



2018 Sustainability Report

مؤسسة الإمارات للطاقة النووية
Emirates Nuclear Energy Corporation



شركة براكة الأولى ش.م.خ
Barakah One Company PJSC



شركة نواة للطاقة
Nawah Energy Company





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About this Report

This report aims to provide stakeholders with a comprehensive and transparent update on Emirates Nuclear Energy Corporation's (ENEC's) sustainability strategy and performance in 2018. The report covers the activities of ENEC and its subsidiaries (Nawah Energy Company and Barakah One Company), as well as the Prime Contractor, Korea Electric Power Corporation (KEPCO), and other subcontractor activities where relevant. Full details of the report's scope and boundaries can be found in Appendix A, as well as in data tables and graphs throughout the report.

This report has been prepared in accordance with the GRI Standards: Core option. It has successfully completed the GRI's Materiality Disclosure Service. To view the GRI content index, please refer to Appendix C.

For questions or comments regarding this report and ENEC's sustainability program, please visit www.enec.gov.ae or contact sustainabilitycsr@enec.gov.ae.

Disclaimer:

The report contains forward-looking statements, reflecting management's reasonable and current expectations. No assurance can be given that such expectations will prove correct and such statements are subject to risks and uncertainties and should not be relied upon due to ever-changing future events that could materially change the outcome. This document has not been subject to review by an independent third-party assurance provider.

Message from the CEO

The United Arab Emirates (UAE) has a legacy of sustainability, pioneered by our nation's founding President, the late Sheikh Zayed Bin Sultan Al Nahyan. It is only fitting that in this year of 2018, declared as the Year of Zayed, we have made great strides in embedding sustainability into the region. Barakah Nuclear Energy Plant forms an integral part of the UAE's plan to cut the carbon footprint of electricity generation by 70% over the next 30 years. Once operational, it is estimated that the Barakah Nuclear Energy Plant will save up to 21 million tons of carbon emissions annually, the equivalent of taking more than three million cars off the roads every year. This will help the UAE meet its commitments under the Paris Climate Change Agreement, in addition to demonstrating how nuclear energy is supporting the diversification of the nation's economy and energy mix as a part of the UAE Energy Plan 2050.



With nuclear energy being a driver of sustainable growth, the UAE Peaceful Energy Program was recognized as a UAE Pioneers Project that "Sheikh Zayed would have applauded." Underlining our commitment, we were awarded the Sustainable Business Leadership Award and the Gulf Sustainability and Corporate Social Responsibility (CSR) Award for implementing outstanding sustainability and CSR initiatives within our organization as well as across the Gulf Cooperation Council (GCC) region.

As we look back over the past 12 months, ENEC celebrated the achievement of a historic milestone in the development of the Barakah Nuclear Energy Plant. We completed all main concrete works and heavy equipment lifting for the four nuclear reactor units being built in the Al Dhafra Region of Abu Dhabi and achieved construction completion of Unit 1. As at 31 December 2018, overall construction of the four units stood at 90.4% complete; our focus in 2019 will shift to Nawah's continued operational readiness preparations in advance of regulatory approval. Throughout all phases, safety is our overriding priority.

We also continued to contribute to the local economy, in particular through our commitment to developing Emirati talent. Our Energy Pioneers Program, for example, helped us reach a 50% Emiratization rate in 2018. In addition, we created 350 new jobs, and awarded over \$3.82 billion of contracts to more than 1,500 local suppliers. ENEC also hosted its first annual supplier forum, attended by more than 100 suppliers, to support growth and development of the local supply chain for nuclear energy generation.

As part of our Year of Zayed activities, we supported the Environment Agency - Abu Dhabi (EAD) with their beach clean-up campaign, which brought together more than 100 volunteers to remove waste from the Eastern Mangroves in Abu Dhabi. We also further advanced our reef protection program and started relocating the first batch of coral colonies to our artificial reef at Barakah. With translocation work scheduled to continue through 2019, an estimated total of 50,000 colonies will be introduced at the site, creating a valuable biodiversity hotspot in the Arabian Gulf.

Barakah Nuclear Energy Plant, as the first Nuclear Energy Plant in the Arab world, sets a new standard for all countries developing or looking to develop peaceful nuclear energy programs, and will support the case for the creation of new programs around the world. Safely supplying the UAE with clean and reliable electricity, developing a local industrial supply chain and ensuring the sustainability of the Barakah Nuclear Energy Plant are three of our key goals for the future. We will continue to drive the corporation's sustainable practices, so that ENEC and its subsidiaries can deliver on its mandate to support the continued creation of a secure and sustainable energy future for the nation.

H.E. Eng. Mohamed Al Hammadi

Chief Executive Officer (CEO)

The Emirates Nuclear Energy Corporation (ENEC)

About ENEC

ENEC's Vision

Powering the future growth and prosperity of the UAE through a safe and sustainable peaceful nuclear energy program.

ENEC's Mission

To deliver safe, clean, efficient and reliable nuclear energy to the UAE grid, develop our people and build sustainable nuclear sector capability, and ensure full alignment with the UAE energy strategy.

ENEC was established in 2009 to implement a peaceful nuclear energy program in the UAE in order to address the country's growing demand for electricity while reducing its carbon footprint and diversifying its energy portfolio. ENEC is wholly-owned by the Government of Abu Dhabi with the mandate to develop, build, finance, operate, maintain, manage and own nuclear reactors for the purposes of electricity generation and potentially for desalination.

Under its mandate, ENEC is constructing the United Arab Emirates' first Nuclear Energy Plant at Barakah, in the Al Dhafra Region of Abu Dhabi. The Barakah Nuclear Energy Plant (BNEP) consists of four Generation III+ Advanced Power Reactor (APR)-1400 nuclear energy generating units, and their associated facilities, with a combined capacity of approximately 5,600 MW, which is expected to meet up to 25% of the UAE's electricity demand once fully operational.



Nuclear Energy Technology

<https://www.enec.gov.ae/barakah-npp/site/>



ENEC's Values

Our vision and mission are guided by our commitment to our recently updated corporate values of Accountability, Teamwork, Safety, Integrity, Trust and Excellence (AT SITE). All our meetings start with a safety moment and conclude with any one AT SITE value moment.

Accountability

Responsibility and authority are well-defined and clearly understood, and people take ownership for their work, delivering high quality results in a timely manner as efficiently as possible.

Teamwork

Individuals and teams communicate and coordinate their activities within and across organizational boundaries, demonstrating a strong sense of collaboration and cooperation in connection with projects and operational activities.

Safety

Safety is the overriding priority at ENEC. We design and execute world-class safety and security processes and systems that ensure the safety of the public, ENEC employees and the environment.

Integrity

We listen to and respect the opinions, expertise and traditions of others. We are accountable for our work, our business and our actions. We do not tolerate discrimination or harassment.

Trust

We build trust through adhering to nuclear standards, living our values, fulfilling our commitments and promoting open and fact-based communications with our colleagues, our stakeholders and the general public.

Excellence

We actively pursue excellence through the continuous performance improvement of our projects, programs and processes, which drives greater effectiveness and efficiency, in pursuit of outstanding and sustainable results.



ENEC's Timeline and Group Structure

In 2009, KEPCO, South Korea's single largest public power electric utility, was awarded the Prime Contract to design, build and help operate the United Arab Emirates' Nuclear Energy Plants. KEPCO was chosen following an exhaustive year-long evaluation conducted by a team of 75 international experts who evaluated a variety of factors, including safety, deliverability and commitment to human resource development.

In October 2016, ENEC entered a Joint Venture with KEPCO, launching the Nawah Energy Company ('Nawah') and Barakah One Company ('BOC'). Through the Joint Venture, KEPCO became a minority shareholder of Nawah and BOC, holding 18% in each company, while ENEC maintains a majority share of 82% in the two subsidiaries. KEPCO, as a Prime Contractor, is responsible for the design, construction and initial operation of the four reactors at the Barakah Nuclear Energy Plant. The contract also covers extensive training, human resource development and education programs as the UAE builds the capacity to staff a thriving nuclear energy industry.

In 2018, ENEC and its subsidiaries signed three significant agreements with Korean partners, further expanding the cooperation in the nuclear energy industry between the UAE and the Republic of Korea. The first agreement is a Memorandum of Understanding (MoU) between ENEC and KEPCO Nuclear Fuel (KNF), to cooperate in the field of nuclear fuel as well as in overseas business development. Second, Nawah Energy Company and KEPCO Engineering and Construction (KEPCO E&C) signed a long-term engineering support contract for the Barakah Nuclear Energy Plant and lastly KEPCO has agreed a Charter for Joint Business Cooperation with BOC to enhance cooperation throughout the nuclear business cycle.

Emirates Nuclear Energy Corporation



Subsidiaries

Ownership Stake



Ownership Stake



Joint Venture Partner and Prime Contractor



ENEC Prime Contractor

<https://www.enec.gov.ae/barakah-npp/prime-contractor/>

Nawah Energy Company

Established in 2016, Nawah is mandated to operate and maintain Units 1 to 4 at the Barakah Nuclear Energy Plant. As the world's newest nuclear operator, Nawah will harness the power of nuclear energy to provide a reliable, clean and sustainable supply of low-carbon electricity to contribute to the UAE's social and economic development and enhance the quality of life for generations to come.



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Nawah Energy Company



Nawah Energy Company:

www.nawah.ae/en/

Barakah One Company

BOC was established in 2016 and is responsible for managing the commercial interests of the Barakah Nuclear Energy Plant, securing project financing from institutional and commercial lenders, and receiving funds for the electricity generated from Units 1 to 4 in Barakah. In November 2016, BOC signed the first nuclear energy power purchase agreement with the Emirates Water & Electricity Company (EWEC) (formerly the Abu Dhabi Water & Electricity Company (ADWEC) for the purchase of the electricity to be generated at the Barakah Nuclear Energy Plant. The agreement establishes the contractual framework between the two entities for nuclear-generated clean, efficient and reliable electricity.



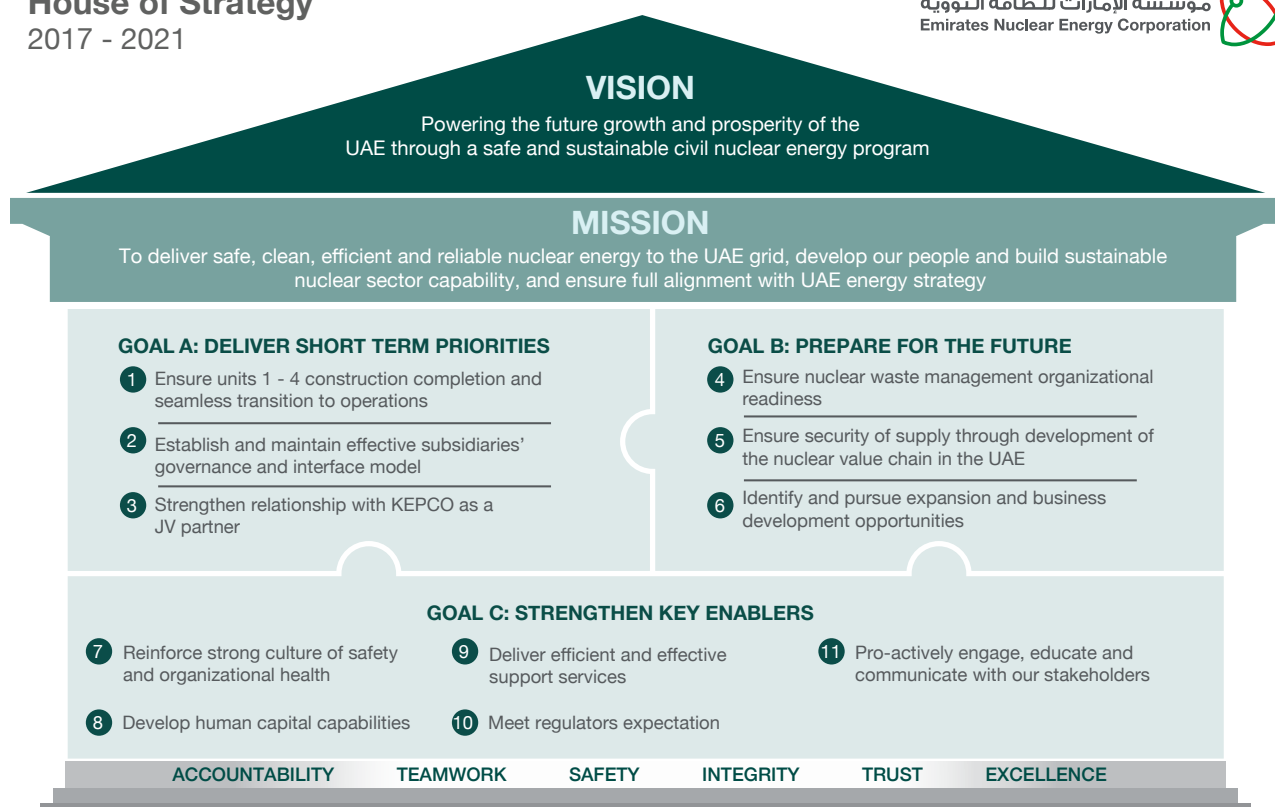
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Barakah One Company PJSC

ENEC's Corporate Strategy

The ENEC Strategic Plan 2017-2021 has three strategic goals and eleven strategic objectives, which focus on “delivering short-term goals,” “preparing for the future” and “strengthening key enablers.” While meeting these goals and objectives, ENEC strives to achieve excellence in safety, scheduling, cost control and Emiratisation. Many of the items identified in the corporate strategy align directly with the longer-term perspective of the ENEC sustainability strategy.

House of Strategy 2017 - 2021

مؤسسة الإمارات للطاقة النووية
Emirates Nuclear Energy Corporation



UAE Nuclear Energy Grand Program Plan (GPP)

The Development of a UAE Nuclear Energy GPP began in mid-2017 to identify the remaining organizational and programmatic activities necessary to fully augment the UAE Peaceful Nuclear Energy Program, with all four reactors operating in accordance with the highest quality and safety standards in the industry. An outline for the GPP was developed which identifies the purpose and scope of the GPP and includes the necessary elements of the program, the guiding principles for consideration in the development of the GPP, and the details defining each element. The GPP will also set out a 10-year timeline and framework for the creation and maintenance of all elements necessary for a safe, secure, and sustainable peaceful nuclear energy program in the UAE.

Unit 1 Priorities (UP) Program

As construction is now completed for Unit 1, a new initiative has been launched – the UP Program. The key objective of this program is to ensure quick and timely decision making for all activities and ensure re-alignment of existing strategic priorities at company level to ensure that all enablers are effectively in place and monitored for their performance to support the Unit 1 delivery. The UP Program is focused to obtain the Operating License and load fuel into Unit 1 between the end of 2019 and early 2020, without compromising safety. The program establishes clear roles, responsibilities and priorities, and comprises initiatives to ensure all equipment and systems are ready for fuel loading of Unit 1, maintenance and financial plans are in place, trust is established with internal and external stakeholders, and all documents and responsibilities are handed over from ENEC to Nawah.

Nuclear Energy Program Overview and Progress

By the end of 2018, ENEC celebrated the achievement of a historic milestone in the development of the Barakah Nuclear Energy Plant, with the completion of all main concrete works and heavy equipment lifting for the four nuclear reactor units being built in the Al Dhafra Region of Abu Dhabi. Unit 1 construction is now complete, while overall progress of the four units was over 92.0% as at 31 December 2018. Attention is now moving to bring Unit 1 into operation in alignment with all standards and requirements and to ensure successful testing and commissioning of the other units, before the issue of an operating license to Nawah from the Federal Authority for Nuclear Regulation (FANR), the UAE's independent nuclear regulator, in order to begin production and supply of electricity to the UAE grid.

Unit	% completion 2018		2018 Progress Update
	Planned	Actual	
Unit 1	99.25%	Completed	<ul style="list-style-type: none"> Announced construction completion of Unit 1 in presence of the President of South Korea and the Crown Prince of Abu Dhabi. Announced the updated high confidence date for Unit 1 Fuel Load and Commercial Operations for Unit 1, based on deterministic schedule.
Unit 2	97.52%	95.01%	<ul style="list-style-type: none"> Unit 2 Hot Functional Test (HFT) successfully completed.
Unit 3	93.46%	91.00%	<ul style="list-style-type: none"> All major concrete works for Unit 3 completed, along with installation of major components including the turbine generator and reactor vessel components. Completion of Unit 3 Cold Hydrostatic Test (CHT).
Unit 4	82.02%	82.00%	<ul style="list-style-type: none"> The first Unit 4 Systems have been turned over to the Korea Hydro & Nuclear Power (KHNP) Commissioning Team for checkout and testing. Final major concrete pouring completed for the Barakah Nuclear Energy Plant for Unit 4.



Take a virtual tour of the plant. Explore the reactor building, turbine hall and control room:

<https://www.enec.gov.ae/discover/360>



Construction Updates:

www.enec.gov.ae/barakah-npp/construction-program/

Operating licenses

ENEC is working to ensure the highest standards of quality and transparency are implemented throughout the construction and operation of the Barakah Nuclear Energy Plant. All activities are conducted under the strict regulation of the Federal Authority for Nuclear Regulation and the Nuclear Safety Review Board (NSRB). In addition, senior nuclear experts from the International Atomic Energy Agency (IAEA) and the World Association of Nuclear Operators (WANO) continue to conduct voluntary and independent assessments of the robustness of the UAE Peaceful Nuclear Energy Program in all its aspects. Our environmental regulator also reviews and approves important aspects of the UAE Peaceful Nuclear Energy Program.

Before the units can become operational, Nawah must obtain an Operating License from FANR to ensure all regulatory requirements have been met for the safe operation of each unit of the Nuclear Energy Plant. The Operating License Application (OLA) for Units 1 and 2 was submitted in March 2015 by ENEC on behalf of Nawah and FANR review is in progress. In March 2017, Nawah successfully submitted the OLA for Units 3 and 4.

In 2018, Barakah One Company successfully received the Power Generation License from the Department of Energy (DoE), a key regulatory requirement and the first of its kind in the region, ultimately allowing Nawah to generate electricity from peaceful nuclear energy.



Regulatory filings

<https://www.enec.gov.ae/regulation/regulation-and-review/regulatory-licensing/>



Governance and Management

Robust governance and management structures are essential to ENEC's ability to manage risk and maintain accountability. Led by the ENEC Board of Directors, ENEC continues to strive for excellence in governance by aligning its processes, procedures and performance with the requirements of the World Association of Nuclear Operators (WANO) and the Institute of Nuclear Power Operations (INPO).



Excellence in Governance:

www.enec.gov.ae/about-us/leadership-and-governance/governance/

Board of Directors

ENEC Board of Directors is the senior decision making body in the Corporation entrusted by the Government of Abu Dhabi, with full authority to govern and oversee the Corporation and its activities, and otherwise has the powers, objectives and responsibilities set forth in Abu Dhabi Law No. 21 of 2009.

As per Chairman of the Abu Dhabi Executive Council Resolution No. 2 of 2018, the Board has been reconstituted to appoint **H.E. Khaldoon Khalifa Al Mubarak as Chairman of the Board**. The following are also members of the Board:

1. His Excellency Eng. Suhail Mohamed Faraj Al Mazrouei (Vice Chairman)
2. His Excellency Eng. Awaidha Murshed Al Marar
3. Saeed Fadhel Al Mazrooei
4. Khaled Abdulla Al Qubaisi
5. Mohammed Hamdan Al Falahi
7. Mohamed Hassan Alsuwaidi
8. David V. Scott
9. Michael J. Wallace

Furthermore, as per the Executive Council Resolution No. 190 of 2017 issued in 27th December of 2017, the Board of Directors of the joint venture companies (Barakah One Company – Private Joint Stock Company, and Nawah Energy Company – Private Joint Stock Company) were unified with the Board of Directors of ENEC.

Board members have been appointed based on their expertise including their understanding of the unique safety and security responsibilities that come with being a Board Member of ENEC. The Board is a collegial body, but members can act critically and independently of one another when necessary, especially when such independence serves to enhance nuclear safety, security and reliability.



ENEC Board of Directors

www.enec.gov.ae/about-us/leadership-and-governance/board-of-directors/

The Board has three standing committees which oversee the corporation's activities and give clear direction. Each committee has a written charter detailing its responsibilities which is approved by the whole Board.

Board committee	Description	Sustainability Issues Addressed
Committee on Nuclear Power (CNP)	CNP oversees and advises the Board of Directors on issues of nuclear safety, security, reliability, regulation, and environmental matters that relate to the construction and eventual operation of ENEC's nuclear units. The CNP consists of three members of the Board along with external members who have extensive prior nuclear industry experience.	<ul style="list-style-type: none"> • Health and safety • Security • Quality and reliability • Environmental management
Audit, Risk and Compliance Committee (ARCC)	ARCC assists the Board in the discharge of its responsibilities overseeing Audit, Governance, Risk Management and Compliance functions. The ARCC is composed of four members and is chaired by the Board Member Mohammed Hamdan Al Falahi. One member of the committee is independent from the ENEC Board of Directors (not an ENEC Board of Directors member).	<ul style="list-style-type: none"> • Health and safety • Governance and accountability • Risk management • Ethics • Regulatory compliance
Human Capital Committee (HCC)	HCC, comprised of at least two Board members, reviews and advises the Board of Directors on issues regarding human resources and staffing, compensation and senior executive succession planning.	<ul style="list-style-type: none"> • Resourcing and succession • Emiratization • Training and development

The previously existing Executive Committee (EC) was resolved during Board Meeting No. 1 of 2018 on 22 March 2018.



Auditing and Accountability

ENEC has a well-established internal audit function that acts as an assurance provider to the Board of Directors, reporting directly to the Board via the ARCC. It conducts annual risk assessments covering diverse topics such as projects, schedule, performance, finance, information and communications technology (ICT), human resources and any audit-related issues that arise on an annual basis. The ENEC Internal Audit department adheres to the standards of The Institute of Internal Auditors and the requirements set by Abu Dhabi Accountability Authority (ADAA) and is subject to periodic assessments by ADAA.

Business Principles, Ethics and Compliance

ENEC strives to continuously uphold the highest standards of ethical conduct and integrity, to ensure the safety and long-term success of the UAE's Peaceful Nuclear Energy Program.

To achieve this, ENEC established and implemented a robust set of standards, principles and model behaviors, with the goal of creating and sustaining a corporate environment in which the affairs of the company and its subsidiaries are conducted in a fair and transparent manner, free from any acts of fraud or misconduct. ENEC requires all employees, contractors, business partners and representatives to act in accordance with the highest standards of personal and professional integrity in all aspects of their activities, and to comply with all applicable laws, rules, regulations, and ENEC standards, policies and procedures. The ENEC Code of General Business Principles and Ethics ('The Code'), updated in 2018, frames the ethical and legal practices that ENEC expects all employees and contractors to uphold. The Code covers a wide range of topics including fraud, anti-corruption and misconduct. All staff are required to read and acknowledge The Code on an annual basis, and it is mandatory reading for all new hires. Throughout the year, compliance and anti-fraud training and awareness sessions are provided to employees with the support of senior management. These sessions continue monthly, across all functions.

Nawah follows its own Code of General Business Principles and Ethics, which was reviewed and updated in 2018, particularly sections relating to sexual harassment, responsibilities, conflict of interest, references and company assets. Nawah also established its own Business Ethics and Compliance Foundation Policies, emphasizing the legal obligation to comply with relevant UAE and international anti-corruption laws. To achieve a working environment with the highest standards of integrity and honesty, the following activities were implemented in 2018:

- Two Compliance and Ethics campaigns, using quizzes, posters, and newsletters.
- Five Fraud Awareness Sessions were conducted for different functions in Nawah.
- The Code of Ethics onboarding session is presented to every group of new joiners.
- Two training courses led by the Association of Certified Fraud Examiners (ACFE) on 'Preventing Contracting and Procurement Fraud' and 'Conducting Internal Investigations' and 'Professional Interviewing Skills' for relevant Nawah and ENEC employees.
- Developed a Disclosure Management System that fully automates all Code of General Business Principles and Ethics forms to enable an efficient tracking mechanism for analysis of declarations, including a dashboard and a reporting feature.

We take a zero-tolerance approach to all forms of fraud or misconduct. No incidents of bribery or corruption were detected or reported in 2018 in ENEC or its subsidiaries.

Whistleblowing

ENEC has an Anti-Fraud and Misconduct Reporting Procedure, which allows confidential reporting through emails, a mailing system, Intranet (ENET), Internet and a 24/7 toll-free telephone hotline. All reports are investigated, and actions are taken immediately with the oversight of the Board of Directors ARCC. Throughout 2018, the whistleblowing mechanism was promoted to employees. Awareness sessions were undertaken to highlight and explain the mechanism for independent and anonymous reporting of concerns and issues.

Compliance

ENEC upholds the highest standards of business compliance and expects its employees and contractors to comply with its clearly stated approach to ethical business practices. ENEC and its subsidiaries received no monetary or non-monetary fines or sanctions for non-compliance in 2018.

Risk Management Approach

The ENEC Enterprise Risk Management (ERM) Integrated Framework is designed to ensure that risks are proactively identified, assessed and managed in a prioritized, consistent, effective and efficient manner at all levels within ENEC and its subsidiaries to support the safe, effective and efficient delivery of the Barakah Nuclear Energy Plant.

To ensure that ENEC adheres to industry best practices in risk management, the ERM takes reference from the International Organization for Standardization (ISO) 31000 Risk Management principles and the Committee of Sponsoring Organizations (COSO) ERM standards and frameworks. The ERM framework and process is developed to be consistent and aligned with the requirements of FANR and the ADAA.

To identify risks, ENEC implemented a leading ERM software system for analyzing quantitative risk. In 2018, ENEC enhanced its integration of this ERM software with the business planning and project management processes as well as with the business continuity and crisis management program at ENEC. The ERM helps to manage a range of threats and opportunities, many of which relate to sustainability. In addition, as part of their annual risk review plan, the ERM Team conducts regular reviews of sustainability risks, threats and opportunities. In addition, ENEC also reports to financial lenders on environmental risks raised for the Barakah Nuclear Energy Plant in our 2018 Environmental Social Action Plan status update report, which demonstrates the significance of environment and sustainability being embedded in this project.



Risk Management:

www.enec.gov.ae/about-us/leadership-and-governance/risk-management/

Business Excellence

ENEC has established a dedicated program to embed excellence and innovation across the corporation. Based on the European Foundation for Quality Management (EFQM) Excellence Model and the model of the Abu Dhabi Award for Excellence in Government Performance (ADAEP), the program focuses on designing and implementing organizational best practices in order to sustain outstanding levels of performance.



Business Excellence:

www.enec.gov.ae/about-us/leadership-and-governance/business-excellence/

Excellence maturity index

	2014	2015	2016	2017	2018
Excellence maturity index (%)	65	77	80	NA	82

To reinforce a culture of performance excellence, ENEC confers its own internal excellence awards every two years, which are known as the Barakah Excellence Awards. This motivates departments, project teams, and individuals to continuously strive for the highest standards in everything they do. The third edition of the award will be held in early 2019.



“The Barakah Excellence Awards exist to recognize our employees’ hard work and dedication to meeting the highest international standards for operational efficiency, management, quality, and performance.”

We are promoting and applying excellence concepts according to national and international best practices as we strive to generate clean, efficient, and reliable energy to power the future growth and prosperity of the UAE.”

Eng. Mohamed Al Hammadi, CEO, ENEC



Memberships

ENEC is a member of the following organizations:



World Association of Nuclear Operators (WANO)



Electric Power Research Institute (EPRI)



International Atomic Energy Agency (IAEA)



Institute of Nuclear Power Operations (INPO)



Abu Dhabi Sustainability Group (ADSG)



Women in Nuclear (WiN)

Awards and Recognition

ENEC received the following awards and recognitions in 2018:



UAE Pioneers Award

The UAE Peaceful Energy Program has been recognized as a UAE Pioneers Project as a “Project Sheikh Zayed would have applauded”. The Nuclear Energy Plant, situated in Barakah, is the largest global site for peaceful nuclear energy.



Sustainable Business Leadership Award

ENEC was awarded the Sustainable Business Leadership Award, in recognition for its sustainable management practices within the organization.



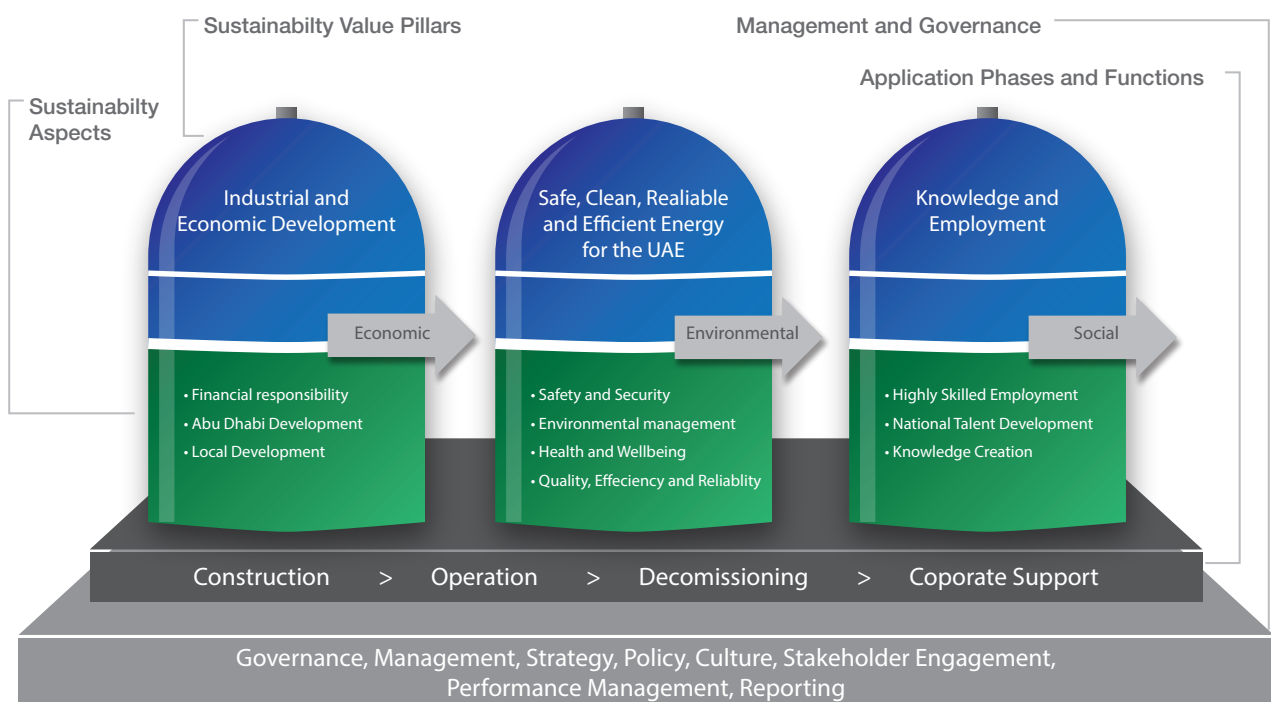
Gulf Sustainability and CSR Award

ENEC was honored with the Gulf Sustainability and CSR Award for implementing outstanding sustainability and CSR initiatives across the GCC region.

Sustainability at ENEC

Sustainability Management

ENEC's sustainability strategy is to deliver safe, clean reliable and efficient energy to the UAE while supporting economic growth through industrial and economic development and creating value for citizens through knowledge and employment. All sustainability aspects that were identified as highly material are addressed from the construction phase through plant operation, until the ultimate decommissioning of the Nuclear Energy Plants.



The Sustainability Performance Management Procedure is guiding the implementation of the sustainability program, defining the roles and responsibilities to:

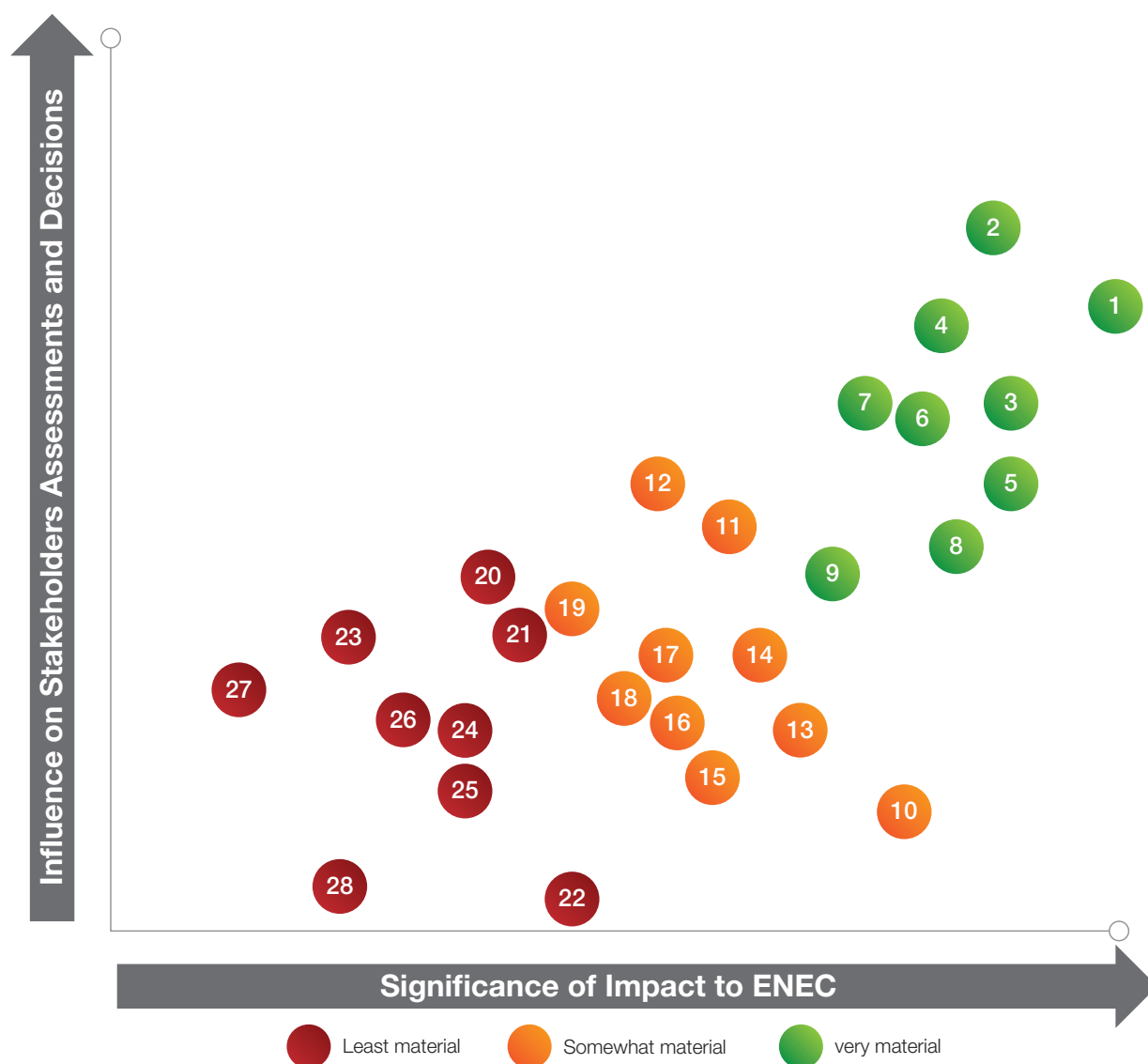
- establish sustainability objectives, targets and programs in alignment with ENEC's mission, vision and strategic objectives,
- regularly monitor and measure whether ENEC's activities, products and services have potentially significant impact on sustainability and stakeholders,
- monitor the performance of ENEC's sustainability initiatives, and
- ensure compliance with the Abu Dhabi Sustainability Group (ADSG) membership commitments.

ENEC's Sustainability and CSR Working Group, which is comprised of members from all major functions within ENEC, is leading the implementation of sustainability across the organization. The Working Group meets once every quarter, at a minimum, to review progress, set targets and identify initiatives and Key Performance Indicators (KPIs) as well as to oversee the sustainability reporting process.

Materiality

ENEC is committed to prioritizing the management of issues that are most relevant to the creation of long-term value for all our stakeholders. ENEC has identified and prioritized these issues through a materiality assessment process aligned with GRI Standards. The issues were reviewed by the ENEC Sustainability and CSR Working Group and deemed relevant for disclosure in this report.

Materiality Matrix



#	Material Issues	Boundaries
1	Personal safety (employees, contractors and the community)	ENEC, Nawah, BOC, KEPCO and subcontractors
2	Exposure to nuclear radiation (employees, contractors and the community)	ENEC, Nawah, BOC, KEPCO and subcontractors
3	Emergency preparedness	ENEC, Nawah, BOC, KEPCO and subcontractors
4	Health of employees and contractors	ENEC, Nawah, BOC, KEPCO and subcontractors
5	On-time construction and transition	ENEC, Nawah, BOC, KEPCO and subcontractors
6	Radioactive waste management	ENEC, Nawah and BOC
7	Compliance with environmental regulation	ENEC, Nawah and BOC
7	Security of fuel supply	ENEC, Nawah, BOC, KEPCO and subcontractors
9	Localization and security of the supply chain	ENEC, Nawah and BOC
10	Employment and development of the local population	ENEC, Nawah and BOC
11	Training and development	ENEC, Nawah and BOC
12	Anti-corruption	ENEC, Nawah and BOC
13	Talent attraction, satisfaction and attrition	ENEC, Nawah and BOC
14	Workforce and contractor grievances	ENEC, Nawah, BOC, KEPCO and subcontractors
15	Delivery within budget	ENEC, Nawah, BOC and KEPCO
16	Engagement with the local community	ENEC, Nawah and BOC
17	Direct and indirect economic contribution	ENEC, Nawah and BOC
18	Support for nuclear education	ENEC, Nawah and BOC
19	Supplier environmental impact	ENEC, Nawah, BOC, KEPCO and subcontractors
20	Supplier social and human rights impacts	ENEC, Nawah, BOC and suppliers
21	Female representation and non-discrimination	ENEC, Nawah and BOC
22	Future financial planning	ENEC, Nawah and BOC
23	Waste hierarchy	ENEC, Nawah, BOC, KEPCO and subcontractors
24	Biodiversity impact	ENEC, Nawah, BOC, KEPCO and subcontractors
25	Energy and water management	ENEC, Nawah, BOC, KEPCO and subcontractors
26	Air quality and GHG emissions	ENEC, Nawah, BOC, KEPCO and subcontractors
27	Recyclability of materials used	ENEC, Nawah, BOC, KEPCO and subcontractors
28	Research and development	ENEC, Nawah and BOC

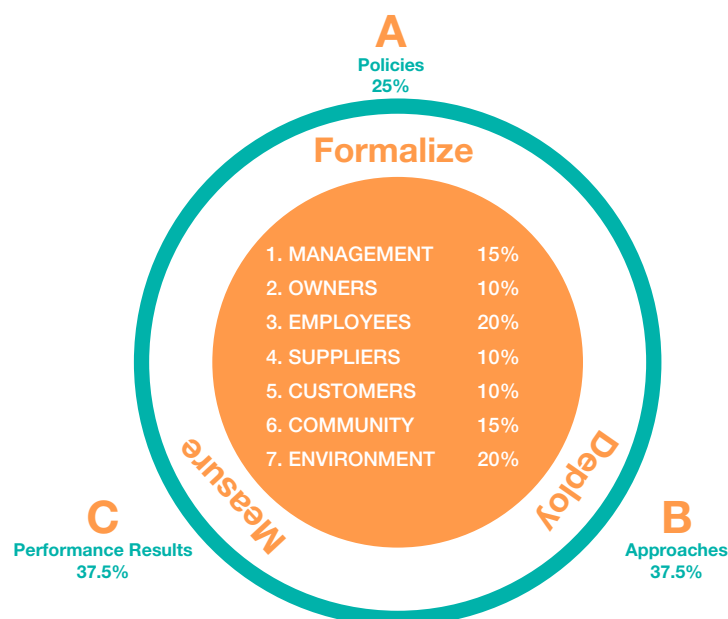
Alignment with National and International Sustainability Standards

ENEC is committed to implementing sustainability management according to best practice, aligning its activities with local and global initiatives, such as the Abu Dhabi Sustainability Group (ADSG) or the United Nations Sustainable Development Goals.

Sustainability Maturity

To objectively assess ENEC's implementation of sustainability management, the Working Group uses the Sustainability Maturity Assessment Tool (SMAT) deployed by the Abu Dhabi Sustainability Group under the leadership of the EAD.

The tool has over 150 criteria that assess sustainability policies, approaches and performance across seven areas, including management, owners, employees, suppliers, customers, community and environment. Responses to criteria are completed by ENEC and then verified by external third-party sustainability experts.



The results of the SMAT show that ENEC's sustainability program has continued to mature year-on-year, rising 22% overall from 2015 to 2018.

Sustainability Maturity Index				
	2015	2016	2017	2018
Sustainability maturity (%)	57.7	63.2	67.9	70.4

Committed to Sustainability

ENEC has also been recently recognized as Committed to Sustainability (C2S) by the European Foundation for Quality Management (EFQM). EFQM's sustainability assessment is built upon several key themes, including management, employees, environment and community. ENEC was recognized for achieving sustainable excellence across these themes, highlighting its commitment to operating safely and sustainably while embracing international best practices across all aspects of its business.





“The development of peaceful nuclear energy is supporting the diversification of the UAE’s economy and energy mix, while also helping our nation meet its commitments under the Paris Climate Change Agreement. Supplying the UAE with clean and reliable electricity, developing a local industrial supply chain and ensuring the sustainability of the Barakah Plant are three of our key goals for the future. It is of paramount importance to ENEC that we operate safely and in an environmentally conscious manner.”









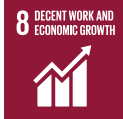
Eng. Mohamed Al Hammadi, CEO, ENEC

Contribution to the UN Sustainable Development Goals (SDGs)

ENEC’s sustainability strategy helps us track our contribution to the achievement of the United Nations Sustainable Development Goals (SDGs), a global set of 17 goals to help end poverty, protect the planet and ensure that all people live in peace and prosperity.

ENEC holds a very special role in the UAE’s contribution to the SDGs, as one of the country’s key actions in support of ‘Affordable and Clean Energy’ (SDG 7), is ‘*instituting a comprehensive civil nuclear energy program which includes building four new nuclear reactors with an estimated capacity to provide 25% of the UAE’s electricity needs by 2020*’.

The table below outlines the alignment of ENEC’s sustainability aspects with relevant SDGs. More detailed information on ENEC’s contribution to the specific targets of each SDG is provided within the relevant chapters of this report.

Sustainability Value Pillar	Sustainability Aspect	Relevant UN SDG Targets Addressed
Industrial and economic development	Financial responsibility Supply chain management National economic development	  
Safe, clean, efficient and reliable energy	Safety and security Environmental management Health and wellbeing Quality, efficiency and reliability	    
Knowledge and employment	Highly skilled employment National talent development Knowledge creation	  

Stakeholder Engagement

Effective engagement with all internal and external stakeholders is fundamental to the successful implementation of the UAE Peaceful Nuclear Energy Program (please see the Stakeholder Mapping table in Appendix B for further stakeholder details). ENEC focuses on achieving four objectives as part of its approach to stakeholder engagement:

1. To ensure ongoing education about nuclear energy: as a source of reliable, clean and efficient electricity.
2. To ensure awareness and understanding about the program at every stage of its development.
3. To ensure ENEC's stakeholders have the opportunity to provide input, needs and expectations into the program.
4. To continue to listen and respond to stakeholder feedback, issues and concerns through genuine two-way communication.

ENEC has a large and diverse stakeholder base, which includes a wide variety of organizations and individuals. Appendix B of this report outlines ENEC's stakeholder groups in detail and provides more information about how ENEC interacts with them. Results of a Stakeholders Satisfaction Survey conducted in 2018 show that 82.7% of stakeholders have overall satisfaction with the UAE Peaceful Nuclear Energy Program.

Public Engagement and Perceptions

ENEC makes it a priority to regularly host public forums and outreach sessions in order to increase awareness and understanding of the UAE Peaceful Nuclear Energy Program. The forums are open to all members of the community. They provide a free and interactive forum to ask questions about the program as well as to gain a deeper insight into different aspects such as the economic and social benefits it is already bringing to the UAE. ENEC hosted a total of 16 sessions in 2018, in English and Arabic, attended by stakeholders such as schools, universities and corporate attendees.



Each month, ENEC highlights the progress of Barakah Nuclear Energy Plant to stakeholders via an e-newsletter called “Nashra”, which provides the latest news, events and construction updates. Additionally, 26 site visits to Barakah Nuclear Energy Plant were organized to give stakeholders the opportunity to visit the site and see the construction progress for themselves.

ENEC also continues to measure general public perceptions of nuclear energy through an independent national poll. Results show the UAE public strongly supports the use of peaceful nuclear energy, with 82% of residents in favor of using nuclear energy for generating electricity and 91% stating that peaceful nuclear energy is important for the nation. Global figures from similar polls conducted in other countries demonstrate that the UAE Peaceful Nuclear Energy Program enjoys the highest acceptance levels in the world. The results of these surveys highlight why public forums are vitally important for ENEC and the sector.

In comparison to the previous opinion poll conducted in 2016, awareness of the UAE Peaceful Nuclear Energy Program has risen by 7% by the end of 2017. More specifically, understanding and acceptance of the construction of the Barakah Nuclear Energy Plant amongst residents of Al Dhafra region and UAE Nationals throughout the UAE remains high.

As part of the survey, conducted towards the end of 2017, over one thousand people were interviewed across the UAE, comprising respondents that reflect the demographics of the UAE. Key findings included:

- 91% of residents believe in the importance of having a peaceful nuclear energy program.
- Awareness of the UAE Peaceful Nuclear Energy Program has risen to 58%, up 7% from 2016.
- Support for the construction of peaceful Nuclear Energy Plants in the UAE has risen to 83%, up 4% from 2016.
- 94% of UAE nationals believe that the UAE Peaceful Nuclear Energy Program will serve as a model for other nations, up 5% from 2016.
- 88% of residents perceive that safety and security are the overall priorities of the UAE Peaceful Nuclear Energy Program.
- 82% of Al Dhafra region respondents consider nuclear energy to be a safe, clean reliable and efficient means of electricity production.
- 96% of residents believe that ENEC is building the plants to the highest standards of safety and quality.

International Engagement

ENEC continues to work closely with industry bodies and attends both local and international events, to update international stakeholders on progress at Barakah. Key engagements during 2018 include:

- ENEC sponsored the 23rd Nuclear Inter Jura Congress, the biennial congress of International Nuclear Law Association (INLA), which was held in Abu Dhabi for the first time in November 2018. The congress brought together legal specialists, government representatives, executives and academics from the international nuclear energy industry to discuss a wide range of topics related to nuclear cooperation, sustainability, excellence and innovation.
- ENEC participated in the 62nd Annual IAEA General Conference where the CEO presented at the UAE Side Event to update attendees on the status of the Barakah Nuclear Energy Plant Project and highlighted the importance of international cooperation and capacity development within the region. Badreya Almarzooqi, Vice Chairwoman of the recently established Barakah Youth Council, presented the ongoing investment ENEC has made in human capacity development for the success of the UAE Peaceful Nuclear Energy Program during a youth event held during the conference.
- ENEC was a Platinum Sponsor of the 11th World Future Energy Summit, which took place during the Abu Dhabi Sustainability Week 2018. The participation aimed to highlight how clean, safe and efficient nuclear energy will help the UAE meet its commitments under the Paris Climate Change Agreement, in addition to demonstrating how nuclear energy is supporting the diversification of the nation's economy and energy mix as a part of the UAE Energy Plan 2050.
- ENEC and Nawah are active members of "Women in Nuclear" (WiN), a global working group with an UAE chapter that supports the overall role of women in the nuclear industry. The working group addresses general concerns about nuclear energy and supports the overall understanding of women's needs within organizations, taking into consideration the UAE's culture and the significant number of women employed at the Barakah Nuclear Energy Plant.



International Engagements:

<https://www.enec.gov.ae/news/2018>

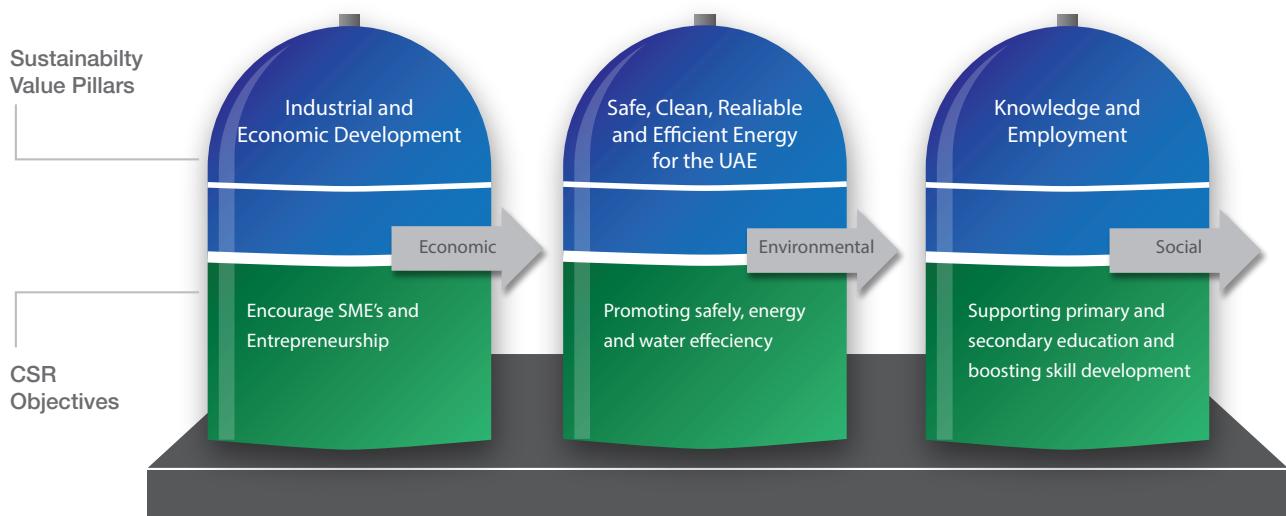


The Year of Zayed

The year 2018 marked 100 years since the birth of the late Sheikh Zayed Bin Sultan Al Nahyan, the Founding Father of the UAE. In honor of his memory and legacy, His Highness Sheikh Khalifa bin Zayed Al Nahyan, the President of the UAE, declared 2018 the “Year of Zayed”.

At ENEC and our subsidiaries, we are committed to promoting a culture that embodies Sheikh Zayed’s inspirational wisdom, vision and principles. Our corporate values, which were updated and launched in 2018, were inspired by Sheikh Zayed’s legacy. Through our newly launched corporate values, we have reaffirmed our commitment to a culture of collaboration, trust, integrity and excellence. Two of our CSR initiatives this year included a printer donation as well as a family first aid training. Furthermore, as part of the year’s celebrations, ENEC hosted a Zayed Exhibition on 2 December, coinciding with the UAE National Day.

ENEC’s CSR strategy focuses on giving back to the community through the development and initiation of projects that deliver tangible positive impacts for the community, with the following objectives in line with our Sustainability Management approach:



ENEC and its subsidiaries regularly take an active role in supporting or hosting events that promote safety, culture and heritage as well as educational topics, within the company and in the community. In 2018, highlights include the following activities:

Ramadan Aman

In 2018, the CEOs of ENEC, BOC and Nawah, together with a group of employees, participated in the Ramadan Aman ‘Safe Ramadan’ campaign, which provided Iftar meals to drivers while raising awareness about traffic and road safety during the Holy Month of Ramadan. The initiative aims to reduce the number of accidents and excessive speeding by individuals rushing to break their fast.

Student Outreach Program

Over the past year, ENEC has organized a series of school visits as part of its ongoing Schools Outreach Program, engaging more than 450 students. This program aims to raise awareness of the UAE Peaceful Nuclear Energy Program and educate students of all ages on how nuclear energy is used, as well as showcasing the types of career opportunities available across the nuclear industry. As part of the visit, ENEC organized scientific activities that challenged students to solve problems and think creatively while also learning about technical aspects of peaceful nuclear energy.

ENEC also supported the first National Nuclear Science for Development Student Competition, launched by the Permanent Mission of the UAE to the IAEA, in cooperation with the UAE Ministry of Education and FANR. The competition aims to encourage UAE students to explore the role of nuclear energy in applications that can serve the community.

EmiratesSkills

ENEC was the official Health and Safety sponsor at the EmiratesSkills National Competition 2018, a three-day event designed to inspire youth to pursue new trades and technology-based careers. Attendees learned about the strategic importance of the UAE Peaceful Nuclear Energy Program and how the construction and commissioning of the Barakah Nuclear Energy Plant is being carried out in accordance with the highest international standards of quality and safety. ENEC also promoted the Higher Diploma in Nuclear Technology (HDNT) program scholarships which prepare students for specialist and hands-on careers in the nuclear industry. ENEC and its subsidiaries also participated in the annual Think Science event.

Liwa Date Festival

ENEC participated once again at the annual Liwa Date Festival, which was held under the patronage of Sheikh Mansour Bin Zayed Al Nahyan, Deputy Prime Minister and Minister of Presidential Affairs. The festival includes outstanding events, notably competitions, date auctions, lectures that aim at raising awareness on the importance of the palm tree, among other activities.



Industrial and Economic Development

ENEC is supporting the nation’s economic growth and diversification by investing responsibly in a local peaceful nuclear energy industry that can contribute to national, regional and international nuclear supply chains.



Introduction

The UAE needs electricity to maintain its rapid economic growth. As the nation’s economy grows, the UAE requires more electricity to power new sectors including manufacturing and meet the rising energy demand due to the increased population. The UAE Peaceful Nuclear Energy Program is a multibillion-dollar investment in economic and industrial growth and diversification. This strategic and responsible deployment of government funds will deliver large amounts of reliable energy for the future growth of the country and it is already delivering highly-skilled jobs, new business opportunities for companies of all types and sizes, and investment in the Al Dhafra region of Abu Dhabi. As the first Nuclear Energy Plant in the region, and with other countries now looking to follow the UAE’s lead, the Barakah Nuclear Energy Plant will continue to deliver value well into the future as UAE companies and talent compete for business in the regional and international nuclear energy sector.

Sustainability Objectives

ENEC’s industrial and economic development sustainability objectives are:

1	Financial responsibility – deliver cost-effective power through a combination of financial responsibility and effective operational execution.
2	Supply chain management – develop a supply chain that is increasingly locally based and that meets the environmental, social and quality standards of the nuclear industry.
3	National economic development – become a driving force behind the UAE’s investment plan, providing business development opportunities and contributing to the UAE’s GDP.

SDG Targets Addressed

By delivering on these sustainability objectives, ENEC is contributing to the achievement of the following SDG targets:

	<p>Diversify, innovate and upgrade for economic productivity</p> <p>Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors.</p>
	<p>Promote policies to support job creation and growing enterprises</p> <p>Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.</p>
	<p>Promote inclusive and sustainable industrialization</p> <p>Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.</p>
	<p>Promote sustainable public procurement practices</p> <p>Promote public procurement practices that are sustainable, in accordance with national policies and priorities.</p>

Financial Responsibility

ENEC and its subsidiaries have put in place the necessary policies and procedures to conduct its business in an accountable and efficient manner to ensure the program makes optimal use of government resources. Measures are in place to ensure funds are spent efficiently and within budget. Expenditures are monitored closely. All expenses are approved by authorized personnel per the appropriate Delegation of Authority (DOA) before being committed

Payments are approved based on the limit authorized in the respective Board-approved Delegation of Authority which is reviewed and updated periodically.

Project Financing

ENEC established a comprehensive, sound financial structure that has allowed for the construction of the UAE's first Nuclear Energy Plant and infrastructure to progress towards delivery of Units 1 to 4. The overall project financing requirements are estimated at USD 24.5 billion:

- USD 19 billion comes from a direct loan by the Government of Abu Dhabi.
- USD 2.5 billion has been provided as a direct loan from the Export-Import Bank of Korea (KEXIM).
- USD 250 million was generated through loan agreements with five local and international commercial banks.
- A total of USD 4.7 billion in equity commitments were made for the establishment of the BOC in exchange for equity interest in the company, shared between ENEC and KEPCO.

Budgeting and Spending

ENEC's relatively short construction period, in comparison to most nuclear energy plants, makes the project economically competitive and sustainable. Overall project expenditure is managed by ENEC, including both subsidiaries, and has decreased by 40% over the past four years.

Project Expenditure				
	2015	2016	2017	2018
Total capital expenditure (USD millions)	3,610	3,195	2,710	1,503
Total operating expenditure (USD millions)	418	446	659	913
Scope: ENEC, Nawah and BOC				

Capital Expenditure (CAPEX) represents payments made towards ENEC's \$20 billion contractual agreement with the Prime Contractor (KEPCO). Between 2017 and 2018, our CAPEX decreased by 45% as a reflection of the winding down of construction activities as we are nearing overall completion.

Operating expenditure covers the costs of ENEC's and its subsidiaries', service contractors, communication, administration and capacity building, including the scholarship program. Between 2017 and 2018, OPEX increased by 39%, mainly a reflection of the rapid growth of Nawah as preparations advance towards operations for Unit 1.

Auditing and Accountability

ENEC reports its financial performance, and the performance of its subsidiaries, regularly to the General Secretariat of the Executive Council (GSEC), the Department of Finance (DoF) and the Department of Energy (DoE). To ensure timely, meaningful and reliable disclosures of its financial performance, the following mechanisms are in place:

1. **Statutory Audit:** conducted by the government auditor (Abu Dhabi Accountability Authority), which performs the role of a statutory auditor and audits the activities of ENEC's internal auditors to ensure compliance.
2. **Internal Audit:** regular reviews and audits of ENEC's financial and non-financial systems, processes and results.
3. **External Audit:** carried out annually by an independent third-party auditor, with the findings reported directly to the ENEC Board of Directors.
4. **Occupational Safety and Health audit:** was carried out as per regulatory requirement of OSHAD-SF from third party.

Supply Chain Management

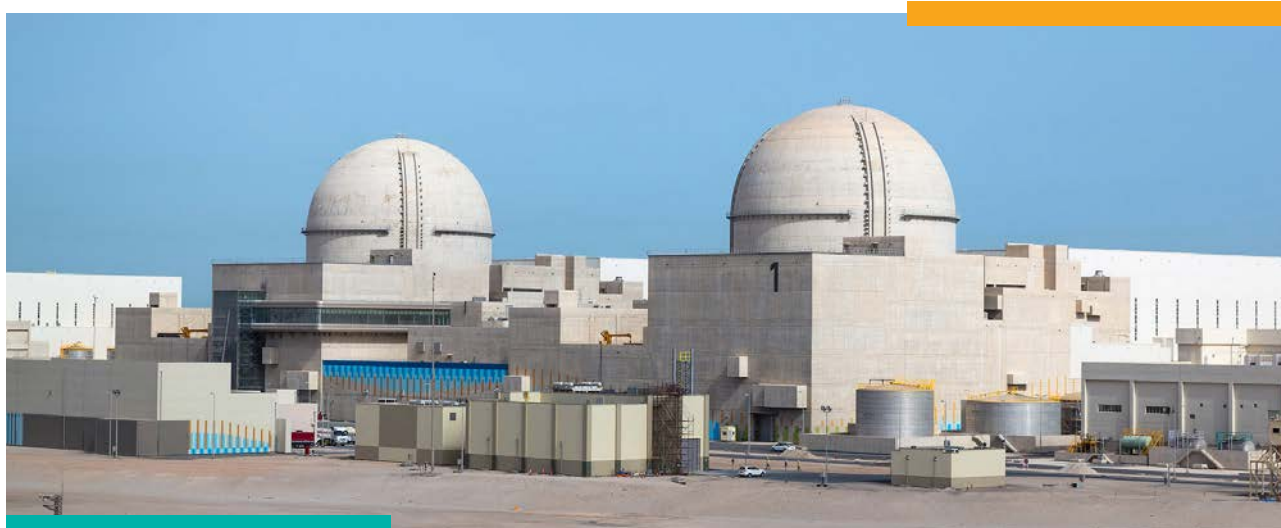
The supply chain required to construct the Barakah Nuclear Energy Plant is extensive and global. ENEC and its subsidiaries have over 3,000 registered suppliers that bid for more than USD 1 billion worth of contracts, on average, every year. These suppliers range from locally owned small and medium-sized enterprises to large-scale multinational companies.

ENEC is responsible for corporate procurement requirements, including expert services, ICT equipment and site-related support services. ENEC's Procurement and Supply Chain (PSC) function provides a central procurement and contracting service ensuring that ENEC's goods and services are procured on the best contractual terms and conditions, in compliance with legal and regulatory requirements, and support ENEC's sustainability objectives.

The Prime Contractor (KEPCO) has many suppliers and sub-contractors of its own. ENEC oversees these arrangements and provides guidance and tracks performance to make sure its standards and UAE-specific requirements are being implemented.

Because ENEC is still in the project phase, total procurement spending varies substantially from year to year. The overall trend is an increase in spending as ENEC's subsidiary Nawah approaches the start of commercial operations of Unit 1.

Supply Chain Overview				
	2015	2016	2017	2018
Number of registered suppliers (Cumulative)	2,344	2,800	3,053	3,171
Total procurement spending (USD millions)	611	1,380	1,449	1,003
Scope: ENEC, Nawah and BOC				



Procurement and Supply Chain Governance

Implementation of the comprehensive Procurement and Supply Chain Governance Framework continued in 2018. The framework includes a procurement process situations matrix, a register of reported situations, a process for verification and reporting of identified situations, and the identification of opportunities for improvement. This helps to ensure that ENEC is procuring to the highest ethical and governance standards. ENEC holds the Gold PPP (Processes, Policies and Procedures) Award from the Chartered Institute of Purchasing and Supply (CIPS), reflecting that the ENEC's PSC maintains procurement policies, procedures, processes and systems that meet the required CIPS standards.

Supply Chain Localization

To bring maximum economic benefit to the UAE from the nuclear energy project, and to improve the security of supply, ENEC strives to procure its goods and services from locally based suppliers whenever possible. In total, 78% of the suppliers registered with ENEC and its subsidiaries are locally based and represent 63% of the 2018 procurement spending (excluding the Prime Contract with KEPCO). In 2018, a total of \$631 million of orders were placed with locally based suppliers.

ENEC is an active supporter of the Khalifa Fund for Enterprise Development (KFED) – a dynamic organization that promotes and supports entrepreneurial ventures in Abu Dhabi. To date, 46 KFED companies have registered as suppliers with ENEC. They are being actively encouraged to bid for future contracts.

Local Procurement				
	2015	2016	2017	2018
Percentage of registered suppliers that are locally based (%)	82%	81%	77%	78%
Total procurement spending on suppliers based in the UAE (USD millions)	389	664	939	631
Percentage of procurement spending on locally based suppliers (%)	64%	48%	65%	63%
Number of Khalifa Fund suppliers registered (Locally owned SME companies funded by Sheikh Khalifa) (Cumulative)	34	36	35	46
Scope: ENEC, Nawah and BOC				

Supply Chain Sustainability Impacts

To safeguard from potential risk and satisfy internal health, safety, environment and sustainability (HSES) requirements, ENEC takes an active role in ensuring its supply chain meets high ethical standards and that relevant suppliers implement the environmental, social, and labor-related policies and procedures required to operate responsibly.

Selected suppliers go through the ENEC prequalification process, which helps to identify levels of compliance with necessary standards and regulations. ENEC conducts risk-driven prequalification exercises to ensure that potential suppliers meet the specified standards for quality and safety. In addition, prequalification exercises gather business continuity information from the supplier to help gauge the maturity of the supplier's business continuity planning capability.

Code of Conduct

All suppliers registered through ENEC's supplier portal must agree to our 'Supplier Code of Conduct', which sets out the principles and standards of conduct expected of every supplier. The document covers topics such as HSES, fraud, ethical behavior, conflicts of interest, whistleblowing, compliance with the law and ENEC's environmental and sustainability leadership.



Supplier Code of Conduct

<https://www.enec.gov.ae/doc/psc-ref-111-02-supplier-code-of-conduct-rev4-supplier-portal-5937c63de21a2.pdf>

The Code of Conduct was updated in 2018 to align with the changes made to ENEC's internal business ethics policies. ENEC has not received reports of any breaches in supplier compliance with the Supplier Code of Conduct in 2018.



Health, Safety, Environment and Sustainability (HSES)

HSES criteria are screened at the prequalification stage for selected suppliers. In addition, for products and services being procured that are classified as significant HSES risks, bidders will be assessed against a range of project-specific HSES requirements. Should a bidder fail to achieve the necessary HSES score, they will automatically fail and be removed from the selection pool.

All contracts require HSES considerations to be incorporated, depending on the level of risk.



Contractor HSES Management Procedure

<https://www.enec.gov.ae/doc/contractor-hse-management-procedure-5a9eac506876a.pdf>

Labor Practices

ENEC, and its subsidiaries, view compliance with all labor laws and worker welfare good practices as a prerequisite for being registered as a supplier or being awarded a contract. To verify this, ENEC requests suppliers to sign a statement of compliance regarding worker welfare. In 2018, 100% of new suppliers signed the statement. Over the last four years, the overall percentage of registered suppliers that signed the statement almost doubled, from 31% in 2015 to 59% in 2018.

Supply Chain Worker Welfare				
	2015	2016	2017	2018
Number of registered suppliers that have signed a statement of compliance regarding worker welfare (Cumulative)	718	1,118	1,646	1,865
Scope: ENEC, Nawah and BOC				

Due to the nature of ENEC's procurement requirements, no significant human rights-related risks have been identified within the supply chain. We have conducted contractor camp inspections in 2018 to ensure HSES and welfare arrangements are met, and no suppliers have been identified as having a risk related to forced, compulsory or child labor.

2018 UAE Nuclear Power Program Supplier Forum

In 2018, ENEC and its subsidiaries hosted a supplier forum attended by over 100 suppliers to enable growth of the local supply chain by informing existing suppliers of forthcoming opportunities and attract new suppliers into the UAE nuclear energy sector. The aim is to develop a local supply chain that can meet operational services, spare part and consumable requirements for plant operations, maintenance, and future requirements in line with the Abu Dhabi Plan initiative.



“The UAE Peaceful Nuclear Energy Program will power the growth of the nation with clean, efficient and reliable nuclear energy, and its development is already supporting many strategic sectors through the enhancement of local businesses, the development of new industries and the creation of high-value jobs.”

Eng. Mohamed Al Hammadi, CEO, ENEC

National Economic Development

The development of the Barakah Nuclear Energy Plant is a major driver of short-term and long-term economic development for the Al Dhafra region and UAE as a whole. The project has created thousands of jobs and has led to significant investment in local infrastructure that will benefit the region for decades to come. Most significantly, the project has provided an opportunity for local businesses to meet the necessary quality standards required to join a global nuclear supply chain that could be as large as \$67 billion in 2019.

Job Creation

In 2018, ENEC, and its subsidiaries, supported 2,926 highly-skilled jobs at its corporate offices in Abu Dhabi and on-site in Barakah – a 14% increase, or 357 additional positions, from its 2017 level. It is expected that this figure will continue to rise until at least 2020 as Nawah scales up through the ongoing handover and operation of all four units.

This rapidly growing workforce is having a direct impact on the economy through the spending of wages and benefits, which in turn indirectly supports job creation in other sectors. There is also an additional indirect impact as many internationals bring their families to the country, spurring further economic activity by either renting or buying property, and through spending on transportation, education, health, food and goods and services within the UAE.

In 2018, KEPCO and its subcontractors supported 10,871 predominantly lower-skilled construction jobs, a drop of 24% at the end of 2018 due to the project beginning to wind down in 2018. While some of the wages of international employees are remitted, the associated economic impact of supporting this large workforce brings economic benefits to the Al Dhafra region.

Industrial Development

ENEC has played a significant role in developing the capabilities of UAE companies to achieve the necessary nuclear-grade quality assurance standards for supplying materials used in the construction and operation of nuclear energy producing facilities. These investments made by ENEC have not only created a locally based supply chain for the industry but have enabled UAE companies to compete in the global nuclear value chain, providing tremendous opportunities for diversified, national economic growth.

Any company that aspires to supply materials used in the construction and operation of a Nuclear Energy Plant must achieve nuclear-grade quality assurance standards, depending on the classification of the material.

To maximize the benefit of the nuclear energy project for the national economy in the long term, ENEC and its subsidiaries have been supporting UAE businesses in reaching the necessary standards required to provide

their products and services to the nuclear supply chain. This should give UAE companies a competitive edge, as once achieved, companies can not only compete for projects with KEPCO, ENEC and its subsidiaries, but can exploit export opportunities to supply nuclear energy projects both in other GCC countries looking to invest in their own nuclear energy projects and globally.

Since the start of the project, over 1,500 companies in the UAE have been awarded contracts relating to the Prime Contract for construction, totaling USD 3.82 billion. Since 2017, ENEC's Industrial Development team has focused on working with locally based companies to achieve ASME Nuclear Quality Assurance-1 certification. In 2018, ENEC supported three additional suppliers to gain the ASME NQA-1 certification.

Investment in Local Infrastructure

The Al Dhafra Investment Roadmap found that the nuclear energy industry will contribute USD 16 billion to the economy of the Al Dhafra region over the lifetime of the Barakah Nuclear Energy Plant. Furthermore, public services and infrastructure are being developed as part of the project, including new housing and the upgrade of communications systems and highways, which all contribute to an improved quality of life for residents of the region. It is expected that real estate values will also rise as a result of ENEC's activities.

Some of ENEC's involvements in local infrastructure in 2018 include:

- Participation in the Al Dhafra City masterplan in coordination with the Department of Urban Planning and Municipalities (DUPM).
- Participation in government initiatives regarding the conversion into 'smart government' by registering in the Non-Objection Certificate and MePS systems, and providing approvals for the requests that comes from them for Al Dhafra Region.
- Coordinating with Etihad Rail to construct rail stations in Al Ruwais and Barakah, and providing feedback support for the rail alignment proposal.
- Coordinating with DUPM to allocate pieces of land for the poles of the alarm sirens. A total of six plots were allocated.

In Barakah, ENEC also coordinated with relevant stakeholders to build the Barakah Petrol Station, establish a permanent earthquake monitoring station and develop a waste collection and disposal system.



Safe, Clean, Efficient and Reliable Energy

ENEC's primary contribution to national sustainable development is the creation of significant volumes of safe and clean electricity for the UAE. This will help reduce the UAE's greenhouse gas (GHG) emissions and provide long-term energy security for a rapidly growing population.



Introduction

ENEC was established in 2009 to deliver safe, clean, efficient and reliable electricity to the UAE grid and contribute to the sustainable energy future of the UAE. While the Barakah Nuclear Energy Plant is not yet operational, these core principles of 'safe, clean, efficient and reliable' have been rigorously applied to the construction of the plant.

Sustainability Objectives

ENEC's sustainability objectives are:

1	Safety and Security – ensure the safety and security of the public, ENEC employees, and contractors, through the design and execution of world-class safety and security processes and systems, and the development of a robust Culture of Safety and Security.
2	Environmental Management – adhere to the highest available standards and regulations while working to prevent pollution, preserve biodiversity, conserve water and energy resources, and handle waste effectively.
3	Health and Wellbeing – safeguard the health and wellbeing of all employees, contractors and the local community.
4	Quality, Efficiency and Reliability – achieve operational excellence and the implementation of industry best practices from around the world.

SDG Targets Addressed

By delivering on these sustainability objectives, ENEC is contributing to the achievement of the following SDG targets:

<p>TARGET 3-6</p> 	<p>Reduce Road Injuries and Death</p> <p>By 2020, halve the number of global deaths and injuries from road traffic accidents.</p>
<p>TARGET 3-9</p> 	<p>Reduce Illness and Death from Hazardous Chemicals and Pollution</p> <p>By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.</p>
<p>TARGET 8-8</p> 	<p>Protect labor rights and promote safe working environments</p> <p>Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.</p>
<p>TARGET 6-3</p> 	<p>Improve water quality, wastewater treatment and safe reuse</p> <p>By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.</p>
<p>TARGET 7-1</p> 	<p>Universal access to modern energy</p> <p>By 2030, ensure universal access to affordable, reliable and modern energy services.</p>
<p>TARGET 12-5</p> 	<p>Substantially reduce waste generation</p> <p>By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.</p>
<p>TARGET 3-4</p> 	<p>Reduce mortality from non-communicable diseases and promote mental health</p> <p>By 2030, reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and wellbeing.</p>
<p>TARGET 9-1</p> 	<p>Develop sustainable, resilient and inclusive infrastructures</p> <p>Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human wellbeing, with a focus on affordable and equitable access for all.</p>

HSES Management System

To coordinate the management of all aspects of Health, Safety and Environment and Sustainability (HSES), ENEC has developed a comprehensive HSES Management System (HSES MS). The HSES MS defines the principles by which ENEC and its subsidiaries conduct their business, containing key HSES elements such as:

- HSES Policies, Procedures and Codes of Practice to ensure a systematic approach to HSES.
- HSES Legal Compliance and HSES Risk Management Program.
- HSES Induction, Training and Awareness Programs.
- Incident and Emergency Response Programs.
- Health and Wellness Programs, including Medical Surveillance; and
- Behavior Based Safety / Culture of Safety Programs.

The HSES MS has been in place since 2010 and is being continually updated to ensure alignment with regulatory requirements, international standards and the identification of new and emerging risks and opportunities. ENEC is certified in compliance with to ISO 14001:2015, Occupational Health and Safety Assessment Series (OHSAS) 18001:2007 and the Abu Dhabi Occupational Safety and Health Center (OSHAD) Certificate of Approval.

To manage and monitor the HSES MS, ENEC has a number of teams, including a Corporate HSES Team, a Construction HSES Oversight Team, Nuclear Safety and Nuclear Safety Culture Team, and Emergency Response and Business Continuity Team.

Working with Contractors

Throughout the construction phase at Barakah, ENEC is responsible for the oversight of contractors' and subcontractors' HSES performance. ENEC has developed a comprehensive approach to the management of contractor procedures for dealing with HSES topics. Oversight activities monitor the effectiveness of implementation of their HSES Programs. Daily, weekly and monthly inspections are performed at the construction site along with weekly and monthly cross-organization meetings.

In total, 177 HSES meetings, 86 cross-organization HSES inspections, 675 HSES construction joint inspections and 108 camp inspections were conducted in 2018, demonstrating an extensive interface with contractors to achieve the common HSES targets.

Safety and Security

Safety is the overriding priority for the UAE Peaceful Nuclear Energy Program. We are committed to achieving the highest standards of safety and quality as we work to deliver clean and abundant nuclear energy to the nation. This commitment is guided by our culture of safety, operational safety and industrial safety activities. Our Nuclear Safety, Security and Safeguards Policy (CEO-POL-5) and our Sustainability Policy (CEO-POL-7) outline our commitment to conducting work in a sustainable manner and effectively controlling environmental, health, safety and security risks through all phases of the Nuclear Energy Plant lifecycle. Our internal culture enshrines safety as the collective responsibility of everyone involved in the project, from the Board of Directors, employees, contractors, subcontractors and even to visitors to our site. Extensive effort is made to ensure occupational safety and security at corporate and construction locations, as well as to prepare for the safety and security requirements for nuclear material. The existing measures not only cover prevention of safety incidents, but also emergency preparedness and business continuity should a minor or major emergency event occur.



Safety at ENEC:

<https://www.enec.gov.ae/regulation/safety-at-enec/>

Occupational Safety

We work closely with our contractors, regulators and the international nuclear community to develop and maintain a world-class safety culture, policies and procedures. The Executive Management Safety Charter guides ENEC's CEO and Executive Management in supporting and enabling ENEC and its subsidiaries to operate their businesses safely. All quarterly executive management meetings conform to this charter. Every employee at ENEC receives annual training on ENEC's safety principles and procedures. Our leadership encourages employees to voice any queries and concerns. Meetings at ENEC begin with a Safety Moment, so ENEC employees remain safety-conscious at all times.

Regular safety and quality audits are a core part of the program, seeking to drive continual improvement in all areas of management and operation. The corporation's Condition Reporting (CR) program facilitates proactive reporting of safety concerns and near-miss incidents. The program assigns responsibility for the implementation of corrective actions to the relevant party. In addition, all ENEC employees have a responsibility to stop work activities where an existing or potential threat to safety is observed.



Employee Occupational Safety

Employees of ENEC and its subsidiaries work at our corporate offices in Abu Dhabi and on site in Barakah, regularly travelling between the two locations. This means that safety risks ranging from transportation, construction, operation and nuclear safety on-site are all material issues that are incorporated into the management of safety. There were no employee fatalities during 2018, 2 medical treatment cases, 13 first aid cases and 43 near misses, demonstrating the commitment to the HSES.

ENEC and its subsidiaries strive to improve the HSES awareness of all employees through HSES eLearning modules, HSES communications and training sessions. In 2018, eLearning modules on HSES awareness and the HSES management system, construction safety, road safety, accommodation safety and hygiene, hazard identification and reporting as well as an introduction to the safety observation program were made available. In addition, the issue of a weekly safety message was instigated in 2018. This communication tool was established to improve the awareness, attitude and perception of safety among construction office employees. The messages address various safety, environment, fire protection and nuclear safety culture topics, drawing on examples of real cases at the Barakah Nuclear Energy Plant.

Employee Safety				
	2015	2016	2017*	2018
Number of employees	1,574	1,839	2,569	2,926
Number of employee hours worked	2,482,720	2,713,752	1,350,012	3,838,912
Fatalities (employees)	0	0	0	0
Lost Time Injury Frequency Rate (LTIFR; employees)	0.81	1.10	0	0.7
Total Recordable Case Frequency Rate (TRCFR; employees)	1.61	2.20	1.5	1.6
Scope: ENEC and BOC - *complete Nawah safety data was not available for reporting LTIFR and TRCFR are calculated per million man-hours				

Contractor Occupational Safety

As the most material sustainability issue for the organization, ENEC closely monitors the safety performance of the Prime Contractor (KEPCO) and its subcontractors, working closely with them to ensure that the same rigorous safety systems and culture exists throughout the construction site. ENEC ensures on daily basis that all UAE laws and regulation are implemented by the contractors and its sub-contractors. This starts with the review of KEPCO's HSES Management System and its procedures, and stretches to onsite inspections for all construction areas and disciplines. Observed deficiencies, if not corrected on-the-spot, are reported through a deficiency notification program, which is the formal communication channel with the Prime Contractor, and then addressed through corrective action plans. Performance indicators and deficiency notifications are followed-up and tracked on a monthly basis until full implementation and effective closure is reached.

Over the past years, contractor LTIFR as well as TRCFR were continuously improving. This is mainly due to the continuous training and inspections performed jointly by ENEC, the Prime Contractor and its subcontractors. When causes are identified, commensurate corrective actions are developed and then implemented in a timely manner to ensure that incidents do not reoccur. Implementation of good HSES practices also contributed to reducing the severity and probability of safety events. This included reviewing and improving four health and safety procedures for their compliance with OSHAD's organizational health and safety requirements.

The main target of 2018's initiatives was to decrease injury severity and improve safety ownership and accountability of leaders. The target was achieved through three main approaches: 1) enhancing safety DNA and accountability, 2) enhancing awareness of the Prime Contractor (KEPCO) Team in terms of effective implementation of safety programs and 3) encouraging every member of the team to be a part of 'Team Barakah Safety DNA'. Key initiatives included the issue of weekly safety messages, the Lock-out Tag-out (LOTO) campaign at Unit 3, a personal accountability workshop under the tagline 'You see it you own it!' as well as a 'Speak up for Safety' workshop targeting women to empower them and to share their thoughts and practical experience.

In 2018 ENEC, together with KEPCO and its subcontractors, who represent 95% of the total population at the Barakah Nuclear Energy Plant, provided a total of 23 courses, attended by 132,031 employees. The well-structured HSES awareness campaign covered topics such as welding operations and hot work, defensive driving and heavy equipment, personal protective equipment, hazardous chemicals handling, hand injuries, working at height, full body harness and near miss reporting, significantly contributing to safe behavior.

Contractor and Subcontractor Safety				
	2015	2016	2017	2018
Number of contractors and subcontractors	19,885	21,491	15,031	11,922
Contractor and subcontractor hours delivered (millions)	59.1	62.6	52.9	32.2
Fatalities (contractors and subcontractors)	0	3	0	0
Lost Time Injury Frequency Rate (LTIFR; contractors and subcontractors)	0.14	0.18	0.05	0.00
Total Recordable Case Frequency Rate (TRCFR; contractors and subcontractors)	3.49	2.21	1.16	1.00
Scope: KEPCO *2017 LTIFR and TRCFR values were restated LTIFR and TRCFR are calculated per million man-hours				

Nuclear Safety

As we are progressing towards construction completion of the four units at Barakah Nuclear Energy Plant, Nawah has started to develop the necessary procedures and management systems to achieve the highest standards of nuclear safety and quality during operation. Our program builds on the expertise and operational experience of the global nuclear energy industry, as we strive to adopt best practices from operators around the world and from industry organizations, including the International Atomic Energy Agency and the Institute of Nuclear Power Operations.

The design, siting, construction, operation and decommissioning of nuclear energy plants as well as the use of all radioactive material and radiation sources is regulated by FANR. We are committed to its core values of safety awareness and responsibility, competency, independence and transparency, and all our procedures and programs will meet FANR requirements.

Security

ENEC and its subsidiaries work closely with the Critical Infrastructure and Coastal Protection Authority (CICPA), the Abu Dhabi Government agency tasked with handling the protection and security of vital assets and infrastructure, including the Barakah Nuclear Energy Plant. Under the regulation of FANR and with guidance from the IAEA, CICPA has developed and implemented the highest international security standards for the BNEP.

The security teams at ENEC and its subsidiaries are responsible for implementing the FANR-approved Physical Protection Plan (PPP) for construction. The PPP for construction addresses the protection of nuclear materials and the nuclear facility against malicious acts, such as the unauthorized removal of nuclear material. An additional FANR-approved PPP-O (for operations) addresses the organizational structure and staffing of security, the plant physical protection including the designation of protected and vital areas, guard training and qualification, information security, cybersecurity, and responses to security contingencies including preparedness for concurrent nuclear safety-related emergencies and security threats. The PPP-O provides assurances that physical protection strategies will neutralize any threats, including Design Basis Threats, and seeks to ensure that the nuclear facility is protected from malicious acts and radiological sabotage.



Emergency Preparedness

Working with internal and external stakeholders, ENEC and its subsidiaries have developed a comprehensive Emergency Preparedness and Response program. This covers all aspects of emergency activities, deployment of first responders, emergency equipment, training and awareness.

As the most critical aspect of the project, Nawah is the custodian of the Barakah Emergency Preparedness Program, which ensures that for commissioning and operations all programs, processes, and activities are developed, implemented, and completed as required.

The comprehensive program also focuses on a commitment to protect the health and safety of employees, the public, and environment from a potential radiological event, and developing and implementing functional roles and capabilities in the following areas:

- On-site Emergency Preparedness.
- Off-site Emergency Preparedness.
- All Emergency Response Equipment and Facilities.
- Emergency Response Training.
- Drill and Exercise Programs.
- Barakah Emergency Plan and associated Implementing Procedures.

The ability of Nawah to respond to a radiological emergency at the Barakah Nuclear Energy Plant in a timely and effective manner must be periodically demonstrated in order to obtain, and maintain, an operating license from FANR. Emergency drills and exercises are scheduled at periodic intervals to test the effectiveness of Nawah's Emergency Plan, and its implementing procedures, which include; emergency communications, the timely response of the Emergency Response Facilities, the adequacy of emergency response resources, and the coordination between the various agencies involved.

As part of fuel load preparations, Nawah is working closely with FANR, local stakeholders, the IAEA and international nuclear experts to ensure that their Emergency Preparedness and Response Program adheres to the highest international standards, and is thoroughly tested, ahead of the initial nuclear fuel load of Unit 1 at the Barakah Nuclear Energy Plant. All Risk Significant Performance Standards were also successfully demonstrated. During commissioning and operations, Key Performance Indicators as described in Nawah's Business Plan, will be closely monitored to ensure all aspects of the Emergency Preparedness and Response program are maintained to the highest levels. Additionally, the on-site emergency plan includes assessment criteria and protective actions to return the plant to a stable condition in case of radiological emergencies.

In 2018, the Emergency Preparedness program was reviewed and a total of 30 of the 37 emergency preparedness procedures were revised. Of these, 13 procedural revisions were based on input from the 2018 drills. In addition, one tabletop drill, nine emergency response drills and three turnover drills were conducted and successfully stress tested.

Business Continuity Management

As part of the Abu Dhabi government's ongoing effort to improve government and private sector readiness for any emergency, crisis or disaster, all government entities are to comply with requirements of AE/HSC/NCEMA 7000:2015, Business Continuity Management standard established by the National Emergency Crisis and Disasters Management Authority (NCEMA).

ENEC's BCM Program is designed to maintain the continuity of essential and time-sensitive business processes first and then proceed with processes which are not as time-critical. ENEC's BCM Strategy follows a multi-phased approach, which includes alignment and integration with recovery of ICT systems and applications. ENEC is presently adding depth to its BCM Strategy through the addition of BCM criteria in Supplier Prequalification, the addition of a BCM requirement in new and renewing contracts, Procurement Requisition Checklist Form and the survey of existing suppliers to promote business continuity in the supply chain.

To meet the requirements of the General Secretariat of the Executive Council (GSEC) Circular No. (4) 2014 and NCEMA 7000:2015, ENEC has developed a variety of plans and procedures, categorized at the highest level into two types:

Radiological Events and Non-Radiological Events.

- **Radiological Events** are managed by Nawah in accordance with the On-Site and Off-Site Emergency Response Plans for Barakah Nuclear Energy Plant. These plans are developed by Nawah Emergency Preparedness Department.
- **Non-Radiological Events** are managed by ENEC in accordance with plans and procedures developed by the Department responsible for a functional area, e.g.:
 - o **Corporate, Cyber/Information, and Site Security**, which protect corporate assets, resources, data and information, are responsible for the Company's Incident Management Program, Security Systems, and Cyber/Information Security Management procedures.
 - o **Business Departments**, which maintain and operate the corporate business, are responsible for the Business Continuity Plans.
 - o **Corporate HSES and CPO-HSES**, which maintain health and safety in the workplace, are responsible for the Headquarters and site offices/buildings Emergency Preparedness and Evacuation Plan and HSES Emergency Management Procedure.
 - o **ICT**, which maintains the information and telecommunications systems, is responsible for the Company's ICT Disaster Recovery Plan.

ENEC submits quarterly reports on the implementation of its Business Continuity Management program to the General Secretariat of the Executive Council (GSEC) of the Government of Abu Dhabi. This report provides the Government of Abu Dhabi with an update on ENEC's BCM program implementation, achievements,

challenges and items for consideration. In addition, the BCM Program submits monthly performance reports to the Deputy CEO. At the end of each year, the BCM Program provides an annual update on the Business Continuity and Crisis Management programs to the company's Audit, Risk, and Compliance Committee (ARCC), which is a subset of ENEC's Board of Directors.

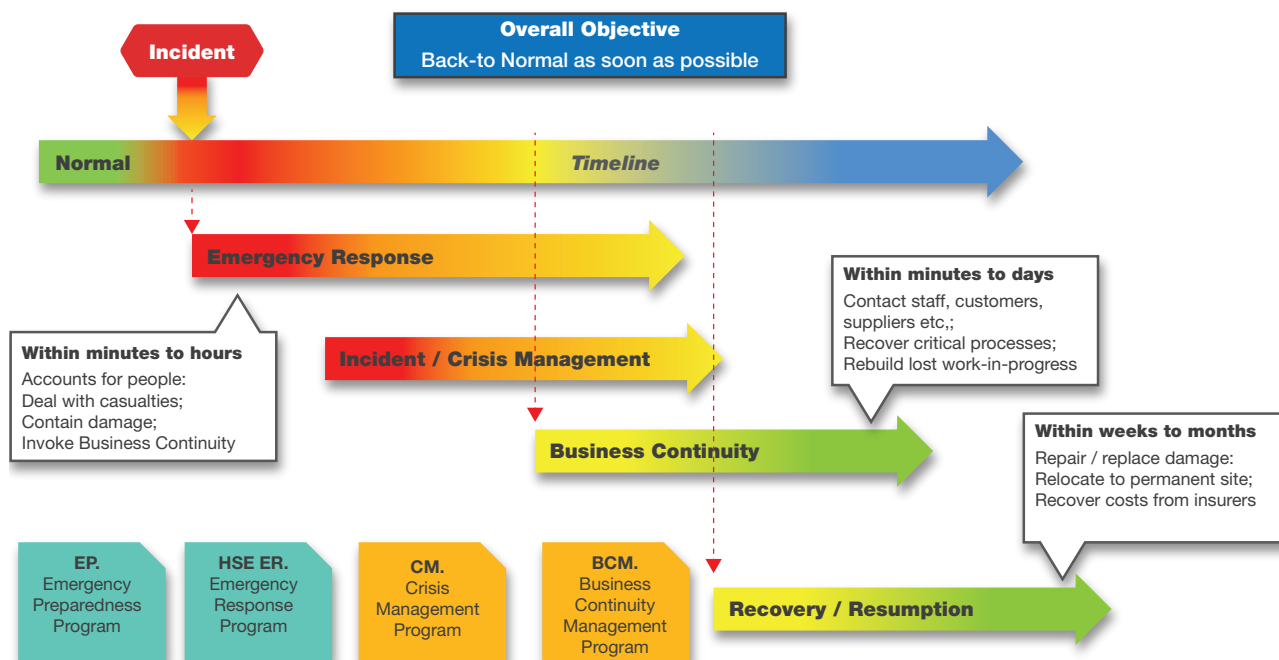
Business Continuity in the Supply Chain

ENEC has a list of BCM requirements for inclusion in the Supplier Prequalification Checklist, a requirement which dictates ENEC suppliers to implement and maintain business continuity programs that comply with recognized standards as part of our standard terms and conditions, and surveys suppliers to monitor the implementation of those programs.

Incident Management Program

ENEC's Incident/Crisis Management program describes the process and resources ENEC has developed for the response to, management of, and recovery from events which:

- threaten the company's profitability, legal and financial liability, asset value, stakeholder confidence, brand, reputation, or achievement of the company's strategic/business goals.
- disrupt the continuity of the company's business operations; or
- threaten the safety and security of the company's assets and staff.

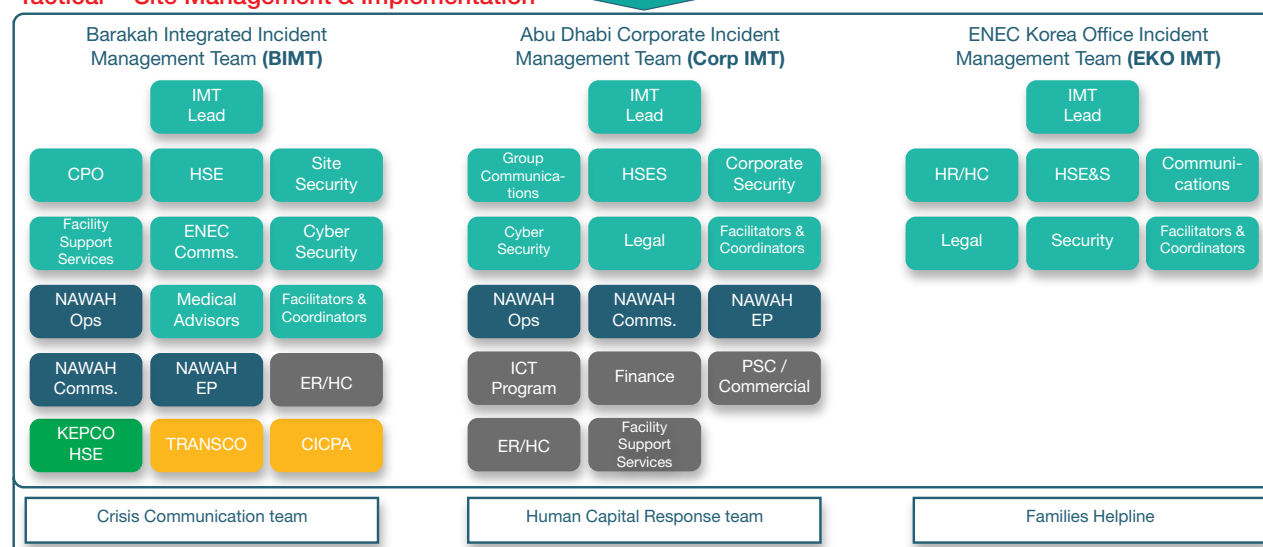


ENEC's BCM Program is based on the concept of integrated incident response within and across sites of operation. This includes a Site Incident Management Team (IMT) consisting of management representatives from key business departments, a Corporate Crisis Management Team consisting of the CEO, Deputy CEO and their direct reports. In turn, these teams are supported by the Crisis Communications Team (CCT) and the employee and family relations support team known as the Human Capital Response Team (HCRT).

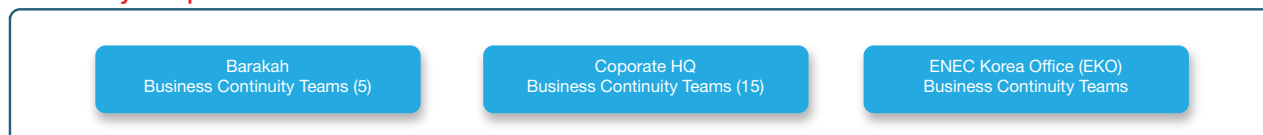
Strategic - Define Objectives



Tactical - Site Management & Implementation



Continuity of Operation



Achievements:

In 2018, ENEC's BCM program met the following objectives:

1. Completion of Rabdan Academy Business Continuity awareness courses with the delivery of one and two-day courses for employees with roles in the company's BCM and Crisis Management programs. Courses included:
 - Business Impact Analysis Training.
 - Developing and Implementing a Business Continuity Plan.
 - Integrating Cyber Security with Business Continuity.
 - Business Continuity and Corporate Resiliency.
 - Risks to Business Continuity in the Region.
2. Benchmarking visits to ENEC BCM Program from other entities such as Securities and Commodities Authority, Department of Urban Planning and Municipalities (DPM) – Abu Dhabi Municipality, and Musanada. In addition, benchmarking of ENEC's CM-BC to other entities such as Abu Dhabi Airports (ADAC), Bruce Power in Canada and Southern California Edison (SCE) in the USA.

3. Completed training and simulation exercises for the Site Incident Management and specialized support Teams (IMTs) for each key business location as well as the teams from HR and Corporate Communications that support them. This includes:
 - One exercise for the Abu Dhabi Headquarters Incident Management Team (Corp. IMT).
 - Two exercises for Barakah Integrated Incident Management Team (BIMT).
 - One exercise for ENEC Korea Office Incident Management Team (EKO IMT).
 - One exercise for Crisis Communication Team (CCT).
 - One exercise for Human Capital Response Team (HCRT) .
4. Started implementing BCM program for Barakah One Company (BOC) based on the NCMEA 7000:2015 standard which is licensed by the Department of Energy and achieved 75% implementation.
5. Completed BCM Program Management System Audit and third-party surveillance audit by an independent third-party audit firm in November resulted with no adverse findings.
6. ENEC's BCM Program is based on the concept of integrated incident response within and across sites of operation. This includes:
 - A Site Incident Management Team (IMT) consisting of management representatives from key business departments in each of the three primary business locations: Masdar City HQ, Barakah Nuclear Energy Plant construction site, and ENEC Office in Seoul Korea. The Barakah Integrated Incident Management Team (BIMT) also includes representatives from other key stakeholder entities at site, such as the Prime Contractor KEPCO, the Critical Infrastructure and Coastal Protection Authority (CICPA), TRANSCO and Nawah Energy Company.
 - An Executive Crisis Management Team (ECMT) consisting of the CEO, Deputy CEO and their direct reports. This team manages incidents affecting the corporation as a whole or multiple locations.
 - The Site Incident Management Teams and Executive Crisis Management Team are supported by two specialized teams. One is the Crisis Communications Team (CCT). The other is the employee and family relations support team, known as the Human Capital Response Team (HCRT).
 - Continuity of Operations Teams: consisting of five teams from Barakah BC teams, 15 Corporate HQ BC teams, and ENEC Korea Office BC team.



In 2017 and 2018, as ENEC has evolved from one company into a parent company with multiple subsidiaries, the BCM Program is in a process of developing a new paradigm to align with this change. That paradigm involves development of a common, agreed objective and framework to support the accomplishment of that objective across the enterprise.

BCM Program also strengthened the major milestone of evaluating the suppliers for ensuring the business continuity of its supply chain. This approach has three aspects:

1. The BCM requirements for inclusion in the Supplier Prequalification Checklist.
2. Adding a requirement to the standard terms and conditions of new and renewing contracts, which requires ENEC suppliers to implement and maintain business continuity programs that comply with recognized standards (e.g. NCEMA 7000:2015 and ISO 22301:2012) and submit quarterly reports on the implementation of their BC program.
3. Surveying suppliers to monitor the implementation of those who already have a BCM program and to promote the development of those programs for suppliers who have not yet started to implement BCM.

Quality, Efficiency and Reliability

ENEC's Integrated Management System (IMS) is a framework that helps ENEC meet its goals and objectives while maintaining a focus on safety, security and quality.



IMS Accreditations

<https://www.enec.gov.ae/about-us/leadership-and-governance/international-standards-and-certifications/>

As part of ENEC's commitment to safety, security and transparency, ENEC established a rigorous Quality Assurance (QA) program to ensure that the UAE's first nuclear energy plant is designed, constructed, commissioned and operated in line with best industry practices, governing codes and standards, regulations and license requirements.

Audits are conducted on a regular basis to ensure the program's high standards are being met and continually improved upon. In 2018, ENEC conducted 48 audits (largely performance-based) on all aspects of ENEC IMS and QA programs. These included 30 internal and 7 external (supplier) QA audits and 11 assessments of Management Systems.



Quality Assurance

<https://www.enec.gov.ae/about-us/leadership-and-governance/quality-assur>

Health and Wellbeing

ENEC has a social responsibility to ensure a safe community but also to safeguard and enhance our employees' health and safety. The ENEC Health Program 2018 was developed by the Corporate Health Team, aligned with the strategies set in the 2018 HSES Business Plan and facilitating the developed health-related Codes of Practices.

The HSES Department's priority is to facilitate proactive initiatives, aspiring to achieve zero incidents as far as achievable, determined to continuously improve levels of safety and health within our organization. This comprehensive approach involves preventive measures such as occupational health risk assessments, personal health checks and screenings, and food sampling and awareness sessions. Should a health-related incident occur, the appropriate first responders, equipment and support is in place to ensure the appropriate actions are taken as swiftly as possible.

Occupational Health

All job categories within ENEC, and its subsidiaries have been assessed for potential occupational health risks as part of a thorough Occupational Health Risk Assessment. This allows ENEC to quantify the effects of unmanaged occupational health risks on employees and take appropriate actions to control the risk.

ENEC maintains an annual Health Program that facilitates the ongoing development of health-related codes of practice. It is expected that ENEC's contractors and subcontractors deploy similar systems to ensure risks are identified and avoided. In 2018, zero occupational health illnesses (not including heat-stress) were recorded among ENEC's employees, contractors and subcontractors.

Occupational Illness				
	2015	2016	2017	2018
Reportable occupational illnesses (employees)	0	0	0	0
Reportable occupational illnesses (contractors and subcontractors)	0	0	0	0
Scope: ENEC, Nawah, BOC and KEPCO				

Heat Stress

Heat stress has been identified as one of the region's highest occupational health risks, primarily for those employees, contractors and subcontractors working outdoors in the summer months. The focus for ENEC and its subsidiaries is to avoid heat stress incidents with control measures and awareness that ensure employees are not over-exposed to the sun and remain hydrated at all times. In line with local UAE ruling by the Ministry of Human Resources and Emiratization, a mid-day break for all outdoor workers was introduced for the duration starting June 15th to September 15th, from 12:30pm until 3pm each day. In addition, several campaigns were implemented in early 2018 to prepare for the hot weather season, including health and safety demonstrations, practical tips on staying hydrated during construction activities as well as measures to help identify heat stress symptoms early.

As a result of these efforts, we did not experience any heat stress incidents among employees and were able to further reduce the number of heat stress incidents among contractors. In 2018, 11 contractors and subcontractors employees experienced heat stress, a 21% decrease since 2017 and a 74% reduction over the past four years. Nevertheless, we will continue our efforts in the coming years to further reduce this number, aiming for zero heat stress incidents across the entire workforce.

Heat Stress				
	2015	2016	2017	2018
Heat stress incidents (employees)	0	0	0	0
Heat stress incidents (contractors and subcontractors)	43	19	14*	11
Scope: ENEC, Nawah, BOC and KEPCO				
* Number has been restated				

Medical Services and First Aid

Due to its large number of contractors and subcontractors, KEPCO maintains first aid and medical services at the Barakah Nuclear Energy Plant. These services are inspected regularly by ENEC, and assessed monthly, to make sure they conform to all Department of Health (HAAD) standards and registration requirements.

At all ENEC and subsidiary offices, first aid boxes and Automated External Defibrillators (AED) are available on each floor and are clearly identified on the emergency evacuation maps located at each exit. Up-to-date lists of first aiders, both male and female, with their contact details, are posted next to each unit. The contact details and physical office locations of the first aiders are confirmed and amended quarterly. The contents of the first aid units are fully inspected every month and replenished immediately to conform to OSHAD and ENEC First Aid requirements.

Food Safety

Food safety has consistently been identified as a high health risk, especially within the large population of contractors and subcontractors living at the Barakah Nuclear Energy Plant. A comprehensive food safety assessment was conducted in 2017 ensued by a follow-up assessment in 2018, to assess the services provided by the contracted catering companies in order to identify opportunities to improve the catering services and avoid a potential large-scale health issue. As a result, a quarterly catering service inspection program and quarterly assessments are now in place to ensure the highest levels of quality and hygiene in the preparation of food for employees.

Nawah Industrial Hygiene

As Barakah Nuclear Energy Plant moves closer to the operations phase, various industrial hygiene procedures and programs are in place, including identification and monitoring of oxygen deficient areas, control of confined spaces, air quality surveys, noise control areas and management of hazardous substances. Respirator and self-contained breathing apparatus (SCBA) training and fit testing equipment are available, and all breathing apparatus is tested to ensure a proper fitness.

Health Screening

Health screening and medical surveillance is mandatory for all employees and consists of visiting an occupational health physician and completing a health history questionnaire to determine current medical issues and identify previous occupational incidents that may have resulted in a medical issue. All results and recommendations from the screening are confidentially processed to manage the individual's occupational health while under Nawah employment. Each employee will undergo this assessment periodically based on the risks associated with their job category, in conformance with OSHAD and FANR statutory requirements.

Health Engagement and Awareness

To improve the levels of safety and health within our organization and achieve zero incidents, it is crucial to directly engage with all employees, contractors and subcontractors and raise their awareness about health and safety matters. A wide range of health and wellbeing engagement and awareness sessions are conducted across ENEC and its subsidiaries every year, both on-site and in corporate offices. In 2018, these programs included the delivery of 60 initiatives, including:

- **Health Day Event:** employees participated in a variety of health-related activities. Over 208 employees participated in medical health screening, 49 employees donated blood, 29 employees participated in the physiotherapy sessions, and 25 employees joined the Weight Loss Program.
- **Food for Thought (F4T) Sessions:** In three sessions, medical experts from our partner Mediclinic addressed lifestyle health issues, such as cancer awareness, ergonomics, skin and nutrition. This was carried out with our employees in a structured awareness session promoting a questioning attitude in a networking environment, accompanied by a healthy lunch.
- **HSES Edition Newsletters:** each newsletter contains 12 articles sharing information and useful links on numerous health issues that raise awareness and provide useful techniques for employees to best manage their health and monitor health-related risk factors. Topics in the four editions included breast cancer awareness, eye health, and precautionary measures to take while working in heat. To complement the local culture, health tips are included during the holy month of Ramadan every year.



- **5 Health Calendar Events:** in collaboration with our health partners such as Daman, SKMC, and Mediclinic Hospitals, employees were given an opportunity to have one-to-one consultations with specialized physicians, and undergo minor medical investigations and vital statistic monitoring and diagnosis. Such events included blood donation drives, flu vaccination, a diabetes campaign, heat stress awareness and stress management.
- **First Aid Courses:** four courses trained 27 first aiders at the ENEC HQ, issuing them an internationally recognized first aid certification. An up-to-date list of first aiders and their contact details is posted next to all first aid boxes.
- **Workplace and Wellness Programs:** Office Ergonomics, Hypertension, Cardiovascular, Diabetes and Stress Management were implemented in 2018. Pocket size booklets were published to increase awareness on stress management.
- **Hand washing campaign:** on Global Hand Washing Day, a campaign was launched to prevent workers from being contaminated, educating them on best practice to continuously ensure hand hygiene, using the right means such as soap, sanitizers and keeping food properly.
- **Medical screening:** health screenings, which included consultation and medical tests such as blood pressure tests, ECG, total cholesterol tests and blood sugar tests among others, were offered to over 4,020 contractor employees.

Stress Management

Stress has been identified as an important health risk, primarily for office-based employees. The aim of the Stress Management Program is to evaluate and study current levels of stress among ENEC employees and to take action to reduce stress and improve productivity.

The first part of the study involved interviewing 17 employees with a series of scenario-based questions that focused on their experience within ENEC and addressed specific areas that, if present, are likely to cause stress. After collecting all relevant information, six stress management workshops were organized for ENEC employees to help them develop the skills they need to lead a more stress-free lifestyle. These included teaching them to identify different types of stress and how to protect themselves from negative influences, empowering them to respond effectively to 'high stakes' situations as well as boosting their confidence in dealing with difficult relationships.

Health Grievances

All employees can raise health-related concerns through the internal Condition Reporting (CR) mechanism. Contractors and subcontractors can raise grievances through the HSES Observation Reporting Channel, where workers can drop a card on any wellbeing grievance related issue in boxes spread across the plant. There were no wellbeing related grievances raised by contractor employees in 2018.

In response to grievances around the level of quality of catering services and accommodation, the Corporate Health Team established a regular inspection program and conducts quarterly assessments to ensure the highest level of quality and hygiene are maintained along the food supply chain (e.g. during preparation, transportation and serving) and that accommodation is safe, hygienic and comfortable. Ninety-five such welfare inspections were conducted in 2018, and corrective measures taken where appropriate. In response to previous years' grievances related to office ergonomics and humidity, 50 dehumidifier units were procured and a comprehensive office ergonomic assessment was conducted followed by amendments around lighting changes and the availability of ergonomically designed office equipment.


In addition, the Corporate Health Team provides targeted awareness campaigns based on issues raised, including health and wellbeing programs such as assessing the eating habits of female employees during certain seasons of the year, or considering a healthy and well-balanced breakfast to all corporate employees. Other targeted initiatives include tips around breaking the fast and healthy eating during the Holy Month of Ramadan, or raising awareness around staying hydrated and using cool shelters during the hot summer.



Environmental Management

ENEC, its subsidiaries, and the Prime Contractor are dedicated to minimizing the environmental footprint from the construction, operation and eventual decommissioning of the Barakah Nuclear Energy Plant.

While the current focus is still on reduction and mitigation during the construction phase, one of the key environmental advantages of building a Nuclear Energy Plant is that it can produce electricity with almost zero carbon emissions once operational. This makes the Barakah Nuclear Energy Program a key component in the UAE's aspirations to boost cleaner energy, reduce its carbon footprint and achieve international commitments made as part of the Paris Climate Change Agreement.

 *“The four units that comprise the Barakah Nuclear Energy Plant will form an integral part of the UAE's plan to cut the carbon footprint of electricity generation by 70% over the next 30 years. Once operational, the Barakah Nuclear Energy Plant will save up to 21 million tons of carbon emissions annually, the equivalent of taking more than three million cars off the streets every year.”*

Eng. Mohamed Al Hammadi, CEO, ENEC

Environmental Management Approach

Protection of the environment has been a key consideration since day one of the project. Selection of an appropriate site for the plant factored in environmental considerations, and construction could not begin until all required environmental studies were completed and licenses were granted by EAD.

Throughout the construction process, monthly monitoring and reporting on the natural environment, and the environmental performance of the entire project, have been completed in accordance with EAD permit conditions and national environmental regulations. A Barakah Environment and Sustainability Charter has also been signed between ENEC and KEPCO to demonstrate a commitment from the Prime Contractor to minimize the impact from construction on the natural environment.

This commitment to protect the environment will continue beyond construction with the implementation of an Operational Environmental Management Plan (OEMP) and adherence to environmental permits issued by EAD.

The ENEC environmental management system is ISO 14001:2015 certified. In 2018, ENEC and its subsidiaries recorded zero significant or reportable environmental incidents, and zero breaches of environmental regulations or environmental permit conditions.



Site Selection and Licensing:

www.enec.gov.ae/barakah-npp/site/

Material Use

The construction of a Nuclear Energy Plant requires significant amounts of material input, primarily nuclear-grade concrete and steel which are vital to the safety and reliability of the plant. With overall completion beyond 91%, material use is expected to further drop as the construction phase moves towards completion. Beyond the large amounts of material required for construction, ENEC and its subsidiaries also track the consumption of office-based materials such as paper, plastic water bottles and printer cartridges.

Materials				
	2015	2016	2017	2018
Concrete used in construction (cubic meters)	584,680	1,334,838	182,817	56,358
Steel used in construction (metric tons)	56,900	101,257	19,162	42,900

GHG and Air Emissions

Electricity generation has traditionally been a high greenhouse gas (GHG) emitting activity arising from the combustion of fossil fuels. Nuclear energy is a near zero-emission form of electricity generation, and once the Barakah Nuclear Energy Plant is fully operational, it will help the UAE meet its voluntary commitment under the Paris Climate Change Agreement.

ENEC takes a lifecycle approach to the measurement and accounting of GHG emissions. This means we track direct and indirect emissions from the construction and operation of the plant (including the sourcing of fuel) and its future decommissioning.

Scope 1 emissions are generated from the burning of fossil fuels, e.g. petrol and diesel used for heavy machinery, generators and light vehicles.

Scope 2 emissions are generated from the use of electricity and are known as 'indirect' since the actual emissions are generated by power plants elsewhere.

Scope 3 emissions are known as 'other indirect emissions' since they occur outside the boundaries of the organization in the supply chain and come from the provision of products and services. At present, this is the largest source of emissions due to the procurement of large quantities of concrete and steel that are created by our suppliers using highly energy-intensive processes.

Overall, our Total GHG emissions decreased slightly by 4% compared to 2017 levels, but by 50% since 2015. Emissions related to our electricity consumption under Scope 2 decreased significantly by 37% compared to last year and 26% over the past four years. Since all vehicles are now operated by a third party, our Scope 3 emissions have slightly increased and our Scope 1 emissions have decreased to zero. Our emissions related to material use increased for steel but dropped for concrete, in line with material use during 2018.

GHG Emissions				
	2015	2016	2017	2018
Total emissions (MTCO ₂ Eq.)	312,267***	563,262	168,222***	156,395
Emissions intensity (MTCO ₂ Eq./person)*	14.552	24.143	9.558***	10.533
Scope 1 emissions – vehicle fuel (MTCO ₂ Eq.)	4,531	3,644	4,892	0
Scope 2 emissions – electricity (MTCO ₂ Eq.)	77,030	96,868	90,522	57,187
Scope 3 emissions (MTCO ₂ Eq.)	230,706***	462,750	72,808***	99,208
Scope 3 – bus travel (MTCO ₂ Eq.)	212	694	229	3,731
Scope 3 – concrete (MTCO ₂ Eq.)**	122,541	279,763	38,316***	11,812
Scope 3 – steel (MTCO ₂ Eq.) *	102,420	182,263	34,492***	77,220
Scope 3 – air travel (MTCO ₂ Eq.)	5,533	3,885	4,369	6,445
Scope: ENEC, Nawah, BOC and KEPCO *Intensities calculated using total number of employees and contractors – figures might slightly deviate from figures in this report due to rounding. **Figures for 2015 and 2016 have been restated due to clerical error during data collection. *** Numbers have been restated				

Other Air Emissions

In 2018, a modified program assessing PM10 (particulate matter up to 10 micrometers in diameter) and Ozone (O₃) was implemented for a period of six months. The regulator EAD is notified, if regulatory limits are exceeded. Monitoring is conducted and periodic reports are submitted to the EAD.



Energy and Water Management

Energy and water resources are required in large quantities during the construction of the plant, for worker accommodation and offices. ENEC works together with subsidiaries and contractors to ensure the resources are used efficiently and with minimal waste, especially since water is a scarce resource in the region. An annual water and energy conservation campaign is conducted with awareness sessions and with brochures distributed to employees and contractors. In 2018, over 5,579 contractor personnel attended awareness sessions.

Energy

The majority of energy used is in the form of indirect energy which includes electricity for lighting, equipment and ancillary buildings, and is sourced from the national grid. Large quantities of direct energy are also used in the form of fuel for the operation of vehicles and heavy machinery for construction activities and transportation of personnel.

Total energy consumed by ENEC, its subsidiaries and the on-site contractors and subcontractors involved in constructing the plant reduced by 37% from 2017 to 2018. This reduction is primarily the result of the construction project reaching completion at the beginning of the year. Indirect energy dropped by 37%, as the number of contractor and subcontractor employees living and working on-site began to decrease in 2017 due to demobilization.

Energy				
	2015	2016	2017	2018
Total energy consumption (GJ)	477,811	597,761	560,945	355,506
Energy intensity (GJ/person)*	22.266	25.622	31.872	23.943
Direct energy (liters)	1,919,927	1,554,902	2,103,817	1,641,772
Direct energy (GJ)	6,912	5,598	7,574	5,911
Indirect energy (kwh)	130,805,298	164,489,841	153,714,069	97,109,882
Indirect energy (GJ)	470,899	592,163	553,371	349,595
Scope: ENEC, Nawah, BOC and KEPCO				
* Intensities calculated using total number of employees and contractors – figures might slightly deviate from figures in this report due to rounding off.				

Water

Water is primarily used for mixing concrete, in worker accommodation, irrigation, dust suppression and by employees based in office buildings in Barakah and Abu Dhabi. Fresh water is sourced from the Shuweihat Desalination Plant and the potable water mains network, and water used for irrigation and dust suppression is obtained from the on-site treatment of sewage to standards set by the DoE and verified by monthly laboratory testing.

The amount of water used across all facilities, as well as the construction site, dropped significantly in 2018, by 57% compared to last year and even 86% over the past four years. Some of the reasons for this significant reduction include the vast reduction in concrete being mixed and used, the decrease in contractors and subcontractors living and working on-site, and the implementation of water efficiency initiatives as the rate of construction reduced as per the natural life cycle of a construction project. We are aware that water is a precious and scarce resource in the region, and we therefore take water efficiency actions very seriously.

A one-month long Water and Electricity Conservation Campaign was launched with ENEC and its subsidiaries to review historic practices and identify new water and electricity saving measures. A total of 5,579 employees participated in the activities. During Toolbox Talks, information regarding practical tips on water usage minimization were provided and over 3,300 brochures were distributed during this campaign.

Water				
	2015	2016	2017	2018
Total water consumed (cubic meters)	11,803,930	9,574,817	3,931,917	1,687,146
Water Intensity (cubic meters/person)*	550.069	410.408**	223.404	113.628
Scope: ENEC, Nawah, BOC and KEPCO				
* Intensities calculated using total number of employees and contractors – figures might slightly deviate from figures in this report due to rounding off.				
**KPI has been restated				

Wastewater

Wastewater produced on the construction site consists primarily of greywater, sewage from the housing of the large construction workforce, and other hazardous liquid waste such as oils and paint. All wastewater, both hazardous and non-hazardous, is being recycled either on-site or off-site.

In 2018, 92% of the non-hazardous wastewater was treated on-site in accordance with Department of Energy Standards and then used for irrigation and dust suppression. The remaining 8% was sent off-site for treatment at a municipal sewage treatment plant. Hazardous liquid waste is 100% recycled by qualified and certified third-party contractors.

Wastewater				
	2015	2016	2017	2018
Wastewater recycled off-site (million liters)	397.9	692.0	637.3	134
Wastewater recycled on-site (million liters)	1,470.3	1,637.7	1,595.4	1,546
Percentage of wastewater recycled on-site	79%	70%	71%	92%
Hazardous liquid waste disposed (liters)	0	0	0	0
Hazardous liquid waste recycled (liters)	21,900	67,240	147,322	103,601
Scope: ENEC, Nawah, BOC and KEPCO				

Waste

ENEC tracks all waste streams to document the chain of custody and monitor volumes against planned targets. Given that construction was at peak in 2017, waste created was also at peak that year and is already decreasing, notably by 45% compared to the previous year.

Non-hazardous Waste

The majority of non-hazardous waste takes the form of construction materials, with low levels of recycling due to the remoteness of the Barakah Nuclear Energy Plant from the recycling facilities. Waste being collected from the office facilities in Abu Dhabi and at the Barakah Nuclear Energy Plant, which is segregated, is recycled at much higher levels.

In late 2018 ENEC met with the Abu Dhabi Centre for Waste Management (Tadweer) following the opening of a new construction and demolition waste recycling facility in Ruwais. ENEC has developed a program to commence recycling of construction and demolition waste at Tadweer Ruwais facility in 2019.

Non-hazardous Waste				
	2015	2016	2017	2018
Non-hazardous waste disposed (metric tons)	89,930	104,807	107,734	59,668
Non-hazardous waste recycled (metric tons)	18,817	4,369	7,910	4,930
Percentage of total non-hazardous waste recycled	21%	4%	7%	8%
Scope: ENEC, Nawah, BOC and KEPCO				

Hazardous Waste

Hazardous waste is created on-site during the construction process, the vast majority of which is currently in temporary storage until a new municipal facility equipped to handle such waste is completed. As a result, no hazardous waste was disposed to landfill in 2018.

ENEC recycles hazardous waste through an arrangement with Tadweer. Currently plastic containers for paint and other liquids are transferred to the recycling facility - a total of 75 tons in 2018 - while other waste streams are being reviewed for inclusion.

Hazardous Waste				
	2015	2016	2017	2018
Hazardous waste disposed (metric tons)	0	0	0	0
Hazardous waste recycled (metric tons)	0	0	5.5	75
Percentage of total hazardous waste recycled	N/A	N/A	100%	100%
Scope: ENEC, Nawah, BOC and KEPCO				

Biodiversity

While impacts on the natural environment are inevitable for a project of this size, major efforts are made to try to reduce, mitigate or replace biodiversity impact. Some of the most significant current and future challenges relating to impacts on biodiversity that ENEC and its subsidiaries have identified include: spills affecting seawater and soil, marine habitat loss, species displacement and marine sediment quality impacts due to cooling water intake and discharge.

Spills

In 2018, some smaller spills, primarily of sewage, were recorded by ENEC and its subsidiaries and remedial action was taken as necessary. To raise awareness on this issue, environment drills were conducted to improve emergency preparedness and response in the event of oil/chemical/sewage spill.

Barakah Artificial Reef

Nawah and ENEC, in partnership with the National Marine Dredging Company (NMDC), and with guidance from EAD, have constructed an artificial reef and breakwaters along the shoreline of Barakah. The breakwater structures are comprised of quarry rock and concrete and have a combined length of approximately 15 km.

A 6,700 square meter reef was constructed using recycled and molded concrete core-locs originally used in the assembly of Barakah's coastal breakwater. Almost 1,800 of the large concrete units were carefully positioned on the ocean floor to create the underwater reef structure. The lattice formation of the reef is designed to replicate a natural coral reef and stimulates the local ecosystem by improving the existing seabed habitat, providing shelter for marine life, and encouraging biodiversity.

Results reveal that a diverse and abundant marine ecosystem has taken root at Barakah, including in the artificial reef. More than 63 marine species are using the breakwater habitats, and 35 are using the artificial reef habitat. Deployment of the artificial reef has significantly enhanced the flat, largely featureless, environment by providing shelter and adding structural complexity. Despite its relatively recent creation, the reef already supports a significant variety of fish species.

These efforts were built upon in 2018. During most of the year, Nawah's Environment team led the process of spawning coral colonies in its laboratories located at Zayed University. In November 2018, Nawah translocated the first batch of coral colonies into the Arabian Gulf. With translocation work scheduled to continue through April 2019, an estimated total of 50,000 colonies will be introduced at the site.

Coral Propagation Study

In accordance with the Barakah Compensatory Mitigation Plan, Nawah, together with Zayed University (ZU), initiated a three-year Coral Propagation Study in 2016. During 2018, the team prepared a risk assessment and mitigation plan that identifies potential risks associated with the tasks and planned activities of the project; their level (high, medium, low) and likelihood of occurring; their potential causations; and finally the control measures taken to mitigate these risks.

This second year of the project has focused on knowledge transfer initiatives that include training UAE National ZU students as research assistants or interns in the Coral Laboratory on techniques of coral spawning and propagation. Guided tours were provided to members of the Environment Agency of Abu Dhabi and students of the coral laboratory at ZU.

Radiological Monitoring Laboratory

The Environmental Radiochemistry Laboratory was one of the first departments to begin operations at Nawah. The main goal of the Lab is to study and monitor background radiation, in and around the Barakah Nuclear Energy Plant, and to prevent potential impact to the public health and safety. The Lab sends bi-annual reports to FANR, containing the results of radiological tests performed on samples including soil, sediment, fish, invertebrates, air, drinking water, and seawater. Test results have been reported for 2016, 2017 and 2018, and all results indicate that radiation levels are within acceptable limits.

Osprey Nesting Project

Following a number of sightings around Barakah, CPO implemented an osprey nesting project that is maintained by Nawah. A number of nesting platforms, made from recycled wood, were placed in a secluded area of the Barakah Nuclear Energy Plant, near the shoreline, which is the birds' preferred habitat. Observation shows that ospreys are using the platforms as roosts.

Beach Clean-up

In November 2018, an annual beach clean-up was held with over 200 participants from ENEC, Nawah, KEPCO and other subcontractors. More than one ton of waste was collected from the beach in the vicinity of the Barakah Nuclear Energy Plant.

In addition, ENEC teamed up with the Environment Agency – Abu Dhabi to conduct a beach cleanup campaign in the Eastern Mangroves of Abu Dhabi. The initiative was in line with activities for the Year of Zayed, in enhancing the culture of sustainability in the UAE. Over 100 volunteers from ENEC and its subsidiaries demonstrated their dedication to environmental protection by collecting dozens of bags of waste, from an on-shore cleanup and from kayaking through the mangroves to remove waste from the water.



Knowledge and Employment

The UAE Peaceful Nuclear Energy Program will provide high-value jobs for our citizens, while also bringing new knowledge and expertise to the country. The Program represents an opportunity for talented and highly skilled Emirati nationals to become leaders in a rapidly growing and international sector.



Introduction

Thousands of highly-skilled individuals with a wide range of knowledge, expertise and training, have come together as a team to construct and operate the Barakah Nuclear Energy Plant. As the first such project in the region, ENEC, and its subsidiaries, have drawn from the best national and international talent while simultaneously investing heavily in the creation of knowledge through highly specialized nuclear energy education and training programs for UAE nationals.





Sustainability Objectives

ENEC's knowledge and employment sustainability objectives are:

1	Highly skilled employment – to generate jobs and recruit and retain high-quality people within ENEC and the nuclear energy sector.
2	National talent development – to develop Emirati talent for employment at ENEC and in the nuclear energy sector.
3	Knowledge creation – to contribute to the development of a knowledge-based economy benefiting from international experience and the provision of world-class training and education programs.

SDG Targets Addressed

By delivering on these sustainability objectives, ENEC is contributing to the achievement of the following SDG targets:

	<p>Increase the number of people with relevant skills for financial success</p> <p>By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.</p>
	<p>Ensure full participation in leadership and decision-making</p> <p>Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.</p>
	<p>Full employment and decent work with equal pay</p> <p>By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.</p>
	<p>Promote youth employment, education and training</p> <p>By 2020, substantially reduce the proportion of youth not in employment, education or training.</p>

Highly Skilled Employment

ENEC and its subsidiaries strive to be an employer of choice, recruiting and retaining highly skilled talent from the UAE and around the world, providing them with an open and engaging work environment to perform at their best. Encouraging women to join the nuclear sector is also a key priority with initiatives such as Women in Nuclear (WiN) supporting current and future female employees.

Workforce Profile

The workforce of ENEC and its subsidiaries is comprised of the highest caliber of professionals and specialists who are helping to deliver one of the largest projects globally, and the most exciting project in UAE history. In total, the group had 2,926 employees in 2018, 868 of whom worked at ENEC and BOC, with the remaining 2,058 employed at Nawah. The total number of employees is expected to continue to grow rapidly, as Nawah is expected to have more than 2,500 employees by 2020.

Workforce Profile				
	2015	2016	2017	2018
Total number of employees	1,574	1,839	2,569	2,926
By gender				
Female	315	353	465	516
Male	1,259	1,486	2,104	2,410
By age				
18-30	642	698	840	859
31-50	669	818	1,207	1,428
51+	263	323	522	639
By nationality / region				
Middle East and North Africa	1,005	1,186	1,383	1,498
Africa	21	40	84	93
Americas	218	225	374	474
Europe / EU / Turkey	114	146	223	253
Asia / Australia / New Zealand	216	242	505	608
Scope: ENEC, Nawah and BOC				

The workforce has representation from over 35 nationalities, with most employees coming from the Middle East and North Africa. ENEC and its subsidiaries also employ 859 young people (18-30), contributing to national goals and targets for youth employment.

Recruitment and Onboarding

Recruiting capable professionals is essential to achieving the organizational strategy of ENEC and its subsidiaries; quality control measures are in place that provide for merit-based recruitment.

In 2018, ENEC and its subsidiaries recruited an additional 463 employees, including 150 more UAE nationals, 79 more women and 121 young people (aged 18-30). All new employees undergo a rigorous induction program entitled 'Becoming a Nuclear Professional'. This training covers ENEC's regulatory requirements, safety culture, radiological restrictions and risks, as per the corporation's policies, procedures and internal systems.

Recruitment				
	2015	2016	2017	2018
Number of employees hired	290	460	678	463
By gender				
Female	47	83	115	79
Male	243	377	563	384
By age				
18-30	149	183	184	121
31-50	87	164	328	214
51+	54	113	166	128
By nationality				
UAE Nationals	164	240	231	150
Other nationals	126	220	447	313
Scope: ENEC, Nawah and BOC				

ENEC, and its subsidiaries, continue to search for talent from all over the world to fill vacancies existing primarily within Nawah, most of which are jobs relating to the future operations of Barakah Nuclear Energy Plant.



Careers at ENEC

<https://www.enec.gov.ae/careers-and-scholarships/careers/>

Engagement and Satisfaction

Good employee engagement helps to ensure high levels of employee satisfaction, retention and productivity, all of which support the achievement of ENEC's vision, mission and corporate strategy. Keeping attrition rates below our target of 5% enables ENEC to retain knowledge and expertise, and ultimately saves the company time and money.

Competitive salary and benefits packages provide the foundation, while proactive employee engagement, career development, and wellbeing initiatives help employees stay committed to personal and professional goals. ENEC also strives to create a transparent and open culture across the corporation where employees can voice their opinions and contribute to the corporation's success.

Employee turnover for ENEC and its subsidiaries was 3.7% in 2018, with 108 employees leaving the company, a reduction from 4.1% and 104 employees leaving in 2017. The reduction in turnover rate is partly due to the large increase in the number of employees compared with the number of employees leaving.

Retention				
	2015	2016	2017	2018
Total employee turnover rate	5.7%	6.7%	4.1%	3.7%
Number of employees that left ENEC (forced or voluntary)	84	117	104	108
By gender				
Number of male leavers	62	89	79	83
Number of female leavers	22	28	25	25
By nationality				
Number of Emirati leavers	50	64	52	46
Number of expatriate leavers	34	53	52	62
Scope: ENEC, Nawah and BOC				

ENEC and its subsidiaries engage with employees through a range of tools and initiatives including weekly alignment meetings, the employee intranet, regular news and update emails, voluntary events such as Food for Thought (F4T), innovation programs, CSR events, the Employee Concerns Program (ECP) and through the Sa'ada (Happiness) Program. As well as technical forums, video messages, SMS, newsletters and electronic display screens.

Mentorship Program

In 2018, a 'One Team Mentoring Program' was piloted with the Nawah procurement team being the first to participate in mentorship provided by trained coaches. In 2018, seven UAE Nationals signed up as mentees and seven international experts registered as mentors, who will guide, instruct, encourage and coach their mentees in meeting pre-selected targets and objectives.

Sa'ada (Happiness) Program

The Sa'ada Program brings together a range of employee satisfaction initiatives under one umbrella. The initiatives include ENEC Life+ which focuses on employee health and wellbeing, majlis where employees can speak their minds, employee recognition schemes such as employee of the month, and the provision of facilities for physical and mental fitness.

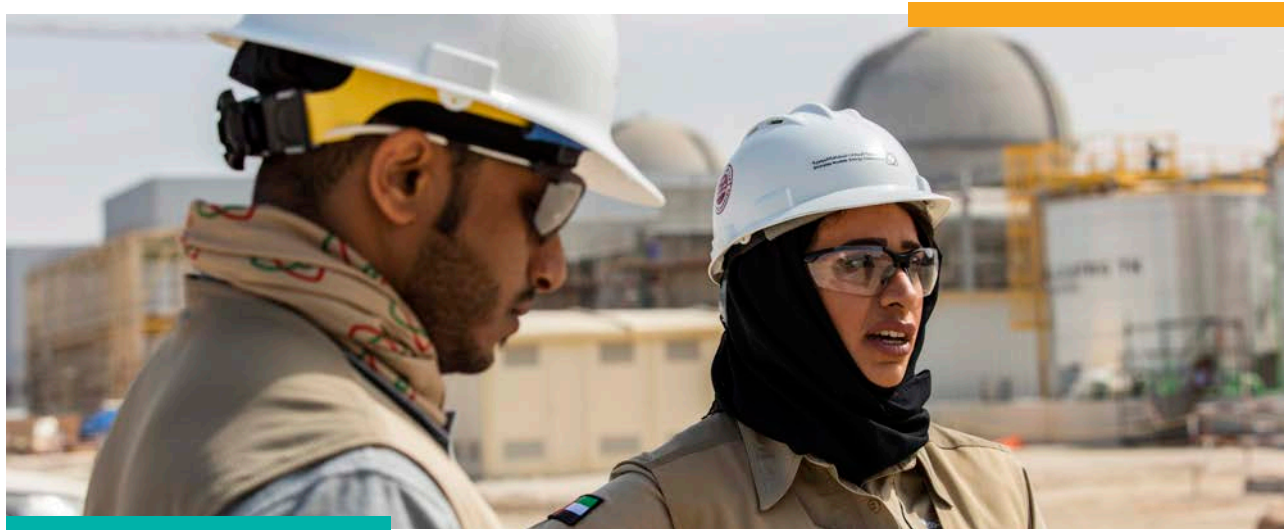
Anti-discrimination

As per ENEC's Code of General Business Principles and Ethics, employees must make all employment decisions without regard to an individual's race, color, national origin, religion, gender, age, disability or other characteristics ("personal traits"). Such employment decisions include selection, hiring, placement, compensation, benefits, transfer, promotion, training, termination and disciplinary action. Employees of ENEC and its subsidiaries are also prohibited from committing any act of discrimination in the workplace against any other person based on a personal trait.

Female Participation

ENEC is deeply committed to promoting female employment and participation in the workforce. To encourage female employees to join and remain in the nuclear sector, ENEC has developed an integrated approach to promote the inclusion of women in its workforce by supporting the new generation of women employed in the nuclear industry, developing their skills, and creating an inclusive workplace that supports work-life balance and wellbeing.

In 2018, ENEC and its subsidiaries had 516 female employees, an increase of 11% from 2017. Women made up 18% of the total workforce and 11% of senior management. Importantly, many of the women at the Barakah Nuclear Energy Plant are employed in highly technical roles, making it one of the most diverse Nuclear Energy Plants in the world.



Despite the overall number of women increasing significantly, the overall percentage of women at ENEC and its subsidiaries decreased slightly from previous years. The drop is primarily due to a limited pool of female applicants for the large number of technical roles currently being recruited. ENEC is seeking to reverse this trend by actively encouraging women to participate in the Energy Pioneers educational program, which will provide a strong pipeline of highly skilled women in the future.

Female Participation				
	2015	2016	2017	2018
Number of female employees	315	353	465	516
Female employment rate	20%	19%	18%	18%
Number of females in senior management positions	3	8	10	48
Percentage of females in senior management positions	4.5%	10%	10%	11%
Percentage of females on the Board of Directors	15%	16%	16%	0%
Scope: ENEC, Nawah and BOC				

Women in Nuclear (WiN)

“Women in Nuclear” is a global working group that supports the overall role of women in the nuclear industry, focusing on women working professionally in various fields of nuclear energy. Nawah is an active member of WiN’s UAE chapter, supporting the overall understanding of women’s needs within the company and ensuring that Barakah Nuclear Power Plant is a female choice of employment. The initiative provides an open communication channel between the working group and external technical and professional organizations as well as education institutions and community organizations, to ultimately promote careers in engineering and nuclear technologies for females, especially UAE Nationals. Taking into consideration the UAE’s culture and the significant number of women employed at the Barakah Nuclear Energy Plant, we support female employees who are striving for professional excellence by providing formal and informal mentoring, coaching opportunities, presentations on technical topics and updates, communicating items of interest to working women, and providing guidance on continuing educational opportunities.



Women in Nuclear

[https://www.nawah.ae/about-nawah/women-in-nuclear-\(win\)](https://www.nawah.ae/about-nawah/women-in-nuclear-(win))



“The launch of the Barakah Youth Council forms a part of our commitment to developing our youth and providing them with the skills, expertise and experience to become the future leaders of our nation and the growing local nuclear energy sector. This council operates within the framework of the UAE Centennial 2071 vision and UAE Vision 2021, which aim to ensure that the UAE has the human capital necessary to sustain a world-leading, knowledge based economy.”

Eng. Mohamed Al Hammadi, CEO, ENEC

National Talent Development

It is vital that UAE Nationals play a central role in the national nuclear energy program, from construction, through 60 years of operations and maintenance, and the eventual decommissioning of the plant. Building a national workforce in a brand new technical industry is a major undertaking and ENEC has set ambitious targets to achieve 60% Emiratization.

To build a pipeline of future nuclear qualified talent, ENEC has developed the Energy Pioneers, a program which brings together partners such as KEPCO, regulators, international associations and universities to create an intensive and comprehensive program of national nuclear professional development.

Emiratization

ENEC has a dedicated Emiratization department which is responsible for attracting and retaining national talent in order to reduce reliance on international expertise. As of 2018, ENEC and its subsidiaries employed 1,453 UAE Nationals, a 16% increase compared to 2017. The company-wide Emiratization rate was 50% in 2018, and 58% among senior management.

The ENEC Internship and Summer Programs give Emirati students and graduates the opportunity to get a taste of what it is like to be part of the company and enhance their learning experiences by involving them in on-the-job training within different departments in the headquarters and on-site. This program is delivered in cooperation with governmental and private academic institutions. As of 2018, ENEC and its subsidiaries have 92 active students with seven UAE Nationals recruited from the Al Dhafra region.

In 2018, two UAE National employees joined the UAE Government Leadership Programs (GLP), a unique intensive leadership program to build future-oriented leaders that recognize global and national trends and achieve strategic objectives in line with government and national agendas. Four employees were accepted in the Government Innovation Diploma Program (GIDP), run by Mohammed Bin Rashid Centre for Government Innovation to work on projects linked to the priorities set in the UAE 2021 Vision.

On UN International Youth Day, ENEC launched a Youth Council to inspire, support, and empower the future Emirati leaders of the UAE Peaceful Nuclear Energy Industry. Called the Barakah Youth Council (BYC), the council serves as a direct channel of communication between the senior leadership of ENEC, Nawah and Barakah One Company and the organizations' young Emirati employees. Over, 63% of the 1,453 UAE Nationals employed across all three companies are aged under 30. The council provides these young Nationals with a voice to champion change and drive continuous improvement while also being involved in the decision-making for ongoing evolution of the UAE Peaceful Nuclear Energy Program.

Emiratization				
	2015	2016	2017	2018
Number of UAE Nationals	970	1,143	1,257	1,453
Emiratization rate (%)	62%	60%	49%	50%
Number of Emiratis in senior management	37	59	46	126
Senior management Emiratization rate (%)	64%	59%	51%	58%
Scope: ENEC, Nawah and BOC				

Partnering with Academic Institutions

ENEC works with local universities to ensure a UAE workforce that is qualified for jobs in the nuclear energy sector, including senior technical and management careers. The ENEC Energy Pioneers Program offers a variety of scholarships and training opportunities to the most talented science students and experienced professionals.



Scholarships

www.enec.gov.ae/careers-and-scholarships/scholarships/

UAE Nationals who want to become a part of the emerging nuclear energy sector can apply for scholarships in the Higher Diploma of Nuclear Technology program at Abu Dhabi Polytechnic, or for a variety of degrees at Khalifa University of Science, Technology, and Research (KUSTAR). ENEC provides scholarships to students in both bachelor's and master's degree programs in chemical, nuclear, mechanical, and electrical engineering.

Student Sponsorships				
	2015	2016	2017	2018
Higher Diploma	152	123	95	94
Bachelor	157	126	44	22
Master	10	3	0	0
PhD	1	1	2	2
Total Number of Students	320	253	141	118
Scope: ENEC, Nawah and BOC				

The Higher Diploma in Nuclear Technology (HDNT) is the long-term manpower supplier for foundational technical positions within Nawah. The program is a joint venture between Abu Dhabi Polytechnic and Nawah. During the three-year program, students learn various subjects including: Mathematics, Physics, Chemistry, Mechanical Science, Electrical Science, Heat Transfer and Fluid Flow, Nuclear Physics, Plant Systems, Nuclear Safety, Radiation Measurement, Radiation Protection and Nuclear Materials. Courses are taught by Abu Dhabi Polytechnic faculty as well as by our capacity-building nuclear instructors.

The program also includes on-the-job training (OJT), a 23-week program designed to expose students to the various disciplines offered and introduce them to the plant and their specialized fields. A total of 60 HDNT students completed the OJT portion of the program in 2018.

The Energy Pioneers Program met several milestones in 2018. This year, 118 graduates joined the 350 plus UAE Nationals that have benefitted from a scholarship through the Energy Pioneers program. About one-fifth of the graduates from the program are female. In addition, Nawah currently has approximately 200 young Emiratis in training to become reactor operators and senior reactor operators. Alongside Nawah's international experts, they will operate the nuclear reactors at Barakah and will ensure the safe generation of clean, efficient and reliable electricity at each of the four units. In addition, the number of scholarship students that feed the internal training pipeline continues to drive the Emiratization efforts of ENEC.

School Outreach

ENEC has a school outreach program that encourages students to study science and advises them of career possibilities at ENEC. This includes a relationship with the Institute of Applied Technology (IAT), a technical high school focused on producing the scientists, engineers, and technicians needed for the UAE to build a knowledge-based economy. To meet this goal, the IAT has included the academic requirements of the Nuclear Technician Program within their curriculum.

Korean Internship Program

In addition, ENEC runs an internship program for Korean students in undergraduate engineering programs in collaboration with KEPCO and the Korea Nuclear Association for International Cooperation. In 2018, 24 Korean Students joined the internship program learning from over 40 UAE National engineers and subject matter experts.

Education Working Group

The Education Working Group (EWG) was created to establish educational requirements for undergraduate and postgraduate disciplines for the UAE Peaceful Nuclear Energy Program. Nine of the ten technical and leadership advisors are UAE Nationals, three of them from the UAE Youth Category. Their work also involves coordinating with the Department of Education and Knowledge (ADEK), the Ministry of Education (MOE), the Ministry of Presidential Affairs (Scholarships Office) and similar education-related entities.

Knowledge Creation

The creation of knowledge and skills, internally and externally, is important to the long-term sustainability of the UAE Peaceful Nuclear Energy Program. ENEC, and its subsidiaries, collaborate with a range of academic and governmental institutions to deliver knowledge and skills training for its own employees and the employees of other sector-based companies.

Learning and Development

ENEC and its subsidiaries are committed to learning and improvement in accordance with the global nuclear energy industry's commitment to continual learning and development. We have embraced a lifelong learning approach and employees receive an average of 214 hours of training every year. The number of training hours delivered in 2018 totaled 426,770 hours, a 116% increase from 2017. This increase is primarily due to the 19% rise in the number of employees and also from a concerted effort to increase the numbers of internally delivered courses available, the number of scheduled offerings, the increase in courses that train for operational readiness and qualification as well as continuous advertising of new soft skills courses.

In addition to the foundational training program all employees complete when they join the company, ENEC provides ample opportunity for the continuous development of the technical and soft skills crucial for a successful workplace. In recognition of employee time and resources, ENEC blends traditional instructor-led courses with mobile learning in the form of eLearnings, eReads, and workshops, thus providing the freedom to continue personal development at times most suitable to individual schedules. To meet employees' demand in learning and development, ENEC recently signed up with LinkedIn Learning, to provide employees at all levels with unlimited access to LinkedIn's enormous online training program, including over 13,000 business, design & technology online courses. This will also help the company focus resources on technical training. In 2018, a number of training programs were conducted, including:

- **Project Management:** The program has been designed to fit all employees' levels and prepare them to be certified in Certified Associate in Project Management (CAPM), Project Management Professional (PMP) and Program Management Professional (PgMP).
- **Service and Performance Excellence Training Program (SPEX):** SPEX is a new initiative within ENEC to underscore service and performance excellence for all support functions. The objectives of the program are to demonstrate proficiency in the understanding and application of the core elements of service and performance excellence and to understand how this underpins site operations and impacts staff happiness, satisfaction, and retention.
- **WNU Short Course on "The World Nuclear Industry Today":** This course is designed to enhance the knowledge of attendees about the status of nuclear energy in the world today and its likely development. The course aims to inspire attendees to further their career in this exciting and expanding field.
- **Advanced Quantitative Research Methods for managers and engineers:** This training is designed to provide advanced concepts of quantitative methods for engineers and managers in the framework of decision-making. It examines the use of modern quantitative methods to support executive decision-making processes, including hypothesis testing, statistical inferences, regression analysis, forecasting, and simulation.

- **NEBOSH Diploma Training:** NEBOSH Diplomas are globally recognized qualifications aimed at professional health and safety advisors and environmental practitioners. There is no prerequisite for this training but it is highly recommended to have a broad knowledge in the workplace health and safety.
- **Innovation Management Course:** Designed to train and certify ENEC employees to enhance the culture of innovation and have a better understanding of the innovation management tools and best practices.
- **Coaching Skills Program:** This program is for employees wishing to develop their coaching skills and confidence in their roles. The workshops are highly interactive with practice sessions to develop and embed skills to enhance communication and relationships with colleagues as well as to maximize personal and professional development.
- **Green Belt Six Sigma Divisional Training:** This is an in-depth course that enables learners to complete Lean Six Sigma process improvement projects from start to finish. Green Belts can deliver measurable, sustainable improvement by finding the root causes of problems and streamlining processes.

Since 2017, Nawah has been a recognized National Registered Training Provider (RTP), authorized to issue nationally-endorsed qualifications. These qualifications will be obtainable by Nawah employees who can demonstrate competence to the national standards. Pending approval from the National Qualifications Authority (NQA), once implemented, these nationally-endorsed qualifications will be recognized by other UAE institutions for credit transfer and career advancement and will also be internationally recognized.

Training and Development				
	2015	2016	2017	2018
Total number of internal and external training hours delivered	138,664	122,201	197,227	426,770
Average hours of internal and external training per employee	88	66	77	214
Internal training hours delivered	52,024	84,321	134,560	402,490
UAE National employees	29,132	37,515	75,354	140,848
International employees	22,892	46,806	59,206	261,642
External training hours delivered	86,640	37,880	62,667	24,280
UAE National employees	78,328	36,896	60,318	22,256
International employees	8,312	984	2,349	2,024
Number of eLearning and eReads available	416	509	774	774
Number of eLearning and eReads completed	16,860	35,994	75,022	58,638
Scope: ENEC, Nawah and BOC				
Training hours delivered does not include initial operations and technical training program that qualify operators, maintenance, engineering, radiation protection and chemistry plant personnel, or time spent on eReads and eLearning since these are untimed and completed at an employee's own pace.				



“As a new organization within this global industry, we continuously strive to meet and exceed the highest international standards of safety, security, and efficiency. We are committed to sharing our experience and expertise with our national stakeholders so that they too may benefit from our experience. By sharing what we have learned with other entities, we hope to support the continuous improvement of standards across Abu Dhabi Emirate and the wider UAE.”

Eng. Mohamed Al Hammadi, CEO, ENEC

Knowledge Sharing

ENEC's ongoing efforts to support the UAE's transition to a knowledge-based economy include knowledge sharing and engaging with local and international stakeholders, thereby driving growth and setting new standards of excellence. The nuclear energy industry has some of the most stringent quality, technical and risk management standards in the world and ENEC is committed to sharing its experiences in implementing and maintaining these standards with other national stakeholders and entities. Hence, ENEC and its subsidiaries seek to reach out to their stakeholders to provide formal education and an overview of their program and technology.

Nuclear Energy Management School

ENEC partners with IAEA, Korean University and FANR to offer the UAE-IAEA Nuclear Energy Management School. This school provides participants with a unique international educational experience aimed at preparing future nuclear energy leaders, while encouraging research and discussion on topics relating to the peaceful use of nuclear technology and creating a network of nuclear energy peers around the world. This program is run every two years, with the next one in 2019.

Knowledge Sharing Forum

ENEC hosted a Knowledge Sharing Forum in Abu Dhabi, bringing together more than 300 delegates from a diverse range of Abu Dhabi governmental, semi-governmental entities and entities from outside the UAE. Attendees discussed topics such as strategy, performance management, innovation, business continuity, risk management and stakeholder management, to learn about the best practices used to develop, manage and implement the UAE Peaceful Nuclear Energy Program, and how these can be applied to other sectors.

Appendices

Appendix A – Report Scope and Boundaries

The scope and boundaries of this report includes operations and activities that fall under ENEC's management control, including corporate offices and activities at leased buildings in Abu Dhabi, and construction-related activities carried out by KEPCO and its contractors at the Barakah site and ancillary venues. The performance of ENEC's two subsidiaries, Nawah and BOC, are also represented in the performance and management information provided.

This report was prepared using data and information collected in cooperation with all ENEC departments. In addition, Health, Safety and Environmental data submitted monthly by KEPCO, ENEC's Prime Contractor on the Barakah site project has been used in combination with ENEC headquarters' data to produce this report.

Section of the report	Boundaries of performance reporting
Industrial and economic development	
Financial responsibility	ENEC, Nawah and BOC
Supply chain management	ENEC, Nawah and BOC
National economic development	ENEC, Nawah and BOC
Safe, clean, efficient and reliable energy	
Safety and security	ENEC, Nawah, BOC, KEPCO and subsidiaries
Environmental management	ENEC, Nawah, BOC, KEPCO and subsidiaries
Health and wellbeing	ENEC, Nawah, BOC, KEPCO and subsidiaries
Quality, efficiency and reliability	ENEC, Nawah and BOC
Knowledge and employment	
Highly skilled employment	ENEC, Nawah and BOC
National talent development	ENEC, Nawah and BOC
Knowledge creation	ENEC, Nawah and BOC

The information discussed in this report is based on performance and company status as of December 31, 2018. The reporting period is January 1, 2018 to December 31, 2018. Compiling this report has helped ENEC to better understand the impact of its operations and highlights data streams that ENEC will continue to monitor for future reporting. No limitations for reporting on scope or boundary were identified during the preparation of this report.

Because the Barakah site is in the construction phase, this report does not address the impacts of consumer use of products.

Appendix B – Stakeholder Mapping

ENEC Stakeholder Groups			
Stakeholder	Description	Interest/Role/Expectations	Channels of Engagement
Government Entities	Federal, regional and local government ministries and authorities.	Safety, security, environment, emergency preparedness, shared infrastructure and other resources.	<ul style="list-style-type: none"> • Site delegations, facility tours and inspections • Regular meetings and written correspondence • Program Executive Update • Participation in governmental initiatives and campaigns
Nuclear-Specific Organizations	Nuclear-specific industry bodies including multilateral organizations, associations and advisory bodies.	Information sharing and knowledge transfer, industry best practices, safety and security, technology, etc.	<ul style="list-style-type: none"> • Regular meetings and workshops • Regular reports and program updates • Delegations to site • Shared initiatives • Knowledge-sharing workshops • Interactive dialogue • Reporting • International Advisory Board • Associated events, seminars, conferences and regional events
Media	Local, regional and international media.	On-going access to timely, comprehensive information about the project.	<ul style="list-style-type: none"> • Arranging interviews • Site visits • Media training
International Organizations, Government and Financial Institutions	Multilateral organizations, governments of GCC nations, governments of civilian nuclear energy programs.	On-going access to timely, comprehensive information about the project.	<ul style="list-style-type: none"> • Delegations and events • Responding to on-going requests for information
Academic Agents	Federal, regional and international academic institutions.	Involvement in human capacity development, vocational and technical training, bachelors and masters programs.	<ul style="list-style-type: none"> • Energy Pioneers Programs • Regular events and career fairs at schools and universities
Non-Government Organizations (NGOs)	Environmental and social interest groups.	Potential environmental and social impacts/issues during all phases of the project.	

ENEC Stakeholder Groups			
Stakeholder	Description	Interest/Role/Expectations	Channels of Engagement
Prime Contractor Program Related Companies	KEPCO or its subsidiaries	Initiating and developing all construction and operation works, knowledge transfer, industry best practices, safety and security, technology.	<ul style="list-style-type: none"> • Regular meetings and workshops • Regular reports and program updates • Knowledge-sharing • Interactive dialogue • Reporting • Associated events, seminars, conferences and events
Social Actors	Including but not limited to: Al Dhafra Region residents ENEC, Nawah and Barakah One staff, Senior Reactor Operators, Abu Dhabi residents	Increase awareness and knowledge, safety, security, environment, emergency preparedness, shared infrastructure and other resources.	<ul style="list-style-type: none"> • Awareness sessions • Internal engagement programs • CSR activities
Administration, Infrastructure & Utility Organizations	Energy, electricity and transmission companies	Obtaining Non-Objection Certificate Infrastructure works, essential urban planning activities, power supply	<ul style="list-style-type: none"> • Meetings • Benchmarking • Non-Objection Certificate • Regular meetings and workshops • Regular reports and program updates

Appendix C – GRI Content Index



This report has been prepared in accordance with the GRI Standards: Core option. As signified by the icon above, the report has successfully completed a Materiality Disclosure Service provided by the GRI. For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The table below is an index of the GRI disclosures included in this report as per the GRI Standards.

General Standard Disclosures	Disclosure Title	Page Number	Comment
GRI 101: FOUNDATION 2016			
GRI 102: GENERAL DISCLOSURES 2016			
ORGANIZATIONAL PROFILE			
GRI-102-1	Name of the organization	1	
GRI-102-2	Activities, brands, products, and services	6, 11	
GRI-102-3	Location of headquarters	Abu Dhabi	
GRI-102-4	Location of operations	UAE	
GRI-102-5	Ownership and legal form	8-9	
GRI-102-6	Markets served	UAE	
GRI-102-7	Scale of the organization	8-9	
GRI-102-8	Information on employees and other workers	67-76	
GRI-102-9	Supply chain	33-36	
GRI-102-10	Significant changes to the organization and its supply chain	33-36	
GRI-102-11	Precautionary Principle or approach	16, 39, 42, 47-51, 57	
GRI-102-12	External initiatives	16, 18, 27, 41, 51, 57	
GRI-102-13	Membership of associations	18	
STRATEGY AND ANALYSIS			
GRI-102-14	Statement from senior decision-maker	5	
GRI-102-15	Key impacts, risks, and opportunities	10-11, 16	

ETHICS AND INTEGRITY			
GRI-102-16	Values, principles, standards, and norms of behavior	6-7, 15-16	
GOVERNANCE			
GRI-102-18	Governance structure	13-14	
STAKEHOLDER ENGAGEMENT			
GRI-102-40	List of stakeholder groups	80- 81	
GRI-102-41	Collective bargaining agreements	Collective bargaining is not permitted within the UAE	
GRI-102-42	Identifying and selecting stakeholders	25-26, 80- 81	
GRI-102-43	Approach to stakeholder engagement	25-26, 80- 81	
GRI-102-44	Key topics and concerns raised	80- 81	
REPORTING PRACTICE			
GRI-102-45	Entities included in the consolidated financial statements	Financial statements include the activities of ENEC. No other entity is included	
GRI-102-46	Defining report content and topic Boundaries	79	
GRI-102-47	List of material topics	21-22	
GRI-102-48	Restatements of information	44, 53, 59, 61 – measurement methods	
GRI-102-49	Changes in reporting	No significant changes	
GRI-102-50	Reporting period	1st January – 31st December 2018	
GRI-102-51	Date of most recent report	2017	
GRI-102-52	Reporting cycle	Annual	
GRI-102-53	Contact point for questions regarding the report	4	
GRI-102-54	Claims of reporting in accordance with the GRI Standards	4, 82	
GRI-102-55	GRI content index	82-86	
GRI-102-56	External assurance	4	

SPECIFIC STANDARD DISCLOSURES					
GRI Standard		Disclosure Title	Page Number	Omissions	Comment
CATEGORY: ECONOMIC					
MATERIAL ASPECT: ECONOMIC PERFORMANCE					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	30-32, 22		
	GRI-103-2	The management approach and its components	30-32		
	GRI-103-3	Evaluation of the management approach	30-32		
GRI 201: Economic Performance 2016	GRI-201-1	Direct economic value generated and distributed	30-32		
	GRI-201-4	Financial assistance received from government	30		
MATERIAL TOPIC: MARKET PRESENCE					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	73-74, 22		
	GRI-103-2	The management approach and its components	73-74		
	GRI-103-3	Evaluation of the management approach	73-74		
GRI 202: Market Presence 2016	GRI-202-2	Proportion of senior management hired from the local community	74		
MATERIAL TOPIC: INDIRECT ECONOMIC IMPACTS					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	37-38, 22		
	GRI-103-2	The management approach and its components	37-38		
	GRI-103-3	Evaluation of the management approach	37-38		
GRI 203: Indirect Economic Impacts 2016	GRI-203-2	Significant indirect economic impacts	37-38		
MATERIAL TOPIC: PROCUREMENT PRACTICES					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	33-36, 22		
	GRI-103-2	The management approach and its components	33-36		
	GRI-103-3	Evaluation of the management approach	33-36		
GRI 204: Procurement Practices 2016	GRI-204-1	Proportion of spending on local suppliers	34		
MATERIAL TOPIC: ANTI-CORRUPTION					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	15, 22		
	GRI-103-2	The management approach and its components	15		
	GRI-103-3	Evaluation of the management approach	15		
GRI 205: Anti- Corruption 2016	GRI-205-2	Communication and training about anti-corruption policies and procedures	15		

CATEGORY: ENVIRONMENTAL					
MATERIAL TOPIC: MATERIALS					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	58, 22		
	GRI-103-2	The management approach and its components	58		
	GRI-103-3	Evaluation of the management approach	58		
GRI 301: Materials 2016	GRI-301-1	Materials used by weight or volume	58		
MATERIAL TOPIC: ENERGY					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	60, 22		
	GRI-103-1	The management approach and its components	60		
	GRI-103-3	Evaluation of the management approach	60		
GRI 302: Energy 2016	GRI-302-1	Energy consumption within the organization	60		
	GRI-302-2	Energy consumption outside of the organization	60		
MATERIAL TOPIC: WATER AND EFFLUENTS					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	60-61, 22		
	GRI-103-2	The management approach and its components	60-61		
	GRI-103-3	Evaluation of the management approach	60-61		
GRI 303: Water and Effluents 2018	GRI-303-1	Water withdrawal by source	61		
	GRI-303-2	Management of water discharge-related impacts	61		
	GRI-303-3	Water recycled and reused	61		
MATERIAL TOPIC: BIODIVERSITY					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	63-65, 22		
	GRI-103-2	The management approach and its components	63-65		
	GRI-103-3	Evaluation of the management approach	63-65		
GRI 304: Biodiversity 2016	GRI-304-3	Habitats protected or restored	63-65		
MATERIAL TOPIC: EMISSIONS					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	58-59, 22		
	GRI-103-2	Explanation of the material topic and its Boundary	58-59		
	GRI-103-3	Evaluation of the management approach	58-59		
GRI 305: Emissions 2016	GRI-305-1	Direct (Scope 1) GHG emissions	59		
	GRI-305-2	Energy indirect (Scope 2) GHG emissions	59		
	GRI-305-3	Other indirect (Scope 3) GHG emissions	59		

CATEGORY: ENVIRONMENTAL (Continued)					
MATERIAL TOPIC: EFFLUENTS AND WASTE					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	62-63, 22		
	GRI-103-2	The management approach and its components	62-63		
	GRI-103-3	Evaluation of the management approach	62-63		
GRI 306: Effluents and Waste 2016	GRI-306-1	Water discharge by quality and destination	62-63		
	GRI-306-2	Waste by type and disposal method	62-63		
MATERIAL TOPIC: ENVIRONMENTAL COMPLIANCE					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	15-16, 67, 22		
	GRI-103-2	The management approach and its components	15-16, 67		
	GRI-103-3	Evaluation of the management approach	15-16, 67		
GRI 307: Environmental Compliance 2016	GRI-307-1	Non-compliance with environmental laws and regulations	15-16, 67		
CATEGORY: SOCIAL					
MATERIAL TOPIC: EMPLOYMENT					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	67-76, 22		
	GRI-103-2	Explanation of the material topic and its Boundary	67-76		
	GRI-103-3	Evaluation of the management approach	67-76		
GRI 401: Employment 2016	GRI-401-1	New employee hires and employee turnover	70		
	GRI-401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	N/A		ENEC does not have part time employees
MATERIAL TOPIC: OCCUPATIONAL HEALTH AND SAFETY					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	41-44, 52-56, 22		
	GRI-103-2	The management approach and its components	41-44, 5-56		
	GRI-103-3	Evaluation of the management approach	41-44, 5-56		

CATEGORY: SOCIAL (Continued)					
GRI 403: Occupational Health and Safety 2018	GRI-403-1	Occupational health and safety management system	41-44		
	GRI-403-2	Hazard identification, risk assessment, and incident investigation	46-51		
	GRI-403-3	Occupational health services	52-55		
	GRI-403-4	Worker participation, consultation, and communication on occupational health and safety	56		
	GRI-403-5	Worker training on occupational health and safety	54-55		
	GRI-403-6	Promotion of worker health	54-55		
	GRI-403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	35-36		
	GRI-403-8	Workers covered by an occupational health and safety management system	41-44		
	GRI-403-9	Work-related injuries	43-44		
	GRI-403-10	Work-related ill-health	52		
MATERIAL TOPIC: TRAINING AND EDUCATION					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	76-78, 22		
	GRI-103-2	The management approach and its components	76-78		
	GRI-103-3	Evaluation of the management approach	76-78		
GRI 404: Training and Education 2016	GRI-404-1	Average hours of training per year per employee	77		
MATERIAL TOPIC: DIVERSITY AND EQUAL OPPORTUNITY					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	68, 72, 74, 22		
	GRI-103-2	The management approach and its components	68, 72, 74		
	GRI-103-3	Evaluation of the management approach	68, 72, 74		
GRI 405: Diversity and Equal Opportunity 2016	GRI-405-1	Diversity of governance bodies and employees	68, 72, 74		

CATEGORY: SOCIAL (Continued)					
MATERIAL TOPIC: NON-DISCRIMINATION					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	71, 22		
	GRI-103-2	Explanation of the material topic and its Boundary	71		
	GRI-103-3	Evaluation of the management approach	71		
GRI 406: Non-Discrimination 2016	GRI-406-1	Incidents of discrimination and corrective actions taken	71		No incidents recorded
MATERIAL TOPIC: FORCED OR COMPULSORY LABOR					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	36, 22		
	GRI-103-2	The management approach and its components	36		
	GRI-103-3	Evaluation of the management approach	36		
GRI 409: Forced or Compulsory Labor 2016	GRI-409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	36		
MATERIAL TOPIC: SECURITY PRACTICES					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	45, 22		
	GRI-103-2	The management approach and its components	45		
	GRI-103-3	Evaluation of the management approach	45		
GRI 410: Security Practices 2016	GRI-410-1	Security personnel trained in human rights policies or procedures	45		No training provided
MATERIAL TOPIC: LOCAL COMMUNITIES					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	28-29, 22		
	GRI-103-2	The management approach and its components	28-29		
	GRI-103-3	Evaluation of the management approach	28-29		
GRI 413: Local Communities 2016	GRI-413-1	Operations with local community engagement, impact assessments, and development programs	28-29		
MATERIAL TOPIC: SUPPLIER SOCIAL ASSESSMENT					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	35-36, 22		
	GRI-103-2	The management approach and its components	35-36		
	GRI-103-3	Evaluation of the management approach	35-36		
GRI 414: Supplier Social Assessment 2016	GRI-414-1	New suppliers that were screened using social criteria	35-36		
MATERIAL TOPIC: SOCIOECONOMIC COMPLIANCE					
GRI 103: Management Approach 2016	GRI-103-1	Explanation of the material topic and its Boundary	15-16, 22		
	GRI-103-2	The management approach and its components	15-16		
	GRI-103-3	Evaluation of the management approach	15-16		
GRI 419: Socioeconomic Compliance 2016	GRI-419-1	Non-compliance with laws and regulations in the social and economic area	15-16		

Appendix D – Acronyms and Synonyms

Acronyms			
ADAA	Abu Dhabi Accountability Authority	HCC	Human Capital Committee
ADAEP	Abu Dhabi Award for Excellence in Government Performance	HDNT	Higher Diploma in Nuclear Technology
ADSG	Abu Dhabi Sustainability Group	HSES MS	Health, Safety, Environment & Sustainability Management System
ADWEC	Abu Dhabi Water and Electricity Company	IAEA	International Atomic Energy Agency
AED	Automated External Defibrillators	IAT	Institute of Applied Technology
APR	Advanced Power Reactor	IMS	Integrated Management System
ARCC	Audit, Risk and Compliance Committee	INPO	Institute of Nuclear Power Operations
BCM	Business Continuity Management	ISO	International Organization for Standardization
BNEP	Barakah Nuclear Energy Plant	KEPCO	Korea Electric Power Corporation
BOC	Barakah One Company	KFED	Khalifa Fund for Enterprise Development
BYC	Barakah Youth Council	KUSTAR	Khalifa University of Science, Technology, and Research
CAPEX	Capital Expenditure	LTIFR	Lost-Time Injury Frequency Rate
CICPA	Critical Infrastructure and Coastal Protection Authority	MENA	Middle East and North Africa
CIPS	Chartered Institute of Purchasing and Supply	MTCO₂ Eq	Metric tons of carbon dioxide equivalent
CR	Condition Report	Nawah	Nawah Energy Company
CSR	Corporate Social Responsibility	NQA	National Qualifications Authority
DOA	Delegation of Authority	NGO	Non-governmental organization
DUPM	Department of Urban Planning and Municipalities	O3	Ozone
EAD	Environment Agency - Abu Dhabi	OEMP	Operational Environmental Management Plan
EC	Executive Committee	OHSAS	Occupational Health and Safety Assessment Series
EFQM	European Foundation for Quality Management	OLA	Operating License Application
ENEC	Emirates Nuclear Energy Corporation	OSHAD	Abu Dhabi Occupational Safety and Health Center
EPRI	Electric Power Research Institute	PPP	Physical Protection Plan
ERM	Enterprise Risk (Threat and Opportunity) Management	PSC	Procurement and Supply Chain
ERMC	Executive Risk Management Committee	QA	Quality Assurance
FANR	Federal Authority for Nuclear Regulation	SDGs	Sustainable Development Goals
GCC	Gulf Cooperation Council	SMAT	Sustainability Maturity Assessment Tool
GDP	Gross Domestic Product	SPEX	Service and Performance Excellence Training Program
GHG	Greenhouse Gas	Tadweer	Abu Dhabi Centre for Waste Management
GIDP	Government Innovation Diploma Program	RTP	Registered Training Provider
GLP	Government Leadership Program	OJT	On-the-Job Training
GPP	Grand Program Plan	TRCFR	Total Recordable Case Frequency Rate
GRI	Global Reporting Initiative	WANO	World Association of Nuclear Operators
GSEC	General Secretariat of the Executive Council	WiN	Women in Nuclear

Glossary	
Climate Change	Describes changes in the variability or average stage of the atmosphere over time scales ranging from decades to millions of years.
Emiratization	A national program initiated by the government of the United Arab Emirates to proactively increase the number of UAE nationals in the public and private sectors, so as to empower nationals and reduce dependency on foreign workers.
Environmental Management System	The management of environmental programs in a comprehensive, systematic, planned and documented manner. It includes the organizational structure and planning and resources for developing, implementing and maintaining policy for environmental protection.
GRI Reporting Guidelines	A framework for reporting on an organization's economic, environmental and social performance, aligned with the GRI Standards and managed by the GRI.
Global Reporting Initiative (GRI)	An independent international organization that has pioneered sustainability reporting since 1997, supporting businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being. More information about the GRI can be found online: https://www.globalreporting.org/information/about-gri/Pages/default.aspx
Greenhouse Gas Emissions	Gas emissions which contribute to the trapping of heat inside the atmosphere (resulting in the Global Warming phenomenon). These gases include carbon dioxide, methane or hydrofluorocarbon emissions.
Gulf Cooperation Council	A political and economic union involving the six Arab states of the Arabian Gulf with many economic and social objectives.
Nuclear Energy	The energy released during nuclear fission or fusion, especially when used to generate electricity.
Nuclear Fission	When the nucleus of an atom splits and releases energy, primarily in the form of heat. Nuclear Energy Plants use steam, turbines and generators to turn the heat released by fission into electricity.
Nuclear Fuel Cycle	The series of industrial processes which involve the production of electricity from uranium in nuclear energy reactors. This can include uranium discovery, conversion, enrichment, de-conversion, fuel fabrication, use of fuel in reactors, storage, reprocessing and disposal.
Occupational Health and Safety	A cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment.
Radioactive	Emitting or relating to the emission of ionizing radiation or particles.
Renewable Energy	Energy from a source that is not depleted when used.
Stakeholder Engagement	The process by which a firm's stakeholders engage in dialogue to improve a firm's decision-making and accountability toward sustainable development.
Stakeholders	A party that affects or can be affected by the actions of a business.
Sustainability	Sustainable development has been commonly defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Bruntland Report for the World Commission on Environment and Development (1992)
Sustainability Reporting	The voluntary public presentation of information about an organization's environmental, social and economic performance over a timeframe, usually released annually. International standards around reporting, such as GRI, make sustainability reporting a platform for sharing and benchmarking individual company as well as sector-wide performance. Sustainability reporting may be published as a stand-alone document, on a company website or incorporated into an annual report.

