

BULLETIN

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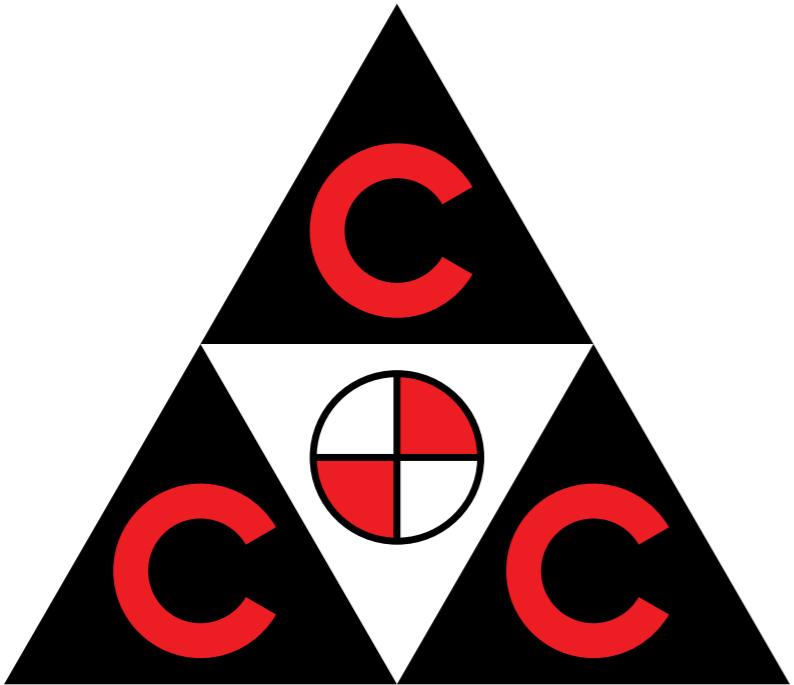
A large, clear water droplet is centered on the cover. Inside the droplet, the letters 'H2' are written in white, with blue liquid splashing around them, symbolizing hydrogen. The background of the cover is a gradient of light blue to dark blue, with several smaller water droplets scattered around the main one.

THE ROLE OF HYDROGEN & RENEWABLES

in CCC's Future

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FROM THE DESK OF ...



SAMER S. KHOURY
Chairman



Renewables & Green Hydrogen

The world met at the Glasgow Climate Change Conference earlier this month to try and find ways to reduce worldwide emissions and save the world from an increase in temperature above 1.5°C as this is the only way to try and prevent an environmental catastrophe. Although they have not achieved 100% success, it was a step in the right direction.

In addition, all oil companies and EPC contractors are changing their strategy to cope with the current energy transition that is moving away from the carbon economy into more clean energy sources that have less impact on the environment.

We at CCC are trying to follow these trends with three basic drives:

1. Internal efficiency enhancement to reduce emissions throughout CCC's projects and processes.
2. Shift focus towards cleaner energy sectors (Renewables and Nuclear).
3. Shift focus towards green and blue hydrogen projects as well as carbon capture projects.

This is no longer a choice for CCC or for us as individuals. If we want our children and grandchildren to live healthily on this globe, we have no option but to take better care of our Earth.



RECENT AWARDS

EGYPT**Four Seasons Hotel Nile Plaza**

+ Renovations for Floors 25, 26, 27 & Riviera Restaurant Phase 1

Award Date: July 2021
Completion Date: April 2022 (7,5 months)
Client: Nova Park Cairo Company.
Consultant: Hill International (Africa), Ltd.

Project Brief and Scope of Work

The project scope includes the renovation of 35 nos. guest rooms, 8 nos. suites and 3 nos. public corridors on the 25th, 26th & 27th floors. The Guest rooms works mainly comprise of interiors renovation such as woodworks, toilets and ceilings.

The scope also includes renovation of the Riviera Restaurant and Kitchen, works mainly comprise of replacement of finishes for walls, floors, ceilings, doors and fixed furniture.

**EGYPT****Telecom Egypt**

+ New Headquarter Project

Award Date: September 2021
Completion Date: September 2022 (12 months)
Client: Telecom Egypt (WE) / INSPIRE
Consultant: Gebal Consultants

**Project Brief and Scope of Work**

Construction of concrete skeleton on a plot of land with total area 35,366 m² to establish an administrative headquarters for the company.

The Building composed of two underground basements + 8 floors (ground + 7 floors) with a total built up area of 119,000 m².

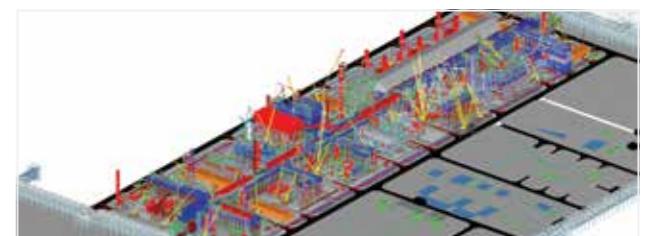
**QATAR****North Field East Onshore Project EPC-1**

Award Date: July 2021
Completion Date: June 2027 (6 years)
Client: Chiyoda Technip JV (CTJV), and the Owner is Qatar Energy (Ex Qatar Petroleum)
Consultant: Hill International (Africa), Ltd.

Project Brief and Scope of Work

General construction works for: Process Area, Fresh Cooling Water, West Interconnecting Pipe Rack, Heavy Lift and Buildings EPC for North Field East Onshore Project.

The project includes 4 mega LNG trains with a capacity of 8 MMTPA each, with associated facilities for gas treatment, natural gas liquids recovery, as well as helium extraction and refining within Ras Laffan Industrial City.



Lessons Learned Process

Article by: A. Papadopoulos

QUALITY MANAGEMENT



Lessons Learned

Lessons Learned are the documented information that reflect both the positive and negative experiences that CCC has encountered in projects or within departments; they have added value and deemed useful for other projects or departments to learn from. These are recorded for the future informing and reference of all relevant CCC personnel.

Lessons Learned items are CCC's acquired experience throughout the past years in the contracting industry. They are aimed at augmenting, enhancing and standardizing project execution as well as improving productivity.

Lessons Learned are captured and shared in a controlled manner within CCC corporate, operational areas and projects, as well as select business partners.

The ultimate purpose of Lessons Learned is continuous improvement: to utilize the experience gained from past Projects to benefit current and future Projects. This is the goal to be accomplished through the Lessons Learned process.

Lessons Learned Resources

There are two (2) key resources related to Lessons Learned:

1. The "Lessons Learned" Corporate Manual (CM-CSQM-001).
2. Fanous "Knowledge Management" online platform (<https://km.ccc.gr/category/lessonslearned>).

The purpose of the Lessons Learned manual is to establish the process and describe the steps which ensure that Lessons Learned raised by individuals, projects or CCC departments are collected, evaluated, approved and redistributed rapidly to all concerned CCC parties, for their implementation.

Fanous platform is purpose-built for collaboration and knowledge sharing: bridging knowledge gaps, providing insights, experiences, documenting lessons learned, promoting best practices and connecting staff with subject experts.

Sources of Lessons Learned

The process of Lessons Learned is continuous, throughout daily operations. This means that there are multiple sources from which employees have opportunities to identify and register significant incidents and experiences, as shown in Figure-1.

- ① CCC Employees
- ② Project Completion Workshops
- ③ Project Coordinator's Site Visits
- ④ LL Exchange with Clients or Entities
- ⑤ Project Performance Reviews
- ⑥ QMS Audit



Figure: 1

QUALITY MANAGEMENT: Lessons Learned Process

Reporting Lessons Learned in Fanous

The submission of Lessons Learned is a continuous process using the online "Lessons Learned Project Input Sheet" in Fanous platform (Figure-2).

All fields of the "Lessons Learned Project Input Sheet" shall be filled with the required information. The "Lessons Learned Project Input Sheet" includes the following:

TITLE	-
What was the problem / challenge?	-
How was it found?	-
What aspects of the project it affected?	-
How was it solved?	-
What did we learn from it to avoid repeating in the future?	-
CATEGORY	- * List of Categories *

Lessons Learned shall always be factual and with real impact on the execution of work. Its understanding may avoid mistakes, reduce bad decisions and enhance productivity & job excellence. Where required, the "LL" shall be accompanied by relevant documents, procedures, drawings, sketches, manufacturer's literature, technical details, associated links, etc.

The screenshot shows the 'New Lesson Learned' page in the Fanous platform. It features a header with the URL 'https://km.ccc.gr/category/lessonslearned', a navigation bar with 'Add article', 'Add lesson learned', and 'Ask question', and a sidebar with 'Lessons Learned'. The main form has fields for 'Project / Department Name', 'Project / Department Manager', 'Client / EP Partner', 'Title', 'What was the Problem/Challenge?', 'How was it found?', 'What aspects of the project it affected?', 'How was it solved?', 'What did we learn from it to avoid repeating it in the future?', 'Category', and 'Select Supporting Documents/Images if any'. A 'Browse' button is also present. At the bottom, there are 'Submit' and 'Back to top' buttons.

Figure: 2

QUALITY MANAGEMENT: Lessons Learned Process

[continued from page 7](#)

Lessons Learned Workflow

All CCC staff can identify, report and upload Lessons Learned on Fanous. Each submitted "Lessons Learned Project Input Sheet" shall be reviewed by the CSQM "LL" Coordinators for consistency and shall be forwarded to the Project Manager and relevant Department Manager for validation and approval.

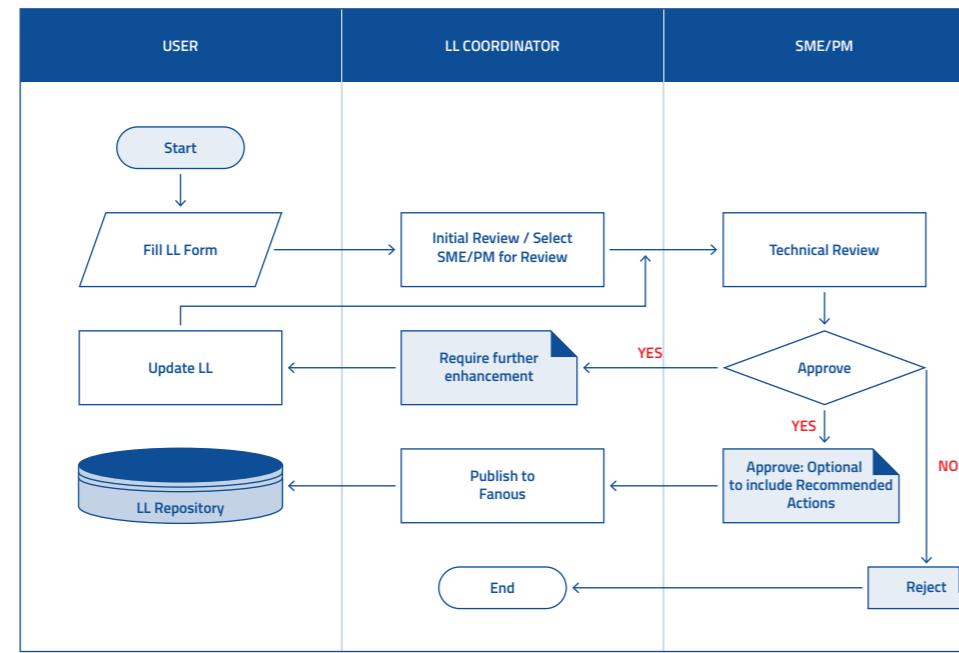


Figure: 3

Lessons Learned distribution and sharing

Project Managers or Department Managers shall share the relevant Lessons Learned with their respective teams in order to benefit from the experiences of others and improve the work execution productivity.



Figure: 4

QUALITY MANAGEMENT: Lessons Learned Process



Lessons Learned and continuous improvement

The Lessons Learned should eventually become part of our standard (common) execution practice. Hence, validated Lessons Learned relating to a particular "Category" (e.g. Civil Works, QA/QC, HSE, Estimation, Precommissioning) should be added to our standard operating procedures. This feedback is an important step to complete the continual improvement cycle of our Quality Management System.

Lessons Learned							
Country	Project Type	Project Name	All selected	Category	None selected	Search	
Show 10 entries							
Ghazeer Project, Khazzan Central Processing Facility Phase 2	1210	Oman	MECHANICAL WORKS	EQUIPMENT ERECTION	3	0	
Late Batching Plant installation, calibration and commissioning	1141	Oman	PMV	EQUIPMENT	1	0	
Open underground systems are causing access problem for above ground work	1141	Oman	CIVIL WORKS	UNDERGROUND PIPES & SERVICES	0	1	
Validation of Flange Management Database	1141	Oman	QA/QC	QA PROCEDURES	3	0	
3GP ME&I - Power Generation, Reception Area and Pressure Boost Facility	1212	Kazakhstan	IT & COMMUNICATION	OTHER	0	0	
3GP ME&I - Power Generation, Reception Area and Pressure Boost Facility	1212	Kazakhstan	IT & COMMUNICATION	SOFTWARE	1	0	

Figure: 5

Lessons Learned and risk management

In parallel, Lessons Learned from previous Projects are sources of risk: The lessons learned database (via Fanous) should be reviewed prior to carrying out the risk identification exercise, and risks applicable to the type of project, contract, location, etc. must be considered.

Lessons Learned shall be recorded throughout the project duration simultaneously with the risk management implementation. This sequential process is concluded with the administrative close out of the project. The Risk Management Department will then compile the final "Risk Management Lessons Learned" report with the dual purpose of gathering risk management system implementation feedback as well as identifying and recording specific lessons learned from the management of individual risks on projects.

↳ continued from page 9

How to report a Lessons Learned in Fanous

Using the Lessons Learned Form in Fanous User-Interface

The user interface is available on this link: <https://km.ccc.gr/category/lessonslearned>

1. Once you're logged into the system you will see "Add New Lesson Learned Form".
2. The form takes your default Project/Location. You can change it in case you want to submit a lesson for an older or other project/department.
3. The user should enter 4 (four) obligatory fields (Title, Problem, What was learned, and Category).
4. If the title already exists in the system, the user will be warned and asked to change.
5. The system prevents adding the same lesson twice.
6. The user must enter one Category for the Lesson.
7. The user will be able to upload supporting material (attachments).
8. If the user clicks on his/her name he/she will see a drop down menu and view the submitted lessons.
9. The user will see a list of his submitted Lessons. The user will be able to sort the Lessons. If the lessons are published, he may visit them on Fanous by clicking on the title.
10. The user may edit his/her submitted Lessons in case they are not approved and published yet.
11. The user will be able to log out from the same menu

What does not constitute a Lesson Learned

A question often arises when reviewing a Lesson Learned via Fanous: is it a noteworthy experience, that has added-value and worthy of sharing?

Commonly, the answer is "yes", to most Lesson Learned items received for review. However, a sharp 'filter' needs to be applied at the same time: If such Lesson Learned has already been reported previously and if this Lesson Learned has resulted in a corrective action from management, then it typically does not constitute a 'new' lesson.

Still, particular circumstances may make recent experiences significant, so it is important to be specific and provide key details when describing a Lesson Learned in Fanous, differentiating individual cases.



Special Mention: Lessons from the 16.6 MW Solar Power Plant Project in Mauritania

In 2016, CCC completed the hybrid renewable energy project "EPC Works for 8 PV PARKS (total 16.6 MW) Distributed Solar Power Plant Integration" in Mauritania. Working in Mauritania was a distinct experience for our staff and provided useful lessons with respect to local conditions, which were captured at Project close-out.

LANGUAGE AND CULTURAL BARRIER

- There exists a language barrier which had an impact on work with local workers. The services of a translator will facilitate communication with local staff and their proper understanding of the scope and method of work execution.
- Local culture and social attitudes need to be respected at all times.

WORKING WITH LOCAL COMPANIES

- The local market in Mauritania offered limited sourcing of technical materials and construction equipment. Similarly for measuring & testing equipment.
- Local suppliers and subcontractors had systematic difficulty in adhering to the initially agreed time schedules and deadlines.
- Hired equipment and transport vehicles were often not properly maintained and had frequent down-times.
- All of the above issues were countered by:
 - ↳ Diligence, pre-inspection & inspection: Examining potential suppliers' & subcontractors' equipment, records, employee CVs.
 - ↳ Systematic pressure and tight follow-up by site engineers.

UNDERGROUND CABLE ROUTING / SOIL INVESTIGATIONS

- It was practically impossible to get drawings of underground utilities routings.
- The Project team had to purchase and use underground cable and piping detector, and had to interview local representatives from utility companies to source information.
- Actual work of underground activities was executed with great care.
- Soil investigations and surveys should be conducted by highly experienced companies; soils at different locations presented various morphologies. The presence of rock soils and water even at just 1.5m below ground was frequent and generally unexpected.

HEALTH, SAFETY, SECURITY & INTERNET ACCESS

- **Health:** Vaccinations for numerous inflammations and viral diseases is a requirement. Hygienic conditions and food sanitation were systematically poor and staff had bouts of food-borne illnesses. Consideration of planned food supplies & scheduled daily menu by a hired cook should be a must.
- **Safety:** The road conditions are generally poor. Driving in the desert on narrow sand roads, with no signs, winds and high temperatures is a continuous source of risks.
- **Security:** Some thefts of materials occurred.
- **Internet:** No mobile signal coverage in desert areas, but good/adequate signal around cities/villages respectively.

References:

1. ISO 9001:2015 'QMS Requirements'
2. 'Lessons Learned' Corporate Manual (CM-CSQM-001)
3. 'Risk Management' Corporate Manual (CM-RMD-001)

Is Green Hydrogen the fuel of the future?

Article by: Saji Khoury



FEATURE

What is hydrogen, and what are its different uses?

Hydrogen is the lightest element in the universe, and the most abundant. Pure hydrogen gas is scarce in the Earth's atmosphere; however, it can be produced using various domestic resources. About 96% of hydrogen today is produced from fossil fuels, primarily natural gas, followed by coal and oil. Alternatively, hydrogen can be produced using nuclear power, biomass, and renewable power.

70 million tonnes of hydrogen are produced yearly and are utilised in oil refining, ammonia production, steel manufacturing, fertilizer, chemical production, food processing, and metallurgy.

How is hydrogen produced?

For a colourless gas, hydrogen gets referred to in very colourful terms:

- Green Hydrogen is produced through electrolysis. Due to a strong electric current, water is decomposed into its essential components: hydrogen and oxygen. If electricity is produced from renewable sources such as solar or wind, the process emits no greenhouse gasses (GHG).
- Blue hydrogen, obtained through 'steam reforming' where hydrogen is separated from natural gas using steam, generates GHG. However, those emissions are stored using carbon capture and storage techniques.
- Grey hydrogen, the most common form, is also obtained through steam reforming of fossil fuels, but the GHG are released into the atmosphere.
- Brown hydrogen (made from brown coal) and black hydrogen (made from black coal), are by far the most polluting, use gasification that converts carbon-rich materials into hydrogen and carbon dioxide.

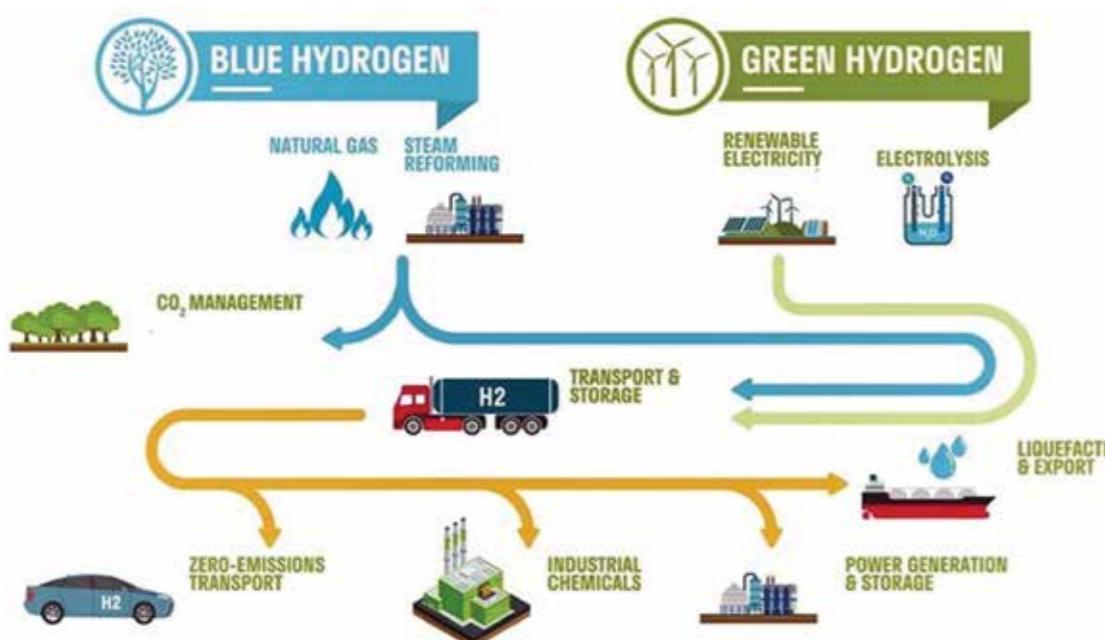


Figure 1: Comparison of the production process for blue and green hydrogen (source: Australian Broadcasting Corporation)



Why are the advantages of Green Hydrogen needed?

In recent years, green hydrogen has been identified as the clean energy source that could play a vital role in decarbonizing other sectors such as transportation and heavy industry.

Demand for low-carbon hydrogen will rise six-fold to 530 million tonnes by 2050.

Writing this article comes at a crucial time while the world is gathered at COP26 Glasgow, where parties are expected to commit to enhanced ambition to mitigate climate change. It is no surprise that a major "Hydrogen Transition" summit took place at COP26, which aims to become the landmark hydrogen event at Glasgow, convening key policy, investment, technology, regulator, and government stakeholders as a global hybrid event.

Green hydrogen will be essential to meeting the goals of the Paris Agreement, since some sectors cannot eliminate emissions. Renewable energy sources can reduce emissions from electricity production and some of the transport sector. However, the last 15% of the economy, encompassing aviation, shipping, long-distance trucking, and parts of the manufacturing industry, will require a high energy density fuel or intense heat provided by green hydrogen to reduce their emissions. Hydrogen can either be burnt to generate heat or fed into a fuel cell to produce electricity.

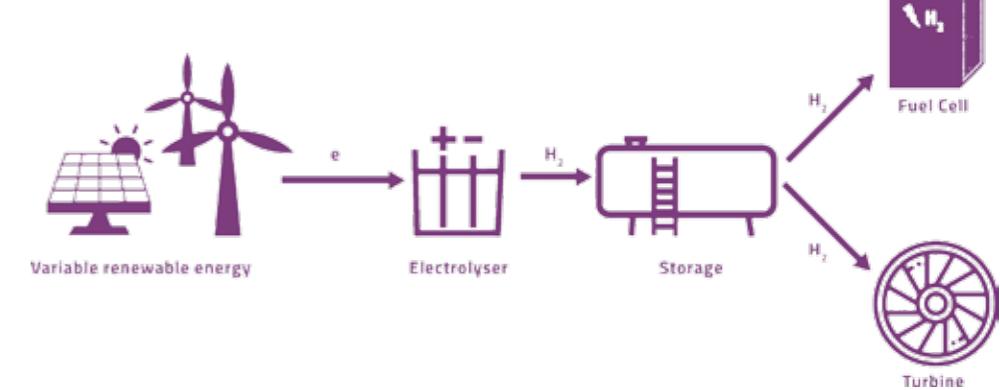


Figure 2: Potential Stationary hydrogen electricity system (Source: National Hydrogen Roadmap www.csiro.au)

Potential use of green hydrogen include:

- Green Hydrogen could be used to heat homes instead of using natural gas,
- A fuel cell electric car can be refuelled in less than four minutes, electric cars and trucks could be powered by fuel-cell hydrogen,
- Container ships fuelled by liquid green ammonia,
- "Green steel" refineries that use green hydrogen as a heat source,
- Hydrogen-powered electricity turbines can produce electricity during peak demand to help support the electricity grid.

Kilogram for kilogram, hydrogen contains almost three times as much energy as fossil fuels, so less is needed for the same output. When hydrogen is exposed to air, the stored energy is released, and it simply combines with oxygen to produce water again.

Hydrogen can be stored for an extended period in fuel cells that work like batteries, making it a more reliable energy source than wind or solar. Fuel cells can be used to power anything that uses electricity. Unlike batteries, fuel cells don't require recharging as long as there is hydrogen fuel. Fuel cells can either operate on a standalone basis or can be connected to the grid.

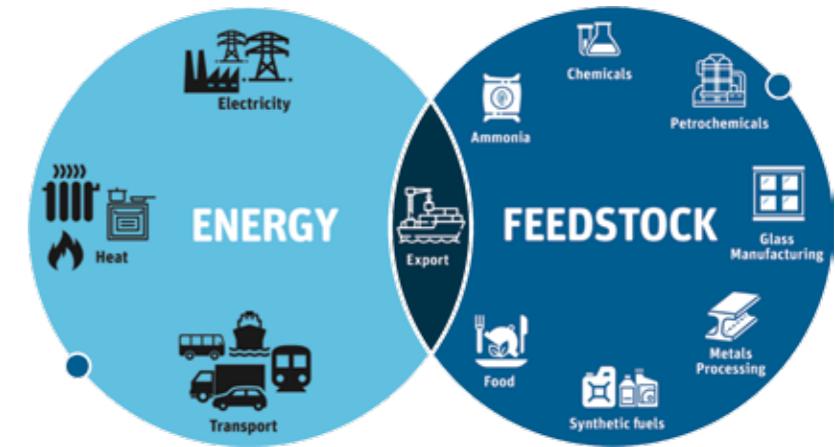


Figure 3: Applications of Green Hydrogen (Source: National Hydrogen Roadmap www.csiro.au)

FEATURE: Is Green Hydrogen the fuel of the future?

continued from page 13**What are its limitations?**

The production cost of grey hydrogen can go as low as 1 USD/kg for regions with low gas/coal prices, such as the Middle East, Russia, and North America, and well below 2 USD/kg for other regions like Europe. In comparison, green hydrogen production currently costs 2.5-6 USD/kg. The production costs are decreasing as the price of renewable energy and electrolyzers are going down.

Hydrogen, like any gas, can be compressed and stored in tanks but the volume of hydrogen is almost four times as much as natural gas and required compression to 700 times normal atmospheric pressure or refrigeration to minus 253 degrees Celsius. To facilitate transportation, hydrogen can be converted to ammonia, which is cheaper to store under pressure and can be refrigerated as a liquid at -33C at atmospheric pressure. Once at the destination, the ammonia is reconverted to hydrogen, resulting in a loss of energy.

Hydrogen, which can make steel pipe brittle, can't be distributed using natural gas pipelines unless it is blended with natural gas. To distribute pure hydrogen, natural gas pipelines need to undergo significant upgrades or separate hydrogen pipelines need to be constructed.

What role will Green Hydrogen play in the Gulf?

Hydrocarbon-rich countries in the Gulf are investing in multi-coloured hydrogen projects to reduce their carbon emission. They have an advantage due to the low-cost of renewable energy in the region. According to the energy consultancy Wood Mackenzie report, Australia and the Middle East can be major green hydrogen exporters in the coming years. In fact, many projects are already underway.

Air Products & Chemicals (an American company specialized in selling gases and chemicals) is building in NEOM, the smart city under construction in Saudi Arabia, the world's largest green hydrogen plant powered by 4 gigawatts of wind and solar energy. The \$5 billion plant, jointly owned by Air Products, Saudi Arabia's ACWA Power and Neom, upon completion in 2025, will produce 650 tons of green hydrogen per day.

Khalifa Industrial Zone Abu Dhabi (KIZAD), a subsidiary of Abu Dhabi Ports, is developing a production facility in phases to generate 200,000 tonnes of green ammonia from 40,000 tonnes of green hydrogen at a cost of \$1 billion. An 800 MW solar plant will be constructed to power the first phase of the project.

OQ, the Sultanate of Oman's global integrated energy company, formed a consortium to develop an integrated green fuels mega project consisting of 25 gigawatts of renewable solar and wind energy to produce millions of tons of green hydrogen per year.



FEATURE: Is Green Hydrogen the fuel of the future?

**What is CCC's Green Hydrogen approach?**

CCC's management believe that hydrogen is a rising enabler for a multi-sectoral transition towards a low carbon economy based on renewable energy sources. Hydrogen is a key component in any Energy Transition strategy that will support the whole world achieve Carbon Neutrality targets. CCC's commitment to hydrogen is to push, with our partners, for a hydrogen economy to ultimately be a game changer to ensure access to affordable, reliable, sustainable and modern energy for all; committing to the United Nations Sustainable Development Goals (SDGs) especially Goal 7, "affordable and clean energy."

CCC wants to bring its expertise in construction and partner with technology companies to be a leader in the green hydrogen industry. In fact, CCC is already pricing green hydrogen tenders in the region.

Furthermore, CCC has already signed an agreement with Fusion Fuel, a green Hydrogen technology provider, to develop several plants in the region. Fusion Fuel has developed a revolutionary off-grid solar-to-hydrogen generator named the HEVO SOLAR, that produces affordable emissions-free hydrogen in areas with intense solar radiation.

HEVO SOLAR combines over a hundred of Fusion Fuel's HEVO electrolyzers with a specially designed high efficiency concentrated photovoltaic (CPV) solar module to make optimal use of both the electrical and thermal energy from the sun. The CPV cell converts more than 40% of solar energy into electricity, while the remaining 60% is converted to thermal energy. By attaching HEVO directly to the CPV solution, there are no conversion losses. The generated thermal energy is used to heat the water and reduce the energy load required for electrolysis. The HEVO-SOLAR can produce up to 2 tons of Green Hydrogen per year.

CCC and Fusion Fuel are currently developing the HEVO Ammonia Project in Morocco. The project is the country's largest announced green hydrogen and green ammonia project yet. It will require an investment of more than 7.5B dirhams (~850M USD) and, upon completion, will generate 183,000 tons of green ammonia and abate 280,000 tons of CO₂ annually.

Vitol, one of the world's leading energy and commodities companies, will manage the offtake of green ammonia.

Aziz Rabbah, the Moroccan Minister of Energy, Mines, and Environment, unveiled the HEVO Ammonia Morocco project on 14 July 2021 and commented the following:

'We are very happy to announce the formation of the HEVO Ammonia Project here in the Kingdom of Morocco alongside our partners Fusion Fuel, CCC, Vitol, and other esteemed delegates. Morocco is the largest producer of phosphate in the world, but because it has limited domestic ammonia production, it has had to rely on imported ammonia- to produce fertilizer, one of Morocco's key industries. The ability to use our abundant solar and wind resources to produce carbon-free, green ammonia presents a strategic opportunity for Morocco to play a leading role in the decarbonized global economy. Thanks to the leadership of His Majesty the King Mohammed VI, we believe this ambitious project will be the cornerstone of Morocco's hydrogen strategy and will establish Morocco as a major exporter of ammonia to international markets.'

CCC & Consolidated Sicon Power Company (CSPC)

CCC's Journey Towards Renewable Energy

Article by: D. Kostis / V. Kontos

Worldwide growth, technological progress, and evolution resulted in a rapid increase in energy consumption. Modern day living, along with the increasing demands for use of electronic devices, lighting, heating, and vehicles, have resulted in the rapid increase in consumption of vast amounts of energy. This has resulted in people forming an "addiction" to the constant need to use more electrical power. Being a race fully dependent on energy consumption, is generating a huge cost and loss to our planet.

Conventional sources of energy (coal, crude oil, nuclear, etc.), have resulted in a vast increase in environmental pollution. CO₂ emissions are damaging the planet's atmosphere through abundant waste and industrial effluents emerging from conventional thermal power plants which are poisoning water resources. Additionally, deforestation and forest degradation are contributing to global warming while bringing Earth and life on it, to its limits.

Climate scientists have expressed major concerns that humans are contributing greatly to global warming and climate change; they have highlighted future environmental problems and have warned humanity of the irreparable damage to the Earth.

During the last years, we are fortunate that a reasonable percentage of the world's population including governments are seeking alternative means for sustainable energy production.

The environmental crisis, has persuaded the energy, power and economic sectors to start reforming through diverting towards alternative sources of energy production, mainly coming from natural processes that are replenished constantly. Such forms of renewable energy sources are mainly sunlight, wind, tides, waves and geothermal heat, enhancing renewable energy deployment and encouraging technological innovations. In addition, supporting mechanisms, such as feed-in tariffs, long term (25 years) Power Purchase Agreements (PPAs), renewable portfolio standards development and targeted tax policies, are employed by the governments to boost renewable energy generation along with implementing strategies for the industry and the consumers to enhance energy use efficiency to improve energy savings.

Hence, the target is twofold: Save energy and increase the electrical energy production from renewable power (alternative energy) to the maximum extent and in the fastest way.

The term "alternative energy" refers to any form of energy other than conventional sources of energy, including power generation using hydrogen, biomass, and waste to energy, etc. The importance of alternative energy sources simultaneously benefits climate change challenges associated with the excessive use of fossil fuels. There are three primary motivators that stimulate the growth of renewable energy technologies: energy security, economic impacts, and carbon dioxide emission reduction. In conclusion, renewable energy sources (wind, solar, hydro, biomass, ocean and geothermal) play a key role in the transition towards a more secure, sustainable, and low-carbon economy.



Below is a short summary of the main technologies:

▪ Solar Power

The Sun is one of the most important sources of renewable energy. The solar energy collected is transformed into power and distributed through the power grid for consumption. The most common ways to facilitate Sun power is through Concentrated Solar Power (CSP) plants and Photovoltaic (PV) Power Plants.

a. Concentrated Solar Power Plants

Concentrating Solar Power (CSP) is electricity generated from mirrors to divert sunlight onto a receiver that captures the sun's energy and converts it into heat that can run a standard turbine generator or an engine.



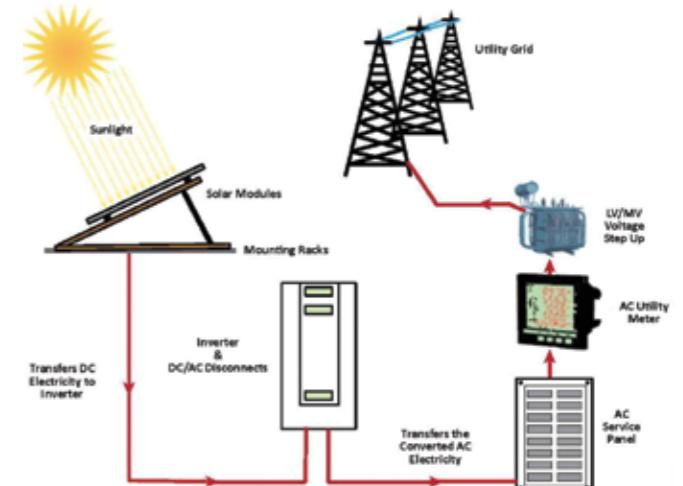
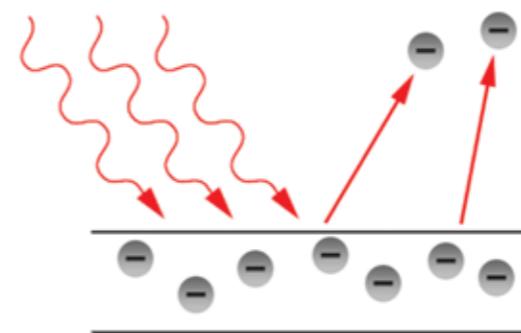
CSP systems range from remote power systems as small as a few kilowatts up to grid-connected power plants of 100's of megawatts (MW). CSP systems work best in bright, sunny locations. Due to the economies of scale and cost of operation and maintenance, CSP technology works best in large power plants.

More than 350 MW of CSP systems were installed in the US during the 80s. Recently, CSP has experienced a rebirth. Two plants were completed in 2006 and 2007: the 64-MW Nevada Solar One in the U.S.A. and the 11-MW PS10 power plant in Spain. Three 50-MW plants were under construction in Spain at the end of 2007 with 10 additional 50-MW plants planned. In the U.S., utilities have announced plans for at least eight new projects totalling more than 2,000 MW. Numerous integrated CSP/combined-cycle gas turbine power plants are currently under development in North Africa.

b. Photovoltaic - (PV) Power Plants

Solar photovoltaics are used to convert sunlight into electricity.

Solar photovoltaic cells are made of semiconductor materials (i.e., silicon). When exposed to sunlight, the semiconducting material causes the electrons in the materials' atoms to be knocked loose. The electrons that are knocked loose, then flow through the material to produce an electric current known as a direct current (DC). In short, the light separates electrons from atoms to create an electric current.



In physics, this effect is known as photo-effect. The direct current (DC) thus generated can be converted into an alternating current (AC) with the help of a special tool called inverter.

FEATURE: CCC's Journey Towards Renewable Energy

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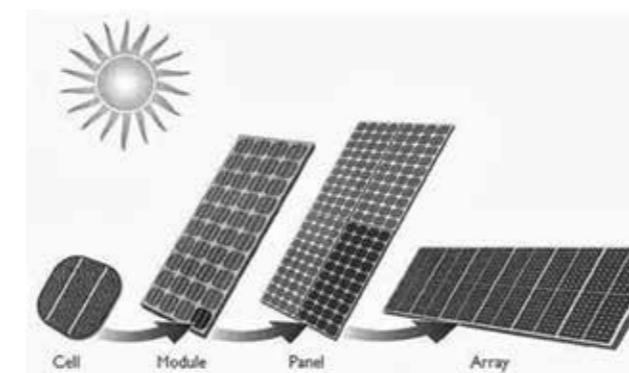
PV solar plants (power stations) can directly transform sunlight into electricity which is then fed into the grid. PV solar plants are distinguished from other similar generating plants (i.e., CSP) by two main features:

1. PV solar plants use photo-effect directly, and do not rely any additional processes or devices.
2. PV solar plants do not concentrate energy, they transmit it to the grid.

PV solar plant has the following basic structural components:

1. Solar Panels

Solar panels convert sunlight into electricity, generating a direct current (DC) with voltage up to 1500 V and constitute the most important element of the whole plant as they convert sunlight into electricity



2. Supporting Structures

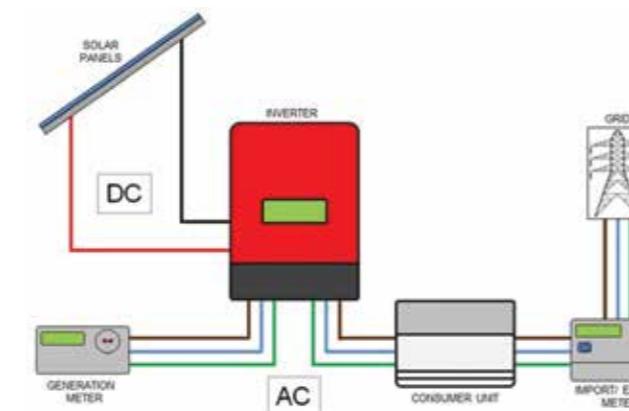
The solar panels are mounted on supporting structures. The most used type is fixed structures with fixed solar panel installation angle. Alternatively, solar panels can be mounted on trackers - devices that track the movement of the sun and thus allow to maximize the energy performance of the plant.



3. PV Inverter system

The strings of solar panels are connected in groups to the on-grid inverters. Inverters are the "brain" of the whole PV plant. Inverters efficiently convert direct current (DC) from the solar panels into alternate current (AC) and, with the help of a transformer, increase voltage and transmit electricity to the grid.

Inverters are divided in to central and string.



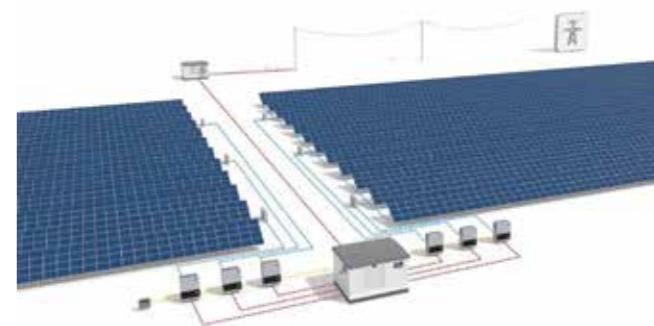
4. Monitoring system

The monitoring system is used to control and manage the plant. It controls the working parameters of the entire PV solar plant and it helps to identify malfunctions and deviations from established patterns and allows a better risk management.



5. Finally, there is the external power grid to which the PV plant is connected

Power systems that generate power of 500 kW or higher are usually supplemented with step-up transformers for further connection to the grid



Wind Power

Wind power is one of the fastest-growing renewable energy technologies. Usage is on the rise worldwide, in part because costs are falling. Global installed wind-generation capacity on-shore and offshore has increased by a factor of almost 75% in the past two decades, jumping from 7.5 gigawatts (GW) in 1997 to some 564 GW by 2018.



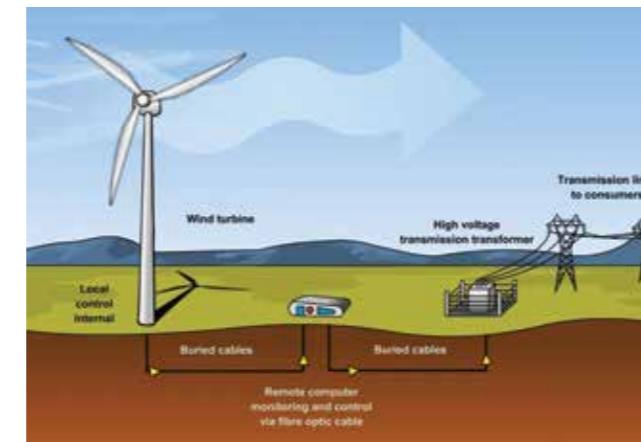
Wind is used to produce electricity using the kinetic energy created by air in motion. This is transformed into electrical energy using wind turbines or wind energy conversion systems.



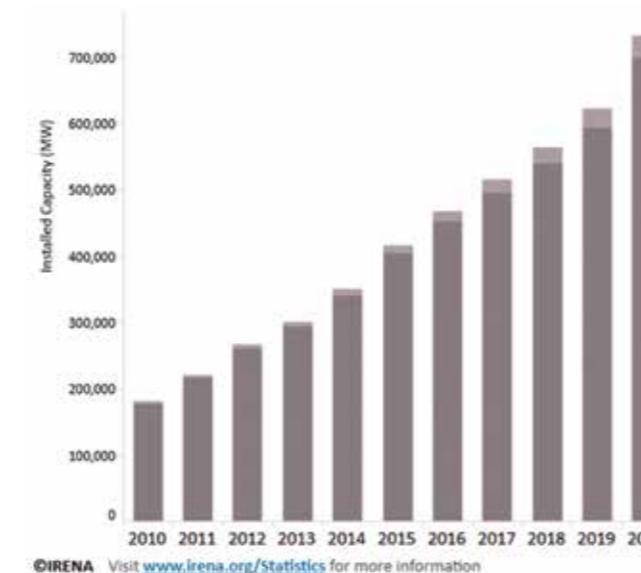
FEATURE: CCC's Journey Towards Renewable Energy

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Wind first hits a turbine's blades, causing them to rotate and turn the turbine connected to them. That changes the kinetic energy to rotational energy, by moving a shaft which is connected to a generator, and thereby producing electrical energy through electromagnetism.



The amount of power that can be harvested from wind depends on the size of the turbine and the length of its blades. The output is proportional to the dimensions of the rotor and to the cube of the wind speed. Theoretically, when wind speed doubles, wind power potential increases by a factor of eight.



Over the last year, further to the onshore wind energy farms, offshore wind power or offshore wind energy is blooming with the deployment of wind farms sited in bodies of water. Higher wind speeds are available offshore compared to on land, so offshore farms' electricity generation is higher per amount of capacity installed.

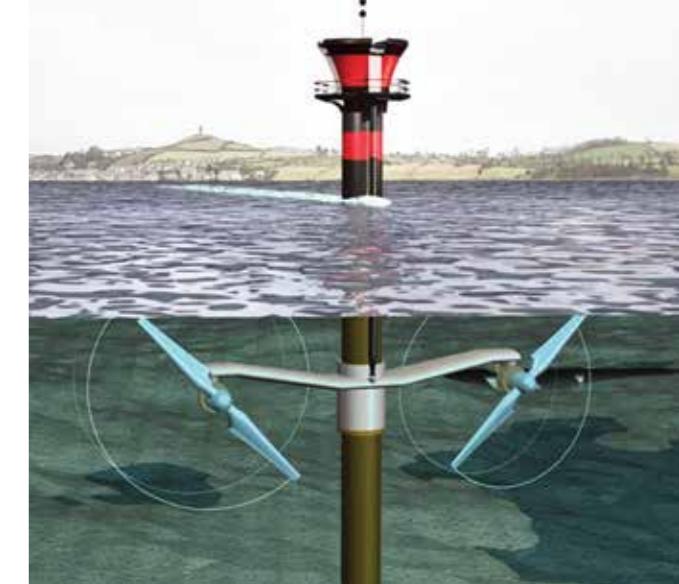


■ Tidal energy

Tidal energy is produced by the surge of ocean waters during the rise and fall of tides.

During the 20th century, engineers developed ways to use tidal movement to generate electricity in areas where there is a significant tidal range.

Tidal energy production is still in its infancy. The amount of power produced so far has been small. There are very few commercial-sized tidal power plants operating in the world.



■ Wave Power

Wave power or ocean wave energy, refers to the electrical energy generated by harnessing the up-and-down motion of ocean waves. Wave power is typically produced by floating turbine platforms or buoys that rise and fall with the swells.

However, wave power can be generated by exploiting the changes in air pressure occurring in wave capture chambers that face the sea or changes in wave pressure on the ocean floor.



Areas of great potential for wave energy are those with the highest winds i.e., the Eastern shores of the world's oceans. The world's first operational wave power generator is located off the coast of Aguçadora, Portugal, producing as much as 2.25 megawatts from three huge jointed tubes that float on the surface of the Atlantic Ocean; individual power generators are located at the tubes' joints and activated by wave motion. In addition, a large potential for wave power systems exists in the British Isles and the Pacific Northwest of the United States.

Despite the enormous energy potential of wave power, technical challenges remain. Research funding is low compared to supporters of solar, wind, and other renewable forms of energy. Thus, the process of experimentation and refinements with different wave energy collector designs is not as well developed. The development of massive machines for use in the oceans is expensive; salt water in the oceans corrodes steel and other metals, and the physical force of the waves fatigues wave energy collectors, transmission wires, and other infrastructure over time.

*continued on page 22*

▪ Geothermal Heat

Geothermal energy is heat within the earth. The word geothermal comes from the Greek words "geo" (earth) and "therme" (heat). Geothermal energy is the heat that comes from the sub-surface of the earth. It is a renewable energy source since heat is constantly produced inside the earth.

Geothermal heat is used for heating of buildings and generation of electricity. To produce power from geothermal energy, wells are dug a mile deep into underground reservoirs to access the steam and hot water there, which can then be used to drive turbines connected to electricity generators. There are three types of geothermal power plants; dry steam, flash and binary.

Dry steam is the oldest form of geothermal technology and takes steam out of the ground and uses it to directly drive a turbine. Flash plants use high-pressure hot water into cool, low-pressure water whilst binary plants pass hot water through a secondary liquid with a lower boiling point, which turns to vapor to drive the turbine.

Geothermal energy is used in over 20 countries. The United States is the largest producer of geothermal energy in the world and hosts the largest geothermal field. Known as "The Geysers" in California, the field is spread over 117 square kilometres and formed of 22 power plants, with an installed capacity of over 1.5GW.

Unfortunately, geothermal power is zone-specific, and you can't really find geothermal power outside these areas. Therefore, geothermal power has major limitation compared to wind, solar and other renewable forms of energy.



▪ Battery Energy Storage Systems (BESS)

Parallel to the growth of renewable energy, mainly from wind and solar, the necessity of storing the excess energy produced emerged. Battery Energy Storage Systems (BESS) a new type of "tank farms" are under development over the last years, having the potential to play a key role in integrating the renewable energy into the power grid.

During the last UN Climate Change Conference (November 2021) in Glasgow, it was commonly agreed that a dramatic change toward clean forms of energy is needed. Investments in renewable energy is needed to triple by the end of the decade if the world hopes to effectively fight climate change and keep volatile energy markets under control.

'The world is not investing enough to meet its future energy needs. Transition related spending is gradually picking up but remains far short of what is required to meet rising demand for energy services in a sustainable way,' the IEA.

Annual clean energy investment into emerging and developing economies must increase by more than seven times. This means an increase from less than \$150 billion in 2019 to more than \$1.7 trillion by 2030 to put the world on track to reach net-zero emissions by 2050.

To achieve NDC renewables targets by 2030, invest USD 1.7tn



*Eurasia, Europe, North America and Oceania

www.irena.org

IRENA
International Renewable Energy Agency

How is CCC & CSPC contributing to a Greener Economy and a shift to net-zero carbon?

CCC & CSPC are working for the last decade, as EPC (Engineering Procurement and Construction) contractor for Thermal Power Plants, Renewables Power Plants (mainly PV Plants and Wind Farms) and electrical transmission Substations.

During the past 10 years, CSPC and CCC participated in a significant number of tenders and granted awards for some contracts:

- Conventional Thermal power plants, which include combined cycles power plants using natural gas and diesel engine power plants. CSPC & CCC submitted 22 tenders was awarded 1 contract for an EPC (Engineering Procurement and Construction) thermal power plant in Das Island - UAE.



During the last 3 years, CCC & CSPC redirected their efforts to Waste to Energy Power Plants, which utilize state-of-the-art technology for thermal power plants, to transform the thermal energy produced by municipal wastes incineration used to produce electrical power and district heating (cogeneration).

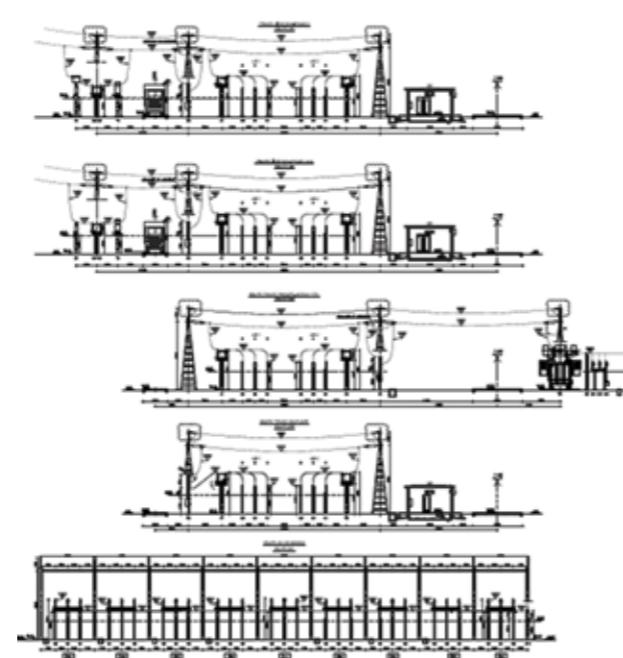
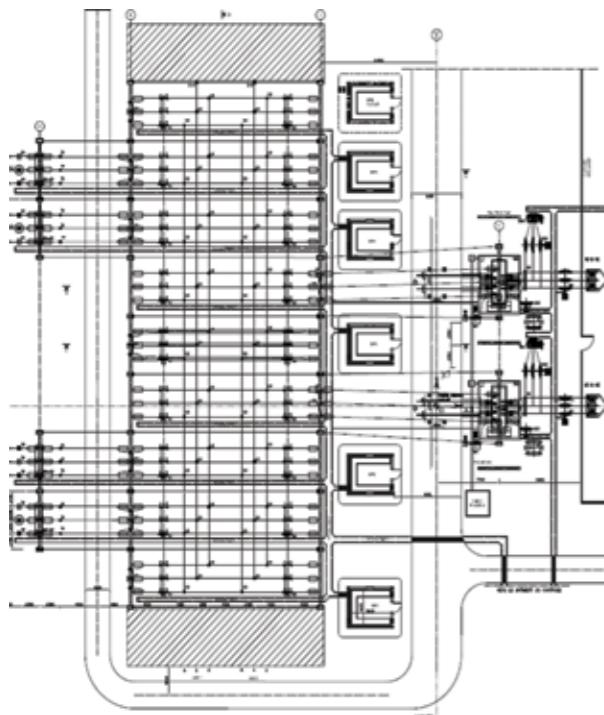
FEATURE: CCC's Journey Towards Renewable Energy

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b. Electrical transmission substations:

CCC & CSPC participated in several tenders (39 major tenders) and were awarded the Tamda and Mila 60KV substation project in Algeria and ElSewedy project in Egypt.

The project included the construction of 2 electrical transmission substations, which consisted of power transformers, MV switchgears, HV equipment (such as circuit breakers, disconnectors, etc.), control protection, supervisory control and data acquisition system (SCADA) and telecommunication equipment.



CCC & CSPC were awarded for an EPC project for 8 Hybrid PV Plants (16.5 MWp) with a Fuel Save Controller (to reduce the fuel consumption of the existing diesel engines in Mauritania). Below is the distribution of the 8 -Hybrid PV plants found in Mauritania:



FEATURE: CCC's Journey Towards Renewable Energy

↳ continued on page 26



Overall view of the 8 PV Plants:



Main Equipment Used:

- **Module Designation:** JA Solar - JAP6 (315 Watt Peak, STC)
- **Mounting structure:** Double pole - fixed tilt
- **Solar Inverter and Fuel save controller:** String Inverter SMA (STP 60-10)

The construction of the 8 Hybrid Solar Power Plants was a major step forward for Mauritania. Not only for improving the quality of local life, but also, for assisting the local economy during the erection phase. Additionally, the advantages in the long-term, include the saving of fuel and giving the local authorities the economic break needed to enable further investment on projects that will further improve the quality of life for people of Mauritania.

The beneficiary (SOMELEC) is currently building further on this project - introducing battery storage and whenever appropriate integrating the PV parks into the National Grid.

Lastly, on the 21st of December, 2020, CSPC and CCC were awarded the EPC of a Grid connected -50 MWp PV Power Plant in Zafarana, Egypt, the project included the MV cable interconnection of 8 Kms long and the substation for Grid connection (125 MVA, 22/220 KV). This project is currently under execution and further to the EPC included the Operation & Maintenance (O&M) for 5 years following the EPC Commercial Operation Date (COD) commencement.

Currently, CCC & CSPC are executing an EPC project in the Renewable sector, in Egypt, PV-1226 ZAFARANA 50 MWp PV plant with 8 Kms of MV cable interconnection and one Substation. The execution of the EPC contract includes a 5 year O&M following the EPC COD (Commercial Operation Date), expected to be completed by June 12 2022.



FEATURE: CCC's Journey Towards Renewable Energy

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CSPC - CCC Market Plan:

Currently, CSPC and CCC are forming a strategy for reinforcing the company's position in the Renewables market, as EPC contractors providing O&M services when requested.

The main points of the strategy are:

- a. Identifying any possible future opportunities in the following 3 sectors:
 - a. PV plant (hybrid or not, with or without Battery Energy Storage Systems (BESS)) including Substations (if any). More specifically:
 - EPC for PV Plants up to 100 MWp with or without a HV Substation and
 - Smaller size (larger than 10 MWp) of Hybrid PV Plants (PV and Diesel Engines) that constitute a total of 30 Mwp.
 - b. Wind Farms, amid dependable and aggressive Wind turbine generators
 - b. Waste to Energy (WTE) for cogeneration plants (production of electrical energy and/or thermal power).

Our Target areas include:

1. Middle East
2. CIS (Kazakhstan, Uzbekistan etc.)
3. Africa

3.1. CCC's current presence:

- Egypt
- Tunis
- Morocco
- Algeria
- Mozambique
- Botswana
- Nigeria
- Equatorial Guinea
- Mauritania (Minor Presence)

3.2. Countries of interest to CCC:

- Tanzania
- Kenya
- Zambia
- Malawi
- Namibia
- Ethiopia
- Ivory Coast
- Senegal
- Ghana

The strategic target for CCC & CSPC is to successfully complete of the PV Power Plant 50 MWp in Zafarana, Egypt and participate in several PV plants Tenders by 2022. Furthermore, CCC & CSPC are working towards setting up EPC jobs in the Wind farm area for tendering, combining the CSPC capabilities with CCC CED design capacity (especially for the civil design) and advancing CCC's construction and heavy lift capacity.



Dubai 

CCC participates in Gastech 2021

Article by: Saji Khoury

CCC participated in the first in-person Gastech conference since the COVID-19 pandemic on the 21st -23rd of September in Dubai- UAE. The strategic conference and exhibition aim to provide a platform for discussing gas, LNG, hydrogen, and energy while addressing environmental challenges and leveraging new technologies such as artificial intelligence, big data and robotics. Senior decision-makers and industry leaders participated in discussions on providing a carbon-neutral, affordable energy future for all by 2050.

However, despite the push toward renewable energy, it is clear that investments in the oil and gas sector are crucial to meet increasing global energy demands. His Excellency Dr Sultan Ahmed Al Jaber, UAE Minister of Industry and Advanced Technology and managing director and chief executive officer of the Abu Dhabi National Oil Company (ADNOC) stated the following in his opening speech:

'As the world consolidates its recovery from the Covid-19 pandemic, LNG and broader gas markets globally are tightening, with demand outpacing supply. Longer-term, the outlook is also robust, driven particularly by markets in Asia. Today, gas provides almost one-quarter of the world's energy supply and will continue to play a critical role in the global energy system. No other fuel source can reliably supply the baseload power to heat and cool homes, drive heavy industry and expand economies, all while keeping emissions at a minimum.'



AREA NEWS



Kazakhstan & the CIS region

Adapting and Thriving in a Green Economy

Article by: H. Kawash

The markets are going through interesting times. Times best defined by pivotal transitory phases which impose major turbulence demanding the reformation of business operations and strategies for corporations and governments. Amidst the chaos lies major opportunities for the proactive and agile.

Kazakhstan and the CIS region are wealthy regions. Beyond their cultural heritage and mesmerizing landscape, these regions are blessed with generous natural resources. Determined to enrich Consolidated Contractors Company (CCC)'s historical relationship with regional governments, and to assist on aligning on-ground operations with the nations' strategies; the CCC team in Kazakhstan & the CIS region have developed short- and medium-term plans for focusing on the transition from oil-based economies to more environmentally cautious ones. CCC remains focused on traditional models of operations through addressing potential projects, such as:

1. Hydrocarbon plants with NCOC
2. Petrochemical plant with KazmunayGaz (KLPE)
3. Pipeline project with NCOC (natural gas)

CCC is working towards capitalizing on the emerging EPC and PPP operation model, our experience in these fields have reassured the inevitable transition. As governments and major clients are shifting their focus from being project funders to supporting the establishment of a working vehicle, it is inclusive of the project's entire lifecycle which starts with securing the funds needed, to detailing the engineering works and translating the plans to procurement and construction operations.

Beyond our presence in the region for more than 20 years, our contribution has been defined by the efforts we have and continue to invest into supporting nations preach their full potential and address their targets. As such, CCC has been invited to tender for construction service projects aimed at ensuring the longevity and efficiency of existing plants.



Beyond oil and gas projects, CCC is committed to building a sustainable and environmentally friendly future for generations to come. A cross-functional team of experts has been working jointly with local officials to pave the way towards addressing their commitment to decarbonization of their economies and acting on the Paris Agreement. CCC team has been deeply engaged with projects related to the establishment of:

1. Wind turbines in west of Kazakhstan
2. Nuclear power plant in Uzbekistan
3. Solar PV project in South of Kazakhstan
4. Green hydrogen complex in South of Kazakhstan

Looking ahead, the CCC team in Kazakhstan & the CIS region is optimistic for what the future holds. However, in order to ensure longevity and business continuity it is empirical that the CCC remains prepared to capture the opportunities associated with the transition from oil-based economy to a renewables-powered one.





Qatar

Qatar's Solar Energy

Article by: R. Sidawi

With an average of 9 hours sunshine per day, the solar energy sector is growing fast in Qatar. Qatar's abundance of sun makes it an excellent place for solar energy development. Big projects are underway such as Al Kharsaah, an 800MW power project, the first large-scale solar power plant in Qatar. The project is expected to be fully operational in the second quarter of 2022. It will represent around 10% of electricity peak demand of Qatar.

These plants will contribute to reducing the CO₂ emission, which is the main objective of the national program for conservation and energy efficiency "Tarsheed".

Qatar has set a challenging goal for solar power contribution to the national grid. Different institutions have established test facilities to evaluate different solar technologies to provide the market with reliable information that will help with selection of the right products.

Solar energy has multiple advantages for the country in terms of energy security, better air quality, reduced gas emissions and new job opportunities.

The oil and gas industry is facing increasing demands to clarify the implications of energy transitions for their operations and business models.

There are market signs everywhere of growing impatience with the oil industry. Powerful investors are exiting high-carbon investments or limiting their exposure.

'Our sustainability strategy is driven by Qatar National Vision 2030 and the United Nation's Sustainable Development Goals (SDGs), which are essential references to frame our sustainability actions and set them in a global context. We are also fully supportive of the Paris Agreement's goal to limit global warming to well below 2 degrees Celsius. Climate change is one of the most critical issues of our times and requires prompt and dedicated action at a global scale.'

'Our strategy embraces the transition towards a low carbon industrial landscape and is intended to be flexible and resilient to change.' - QatarEnergy

According to the Qatar Investment Authority chief executive officer Mansoor bin Ebrahim al-Mahmoud (Gulf Times):

'Qatar's sovereign wealth fund plans to shift into greener assets and that 44% of the fund's infrastructure projects are zero-emission investments. Qatar is fully committed to fighting climate change. In line with this, the country has resolved to produce energy that is safer, more affordable, and cleaner. Sustainable development is central to Qatar's development planning as envisaged in the country's national vision, strategies and policies.'

QatarEnergy (formerly Qatar Petroleum) intends to increase the proportion of renewable energy in its total power generation to 20% by 2030.

Additional PV solar capacity of two 400 MW plants at QP industrial cities is currently in the planning stage and expected to start its operation before 2025.

CCC is fully invested in joining the development of the Solar projects in Qatar. CCC's subsidiary CSPC has completed several turnkey Solar PV projects and is currently executing a 50MW project in Egypt.

With the combined resources of CCC and expertise in Solar plants, CCC will be leading the PV solar market in Qatar.

AREA NEWS: Qatar's Solar Energy

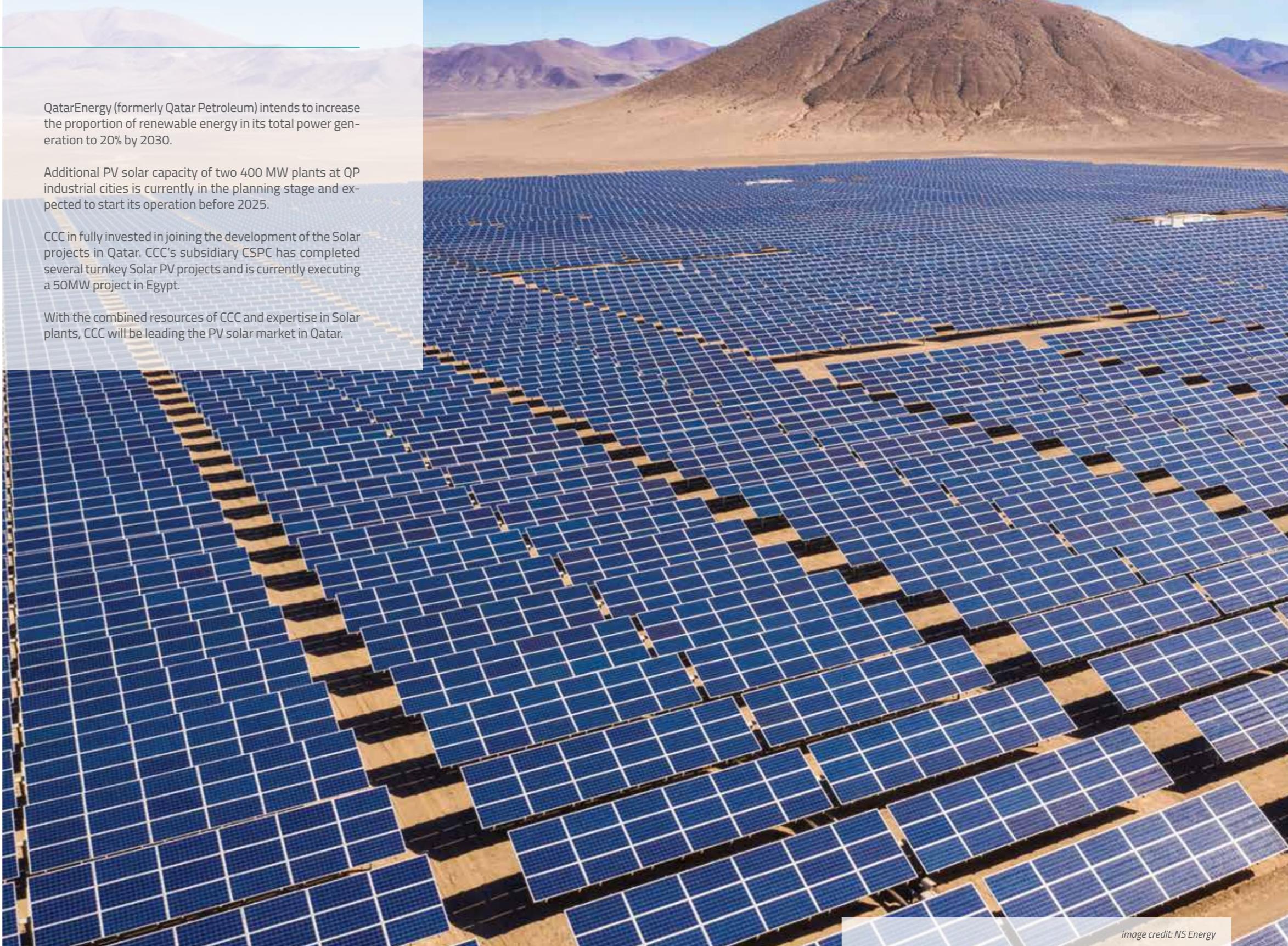


image credit: NS Energy



CCC New e-Learning Platform Coursera

Article by: A. Dabdoub (HR) / M. Abusalah (KM)

Introduction

In fulfilment of the vision of CCC's leadership, the Company's commitment to its Founding Fathers' core values, and its Digital Transformation strategy, CCC continues to enhance the skills and capacity of our employees through our learning and development programs. In early 2021 CCC signed a one-year pilot partnership with Coursera to complement the existing set of in-house training and webinars that have been place for many years. The objective of this partnership is twofold: to provide e-learning opportunities to up to 500 of CCC's engineers and non-engineers across the group, with a target of completing at least 1,500 courses in various subjects, and to host on the Coursera platform, in the form of "authored courses", some of CCC's internal training courses.

Coursera (www.coursera.org) is a renown online training provider partnering with over 200 leading universities and businesses from 140 countries to provide learning to individuals and organization across the globe.



Figure 1: Some of Coursera's Partners

Expanding access to world-class universities

175+ University partners	4,400 Courses	490 Specializations	39 Certificates
33 Degrees	34M Enrollments in the past year	190+ Countries reached	

Figure 2: Indicative numbers from the 'Coursera Impact Report 2021'



TRAINING & DEVELOPMENT: CCC New e-Learning Platform: Coursera

Training & Development Programs

The initial one-year program was divided into 4 intakes of 3 months each ending in February 2022, across 4 different, customized, learning programs.



Figure 3: CCC Learning Programs on Coursera



Figure 4: Caption of one of CCC's Program header on Coursera

1. Nominations:

Selection of potential learners was initiated by HR and was based on a selective criteria that met the Company's objective for this learning and development initiative, as set by the CCC training committee. The potential list of candidates was shared with Area Management, Project Management, and/or Department Heads who, in turn, nominated a total of 747 staff members in their respective locations.

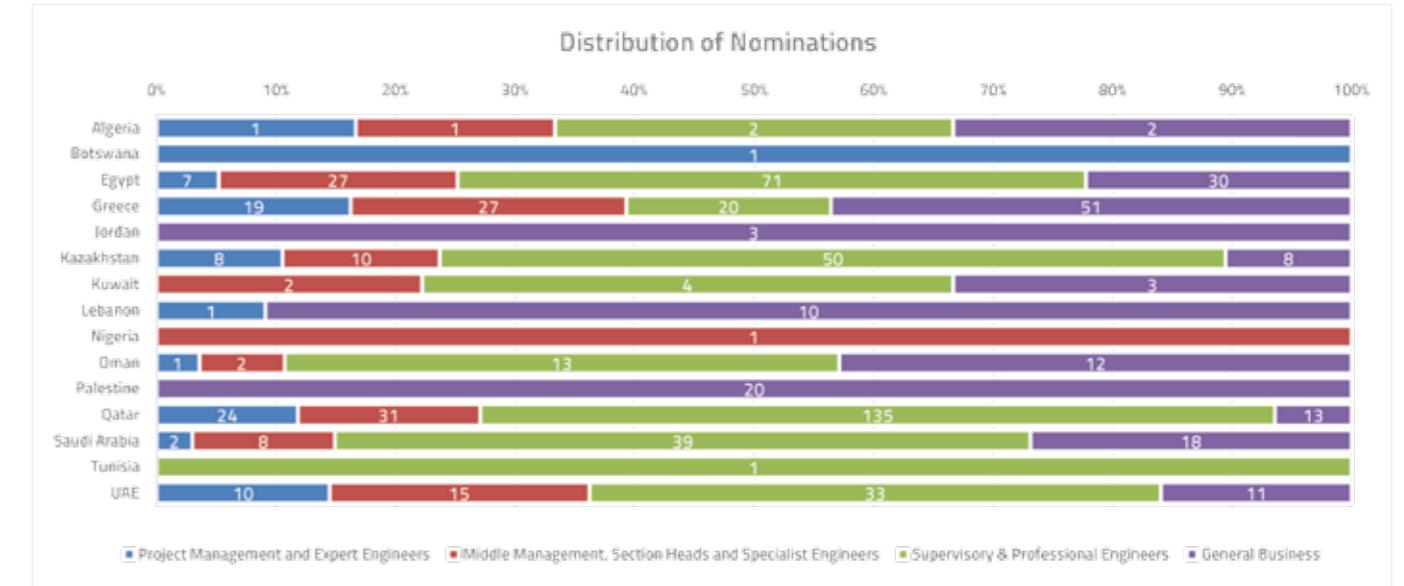


Figure 5: Distribution of nominations by country and learning program

To date, Coursera boasts an international repertoire of more than 82 million learners, who, along with 100+ Fortune 500 companies, and more than 6,000 campuses, businesses, and governments, have easy, affordable, and flexible access to Coursera's world-class learning with 4,400 courses and 490 specializations.



TRAINING & DEVELOPMENT: CCC New e-Learning Platform: Coursera

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2. Learners

Throughout the 3 intakes (the 4th intake is scheduled to start on 21 November 2021), there was a total of 398 learners distributed across the 4 programs.

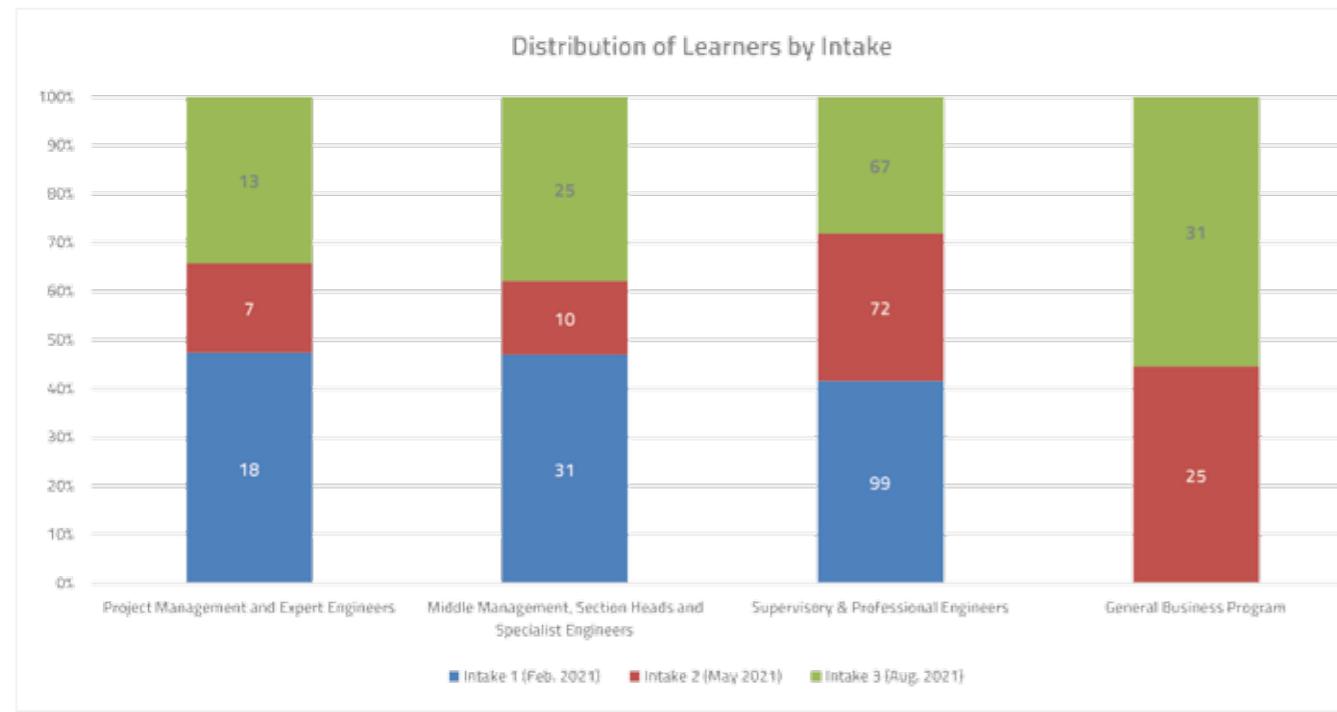


Figure 6: Distribution of learners across the programs by intake

3. Completed Courses

At the time of this report, all 398 learners have completed a total of 1,039 courses (at an average of 2.6 courses per learner), distributed across the 4 programs, with the highest number of completed courses (58%) belonging to the Supervisory & Professional Engineers program.

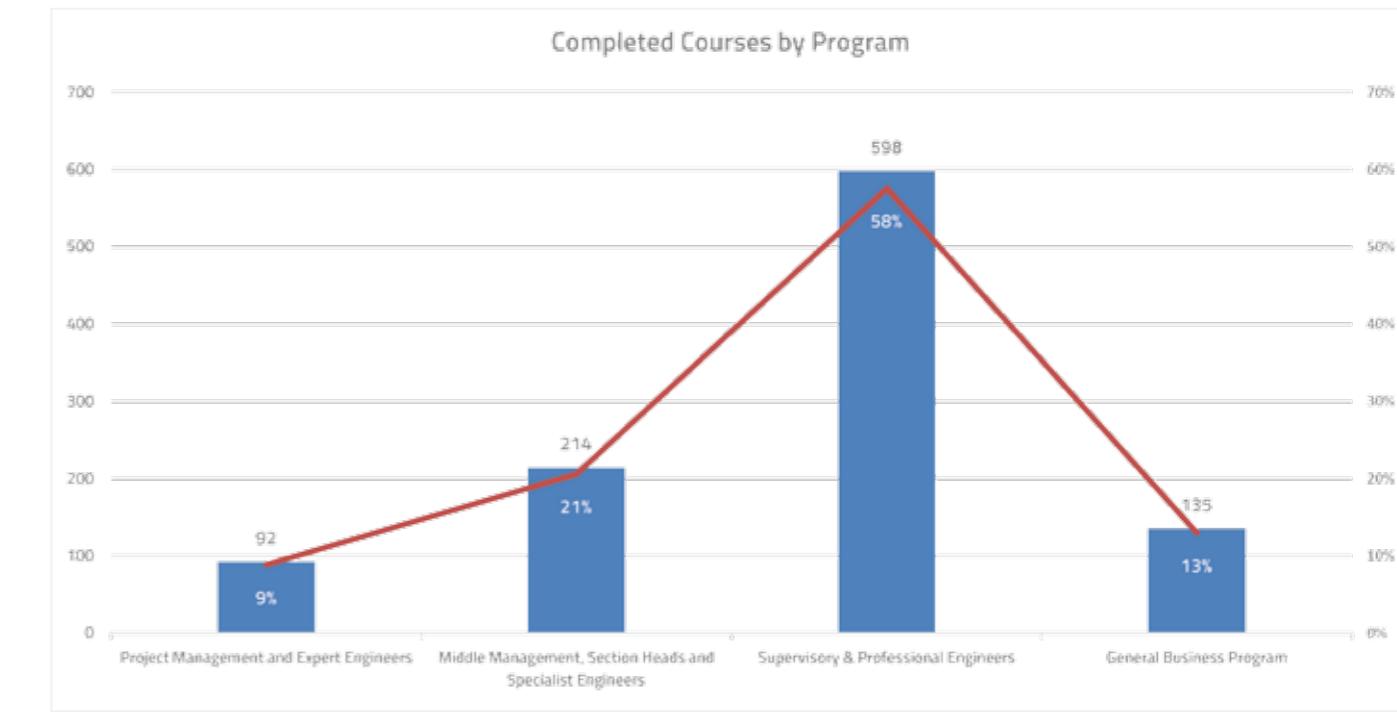


Figure 8: Number of completed courses per program

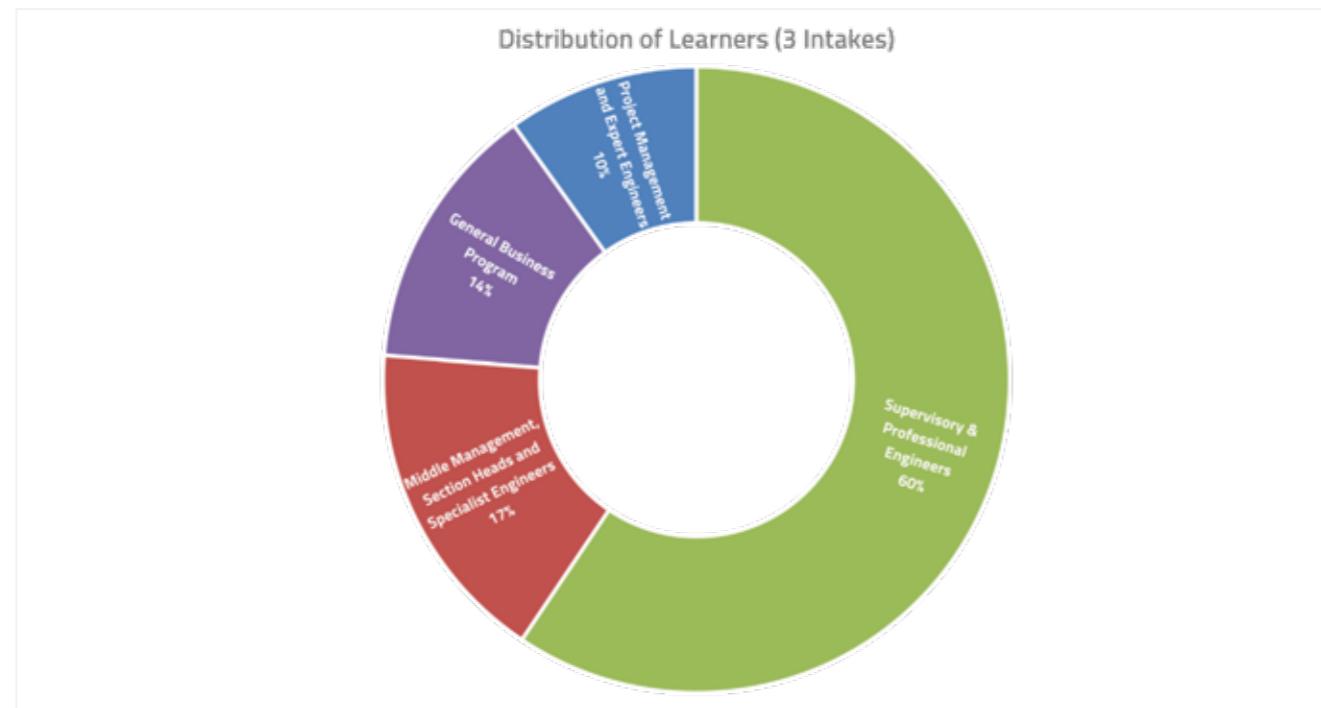


Figure 7: Distribution of learners across the programs

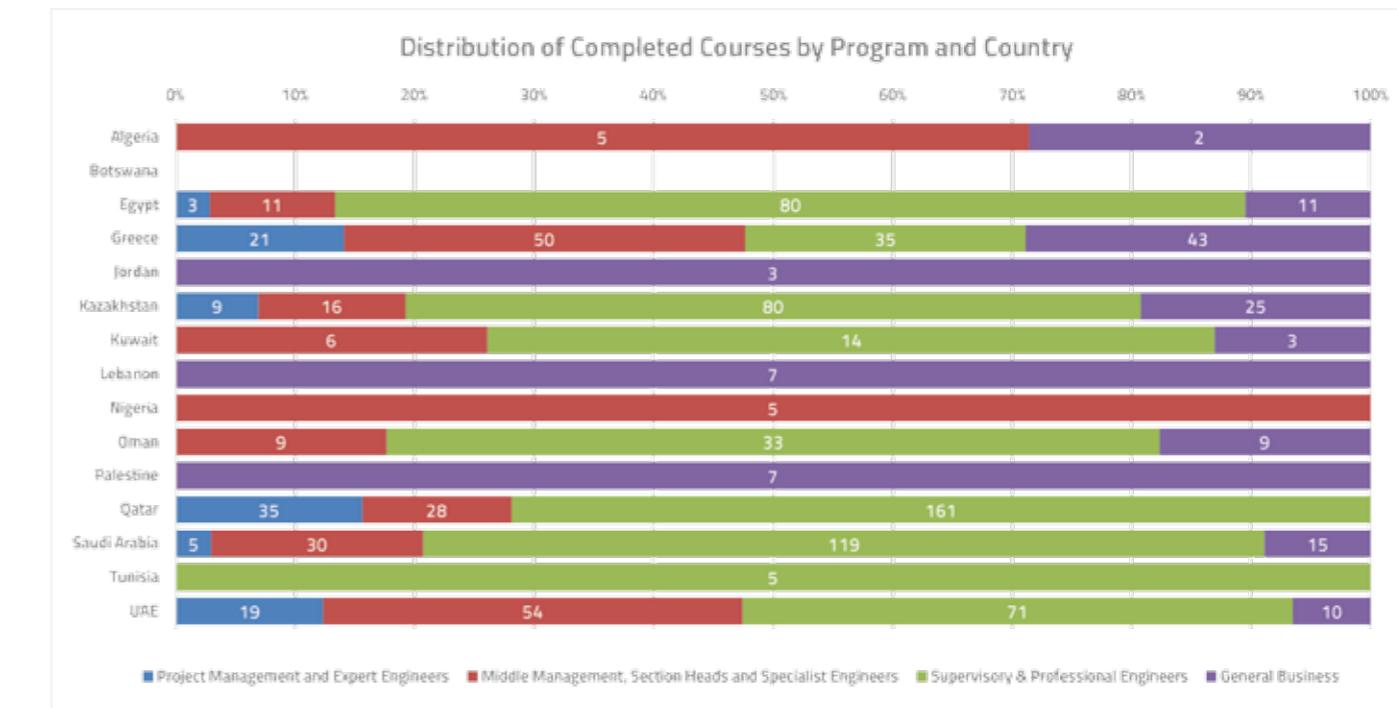


Figure 9: Distribution of completed courses per program and country



TRAINING & DEVELOPMENT: CCC New e-Learning Platform: Coursera

continued from page 35**4. Completed Specializations**

As at the time of this report, all 398 learners have also completed a total of 88 specializations (series of related courses designed to help the learner master a specific topic), distributed across the 4 programs, with the highest number of completed specializations (51%) belonging to the Supervisory & Professional Engineers program.

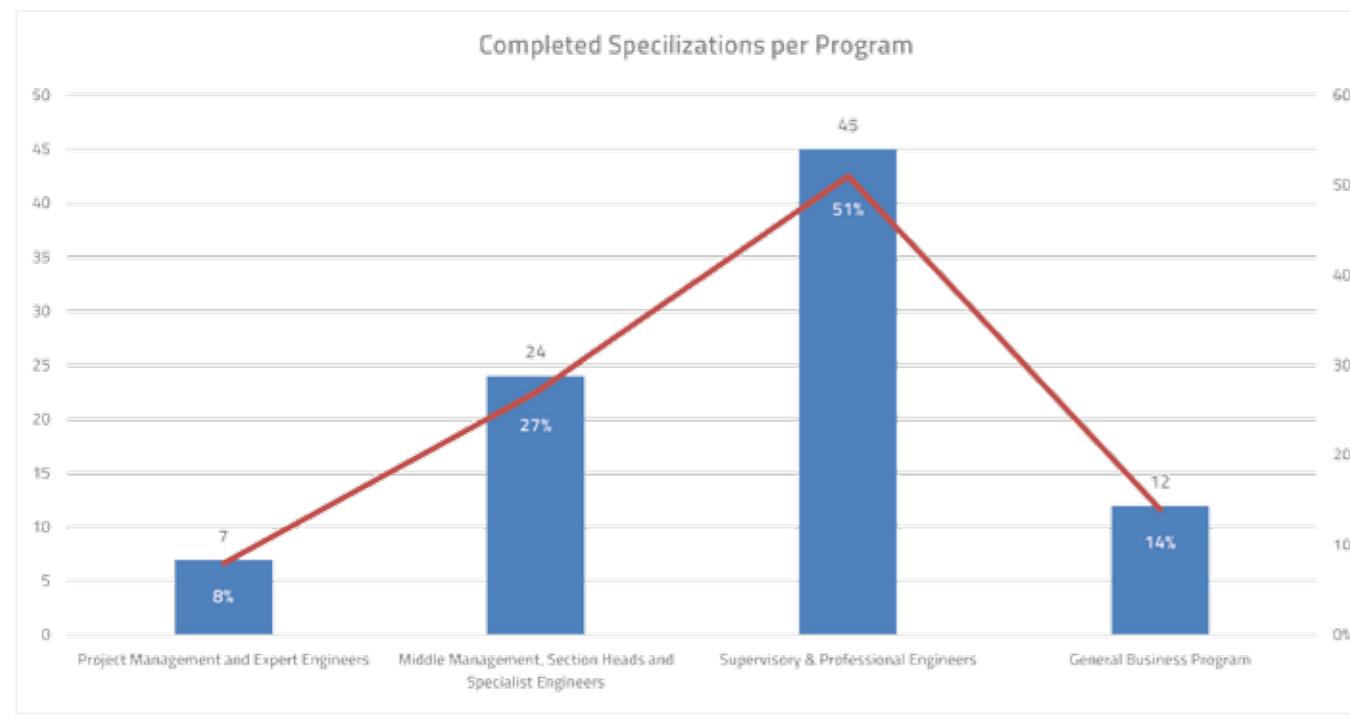


Figure 10: Number of completed specializations per program

5. Learners' Feedback

Individual courses were rated 4.7 / 5.0 based on the feedback received from 146 CCC learners, while the overall program was rated 4.2 / 5.0 received from 44 CCC learners. In their feedback learners have additionally reflected a sense of commitment towards, and great interest and enthusiasm in self-development.

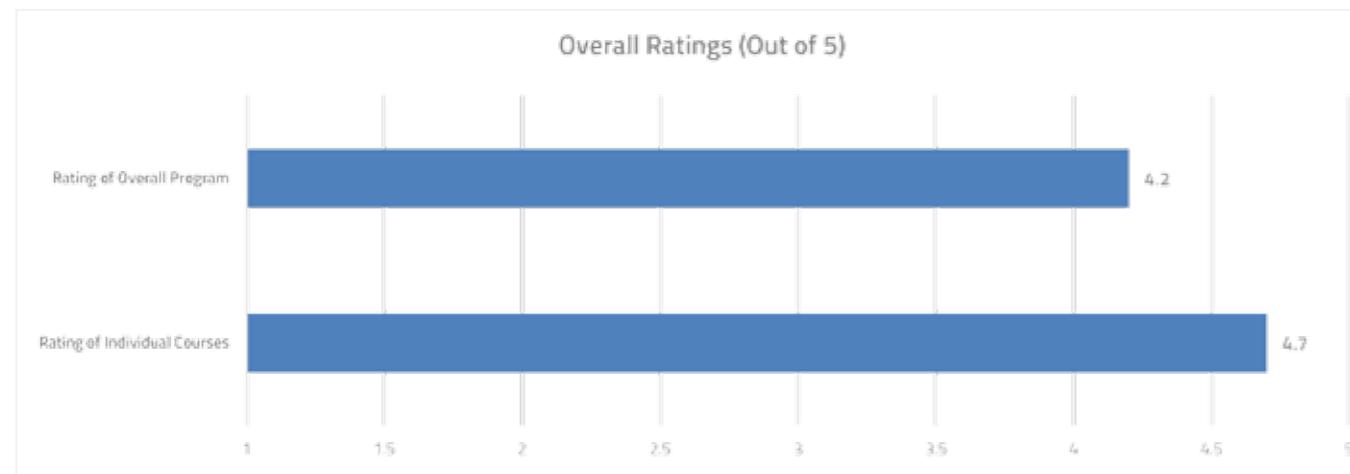


Figure 11: Learners' Rating

Figure 11 Learners' Rating

6. Certification

Upon successful completion of a course or a specialization, the learners receive a certificate signed by Coursera and the partner institute providing the training. Learner's training profiles in HR are subsequently updated with the achieved certificates.

Authored Courses

In addition to the provision of training and development, Coursera, as part of the contract, provided the possibility for CCC to host its internal training onto the learning platform.

In July 2021 CCC utilized this feature to offer its in-house training material exclusively to its employees and partners. The first offered training course was the "Ethics and Compliance Induction" which highlights the guidelines of the Ethics and Compliance Program within Consolidated Contractors Company (CCC Group) organizational structure.

Through real life interactive examples, the course promotes employees' awareness of the right conduct during participation in company business operations. The one-hour online course is structured in three video-supported modules with quizzes and a final exam.

The overall rating of the course, based on feedback received from 190 enrolled staff was 4.8 / 5.0:

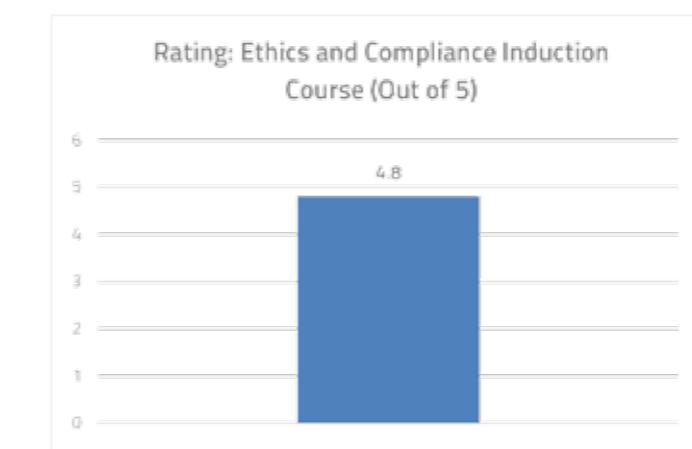


Figure 13: Staff Rating of the 2021 Ethics and Compliance induction

The Way Forward

As we embark on the 4th intake with Coursera, CCC management is looking to keep improving its e-Learning strategy to meet the industrial evolution and the Company's future vision. Not only will CCC continue to seek e-learning as a tool to upskill and reskill its core staff through courses and specializations with contents specific to CCC. It will also count on the continued commitment and dedication of staff towards their own self-development in ensuring that the e-learning achieves the benefits intended for their advancement, progression, and becoming the future leaders of the Company.

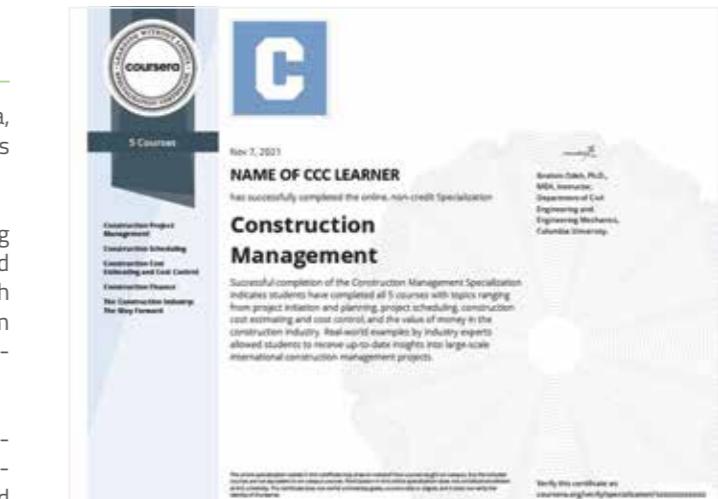


Figure 12: Sample of a Specialization Certificate in Construction Management received from Columbia University

Over 1,300 staff attended the induction course successfully and obtained their certificates.



Figure 12: Sample of a Specialization Certificate in Construction Management received from Columbia University



Wellness and Medical Fitness to Work

Article by: L. Darraj

"CCC's Culture of Health is the creation of a working environment where employee health and safety is valued, supported and promoted through workplace health programs, policies, benefits, and environmental support. Building a Culture of Health involves all levels of the organization and establishes the workplace health program as a routine part of business operations aligned with overall business goals."

During the past few years, non-occupational fatalities increased. The management and control of the rise in the number of non-occupational deaths during the past few years was the main concern of the health unit. Proper implementation of CCC's Medical Fitness for Work Policy and maintaining adequate professional standards of the medical staff are crucial in the management of such issues.

The effective method of controlling non-occupational fatalities is through conducting Medical Fitness for Work audits on all projects on a quarterly basis. Periodic medical check-ups are needed every six months for all critical trades and should be carried out on all projects. Recruitment of medical staff must be subject to HSE Group approval after thorough assessment of the candidate. Periodic re-evaluation and training of all medical staff is also a main tool in decreasing the number of fatalities in the company.

The main reason behind the rise in non-occupational fatalities in CCC during the past five years was the inadequate pre-employment medical examinations. Several steps have been taken to limit the number of fatalities such as the development of new requirements and procedures, analysis of stress related factors leading to death and visits to all projects and areas of operations have been scheduled to implement the "Medical Fitness Policy".

Most of these fatalities were due to chronic diseases. This is a concern of top importance which requires urgent corrective measures. The Corporate HSE-Group has been monitoring the situation closely and working on finding efficient and corrective measures that might lead to a successful management of this issue. The corporate HSE Group and CCC-HR Departments are determined to play a major role in the mitigation process.

All projects and areas of operations are requested to take active part in this process through full compliance with CCC Pre and Post-Employment Medical Examinations Procedures:

1. All employees, without exception, must undergo pre-employment medical screenings at CCC's approved medical centers and must have valid medical fitness work certificates accordingly issued before they can be considered eligible for employment. Same applies to all employees reallocated from other projects

HEALTH, SAFETY & ENVIRONMENT



HSE: Wellness and Medical Fitness to Work



- or coming back from a long leave.
- 2. All newly recruited employees and others reallocated from other projects or resuming duties after a long leave must be reevaluated by the project medical staff in terms of medical fitness to work.
- 3. Original pre-employment medical screening files and medical fitness to work certificates must be kept in the project admin/personnel department and copies must be stored in the project clinic.
- 4. All employees, without exception, must undergo post-employment medical screenings according to CCC's procedures in this regard and their medical fitness to work evaluated accordingly. The following is a quick guide for post-employment medicals frequency:

- a. Employees in the age group 20-40, **every three years**.
- b. Employees in the age group 40-50, **every two years**.
- c. Employees aged 50 and above, **every year**.
- d. Exceptions to the above are the following categories: employees in safety sensitive positions and jobs, who must undergo post-employment medicals every six months regardless of their age (drivers, machinery operators, food handlers, medical staff, and others).
- e. Project Administration/Personnel Departments must ensure that all employees have valid medical fitness to work certificates at all times. This can be achieved by adding the entity Medical Fitness to the already existing HRMS System. This ensures continuous control over the medical fitness certificates expiry dates. Accordingly, all employees with certificates expiring after one week will be instructed by the admin/personnel department to visit the project clinic for post-employment medicals and certificates renewal.

Medical Fitness to Work Audits will be conducted on different projects and areas of operations by the Project Doctor (s) afterwards on a regular quarterly basis.

Medical/Physical Fitness as a definition is the general capacity to adapt & respond favorably to physical effort. Medical Fitness can be classified into health-related and skill-related. The Medical Fitness for duty for a person shall be assessed on an individual basis, taking into consideration medical conditions, both past and current.

Having lessons learned, medical screening and availability of the medical records has proven to be an important factor and objective evidence to prove "Non-work-related incidents and fatalities" especially in controversial and what it may seem multi-factor causes of death.

Solution & Actions

Emphasize on "Medical Screening". Enforce it in all CCC Projects

- f. Design a standard "Medical-Screening Form" which is simple and cost effective, and which covers the basic medical criteria such as diabetes, hypertension, selective drugs & alcohol testing, for example, design a "Medical Screening" process which can be performed in house and by the doctor and/or the nurses at the project site so as to avoid a high cost.

By experience, projects have resisted the "Medical Screening" mainly because of the cost especially when a very advanced, expensive, or third-party "Medical Screening" is expected.

A basic cost-effective form of "Medical Screening" would be adequate for our purpose and would encourage projects to carry it out.

- g. HSE Group will design the new "Medical Screening Form", distribute it to all projects, enforce it and monitor its implementation through audits, visits and daily coordination.
- h. Another advantage of the Pre-Employment Medical Screening is that prospective workers and personnel who are proven to suffer chronic diseases, as would be detected during the Medical Screening, may not be initially employed, or at least may not be assigned to high-risk activities (such as work at height, drivers, operators, etc.); therefore, potential fatalities can be prevented.
- i. Pre & Post Medical Screening Requirements:

All employees in their country of origin must undergo all the required pre & post medical screening requirements, ex:

- Medical Staff
- Medical Assistants & Paramedics
- Caterers/Food Handlers

The basic need of pre-employment is to try to identify underlying risk factors in employees prior to and follow up on them closely during employment.

- j. In addition to the above, Purpose of pre-employment medical screening is the mainly the following:

- Maintain health requirements
- Decrease non-occupational fatalities
- Determine whether individuals are fit to the assigned task
- Control significant health risk

Emphasize "post-employment" Health Surveillance and Monitoring: Post-Employment/Health surveillance

Health Surveillance and monitoring programs will be used to monitor any potential health impact on individuals and measure controls efficacy.

Occupational wellness and adequate health care continue to be the main concerns of the HSE Group health unit. Occupational health management focuses on the physical and mental wellbeing of employees in the workplace. A "CCC Culture of Health" has been introduced within the unit to encourage safe working practices, ergonomics, monitoring the health of the workforce and supporting the management of absenteeism due to illness. The HSE-group believes that a comprehensive Occupational Health Management System helps achieve better employee health and safety as well as better production safety and efficiency, all of which can be achieved through assessments, training and workshops.



CCC's Employee Wellness Program (EWP)

"Not only does the workplace affect the well-being of the worker, but the health of the worker affects the success of the organization".

Over the past decade, CCC has made great strides in introducing a full employee wellness program. The roots of this program arose through CCC's commitment to ensuring all employees affected and infected with Malaria, in malaria endemic areas of operations were cared for effectively within the organization. Realizing that this required a greater commitment to wellness overall, the expanded program was introduced. Our commitment to our employee's wellness finds its demonstration in our active involvement in Global Business Coalition on HIV/Aids, Tuberculosis & Malaria), in our Corporate health procedure on Malaria, HIV/AIDS, Influenza & Avian Flu, Stress management, medical fitness to work procedure, Pre & post-employment procedure, and different awareness campaigns on a wide range of health issues.

As a company, CCC excels in sustaining optimal levels of health and well-being for its people. CCC maintains a healthy workplace, as well as achieving a good balance between work and home, without compromising productivity.

A lifestyle of wellness is a positive lifestyle for achieving well-being, when we can manage stress without being overcome by it, when food is a healthy pleasure and not a daily obsession, when physical activity and exercise are an integral part of our week then we can say we have a wellness lifestyle.

"Creating a culture of wellness at the workplace starts with a vision and taking steps to incorporate physical activity in the workplace".

The Seven Dimensions of Wellness are:

1. Physical Wellness
2. Emotional Wellness
3. Mental Wellness
4. Social Wellness
5. Environmental Wellness
6. Occupational Wellness
7. Spiritual Wellness

Workplace wellness

a. EWP-sponsored program is designed to:

- Promote health
- Prevent future diseases
- Manage current diseases such as *cardiovascular disease, gastrointestinal disease, CNS Disorder, Respiratory disorders, Infectious disease, Diabetes, Oncology & Hematology, etc...*

b. CCC cares about Workplace Wellness for the following reasons:

- Reduce healthcare costs
- Corporate Social Responsibility (CSR)
- Create an enjoyable workplace
- Competitive advantage/reputation
- Drive productivity
- Attract health-conscious employees

Workplace wellness is important mainly for the creation of a fun workplace, driving productivity, reducing health care costs and attracting health-conscious employees.

As previously mentioned, Wellness has seven dimensions: physical, emotional, mental, social, environmental, occupational, and spiritual. These dimensions are interrelated: One frequently affects the others. For example, a person who is emotionally "down" often has no desire to exercise, study, socialize with friends, or work, and he or she may be more susceptible to illness and disease. The seven dimensions show how the concept of wellness clearly goes beyond the absence of disease. Wellness incorporates factors such as adequate fitness, proper nutrition, stress management, disease prevention, and spirituality, not smoking or abusing drugs, personal safety, regular physical examinations, health education, and environmental support. For a successful "wellness" way of life, individuals must be physically fit and manifest no signs of disease. They must also be free of risk factors for disease (e.g., hypertension, hyperlipidemia, cigarette smoking, negative stress, faulty nutrition, etc...).

CCC's occupational health philosophy focuses on prevention & early detection to improve health and safety of employees.

The Impact of chronic and lifestyle diseases on businesses is summarized as below:

- The Employer lists the employee's poor health habits (in top 3 challenges) for them retain their health coverage
- 400% costs (e.g. sick days) differential for unhealthy workers
- Employer health coverage costs doubled in last decade
- Depression and hypertension
- Nutrition and overall health
- Culture of health

c. Organizational Characteristics associated with both healthy, low-stress work and high levels of productivity include the following:

- RECOGNITION of employees for GOOD work PERFORMANCE
- OPPORTUNITIES for career development
- An organizational CULTURE that VALUES the individual worker
- Management ACTIONS that are CONSISTENT with Organizational MISSION and VALUES



d. Our Primary Wellness Goals are:

- AWARENESS: Improve Motivation and Passion
- LEARNING: Improve Creativity and Insight
- INTER-RELATIONSHIPS: Build Trust and Effective Teams

e. Key Objectives for Work-site WELLNESS:

- BUILD general awareness about job stress (causes, costs and prevention)
- SECURE top management commitment and support for such program
- INCORPORATE employee input and involvement in all phases of the program (Worker's Consultation program as per ISO45001:2018 requirements)
- ESTABLISH the technical capabilities to effectively and efficiently conduct the program (e.g. specialized training for in-house staff or use of consultants)

As healthcare costs fall more on individuals, employees are more attracted to employers that offer a proactive approach in improving their health.

Even more than the cost savings, the greatest benefit of workplace wellness programs is the effect on culture. Smart companies understand this and have taken full advantage. With its onsite fitness facility, daily workout classes and healthy food offerings.

There is much cynicism about job hopping and the lack of loyalty in the workforce, but when employees see that you truly care about their wellness all parts of it –physical, spiritual, financial, emotional, intellectual, social and environmental – You differentiate yourself in a way that truly leads to long term loyalty from very grateful employees. Dr. Samuel Cramer, M.D., Health Management Corporations stated, '*When employers demonstrate that there is value placed on the well-being of every individual, at every stage of health, a company's collective health, and business performance, may very well improve.*'

f. The Typical Workplace Wellness Program Components are the following:

- Screening (Health Risk Assessment, Biometric Screening)
- Lifestyle Management (e.g., onsite fitness and nutrition classes)
- Disease Management (1on1 Health Coaching, medication adherence)
- Contextual Changes (On-site gym, healthy office snacks, work policies)

In addition, the above can be implemented and monitored through the following:

- Provide assessment activities.
- Usage of communication materials.
- Offering Self Help Programs.
- Provide Health Coaching.
- Offer Programs with short-term benefits.
- Offer Group Programs.
- Teach Medical Self-care.
- Address High-risk employees.
- Address Mental Health issues.
- Address Low-risk employees.
- Offer incentives.
- Use e-Health as an adjunct.
- Keep Programs current.
- Involve Employees' Families.
- Provide low-cost wellness options.
- Plan for seasonal changes and interests.
- Promotion
- Understand legal restrictions.
- Create a culture of health.
- Evaluate the program.





HSE: Wellness and Medical Fitness to Work

continued from page 41

g. Key success factors in implementing a workplace Wellness program:

- Commitment and participation from management, including CEOs, company presidents, senior managers.
- Employees want the program and are involved in its planning and organization.
- Internal resources, including employee time and financial support.
- The program is integrated into the organization through its mission and policy statements.

h. Implementation of a Workplace Wellness Program can be achieved through the following:

- Identify a wellness champion
- Assess Needs and analyze data
- Develop an action plan
- Re-evaluate and plan annually
- Create fun and simple programs
- Implement different effective communication strategies to raise awareness & excitement
- Design incentive schemes to drive initial participation

i. The benefits of workplace wellness to both Employer and Employees:

I. Employer:

- Improves corporate image
- Attract active employee's w/higher self-esteem & self-efficacy
- Worker satisfaction and positive attitudes towards work
- Reduces conflict between management and staff
- Decreases absenteeism
- Lowers costs of hiring/training/lost productivity from turnover
- May result in lower costs for chronic diseases and disability
- Addresses increased liability for employers regarding employee health
- Workers who are strongly committed to the organization or highly satisfied

II. Employees:

- Improves fitness and health
- Improves employee morale
- Provides commitment to a group & social reinforcement
- Promotes health and good behavior and lowers consumption of alcohol, annual medical check-ups, and non-smoking behavior
- May reduce the effects of tension and strain
- May be seen as a form of support
- Employees become more efficient, energetic, alert, and more able to manage stress
- Increases control and recognition in the workplace

j. The key to workforce wellness is health prevention. This is achieved through: "Health prevention, Health promotion and Health management".

Health Prevention:

- ↳ Weekly Occupational Health and Hygiene Inspections (catering facilities and food safety)
- ↳ Monthly water tests
- ↳ All workforce must be appropriately screened and have valid Medical Fitness to Work certificates
- ↳ All staff in safety sensitive positions must be randomly tested for Alcohol
- ↳ All staff must be trained in Basic Life Support (First Aid)

As for Medical Fitness to Work Assessment, it must comply with the below:

- ↳ Usage of appropriate methods to detect health issues
- ↳ Performed by a health professional
- ↳ Maintain employee confidentiality
- ↳ Maintain cost-effectiveness

Health Promotion:

Health promotion is the process of enabling people to improve their health. It moves beyond a focus on individual behavior towards a wide range of social and environmental interventions. The "CCC employee wellness program" has been established for implementation as a workplace health program to become a routine part of business operations.

Most people believe that taking part in fitness programs improves their quality of life. However, science has proven that physical fitness alone is not always sufficient to lower the risk for disease and ensure better health. For example, individuals who run 5 km a day, lift weights regularly, participate in stretching exercises, and watch their body weight might be easily classified as having good or excellent fitness or BMI. Counteracting these good habits, however, might be risk factors including high blood pressure, smoking, excessive stress, drinking too much alcohol, and eating too many foods high in saturated fat. These factors place people at risk for cardiovascular disease and other chronic diseases of which they may not be aware. Thus, a new concept called primordial prevention, or the prevention of the development of risk factors for disease, is currently gaining rapid popularity. Even though most people are aware of their unhealthy lifestyle, they seem satisfied with life as long as they are free from symptoms of illness. They do not aim to change until they incur a major health problem. Nevertheless, present lifestyle habits dictate the health and well-being of tomorrow.

"Good health should not be viewed simply as the absence of illness". The notion of good health has evolved considerably and continues to change as scientists learn more about lifestyle factors that bring on illness and affect wellness. Furthermore, once the idea took hold that fitness by itself would not always decrease the risk for disease and ensure better health, health promotion programs and the wellness concept followed.

HSE: Wellness and Medical Fitness to Work



k. The best practices for workplace wellness programs:

Program success largely hinges on execution, includes:

- Clear program goals
- Well-designed incentives
- Leadership support
- Multi-prong communication
- Fun, simple and Creative program offerings

The case for successful implementation of wellness and medical fitness programs at CCC will:

- Help Engagement & Enhance Moral
- Minimize Absenteeism
- Uphold CCC Brand/Image & realize Social Responsibility

I. Best practices and lessons learned:

No use, possession, distribution, offering or sale of unprescribed drugs at workplace	No presence in the body or illicit drugs or unprescribed drugs that may cause impairment while on workplace property	No use, possession, distribution, offering for sale of alcoholic beverages in premises
No one shall report unfit for work due to the after effects of alcohol, illicit drugs, unprescribed drugs or misuse of prescribed medications	No alcoholic consumption during working hours, whether on or off workplace property	Expert employees, volunteers and contractors to be "fit for work"
		Do not let employees suspected of being impaired at work operate any machinery or equipment

CSR Projects

Articles by: R. Nasser / D. Ntalachani

Contribution to CSR Initiative

CCC Staff are encouraged to come up with ideas and activities related to CCC's CSR Initiatives including [Going Green](#) and community involvement events. Please send your ideas, initiatives and achievements to "CSR-CCC" email address csr@ccc.net.

CCC Supports Health Researchers across Africa

On September 13 and October 11, in partnership with the Africa Research Excellence Fund (AREF), the CSR Department launched the first of two grant writing skills workshops for African health researchers. The two-week long workshops are delivered by Dr. Dawn Duke, Head of Programmes at AREF, and Dr. Peter Dukes, an expert in researcher development, and will assist talented early-career researchers increase their capability to solicit research funding and produce internationally impactful health research outputs.

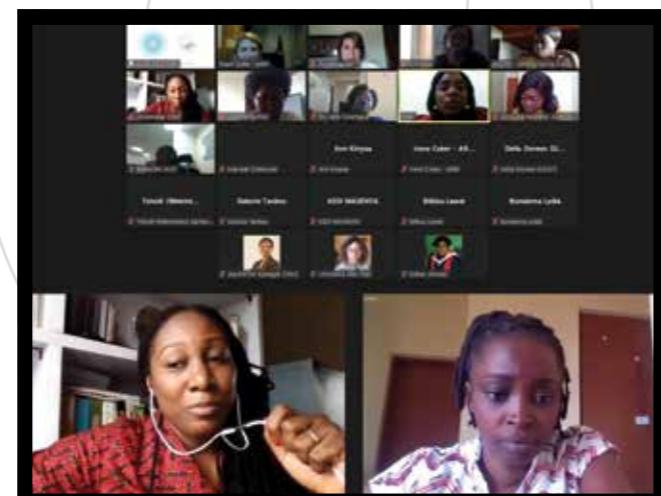
AREF was founded by Professor Tumani Corrah KBE in 2015 to support the development of the new generation of African health researchers to ensure that talent is retained in Africa to address the continent's unique health needs. To date, AREF's grant-writing workshops have benefitted approximately 200 health researchers from across Sub-Saharan Africa at critical stages of their research careers. But AREF aims to do more to support the diverse community of scientists across Africa and to make workshops more accessible to female scientists and those working in under-served countries.

To address this gap, the first CCC sponsored workshop targets biomedical post-doctoral women researchers in Africa, and the second workshop which started on October 11, will target researchers working in under-served countries in Africa that find it even harder to access the development opportunities needed to progress their careers and undertake internationally-competitive health research.

The partnership with AREF falls under CCC's CSR mission to improve the social and economic livelihood of marginalized communities by developing and supporting initiatives that build capacity and empower people. Samer Khoury, Chairman of the CCC says: "Africa has plenty of talent; especially among young women, and our duty as businesses is to give them the education and opportunities, so they can shine."

Founder and Co-President of AREF, Professor Tumani Corrah says: "We are proud to deliver these grant-writing workshops in partnership with the CCC to equip African health researchers with the confidence, knowledge, and support required to win competitive funding from international funders."

The workshops will help health researchers in defining their research focus, developing a well-written research proposal, planning a project proposal and budget, and gaining an understanding of the international and national research funding landscape. In her opening remarks, Rosie Nasser, CSR Consultant addressed the participants in a motivational talk saying: "my message to you today is very simple, always listen to yourself, to your heart, find what you love and focus on it because in love and passion is where you will find success and reach excellence."



CORPORATE SOCIAL RESPONSIBILITY



Successful Completion of the "Education for All: Empowerment of Vulnerable Women" Project, Kazakhstan

Launched in March 2021, the six-month project to empower Kazakh women came to a successful conclusion at the end of September. Implemented by Zhurekten Zhurekke Public Fund (Heart to Heart), the project provided 100 underprivileged women with two-month practical training in various trades: social media, make-up artist, seamstress, beauty care, and culinary. All the participants received certificates of successful completion of the courses, followed with a series of workshops and meetings to provide them with soft skills training, and business management guidance for the development of their careers.

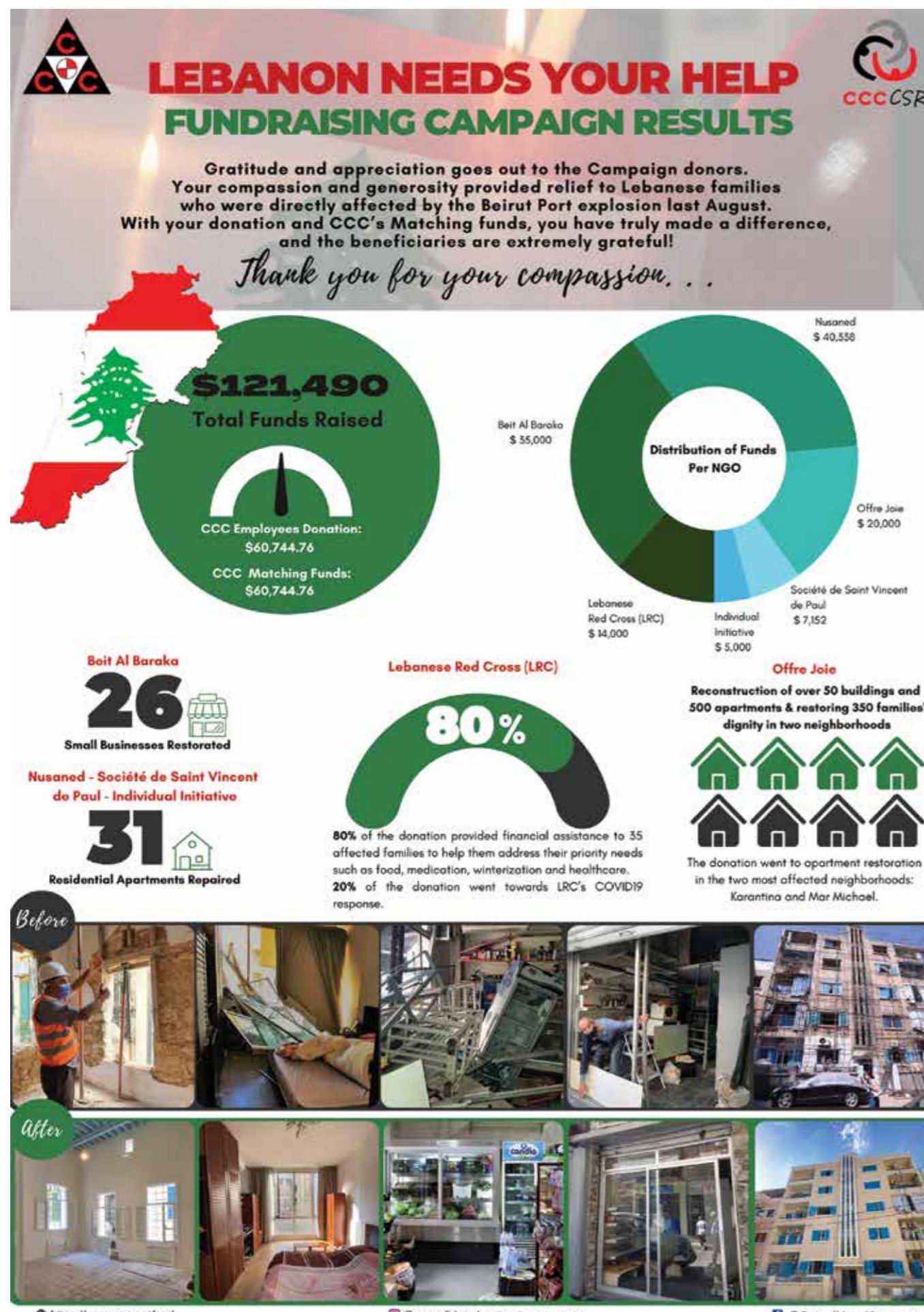


Career development included:

1. A three day workshop on the basics of business, delivered by a certified business coach and an expert of the National Chamber of Entrepreneurs.
2. Meeting with the leadership of the Department of Justice on child support. Since many of the project participants are single mothers left to fend for themselves without financial support, the meeting provided the women with the needed information about their rights, and the legal obligations of parents and particularly of fathers.
3. Three motivational business breakfasts with the Association of Business Women at the Chamber of Entrepreneurs. The motivational meetings provided the women with the space to discuss their hardships, connect and network with business women in various industries.
4. Soft skills and well-being workshop delivered by a psychologist from the Center of Family Well-being. The workshop empowered the women and decreased their psychological barriers and fears which prevented them from self-realization. The participants were also given the opportunity to meet individually with the psychologist to discuss issues that concern them.

Besides the building of skills, the career development guidance workshops and meetings, provided the women with increased self-confidence, greater knowledge in business management, improved their teamwork skills, and enhanced their decision making process. As a result of the project, 59 of the women were either able to start their own small businesses or find employment.





CSR: CSR Projects

**Support for the Forsa Program, Lebanon**

CSR secured funds through the American University of Beirut Alumni Chapter in Athens to support Beit al Baraka's Program entitled: Forsa. The Program aims to find solutions for parents to educate their children, for teachers to carry out their mission, and for schools to keep their doors open. Faced with the unprecedented economic crisis, the education sector in Lebanon has fallen victim to the continuous issues that the country faces including the Covid-19 pandemic, and the massive port explosion last August.

The raised funds of 5000 euros (\$5,840) covered the 2021-2022 tuition fees of 17-20 students enrolled in Saint François d'Assise Menjez School. Located in Akkar in North of Lebanon, the school falls on the priority list of the Program as it has a total deficit of \$17,000.

CCC Donates Van for Emergency Medical Services of the Goodwill Caravan, Athens, Greece

In October 2021, CCC donated the 7 seater Mercedes van of its late Chairman; Mr. Hassib Sabbagh, for Goodwill Caravan's humanitarian medical and emergency response projects in Athens. The Goodwill Caravan (GWC) is non-profit humanitarian charity which carry out global refugee protection projects including emergency aid distribution, sheltering the most vulnerable, as well as provide them with legal and medical support in the UK and Greece.

'On behalf of the board of Goodwill Caravan, myself and our beneficiaries, I would like to take this opportunity to thank CCC for their continued support of Goodwill Caravan projects. We are beyond grateful for CCC's generous donation of the van which will be paramount in furthering our reach to vulnerable displaced populations for our emergency medical project and all other emergency response efforts. We are proud to continue with our collaborate efforts for our joint humanitarian goals.' said Hanan Ashegh, Founder and Executive Director of Goodwill Caravan.

The medical services of GWC assisted more than 320 beneficiaries in the first 6 months of 2021 by facilitating access to the Greek Healthcare System, coordinating care of beneficiaries with complex medical needs, providing emergency medical aid, arranging vaccinations for children, and hosting weekly Outreach Clinics at GWC's Al-Sallam Centre in partnerships with Doctors without Borders and Medical Volunteers International.

The donated van will immensely facilitate the work of the NGO in many ways, especially in its emergency medical service as they usually transport their beneficiaries who need immediate medical attention via multiple taxi rides to take them to and from hospital appointments. The van will also be used on a daily basis by the medical coordinators to visit families, respond to emergencies, and distribute aid, as well as to transfer families, and furniture for the shelter project of GWC, thus reducing the cost of having to hire trucks.





CSR: CSR Projects

A Gift for the Children of Kulsary City, Kazakhstan

CCC in Kazakhstan sponsors the construction of a children's playground in Kulsary city of Zhylyoy district. Kulsary is an industrial town and home to around 63,000 of which 25,633 are children aged between 5 and 16 year old. With a growing population, Kulsary has a shortage of children's sports and play grounds that meet today's realities. The creation of a children's playground aims to provide pre-school and primary school children the space to simply play, organize leisure activities, as well as increase their physical activities that will instill in them the interest in a healthy lifestyle.



'This good deed was undertaken by CCEP; one of the largest companies in Tengiz' oil field, on the occasion of the 30th anniversary of the country's independence. On behalf of the residents of the Kulsary city, we thank the management of the company' said the Akim of Kulsary city; Ernar Ismagul. He added to say: 'CCEP always lends a helping hand to the residents of Zhylyoi district. The company was one of the first to come to the rescue when the pandemic broke out and provide hot meals to vulnerable groups. This year, the company, together with the Zhylyoi district akimat, provided financial sponsorship for the construction of a playground.'

Donation and Partnership for Education, Qatar

In October 2021, CCC donated 20,000 Qatari Riyal to Education Above All; an umbrella organization which focuses on providing educational opportunities to communities stricken by poverty or crisis. The donated funds went to support the organization's fundraising campaign which aims to provide access to quality education for marginalized youth and children worldwide.

In the future, CCC through its Corporate Volunteering Program, aims to engage its employees in renovating old schools and provide the required material and manpower resources needed for the required renovations.



CSR Volunteerism

Articles by: R. Nasser / D. Ntalachani

Pro bono Volunteerism at CCC: Leadership and Management Skills Training Course

From June 22 until July 9, 2021, CCC in partnership with "Odyssea" launched an online Leadership and Management Skills Training course for refugees, asylum seekers, and low-paid and part-time beneficiaries of Odyssea. The three-week course was delivered by CCC's head of Training and Development; Dr. Manar Shami who volunteered his time and expertise to provide 16 participants with the knowledge and skill to enhance their employability opportunities, and their professional lives.



The course was offered on a pro bono basis through CCC's CSR Corporate Volunteering Program which was established to engage CCC's employees in giving back to society and to contribute to the socio-economic development of communities by injecting time and talents in many sectors including education, capacity building, health, environmental sustainability, poverty reduction, and helping refugees and disadvantaged people in general.

The participants attended training sessions on communication skills, time management, public speaking, problem solving, decision making, team work, and motivation and delegation. Upon completion of the course the participant earned certificates of completion with 18 Professional Development Units (PDUs) from the Project Management Institute (PMI).



CSR: CSR Volunteerism

Online Mentoring Provide Support to Vulnerable Beneficiaries of two NGOs in Athens

In coordination with two NGOs in Athens; Odyssea and the Social Hackers Academy (SHA); CSR has engaged volunteers from Qatar, UAE, Kazakhstan, Greece, Algeria, and Saudi Arabia, to mentor, support, guide and develop the soft skills of beneficiaries of the two organizations and prepare them to join the workforce and improve their living conditions.

While the mentees of the Social Hackers Academy include vulnerable Greeks, migrants and asylum seeker students of a Front End Web Development course, the mentees of Odyssea include migrants from Iraq, Afghanistan, Cameroon, Congo, Pakistan, Gambia and Sierra Leone who are all seeking equal opportunities and jobs in various fields.

Mechanical Site Engineer in Kazakhstan, **Mounir Kassem** who recently finished his mentoring of 3 mentees said: '*My team was committed and excited, I believe that they will achieve their targets as all of them are goal oriented. It was a great experience of bonding and building a good productive relationship throughout our weekly meetings.*'

The outcome of the mentoring sessions include the empowerment and enhancement of the mentees' digital skills, and finding their career path. Specifically the mentors are responsible for helping the mentees in identifying their goals, boosting their self-confidence and self-presentation skills, improving their professional digital footprint on social media, and providing them with guidance on creating good resumes and curriculum vitae as well as providing them with tips on job interviewing.

Financial Officer in Qatar, **Christos Vytianiatis** who also completed his mentoring sessions said: '*I thank CSR for providing this mentoring opportunity. The interaction was an eye opener on the tough situations that refugees and war refugees are facing away from their home countries. Each one of them has lived/is living an 'odyssey', a trip towards their dreamland. My mentee was a very polite, emotionally intelligent person with great energy and dreams for a better future.*'

Louay Othman, who works in the Human Resources Department in Kazakhstan and who also recently finished his sessions said: '*I appreciate this experience that was given to us as mentors as it has positively impacted myself and the mentees. I had a great experience not only by mentoring the group of students assigned to me, but also by building a well-balanced bond between the mentees and myself.*'



Note: Odyssea is a Greek non-profit organization founded in 2016 with a mission is to empower excluded and vulnerable refugee, migrant and local communities in Greece, enable self-reliance, accelerate efforts towards a more inclusive society and democratize access to technological advances.

Social Hackers Academy is a non-profit organization that offers tech courses to socially vulnerable groups in order to help them obtain quality tech education that leads to employment.



WORLD FOOD DAY VOLUNTEERISM AT CCC GREECE | SAUDI ARABIA | UAE

CCC's CSR engages employees to support the mission of Food Banks in Saudi Arabia, UAE, and Greece in their mission to reduce hunger, malnutrition and food waste.

36
Volunteers

GREECE



Hours 100
Volunteered



2,302
Beneficiaries



SAUDI ARABIA



UAE

Donation & Volunteerism





CSR: CSR Volunteerism

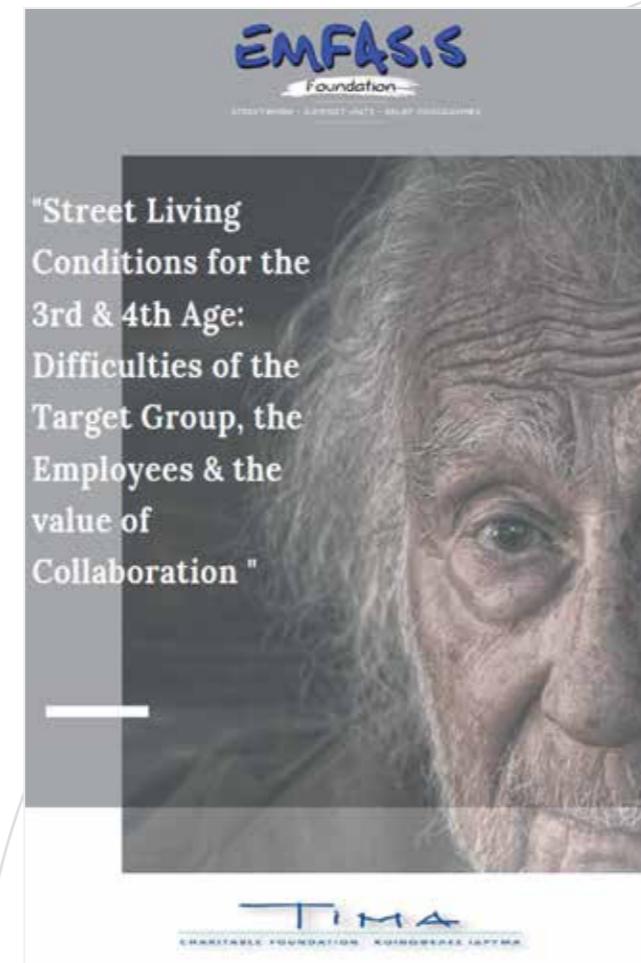
On-line Translation that serves the needs of the homeless in Athens.

After the successful cooperation with Emfasis in the Bake4Good Easter initiative, two of CCC's volunteers, Dimitra Ntalachani, and the mother of CCC employee Eleanor Bonanos translated various documents (from Greek to English) related to the NGO's Life Therapy Program for homeless people living on the street. The program includes such activities as listening to music, learning of a musical instrument, presenting live music performances, and creative activities such as painting, collage, and theatrical plays. These activities aim to provide the homeless some mental relief, upgrade their quality of life and improve their physical, social, emotional and spiritual condition and health.

In addition, Dimitra Ntalachani translated a power point presentation which describes the difficulties faced by the elderly homeless people who are above 60 years old, the difficulty in helping them, and the benefits of collaboration between civil society organizations to better serve those who are considered the most vulnerable social groups of the population.

The translation will help Emfasis in soliciting international funding for their homeless relief programs, as 80% of their annual funding is coming from overseas foundations and donors. In addition the translated material will be used in manuals and journals for their overseas networks, as well as their website, blog, and social media, to spread information about their work among English speaking communities.

Note: EMFASIS is a humanitarian NGO that caters to the needs of the homeless, the unemployed, families who live below the poverty line and supports socially excluded families who live in very difficult conditions.



CCC Volunteers Provide Translation Services to Beneficiaries of Doctors of the World, Greece

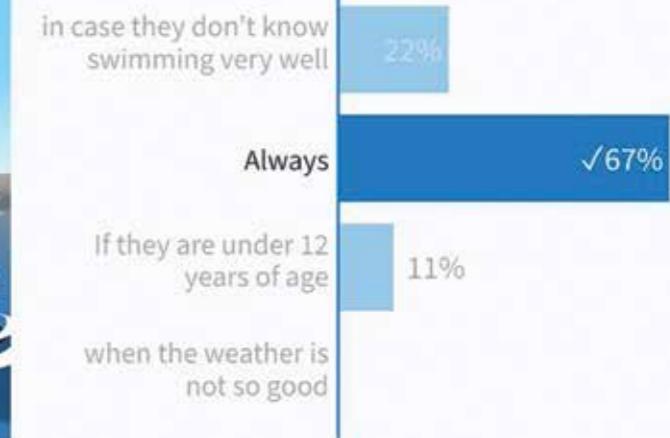
Three of CCC's Athens based volunteers: Omar Alfatyan, Antoinette Mansour, and Rouba Khairallah volunteered with Doctors of the World's (DOW) medical team to facilitate communication with their beneficiaries where language barriers exist. DOW's team in Greece provide emergency and long-term medical and health care for the most vulnerable communities across the country.

While Omar Alfatyan translated (from English to Arabic) a brochure that targets mothers on how to introduce solid and weaning foods to babies, Antoinette Mansour and Rouba Khairallah provided telephone interpretation services to facilitate communication between DOW's representatives and patient callers.

Children's Safety at Sea Goes Global Thanks to CCC's Volunteers

CSR in Athens in coordination with Safe Water Sports (SWS), organized on-line educational sessions for the children of CCC employees about safety at sea. To raise awareness about safety while swimming and playing water sports, 5 on-line sessions were held for 35 children aged between 5 and 13 in 10 of CCC's countries of operation including: Saudi Arabia, Oman, Qatar, Egypt, UAE, Lebanon, Jordan, Mozambique, Kazakhstan and Greece.

When children take part in any sea-related activity, they must wear a life-jacket



As a result of this successful collaboration which assisted Safe Water Sports organization to spread its mission beyond Greece and raise awareness amongst children living outside of Greece, they have decided to expand their work and to increase awareness in other countries. To do this, the training material needed to be translated into Arabic and 3 of CCC's volunteers; Ahmed Ali Ahmed Mohamed from Saudi Arabia, Boutros Thabet from Egypt, and Ralph Al Chater from Kuwait translated the training material into Arabic.

In addition, the volunteers translated and voice recorded the organization's swimming pool safety guidelines manual, safety rules in the sea and water sports manuals, as well as video scripts and fairy tale stories about safety at sea.

The mission of SWS is to increase safety awareness with focus on prevention of seawater related accidents. With the help of CCC's volunteers, SWS aims to collaborate with schools in the Gulf and Middle East region in order to provide the gaming sessions in Arabic, and increase awareness among children in the Arab world.

CSR: CSR Volunteerism





CSR: CSR Volunteerism

Medication Aid to Lebanon

To support the Lebanese people in the difficult and hard times they are passing through, CSR in cooperation with the Department of Services and Relations at MOA, ordered and collected 430 boxes of medicine and 2,673 pills for various chronic diseases. The estimated cost of the collected medications which were shipped to Lebanon totaled around 2,400€. The task was accomplished with the help of MEDGive, a Greek non-profit organization which aims to facilitate access to medicines for all. Since 2016, MEDGive has been supporting socially vulnerable groups such as the poor, the elderly, refugees, and others with limited or no access to medicines.

In a matter of few days, CCC volunteers from the Services and Relations and CSR Departments worked tirelessly to research, order, and deliver the drugs to the Lebanese Embassy in Greece, who had an aid shipment going to Lebanon on September 25.

Donating medicines that are no longer needed, to social pharmacies and nursing homes, does not only help those in need but also protects the environment. The Ministry of Health estimates that medicine worth of 1 billion euros ends up in the garbage every year. Many of these medicines that end up landfills and drainage are dangerous for the environment and the public health, as they return to us via the food chain.



CCC Volunteers Clean the Shores of Ural River in Kazakhstan

On September 25, 32 CCC volunteers participated in the "Clean Shores" environmental campaign to protect the Ural River from waste. The volunteers worked in a 1-kilometer zone of the river, and collected around 4 tons of household waste such as plastic bottles, bottle caps, food packaging, plastic bags, aluminum cans, and cigarette butts and placed them in Atyrau's landfill.

Plastics that end up at the bottom of riverbeds and get mixed with the sediments there, have a detrimental effect on oxygen levels in the water and harms animals that depend on these ecosystems for their livelihoods.



Recycling for a Good Cause, Kazakhstan



On the occasion of the International day for the eradication of poverty, CSR in Kazakhstan, donated 340 mattresses and 296 carpets to families living in poverty. CCC's volunteers coordinated and delivered the mattresses and carpets from CCC's project in Tengiz to Zhurekten-zhurekke Fund, the Zhan Yerkemai public foundation, and the Society of Disabled in Atyrau; all of which serve and cater to the needs of low-income families.

My Volunteering Experience with "Boroume"

By: A. Yamine, Greece

Boroume's Volunteering program is one of the most prominent volunteering initiatives that aims to reduce food waste and malnutrition in Greece. For several months, I participated in Boroume's '*We can in the Laiki*' program which caters to the nutrition needs of the poor. I and other volunteers were responsible for collecting all remaining and leftover foods from sellers at the food markets, which was directly delivered to public organizations who support those who suffer from malnutrition.

By participating in this activity, I have met many like-minded people and had the opportunity to learn more about the local culture. In addition, the sellers at the food market were friendly and supportive, and the whole process was well organized and enjoyable. Furthermore, the feeling of happiness and self-satisfaction that the volunteering work leaves you with is beyond words. Overall, my volunteering experience with Boroume was great; I have developed a better understanding of the food shortages and made many new friends. Thus, I highly recommend it to others.





CSR: CSR Volunteerism

Food Vouchers for Disadvantaged People with Disabilities, Kazakhstan



On the occasion of Eid al Adha, CCC volunteers distributed food voucher worth of 10,000 Tenge each for 100 low-income families and people with disabilities living in Kulsary city. With the funds, the beneficiaries will support their families and be able to purchase their basic necessities from a local supermarket. *'The 10,000 Tenge voucher is a good support for us and I thank you from the bottom of my heart'* said Izim Talgat, a retired pensioner who has a household of 10 people with one person working to support all the family.



ccc CSR
simply because we care

CSR Employee Welfare

Articles by: R. Nasser / D. Ntalachani

Digital Race for the Cure 2021

On October 1, 2 and 3, 28 CCC employees and their families in Athens and Beirut participated in the biggest Race or walk for the Cure. The race is organized on an annual basis all around the world and in Athens by the Hellenic Association of Women with Breast Cancer "Alma Zois" to increase awareness about breast cancer and to raise funds for its prevention. Some of the employees who couldn't actually participate, supported the cause by buying T-shirts to help the Association in its mission to raise public awareness, promote prevention and early diagnosis of the disease and support those who are currently living with breast cancer.



GREECE RACE FOR THE CURE.

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άλμα ζωής
HELLENIC ASSOCIATION
OF WOMEN WITH BREAST CANCER



CSR: CSR Employee Welfare

Children Lead the Way for the Protection of the Environment, Kazakhstan



The World Environment Day in Kazakhstan was celebrated with an environmental awareness competition held among CCC employees' children. CSR held an on-line drawing competition on "How to Protect our Environment" among school children grades 1 to 4, and grades 5 to 7. Around 165 drawings were submitted to an evaluation committee, who filtered them down to 30 drawings.

The announcement of the competition results was held on June 5, with the participation of the parents. The winners received certificates and cash prizes, and all other children who participated also received appreciation certificates. On the same day, 70 CCC staff members cleaned the areas adjacent to the Company camp bases at Tengiz field; setting a good example for the children. Project Director, Nicholas Steward and Deputy Director Amin Mushtaha talked about the responsibility of adults to teach and arouse the interest of their children at a young age, as children are the future and their decisions as they get older will impact the environment.

The planet is currently facing an increasing number of environmental challenges, which include climate change, global warming, droughts, water scarcity, floods, and pollution. Making children think of the environment and teaching them what it means to be environmentally aware is important and will have a lasting impact.



Summer Getaway for the Kids of CCC Employees, Kazakhstan

In coordination with the Association of Trade Unions of Atyrau, CCC organized two recreational camp vacations for 80 CCC employees' kids. Divided in two groups, and on two different occasions (in July and August) the kids were taken on a 10-day trip to Eurasia, a touristic recreational complex located in the suburbs of Uralsk on the Derkul River, 550 km from the city of Atyrau.

Accompanied by teachers, the children spent their getaway days playing games, sporting activities and competitions, singing contests, boat trips, camping and swimming.



Riyadh Metro Project Celebrates Pakistan's and India's Independence Days

On the 15th and 16th of August, the Indian and Pakistani employees of Riyadh Metro Project celebrated their 75th Independence Days at the South Village. The celebrations were attended by CCC's managers and directors as well as Embassy officials of both countries. Due to Covid-19 restrictions, the event was celebrated in a minimal way and followed Covid-19 protocols and procedures.

Even though the event was not very excessive it was indeed a day for remembering the great patriots and freedom fighters who sacrificed their lives for obtaining freedom for the motherland.





CSR: CSR Employee Welfare



CCC's Football Team Wins the Second Place on Labor Day Competition, Kazakhstan

On the occasion of Labor Day in Kazakhstan, the CCC football team participated in a mini football competition between companies working at the Tengiz field which was organized by Atyrau's regional Trade Union. Labor Day celebrated on last Sunday of September, was officially established in 2013 as a holiday to revive the traditions of respect for working professionals and recognize workers' achievements.

The CCC team came in second place after the team of the State Communal Enterprise Atyrau Su Arnasy. Such sports activities contribute to team building among colleagues of the same company and enhance friendly relationships between enterprises.

Saudi National Day, Saudi Arabia

On September 23, 2021, CCC's Al-Khobar office organized the 91st Saudi National Day celebration, with the participation of several leaders and employees, including Mr. Khalil Yafawi, Mr. Sulaiman Al-Qahtani, Mr. Muhammad Kawash and Mr. Khalid Al-Saiari. During the ceremony, many events were held with the participation of all colleagues in the Al-Khobar office.



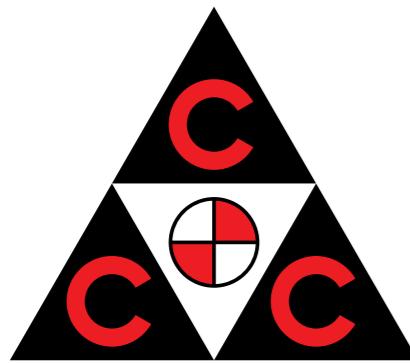
Communication on Progress UN Global Compact **CCC UNGC**

Article by: S. Thabet / B. Alhusseini

CCC has been a signatory of the United Nations Global Compact (UNG) since 2005 and is proud of the progress made in working towards its ten principles. Our report serves as annual communication on progress on implementing the UNGC principles and highlights our efforts to advance the United Nations' Sustainable Development Goals (SDGs).

The UNGC is a voluntary framework for businesses to align their operations and strategies with ten principles covering human rights, labor, the environment, and anti-corruption.

The CCC Communication on Progress (CoP) report recently published on the UNGC website highlights how the CCC's 73,000 people around the MENA region are empowered to contribute their time, skills, passions, and expertise to improve their communities and society, also highlight select activities of CCC in relation to the UNGC's 10 principles.



CCC responds in various ways to the four core focus areas that the Global Compact principles:

HUMAN RIGHTS	ENVIRONMENT	LABOR STANDARDS	ANTI-CORRUPTION
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In every country we operate in, we strive to add value to the local economy by applying a comprehensive local content strategy as part of our core values. We contribute to the development of our host countries by supporting local recruitment, building regional business relations, procuring local materials, and transferring expertise. CCC also contributes to the local social welfare of the communities where it executes its projects by assessing the needs and working with authorities and institutions to satisfy them.

Below is the link to CCC full report!

[Consolidated Contractors Company - Communication on Progress | UN Global Compact](#)

SUSTAINABILITY: Communication on Progress | UN Global Compact

STATEMENT OF CONTINUED SUPPORT
Management's Commitment to the UN Global Compact

Annual Report
Communication on Progress
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