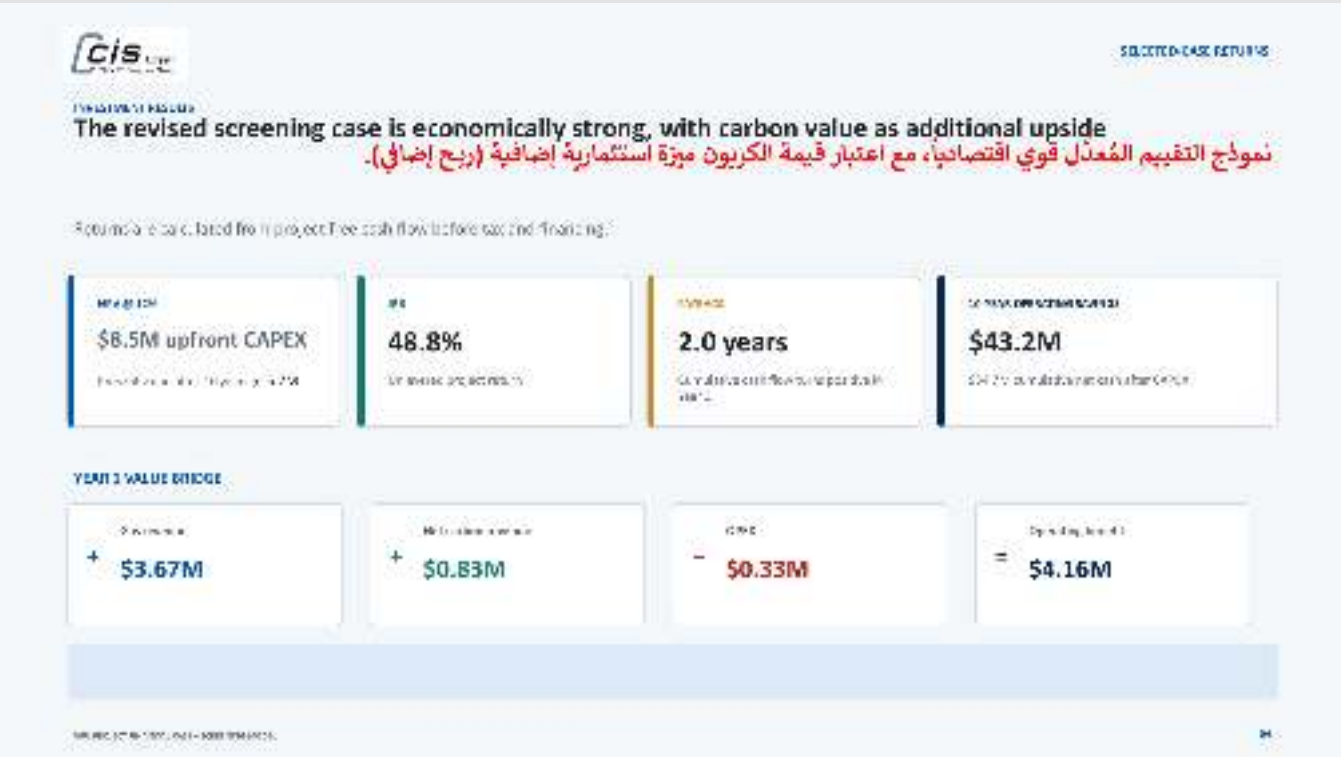
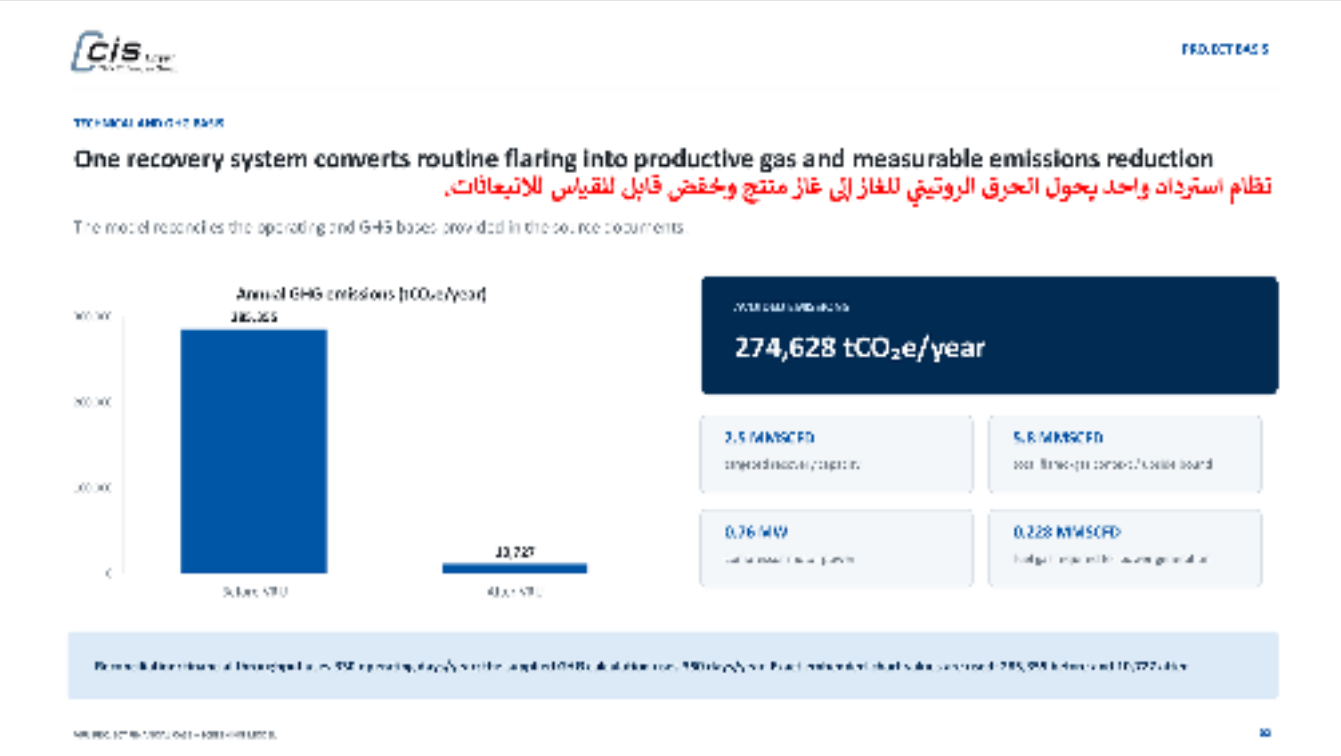
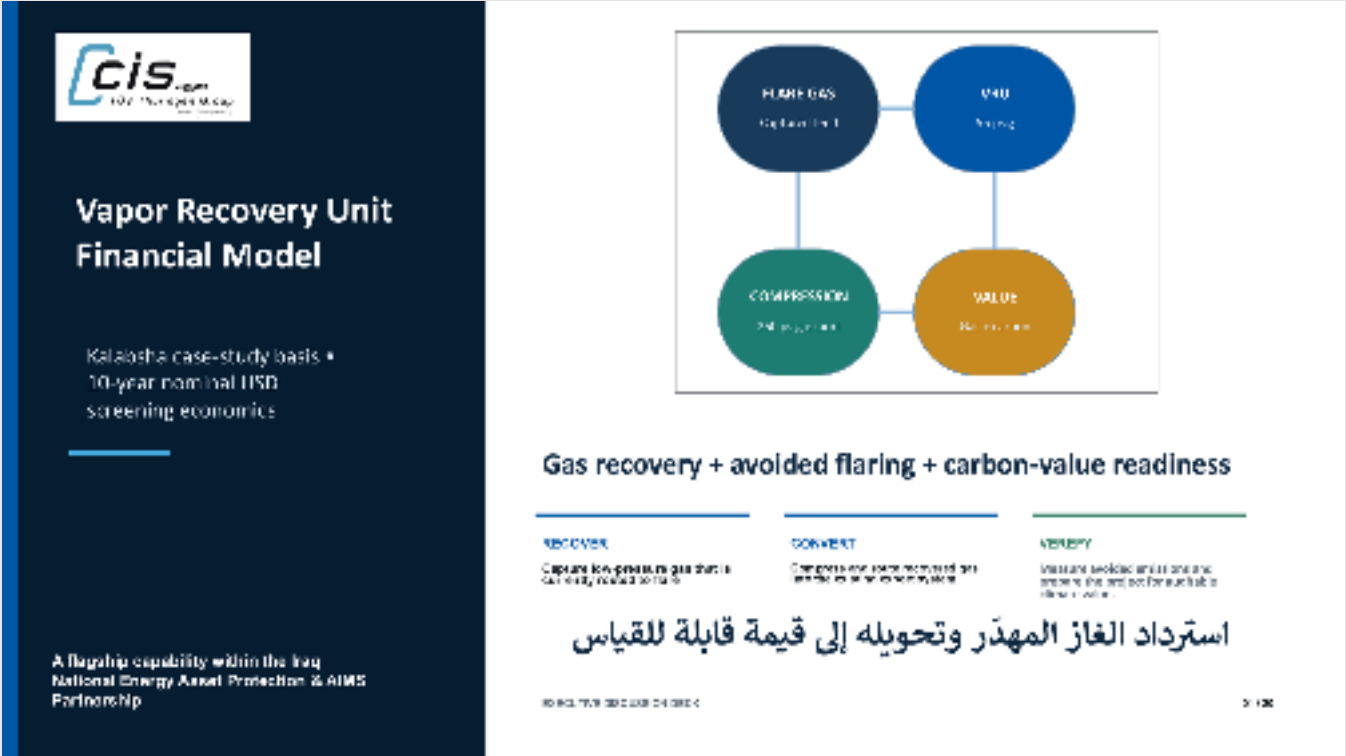


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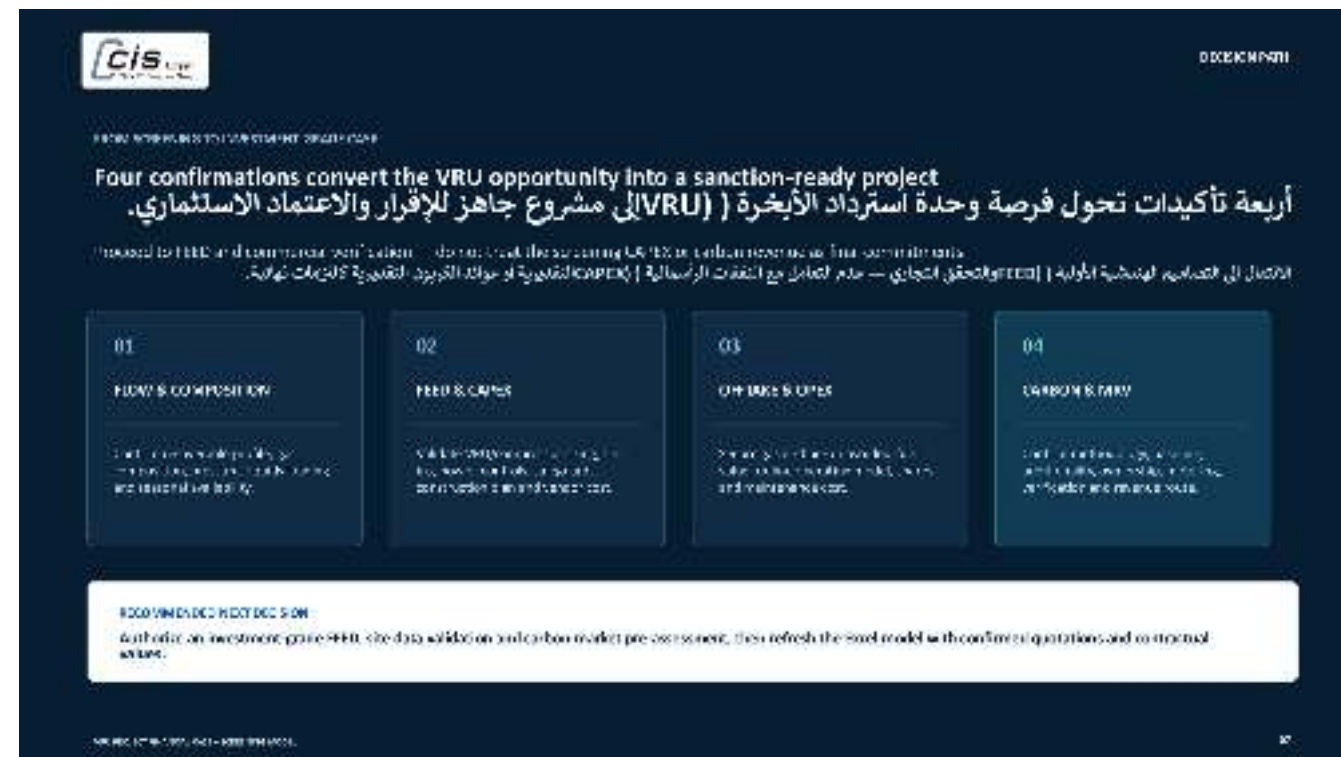
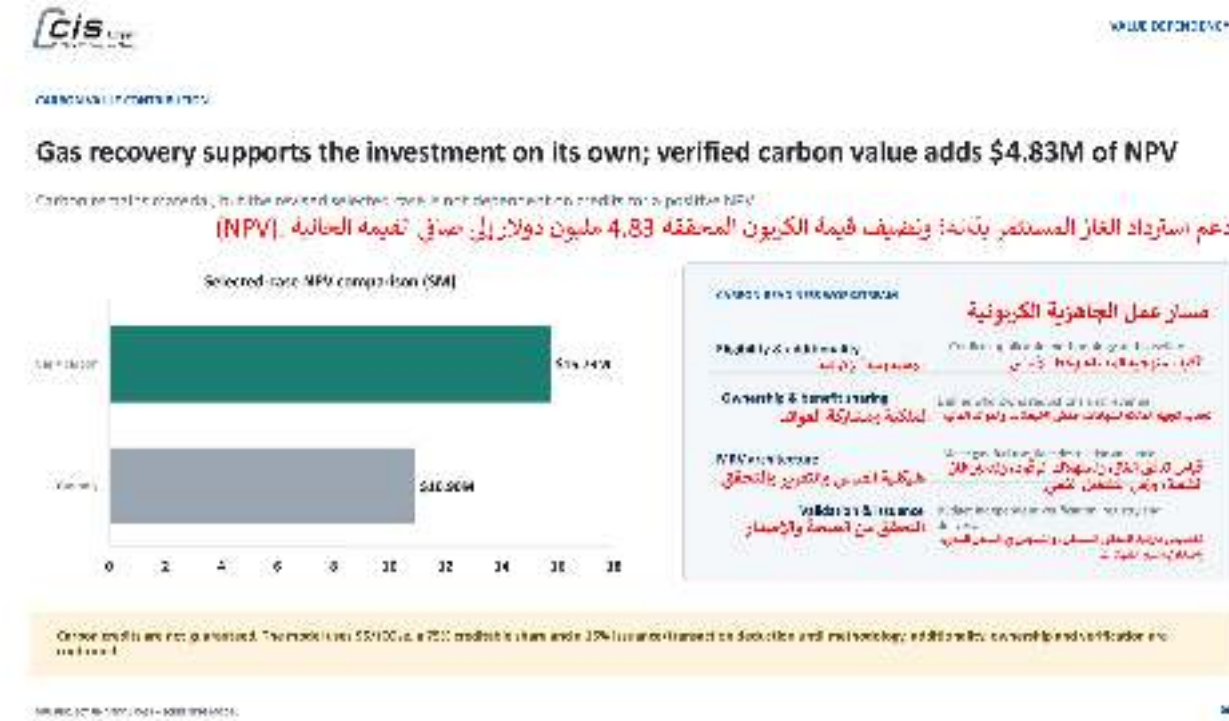
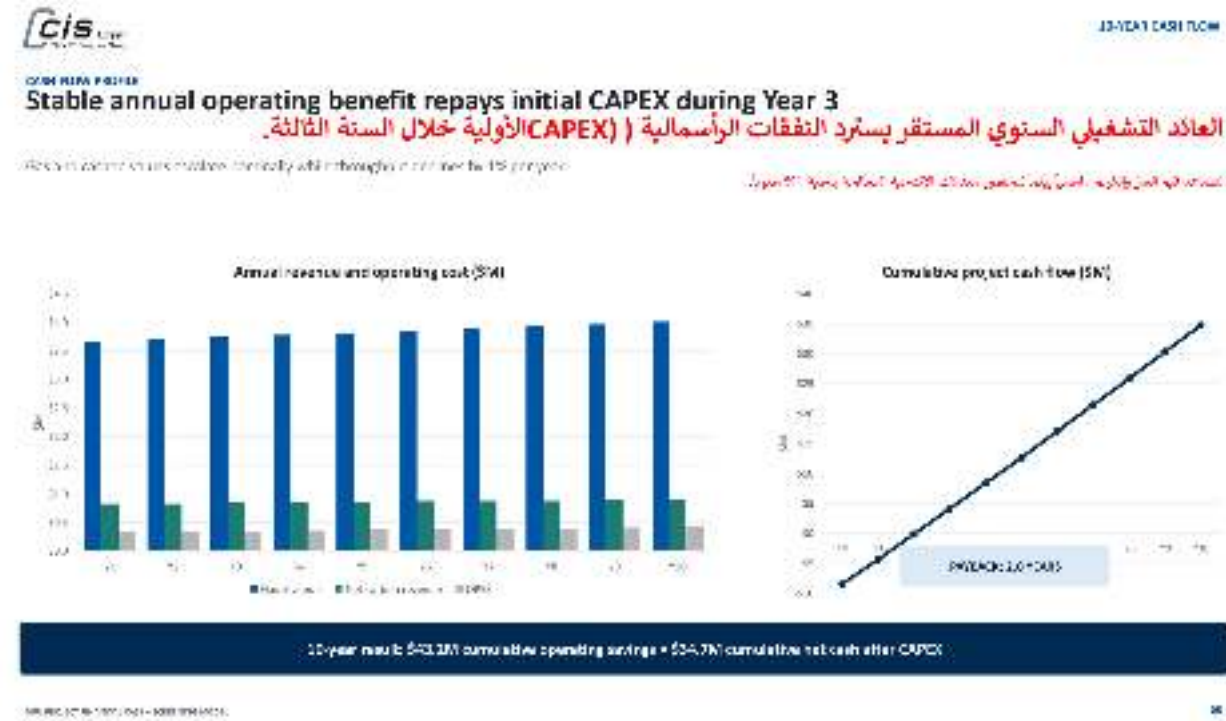
THANK YOU - DISCUSSION

info@cis-inspector-eg.com

VAPOUR RECOVERY UNIT



VAPOUR RECOVERY UNIT



2. How Assets Integrates



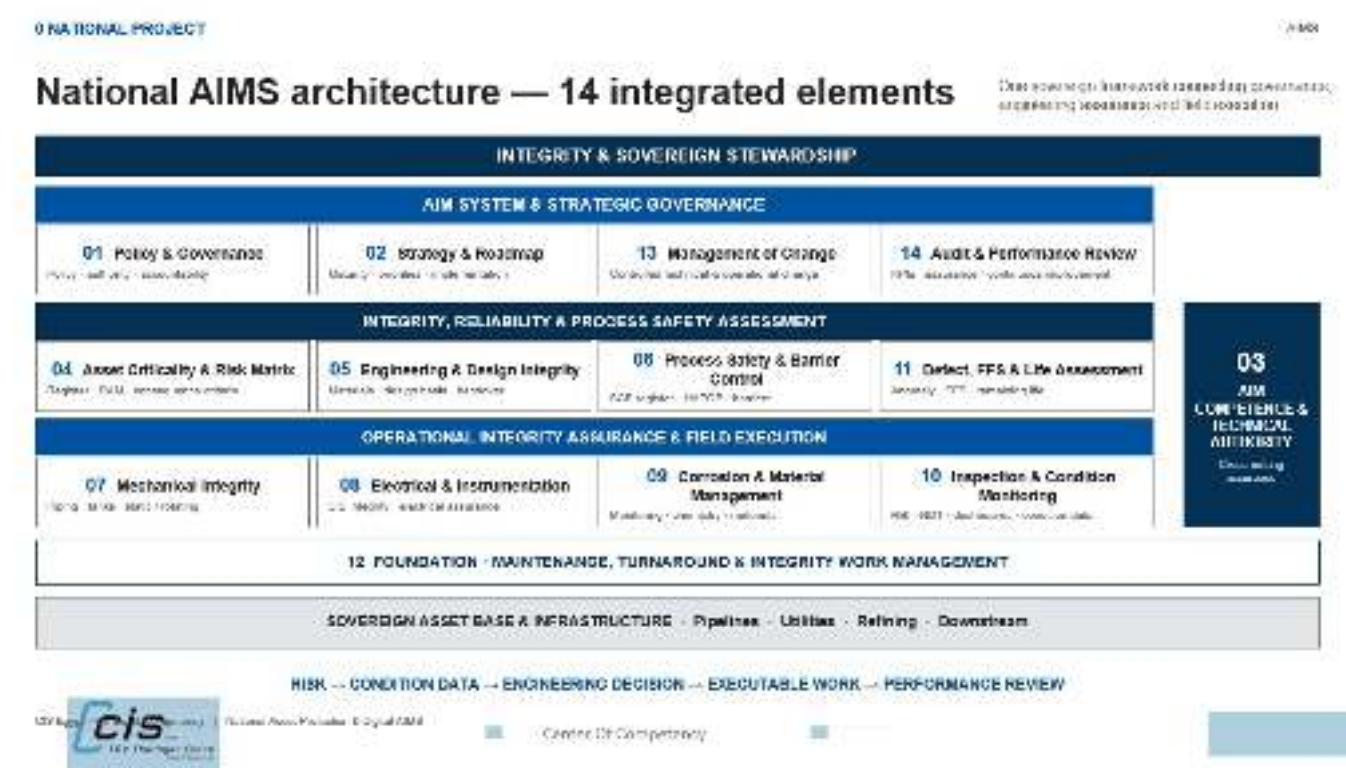
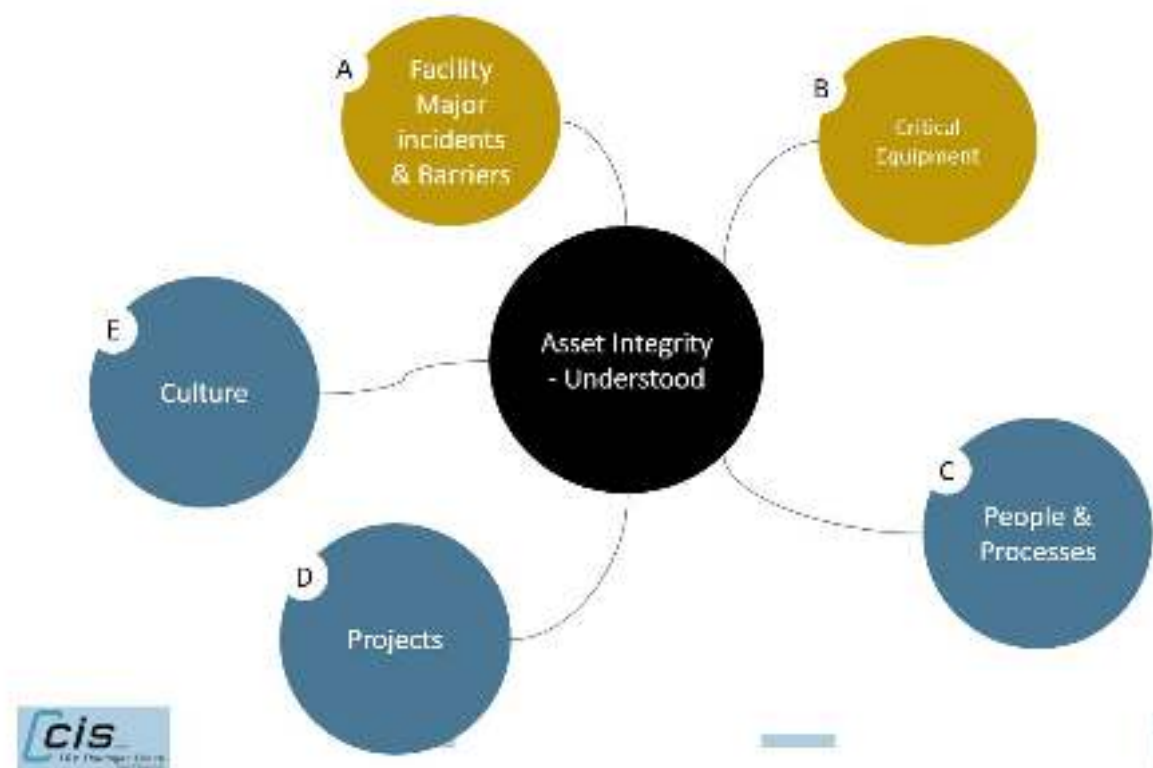
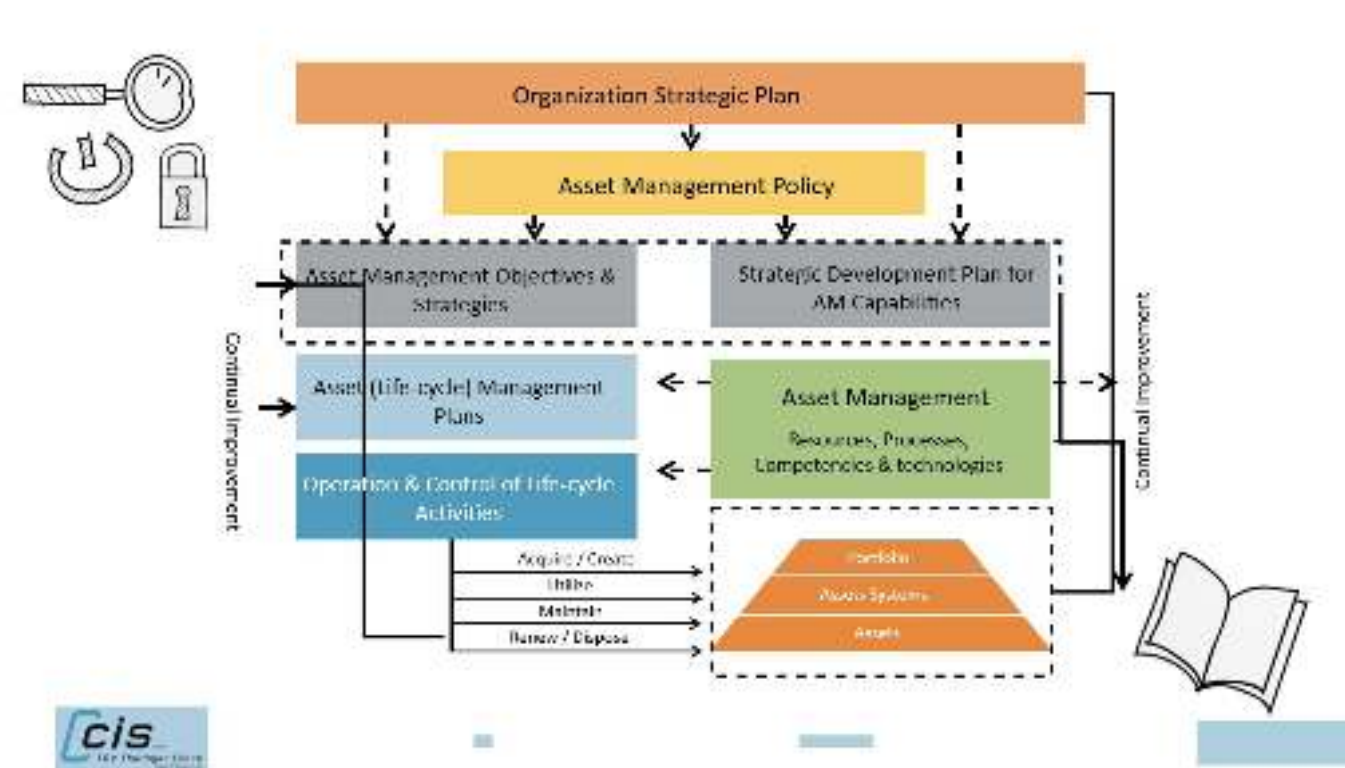
الخطة الاستراتيجية لإدارة الأصول

هي أداة تخطيط لتوضيح النوايا والأولويات والممارسات التي سيتم اعتمادها. يأخذ نظرة طويلة الأجل ويأخذ في الاعتبار مجموعة من احتياجات المنظمة وتوقعات أصحاب المصلحة وحقائق الأصول الحالية وقدرات إدارة الأصول.

Strategic Asset Management Plan (SAMP)

SAMP is a planning tool to clarify intentions, priorities and practices to be adopted. It takes a long-term view and considers the combination of organization needs, stakeholder expectations and the realities of existing assets and asset management capabilities.

How Assets Integrates



04 The National Project

1. Previous Experience

2. The National Project

The National project For Protecting Asset

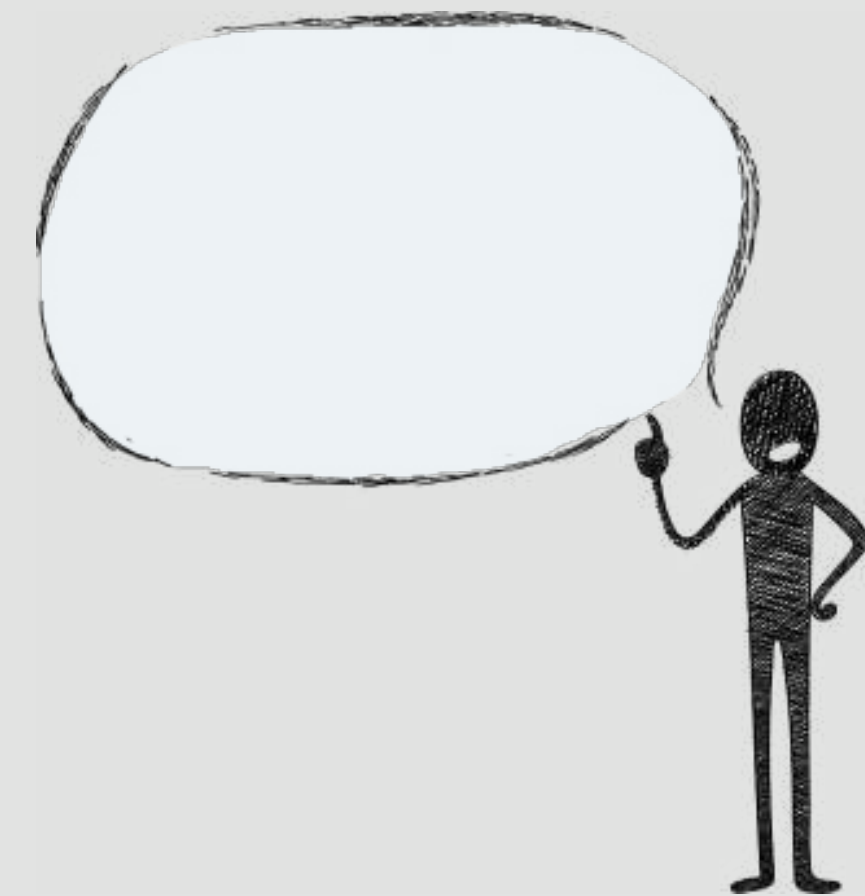
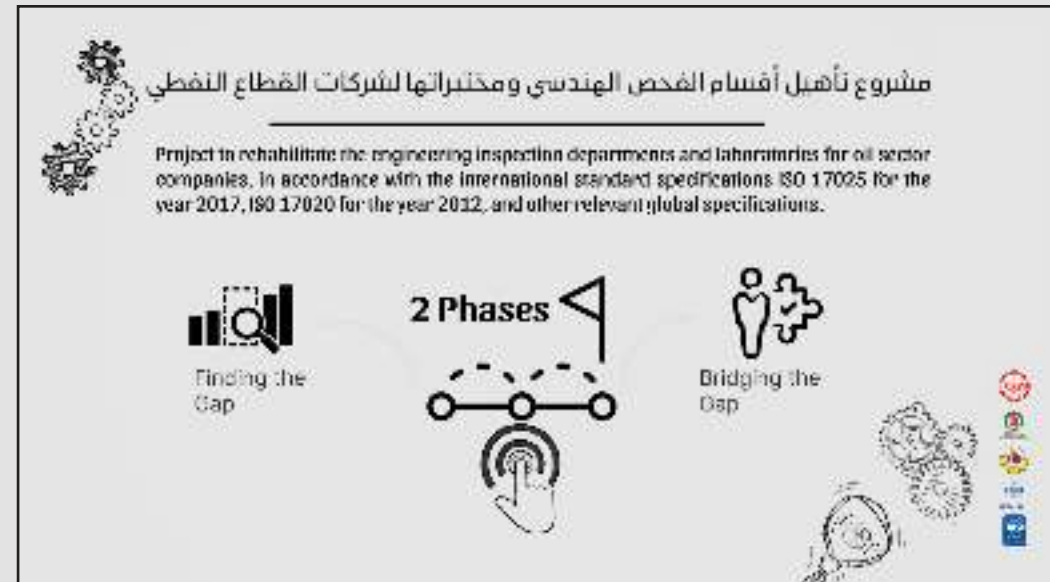
From Corrosion & Environmental
sustainability Compliance

Previous
Experience

The
National
Project



1. Previous Experience

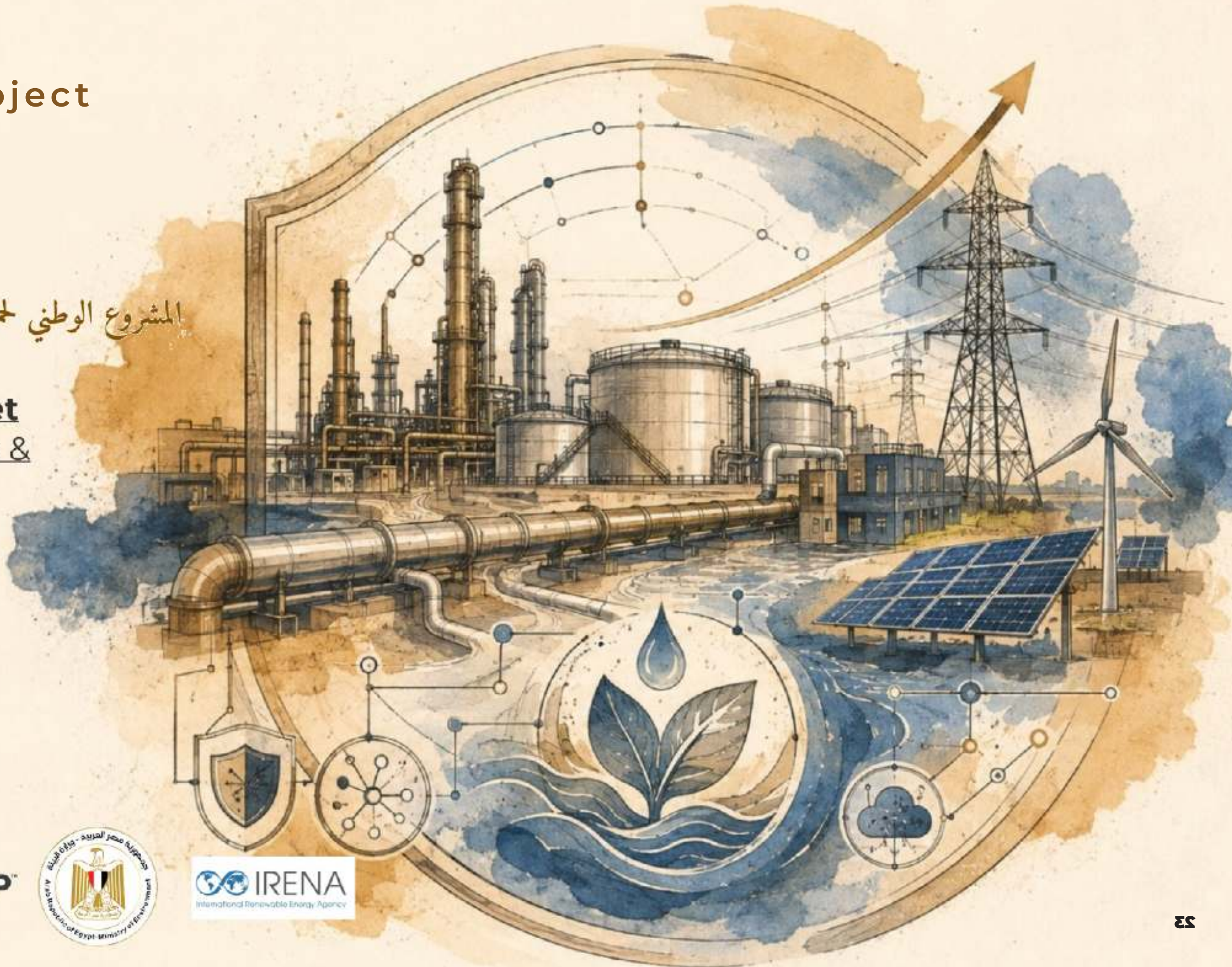


2. The National Project

المشروع الوطني لحماية الأصول و كفاءة الطاقة و الاستدامة البيئية

The National Project for Asset Protection, Energy Efficiency & Env. Sustainability

AIMS- CMS - & Env. Compliance:



The National Project

المشروع الوطني لحماية الأصول و كفاءة الطاقة و الاستدامة البيئية

The National Project for Assets Protections, Energy Efficiency & Env. Sustainability

A unified national framework connects asset protection, operational reliability, environmental integrity and implementation.

PILLAR ONE

01 National Asset Protection & Digital AIMS

حماية الأصول الوطنية وإدارة سلامة الأصول و الرقمنة

Miles from disconnected, internet-based engineering to a cloud-based, evidence-led national integrity system covering oil, gas, oil refineries, refineries, petrochemicals, storage, power and equipment and distributed electricity assets.

العمل من الموزعة لبيئة مبنية على الأدلة، اكرسي إلى النموذجي سلامة الأصول قدر على التميز وتكون بمثابة شغل شاق الخلق، والفكر، وأجيب الفكر، والمساءلة، والبروز كسمات، والتعريف، ومبادئ الحفظ والتصور كأيام المبررات.

THE LONG-TERM OBJECTIVE
An Iraqi Single Source of Integrity Intelligence

Executive support
How do the data connect to the data? Data

Assurance framework
The system is made of only a few interconnected components.

WHAT THE AIMS PLATFORM INTEGRATES

Asset integrity	Integrity management
Equipment & P&ID	Equipment integrity
Equipment failure	Failure analysis
Risk modeling	Operating & P&ID
Resulting IR	Process for Safety
Environmental events	Leakage events
Infrastructure protection	Performance indicators

ENGINEERING METHODS

Risk	Transmission Service	Design review
Operating conditions	Controlled condition	Controlled condition
Designs	RDT	Failure analysis
Failure analysis	Design review	

NATIONAL PROJECT

One architecture, four reinforcing pillars

Vol. 1: Architecture, Innovation, Digital Assets, deployment, security, programme, carbon management

01 National Asset Protection & Digital AIMS A digital asset integrity platform that connects operational data and transition engineering. Integrity intelligence is a key asset for operational reliability and safety.	02 Energy Efficiency & Sustainability Optimal asset efficiency, operational optimization and transition engineering. Integrity intelligence is a key asset for operational reliability and safety.	03 Environmental MRV, Climate Finance & Carbon Readiness Build credibility, governance, transparency and accountability. Environmental project preparation and delivery.	04 Transition Investment & Implementation Facility Develop investment strategy, attract capital, manage risk, and ensure the quality of the investment.
Protect assets Digital AIMS	Reliable operations Lower costs	Credit & MRV Carbon readiness	Investment readiness National delivery

PILLAR ONE

From Asset Data to Integrity Decisions

من بيانات الأصول إلى قرارات سلامة المنشآت

01 Register	02 Inspect	03 Analyse
14 Digitise	15 Rank risk	16 Plan
07 Execute	08 Monitor	09 Verify
10 Learn	11 Budget	12 Own

OUTCOME
Risk-based action

AIMS converts field or demand to prioritised, measured, maintenance, shutdown, life extension and capital decisions.

يحول نظام إدارة سلامة الأصول (AIMS) الآلة المبدئية إلى قرارات مرتبة حسب الأولوية للتفتيش، والصيانة، وإيقاف التشغيل (Shutdown)، تمديد العمر الافتراضي، والاستثمارات الرأسمالية.

The National Project

Corrosion Management System

A CMS is the documented set of processes and procedures required for planning, executing and continually improving the ability of the organization to manage the threat of corrosion for existing and future assets and asset system

نظام إدارة التآكل (CMS) هو مجموعة موثقة من العمليات والإجراءات اللازمة لتخطيط وتنفيذ والتحكم المستمر لقدرة المؤسسة على إدارة مخاطر التآكل للأصول والأنظمة الأصول الحالية والمستقبلية.

PILLAR ONE

AMPP – CMS

Corrosion Management Maturity Assessment

Assess current stage of corrosion management maturity, the factors leading to performance and generate a roadmap for improvement

01 Leadership & sponsorship Senior sponsorship, policy, objectives, responsibility and shared responsibility status in national and spending compliance 	02 Standards & procedures Document requirements for all corrosion related, inspection, data quality, engineering, assessment and maintenance 	03 Data & information Asset hierarchy, condition recording, change management, historical data, linking and document control 
04 Risk & inspection RBI, including condition assessment, reporting methods, fit for service decisions, fit for use, asset 	05 Performance monitoring Leading and lagging indicators, benchmarking, trends and data, degradation trends and value tracking 	06 Continuous improvement Reduction in, commissioning risk, asset health, future corrosion risk and support clarity working 

PILLAR ONE

Hierarchy of General Corrosion- Specific Management Elements

MANAGEMENT SYSTEM ELEMENTS

- Policy
- Strategy
- Objectives

CORROSION SPECIFIC

- Enablers, Controls, and Measures
 - Organization
 - Contractors
 - Resources
 - Communication
 - Risk Management
 - Management of Change
 - Training & Competency
 - Incident Investigation
 - Documentation
 - Assurance
 - Management Review
 - Continuous Improvement
- Plans
 - Based on corrosion type, the cycle, return on investment (ROI), asset criticality, regulations, and mitigation options.
- Procedures and Working Practices
 - Implementation Approach
 - Verification/Inspection
 - Mitigation Procedures

Quality Assurance Sys
Quality Control System
Personnel Qualification
Qualified Contractors

Hierarchy of General and Corrosion-Specific Management Elements

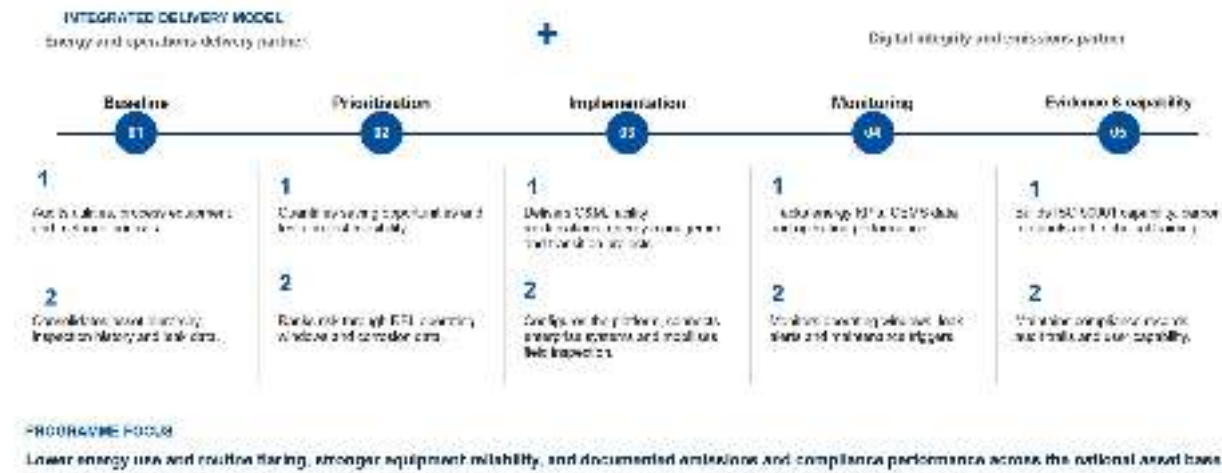
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The National Project

PILLAR TWO

02 Energy Efficiency & Sustainability Engineering

Experience and open access with different international licensors as UOP, KT, TTIL, Axens, Conoco Phillips, Akzo Noble, L'Oréal, Rhodia, Haldor Topsoe, IFP, and Bechtel.



PILLAR THREE

03 Environmental MRV, Climate Finance & Carbon Readiness



PROPOSED ROLE OF THE MINISTRY OF ENVIRONMENT

Текст статьи не содержит сведений об использовании ИС, а также данных о том, кем, где, когда и на каких условиях опубликована статья, а также о том, кем, где, когда и на каких условиях опубликована статья.

[illegible]

- [illegible]

A credible carbon economy requires credible data.

تخصص: الفكر بول المدبوف يتخطى بيئته مؤثفة

Government decisions on carbon markets, including, and environmental shifts, are made exclusively with the Government of Iraq and its authorized institutions. CIB Egypt's role is technical engineering, inspection, data, MRE design and project preparation.

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PILLAR FIVE

04 Transition Investment & Implementation Facility

الهيئة الاستشارية والتنفيذية للانتقال النطاقي



National Steering Committee
C. L. Fawcett, Chair, *University of Cambridge*; other members: *unpublished*, CRF Expert

Technical Working Groups

03 Center Of Competency

Center of competency

1. Why CIS /ASFAR

Why

2. CIS role

Our Role

3. Implementation Map

Implementation Road Map



Foundation for Strategic
Studies & Research





Why CIS / ASFAR

Environmental Compliance & Fund Raising



Full Engineering & Process Safety
Support from International Companies

AI/LLM DRONES Catch The Time



AIM Software Asset Integrity Management System Digitalization



CMS



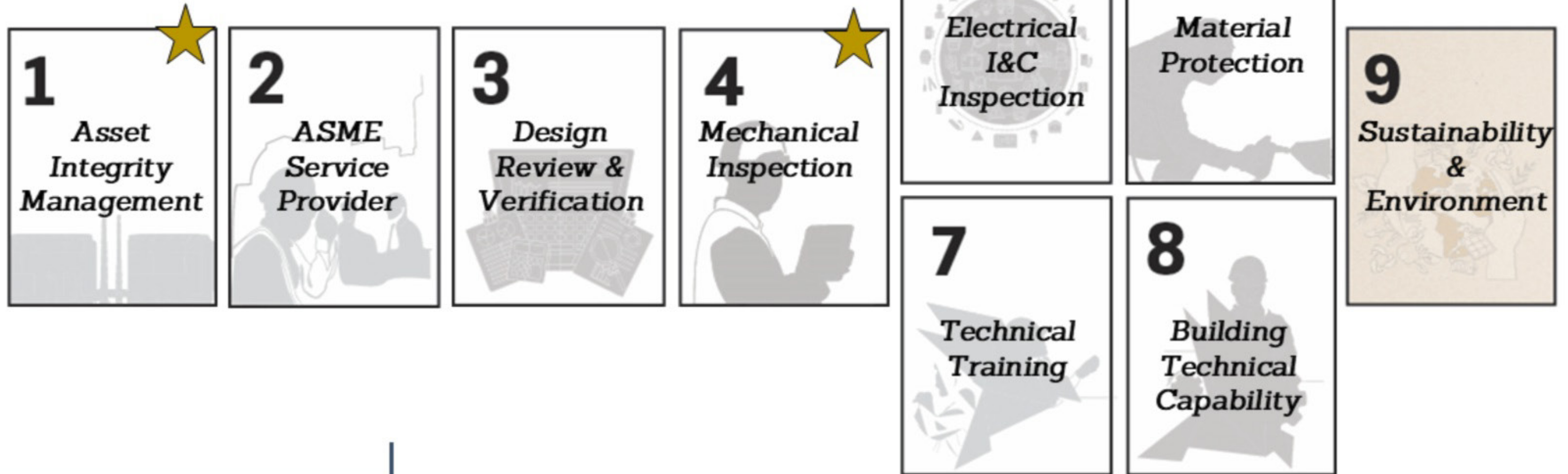
Corrosion Management System

2. CIS role

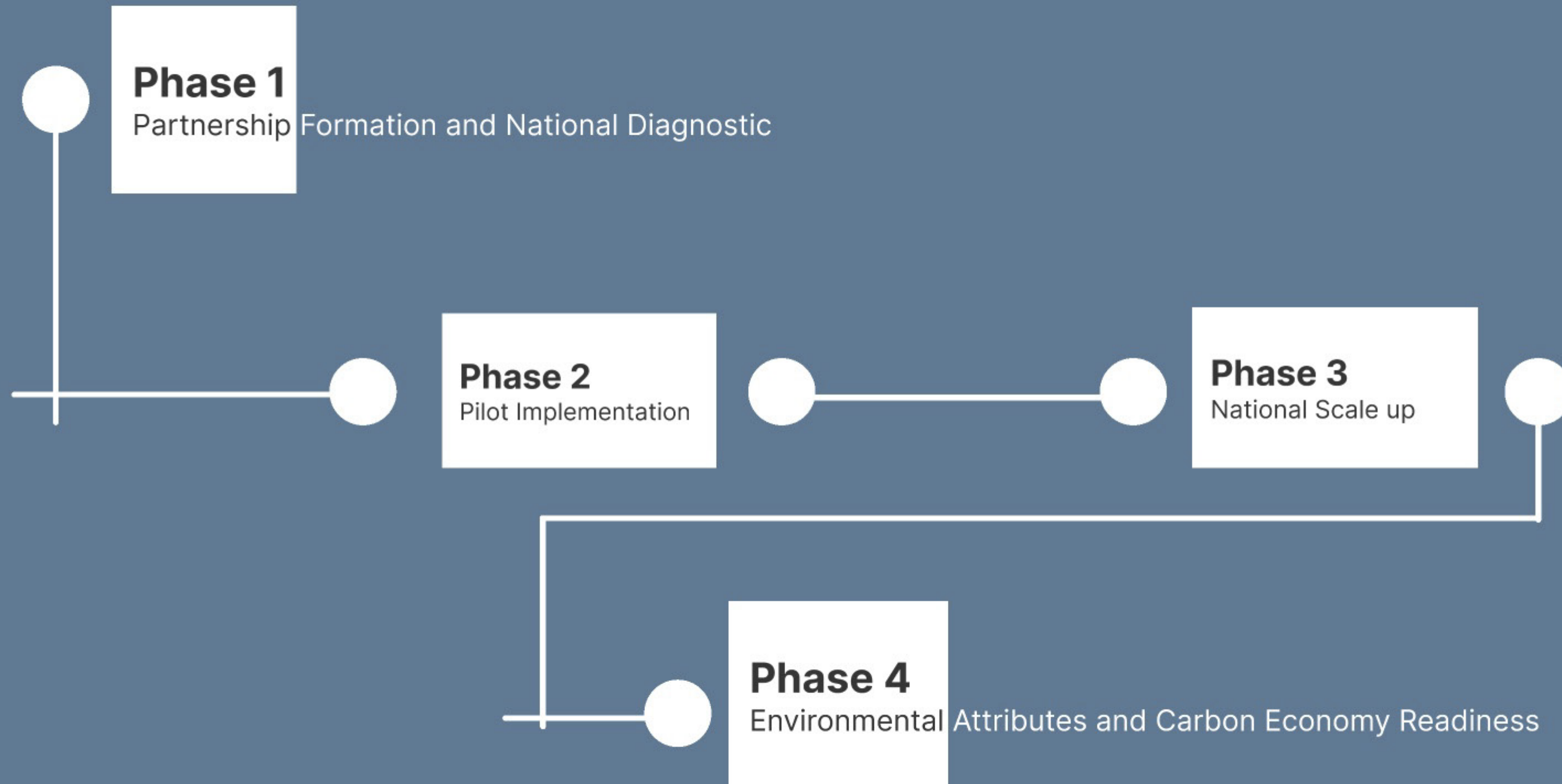
CIS Egypt Services



Accredited
(ISO/IEC 17020)



Implementation Map



3. Implementation Map

ROADMAP

01

Stage 1 · Partnership Formation & National Diagnostic

APPROVED · 0-6 MONTHS

Nobilize the full CIS partnership, establish the national baseline and define the detailed implementation path.

STAGE 1 ACTION CHECKLIST

- Government– legal coordination
- Priority assets and facilities
- Rapid environmental diagnostics
- Priority flaring opportunities
- MRV + climate finance readiness assessment
- Capacity-development priorities

- Participating institutions confirmed
- Rapid integrity diagnostics
- Asset and emissions data review
- Priority methane opportunities
- Procedures and standards review
- First-wave projects + 2026–2030 roadmap

APPROVED NATIONAL FOUNDATION

Stage 1 activates the full partnership and establishes the evidence, governance and 2026–2030 implementation baseline.

SIX COORDINATED DELIVERY WORKSTREAMS

01 Governance and participating institutions

02 Priority asset and facility selection

03 Integrity and environmental diagnostic

04 Data, flaring and methane opportunities

05 MRV, climate finance and standards readiness

06 Capability priorities, first-wave projects and national roadmap

First-wave projects are delivery packages within the approved national partnership—not a pilot-only approval.

ROADMAP

Stage 2 · Pilot Implementation 6-18 month,

Launch selected pilots projects covers:

01 Asset Integrity & Technical Inspection

02 Corrosion & Pipeline Integrity

03 Risk-Based Assurance

04 Gas Reliability & Emissions

05 Efficient, Electrified & Verified Operations

Asset integrity · Technical inspection · Digital asset mapping

Corrosion management · Pipeline integrity

Risk-Based Inspection (RBI) · Fitness-for-Service (FFS)

Gas-infrastructure reliability · Flare reduction · Methane monitoring

Energy efficiency · Electrification · Environmental MRV

Asset integrity · RBI + FFS

Digital mapping · Gas + emissions

Corrosion + pipelines · Efficiency + MRV

Free Integrated packages cover all 13 technical implementation areas.

ROADMAP

03

Stage 3 · National Scale-Up 18–36 Months

SCALE-PROVEN DELIVERY

- Expand successful first-wave deployments
- Develop national procedures and standards
- Strengthen digital integrity architecture

BUILD NATIONAL CAPABILITY

Iraqi capability becomes the permanent engine of scale-up.

- Strengthen technical competency systems
- Establish training programmes
- Develop national centres of competence

MOBILISE & GOVERN DELIVERY

- Develop project pipelines
- Mobilise financing
- Strengthen institutional coordination

National ownership structure

National steering and competence institutions coordinate scale-up.

Coordinated delivery structure

Technical working groups align standards, training, projects and finance.

ROADMAP

04

Stage 4 · Environmental Attributes & Carbon Economy Readiness

01 Environmental data

02 Emissions data

03 MRV arrangements

04 Verification

05 Project screening

06 Registry architecture

07 Finance & attributes

IMPLEMENTATION PRIORITIES · 24–36 MONTHS

Subject to Iraqi law and Government decisions, Stage 4 builds the sovereign data, verification, project and finance foundations required for future participation.

- National environmental and emissions data systems
- Project-screening procedures
- Eligible projects prepared for climate and environmental finance

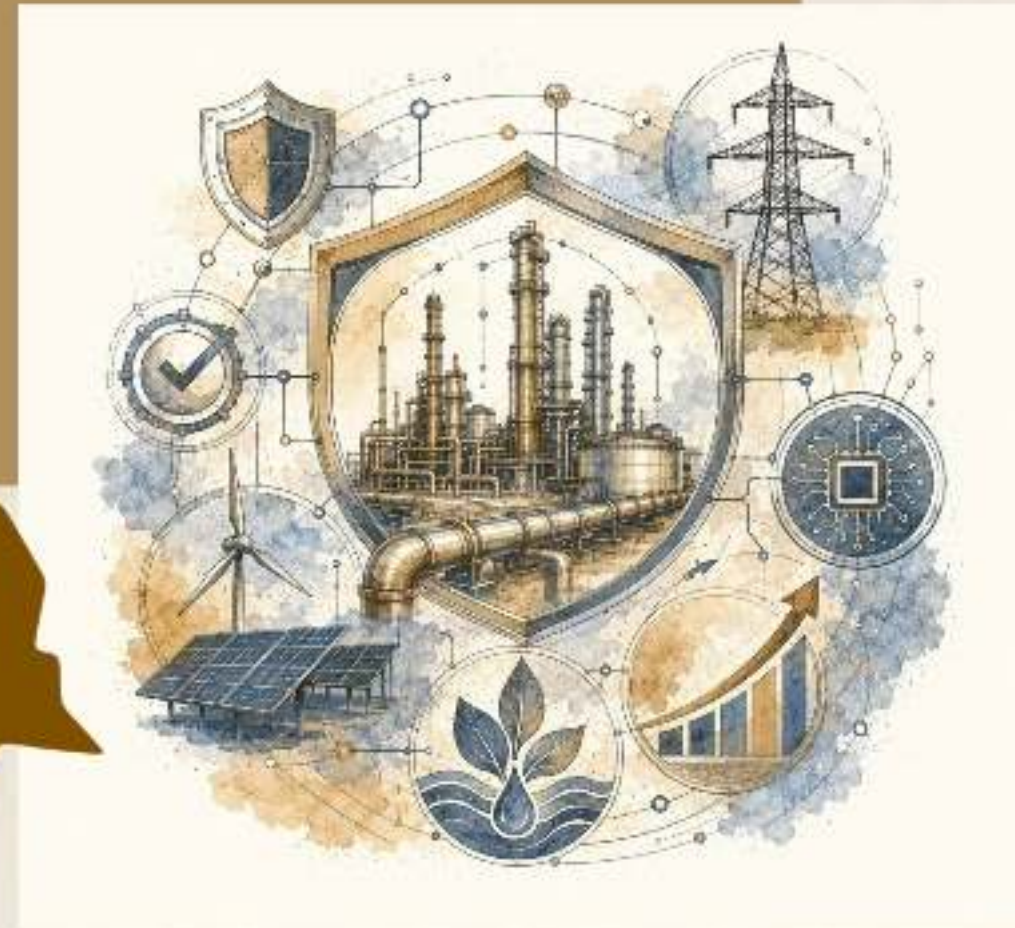
- Approved MRV and verification arrangements
- Appropriate registry architecture
- Explore future environmental-attribute and carbon-economy mechanisms

Readiness precedes participation in any carbon-economy mechanism.

Any registry, environmental-attribute or carbon-economy mechanism remains subject to Iraqi law and Government decisions. CIS Egypt supports the technical foundations: data systems, MRV and verification design, project screening and preparation for climate and environmental finance.

04 Project Benefits

Project Benefits



Establishing one of the region's Most Advanced Integrated Systems for AIMS / Env. Compliance

3 Technical & Institutional المائدة الفنية و المؤسسية

International Standards Compliance
المطابقة للمواصفات العالمية

Access to Green Ecosystems
الوصول إلى النظم البيئية الخضراء

4 Human Capacity بنية قدرات الأفراد

Capacity Building
بناء القدرات

1 Economic المائدة الاقتصادية

Project MOO's Strategic Assets
المزايا الاستراتيجية لمبادرة مشروع
المبادرة تمتلك المزايا الاستراتيجية التالية:
• المزايا التشغيلية: المزايا التشغيلية للمبادرة تشمل المزايا التشغيلية للمبادرة.
• المزايا الاقتصادية: المزايا الاقتصادية للمبادرة تشمل المزايا الاقتصادية للمبادرة.
• المزايا البيئية: المزايا البيئية للمبادرة تشمل المزايا البيئية للمبادرة.

Digital Data Management
إدارة البيانات الرقمية

المبادرة تمتلك المزايا التشغيلية التالية:

Improve Operational Reliability
تحسين موثوقية التشغيل

المبادرة تمتلك المزايا الاقتصادية التالية:

Reduce Flaring and Methane
تقليل حرق الغاز وغاز الميثان

المبادرة تمتلك المزايا البيئية التالية:

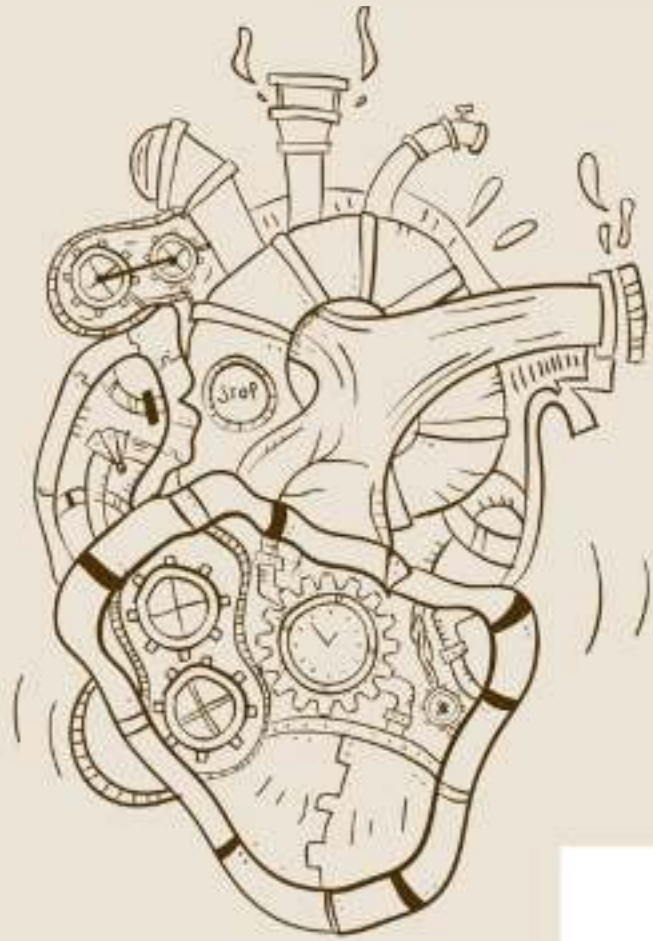
2 Environmental المائدة البيئية

Improve Emissions
Monitoring & Reduction of
GHG

Capture Wasted Energy



05 Moral Of the Day



**Power of
Decision**

قوة القرار



Moral Of the Day



Moral Of the Day



Moral Of the Day

Power Of Decision

Why it is not Implemented?

عملية تكامل الاصول و الامتثال البيئي ليست عملية فحص هتدي معزولة عن باقي اقسام الشركة

AIMS & Environmental Compliance are not isolated inspection duties.

They require direct Ministry of Oil vision

أما هي رؤية وزارة النفط

GM involvement & enforcement

وتداخل و دعم المدير العام للشركة

Daily operational leadership

وتداخل و دعم المدير العام للشركة

To succeed.

من هنا يأتي النجاح





Thank You





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