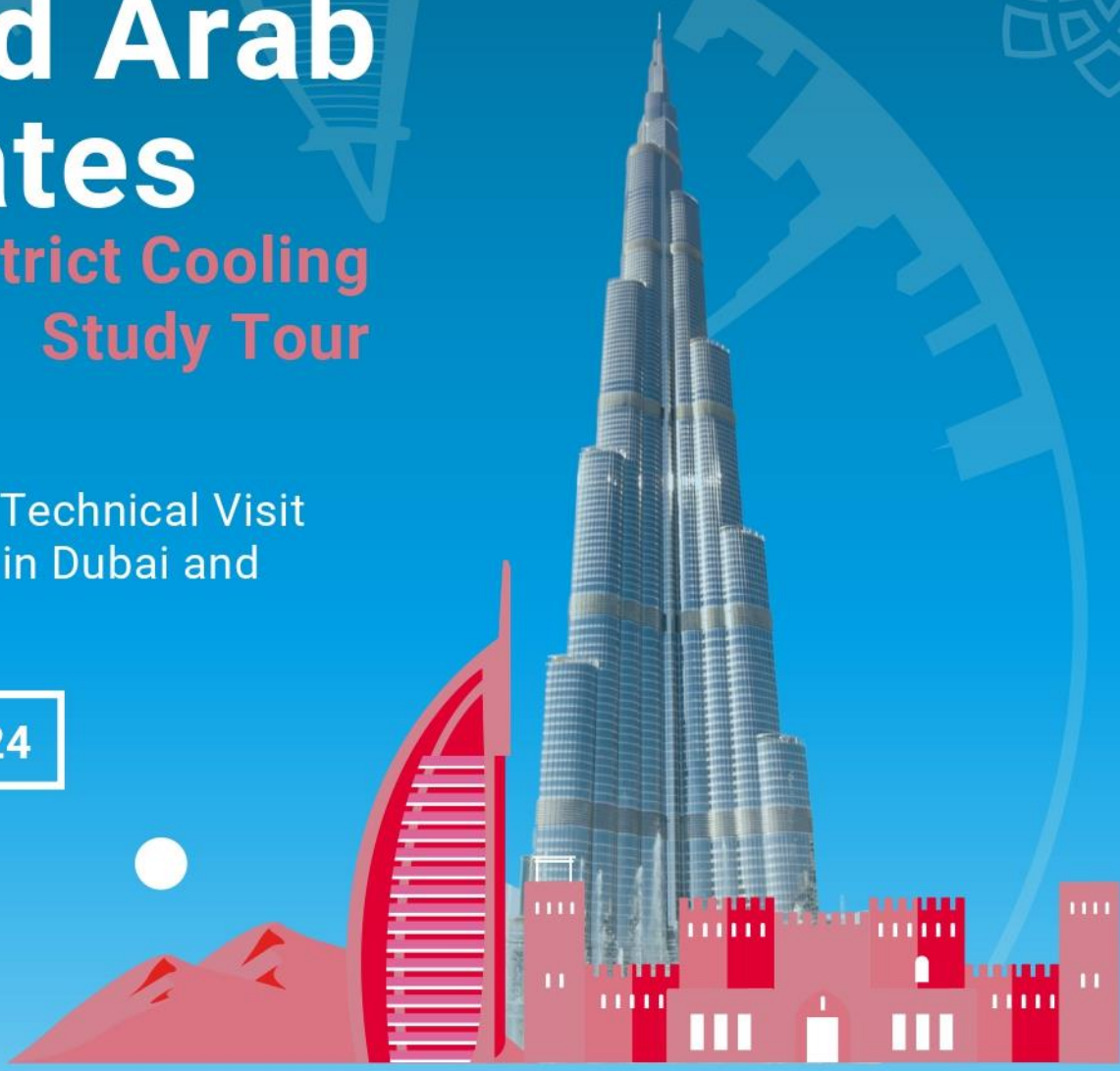
Participant Information Pack

United Arab Emirates

District Cooling Study Tour

District Cooling Technical Visit and Workshops in Dubai and Abu Dhabi

15-17 July 2024



Organised by:

UN environment programme

Coalition

تبريد tabreed Sustainable Cooling

EMPOWER ENERGY SOLUTIONS

INTERNATIONAL DISTRICT ENERGY ASSOCIATION

Supported by:

MINISTERO DELL'AMBIENTE E DELLA SICUREZZA ENERGETICA

Participants from:

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1. Overview & Objectives of the Technical Visit on District Cooling In UAE

United Nations Environment Programme (UNEP), under the framework of the Cool Coalition and the UNEP Copenhagen Climate Centre, is organizing a three-day technical visit and workshop series on district cooling in the UAE. The visit will bring together key stakeholders from multiple countries working on district cooling, and will include:

- Technical visits to high-class and diverse district cooling projects across UAE.
- Dedicated workshops on national and local policy development with opportunities for presentations and exchanges by each country on their current and planned policy frameworks.
- Dedicated workshops on technology, business models and financing for district cooling, led by UNEP as well as local industry experts including Empower and Tabreed.

This event is being organized by UNEP with support from the Italian government for the participation of representatives from Tunisia, Morocco and Pakistan, and local district cooling industries in UAE, notably Tabreed and Empower. The objective is to raise awareness and capacity of countries, cities and industry on the diverse benefits of district cooling, challenges and opportunities for their deployment and the policies and support needed to accelerate the market for these approaches. The trip will also provide a strong opportunity for country governments and cities to exchange on their policy approaches and build long-term collaborations and for industry to exchange on best practices and interact with leading players in district cooling. Post the technical visit, UNEP with its partners under the Cool Coalition will continue to support officials and industry on policy and best practice exchange between the international participants present at the workshop.

Stakeholder participation

An international delegation from countries including Tunisia, Morrocco and Pakistan. Other stakeholders include national policymakers, local district cooling industry players in UAE, UAE government departments, and UNEP officials.

2. Contact persons and key logistical information

- **Mr. Benjamin Hickman**, UNEP - Cool Coalition, benjamin.hickman@un.org, +33 6 41 90 03 38
- **Mr. Rahul Agnihotri,** UNEP - Cool Coalition, rahul.agnihotri@un.org, +91 98 67 33 44 15
- **Mr. Thibaut Pasquet**, UNEP-Copenhagen Climate Centre thibaut.pasquet@un.org , +33 6 75 41 36 14

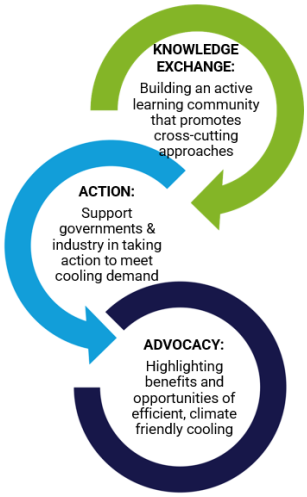
Transport within the UAE to the various sites listed on the agenda is being arranged for you. However, please note that you will need to arrange your own transport to and from the airport. The local currency is the UAE Dirham, Major credit cards are accepted in most hotels, restaurants, and department stores.

Lunch will be provided each day from Monday to Wednesday. Participants should purchase and carry their own water and other snacks as needed. Additionally, travelers are responsible for securing their own travel insurance.

Participants are responsible for arranging their own dinners and evening activities, except for Monday night when dinner will be hosted by the CEO of Empower. Participants must arrange their own transportation to this dinner. All delegations are expected to attend.

3. Introduction to the Cool Coalition

The Cool Coalition, an official outcome of UN Secretary General's summit, is a joint effort of over 200 governments, cities, businesses, development organizations, and civil society groups. Together we are collaborating on knowledge exchange on science, data, policy, joint action, and advocacy to accelerate cooling in an efficient, climate-friendly manner. The Cool Coalition promotes an 'reduce-shift-improve-protect holistic and cross-sectoral approach to meet the cooling needs of both industrialized and developing countries through urban form, better building design, energy efficiency, renewables, and thermal storage as well as phasing down HFCs.



Cool Coalition members are collaborating on science, policy, finance, and technology to meet growing demands for cooling in a comprehensive manner, all aimed at raising climate ambition in the context of the Sustainable Development Goals while complimenting the goals of the Kigali Amendment to the Montreal Protocol and Paris Climate Agreement.

The core of the Cool Coalition's work is driven by member-led working groups. Since September 2019, Coalition members have created 10 working groups on priority intervention areas in the cooling sector.

Active		Upcoming	Dormant
National Cooling Action Plans	Urban Heat Adaptation	Cooling Data/Emissions	Sustainable Cold Chains
Cooling Finance	Nature Based Solutions	MEPS	Renewable Energy
Private Sector Mobilization	Passive Cooling	Cooling and NDCs	
Communications	Dumping Inefficient Appliances	District Cooling	

Join us and become a Cool Coalition Partner! (Link)

4. Agenda

	15 July 2024 - Monday at Dubai				
	Starting	**Ending**	**Session**	**Presenter**	**Venue**
Day 1	10:00 AM	10:30 AM	Welcome Coffee		Hôtel JW Marriott Marquis Dubai
	10:30 AM	11:30 AM	Introduction to Technical Visit and Participants This section will cover the following: 1. Introduction to UNEP's initiatives on District Cooling 2. Overview of the Cool Coalition and the UNEP Copenhagen Climate Centre 3. Objectives of the study tour 4. Participant Roundtable: Each delegation will present on their country, their district cooling activities, and their expectations and objectives for the technical visit.	UNEP Delegates representatives	
	11:30 AM	11:35 AM	Empower corporate video		
	11:35 AM	11:45 AM	Welcome Notes	HE Ahmad Bin Shafar, CEO of Empower	
	11:45 AM	12:15 PM	District Cooling Technologies and Their Benefits	Samer Khoudeir, CSMO, Empower	
	12:15 PM	12:30 PM	Coffee Break		
	12:30 PM	1:00 PM	Financing, Structuring, and Implementation UNEP CCC presentation: overview of business models & financing for DCS	Ramesh Ramadurai, CFO, Empower Thibaut Pasquet, Programme Officer, UNEP-Copenhagen Climate Centre	
	1:00 PM	1:45 PM	Project Development Process	Tariq AlYasi, COMO, Empower	

			and Operation of DC		
	1:45 PM	2:45 PM	Lunch Break		
	2:45 PM	3:00 PM	About Empower Business Bay project - presentation	Tariq AlYasi, COMO, Empower	
	3:00 PM	5:00 PM	Technical Tour - Empower Business Bay Plant		Business Bay
	5:00 PM	5:30 PM	From IDEA (over virtual platform)	Rob Thornton, President and CEO, IDEA	Hôtel JW Marriott Marquis Dubai
	07.30 PM	10.00 PM	Dinner with Empower CEO, HE Ahmad Bin Shafar		Al Nafoorah Al Qasr

Day 2	16 July 2024 - Tuesday at Abu Dhabi				
	Starting	**Ending**	**Session**	**Presenter**	**Venue**
	9.00 AM	11.00 AM	Travel from Dubai to Abu Dhabi		
	11.00 AM	12.00 PM	Department of Energy Meeting	DoE representative	DoE Offices, Al Maryah Island
	12.15 PM	01.30 PM	Lunch and Prayers		Four Seasons Hotel
	1.45 PM	3.45 PM	Technical Sessions: 1. Project briefing 2. Corporate presentation international growth 3. Innovation and renewable energy integration (Geothermal +AI) 4. Public Private Partnership	 Delegates representatives Philippe Coquelle CBDO Antonio Di CeccaCOO Dr. Yousif Al Hammadi CAMO	Four Seasons Hotel
	4.45 PM	5.00 PM	Safety briefing and introduction		Al Maryah AD-021 Plant
	5.00 PM	6.00 PM	Plant Tour		Al Maryah AD-021 Plant
	6.00 PM	-	Travel from Abu Dhabi to Dubai		

Day 3	17 July 2024 - Wednesday at Dubai				
	Starting	**Ending**	**Session**	**Presenter**	**Venue**
	9.00	11.00	Policy and Regulatory options	RSB	

	AM	AM			Hôtel JW Marriott Marquis Dubai
	11.00 AM	12.00 PM	Discussion, debrief and concluding remarks	UNEP	
	12.00 PM	01.00 PM	Lunch		
	01.00 PM	05.00 PM	Participants free time		

5. Cool Toolbox

For each material described below, you will find a QR code on the side. Scan it with your phone to get more information about the projects. Alternatively, click on the link next to each project on the digital version of the document.

Global Cooling Pledge: Link

The Global Cooling Pledge represents one of the key outcomes and pillars of the COP28 UAE Presidency's Action Agenda and marks the world's first collective effort to improve energy efficiency and reduce emissions from the sector. The Pledge raises ambition for countries to work together to reduce global cooling-related emissions by 68% by 2050, improve energy efficiency of cooling technologies by 50% by 2030 and to increase access to sustainable cooling for the most vulnerable – all of which is needed to keep the 1.5°C goal in reach. The Pledge takes a multi-layered approach to the issue. It encourages technological innovation to improve energy efficiency. It includes targets to reduce the need for air conditioning through passive cooling, natural measures and improved design in buildings and cities. And it offers paths for governments to follow as they take action with industry to drive better efficiency in appliances and cooling systems. In addition, a key part of the cooling pledge is a call for all countries to ratify the Kigali amendment on HFCs.

The launch event celebrated the 67 countries that have endorsed the Global Cooling Pledge, along with over 50 private sector companies, financial institutions, and international organizations committed to supporting its implementation. Today, the Pledge is backed by 71 countries, including all G7 members, and is supported by over 60 non-state actors.

Global Cooling Watch Report: Link

Given the relevance of sustainable cooling for Energy, Industry and Just Transitions, on this thematic day, UNEP-led Cool Coalition launched its flagship report, Keeping Cool in an Increasingly Hotter World on 5 December 2023 at COP28. Developed through extensive inputs, support and consultations with experts and partners from inter-governmental organisations and civil society, it provides the first-ever modelling of direct and indirect global emissions from most impactful cooling activities. It also outlines a path to near-zero emissions by 2050, based on a survey of national policies and actions in 192 countries and a growth trajectory in all cooling sectors. This report clearly highlighted pathways to take emissions from the cooling sector to a trajectory of near-zero emissions, while ensuring enhanced access. It has found that coordinated action on energy efficiency, passive cooling, and rapid HFC phase-down can enable over 60% reductions in greenhouse

gas emissions from the cooling sector; and the rate of decarbonization can further accelerate reductions in greenhouse gas emissions from cooling sector to reach near-zero emissions by 2050.

Beat the Heat Report: Link

A Sustainable Cooling Handbook for Cities was launched on November 3rd, 2021, at COP26 by the Cool Coalition, UNEP, RMI, Global Covenant of Mayors for Climate & Energy (GCoM), Mission Innovation and Clean Cooling Collaborative. The new guide offers planners an encyclopedia of proven options to help cool cities. The guide's 80 supporting case studies and examples demonstrate the effectiveness of the strategies outlined and can help cities find an approach best suited to their unique contexts.

District Energy in Cities Report: Link

The UNEP report District Energy in Cities: Unlocking the Potential of Energy Efficiency and Renewable Energy identifies modern district energy as the most effective approach for many cities to transition to sustainable heating and cooling, by improving energy efficiency and enabling higher shares of renewables. This publication is one of the first reports to provide concrete policy, finance, and technology best-practice recommendations on addressing the heating and cooling sectors in cities through energy efficiency improvements and the integration of renewables, both of which are central to the energy transition.

UNEP-CCC Knowledge Management System: Link

UNEP Copenhagen Climate Centre hosts the Copenhagen Centre on Energy Efficiency (C2E2) which serves as the Energy Efficiency Hub of the UN Secretary General's Sustainable Energy for All (SE4All) initiative and plays a leading role in advancing one of the targets – to double the improvement rate of energy efficiency by 2030. The KMS provides selected training on a range of sectors including district energy.

6. Overview of our partners: Empower, Tabreed, IDEA

- ### About Empower

Emirates Central Cooling Systems Corporation PJSC, (Empower) was established in 2003, as a corporate entity pursuant to Ruler of Dubai and commenced commercial operations on 15 February 2004. Empower is a district cooling services (DCS) provider with the largest market share in Dubai, based on its connected capacity.

From a modest beginning in 2004 with a single temporary plant serving DIFC (the financial district of Dubai), Empower has grown exponentially over the past 20 years, with an impressive portfolio of major projects in place and is currently the world's largest District Cooling Services (DCS) provider by capacity. Through 87 plant rooms and a more than 398km-long network, Empower serves more than 132,000 corporate and

individual customers in more than 1,500 buildings with a connected capacity of more than 1.51 million refrigeration tons (RT) and a contracted capacity of more than 1.66 million RT. Empower employs more than 1000 professionals at its offices and plants in Dubai.

Empower is administered by a set of corporate philosophies, cascaded objectives and KPIs, quality policies and procedures, and effective corporate governance. Empower is known for its operational efficiency in the industry, a team of professionals works round-the-clock to meet customer requirements.

Holding 80%+ market share of Dubai's district cooling sector, Empower provides its services to a portfolio of world-class projects such as Deira Waterfront, Blue Waters, Jumeirah Group, Jumeirah Beach Residence, Dubai International Financial Centre, Business Bay, Dubai Healthcare City, Jumeirah Lake Towers, Palm Jumeirah, Discovery Gardens, Ibn Battuta Mall, Dubai Design District, Dubai Production City and many more. Empower has been awarded many times for its achievements and innovation on a global scale. Empower pioneered in using Treated Sewage Effluent (TSE) to replace scarce and precious fresh water at DC plants. This technology was awarded the first Innovation Award of IDEA in 2013. Empower has also implemented 'Thermal Energy Storage' (TES) system in district cooling which helps shaving off peak-time pressure on the state power grid through producing chilled water during off-peak hours and using it during peak hours. Empower has the region's first 'LEED GOLD' certified district cooling plant, the first of its six similarly certified plants in Dubai.

Empower is a partner of United Nations Environment Program (UNEP) and plays a vital role in UN-lead global initiatives, 'Cool Coalition' and 'District Energy in Cities'. Empower is also a member of international bodies of district energy and HVAC industries such as ASHRAE and IDEA (International District Energy Association).

Visit Empower website for more details - http://www.empower.ae/

- ## About Empower Business Bay District Cooling System

Business Bay real estate development
'Business Bay' is a vibrant and bustling business hub in Dubai, United Arab Emirates. It is a mixed-use community with residential, commercial, and hotel buildings. Developed by Dubai Holding, Business Bay spans an area of 4.3 square kilometers, with a leasable area of 7.2 square kilometers. The area is home to numerous skyscrapers of varying heights and functions.

About Empower's Business Bay District Cooling Project
Empower is the exclusive provider of district cooling services for the Business Bay development. Empower established its Business Bay District Cooling project aiming to meet the cooling requirements of Business Bay development and the stunning towers along Sheikh Zayed Road, positioning itself as a remarkable achievement in the field of district cooling. The project, which includes seven district cooling plants and ten Thermal Energy Storage (TES) tanks, was initiated in 2006 and the first plant commenced its operation in 2009 by serving the Business Bay Executive Tower (BBET).

Empower expanded the system over time and recently interconnected the two independent underground distribution networks for Business Bay Upper and Lower areas through one of the deepest district cooling pipes laying work in the Middle East using micro-tunneling methodology crossing the Dubai Canal. The interconnection of the district cooling network resulted in high efficiency, and the whole project (District cooling plant rooms + Distribution network + Energy Transfer Stations) is now a single district cooling system.

Currently, Empower operates the district cooling system with four advanced district cooling plant rooms and six TES tanks with a total installed capacity of **603 megawatts (MW)**, catering to the buildings within the development and the adjacent Sheikh Zayed Road through a single underground distribution network of over 51 kilometers in total length. The current total connected capacity of the system is more than **849 MW**, which is itself the largest connected capacity for a single District Cooling system in the world. Upon completion, Empower's Business Bay district cooling system will boast a total connected capacity of over 1,588 MW, supported by seven district cooling plant rooms and ten thermal energy storage tanks, encompassing both existing and upcoming facilities, and the system will be the single largest independent urban district cooling system in the world upon completion of the project.

Highlights

1. Highest installed capacity* single district cooling system with 603 Megawatts (171,536 RT)
2. Highest connected capacity** single district cooling system with 849 Megawatts (241,272 RT)
3. Largest number of buildings served by a single district cooling system – 306.
4. Longest underground pipeline network for a single district cooling system – 51.55 Kms.
5. Highest number of Thermal Energy Storage (TES) tanks under a single district cooling system – 6.
6. Highest number of Heat Exchangers under a single district cooling system – 523.

**Installed Capacity – The total production capacity of the plant rooms in operation under the system.*

*** Connected Capacity – The total cooling load of the connected buildings under the system.*

- ## About Tabreed

Tabreed is the world's leading district cooling company, providing essential and sustainable services to iconic developments such as the Burj Khalifa, Sheikh Zayed Grand Mosque, Louvre Abu Dhabi, Ferrari World, Emirates Towers, Yas Island, Al Maryah Island, Dubai Mall, Dubai Opera, Dubai Metro, Bahrain Financial Harbor and the Jabal Omar Development in the Holy City of Makkah.

The company owns and operates 91 plants, its portfolio including 76 in the United Arab Emirates, five in the Kingdom of Saudi Arabia, seven in Oman, one in the Kingdom of Bahrain, one in India and one in Egypt, in addition to other international projects and operations. Through its extensive regional and international operations, Tabreed's energy efficient cooling helps businesses and organisations to improve their overall energy consumption, in turn reducing CO2 emissions and assisting in the achievement of carbon neutrality objectives.

Visit Tabreed website for more details - https://www.tabreed.ae/

- ## About International District Energy Association

Founded in 1909 as the National District Heating Association, IDEA continues to inform, connect, and advance the district energy industry around the globe. Today, the association has a membership of over 2,500 industry professionals representing more than 30 countries from around the globe.

IDEA represents over 2,500 members from more than 25 countries around the world and from across the district energy industry. IDEA members own, operate or provide technology and services to district energy systems that supply steam, hot water, chilled water and energy services to multiple buildings in cities, communities, campuses, airports, military bases, industry and healthcare facilities.

Visit IDEA website for more details - https://www.districtenergy.org/home

Read more on IDEA call to join the Global Cooling Pledge: https://www.districtenergy.org/blogs/district-energy/2023/11/09/please-join-with-idea-and-sign-the-global-cooling

7. Meet the Participants

UNEP: Since its inception in 1972, the United Nations Environment Programme (UNEP) has been the global authority that sets the environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the UN system and serves as an authoritative advocate for the global environment. UNEP supports countries in a wider range of sectors in the energy transition and for energy efficiency including the transport, building, lighting, district energy, and appliances sectors.

UNEP-led Cool Coalition: The Cool Coalition is a global multi-stakeholder network that connects a wide range of key actors from government, cities, international organisations, businesses, finance, academia, and civil society groups to facilitate knowledge exchange, advocacy, and joint action towards a rapid global transition to efficient and climate-friendly cooling. The Cool Coalition is now working with over 200 partners, including 26 countries.

District Energy in Cities Initiative: UNEP in 2013 launched the District Energy in Cities Initiative as a global multi-stakeholder platform to support countries to accelerate development of district energy infrastructure. The Initiative today is supporting the Cool Coalition to mainstream district cooling into global knowledge sharing and political advocacy and in country projects including in India, Vietnam, and Cambodia.

UNEP Copenhagen Climate Centre: UNEP Copenhagen Climate Centre is a leading international advisory institution on energy, climate and sustainable development. Its work focuses on assisting developing countries and emerging economies transition towards more low carbon development paths and supports integration of climate-resilience in national development. UNEP Copenhagen Climate Centre is actively engaged in implementing UN Environment's Climate Change Strategy and Energy Programme. The centre employs 70 experts of 22 different nationalities working around the world from offices in UN City, Copenhagen and has more than 30 years of experience working with academia from leading institutions around the world. UNEP Copenhagen Climate Centre was founded as the UNEP Risoe centre by UNEP, The Danish Ministry of Foreign Affairs and the Danish Technical University in 1990. From 2014 to February 2022, the centre was called UNEP DTU Partnership, until it became the UNEP Copenhagen Climate Centre.

Mr. Benjamin Hickman, District Energy lead

Benjamin is an advisor at United Nations Environment Programme for the Cool Coalition and leads UNEP's District Energy in Cities Initiative. He leads UNEP's Cooling and Urban Energy Programmes in India and Viet Nam and advises on country projects in Chile, Cambodia, Tunisia, Morocco. He is currently based in UNEP's Mitigation Branch in Paris.

Benjamin joined UNEP in 2014 from a background in renewable energy policy, financing and market modelling and has degrees in Physics and Environmental Technology.

Mr. Rahul Agnihotri, Senior Advisor, Building energy efficiency and sustainable cooling expert

Rahul Agnihotri is advisor for Energy Efficient Cooling and on Building Energy Efficiency at UNEP India Office. For the last 22 years, he has been working in energy security, energy efficiency, and renewables energies and from the past three years specifically on urban cooling, heat mapping, district cooling, building energy efficiency and promoting sustainable building materials. Mr. Agnihotri holds a master's degree in business administration from Mumbai University, India, and a bachelor's degree in mechanical engineering from Amravati University, India

Mr. Thibaut Pasquet, Programme Officer - Climate and Energy

Thibaut Pasquet is a French energy engineer, holding MScs from both the Ecole Centrale de Nantes (ECN) in France and the Denmark Technical University (DTU) in Copenhagen. He previously worked in a French sustainable building design firm, where he engaged with district cooling and integrated energy systems. In UNEP Copenhagen, as a Programme Officer for Climate & Energy, he develops sustainable business models for climate mitigation projects, mainly focusing on renewable energy and energy savings. His work includes feasibility studies of energy projects, modeling greenhouse gas emissions trajectories for mitigation options, as well as financial assessments, development of innovative finance solutions and climate finance training. He has participated in such work as well as project proposal development in Bangladesh, Mauritius, Belize and Vietnam, among other countries, focusing on solar power, agrivoltaics, energy efficiency and district cooling.

TUNISIA

National Agency for Energy Conservation, ANME, Tunisia: UNEP in 2013 launched the District Energy in Cities Initiative as a global multi-stakeholder platform to support countries to accelerate development of district energy infrastructure. The Initiative today is supporting the Cool Coalition to mainstream district cooling into global knowledge sharing and political advocacy and in country projects including in India, Vietnam, and Cambodia.

Mr. Fathi Hanchi, General Director

Fathi Hanchi is the Director General of the National Agency for Energy Conservation (ANME) since 2020, he has been the Director of the rational use of energy within the ANME since 02/2011. As such, he has managed and coordinated energy efficiency programmes and activities in the tertiary, residential, building, and transport sectors in Tunisia. His portfolio also includes a national programme for energy efficiency in the public sector, energy efficiency conventions with local authorities, and national and Mediterranean cooperation projects. From March 2019 to Mai 2020, he was nominated as the Central Technical Manager in the ANME. A mechanical engineer, Fathi Hanchi has more than 25

years of experience in energy efficiency. He has been actively involved in the energy sector reform in Tunisia and contributed to designing, implementing, and evaluating energy efficiency programmes in the country. He has a solid track record in energy efficiency's economic and managerial aspects. He successfully managed numerous projects and complex programs in the field, both at the national and international levels.

Mr. Abdelkader Baccouche, Director

Baccouche Abdelkader works in the field of energy efficiency, renewable energies and sustainable development at the National Agency for Energy Conservation since 2001. After being projects manager in different Energy efficiency departments in ANME and Interim Director of MEDREC, Mediterranean Renewable Energy Centre and deputy Director of Solar Energy, he is currently Director of Energy Efficiency in Building sector since 2021. He was involved in all strategic Energy efficiency and renewable energy activities these last 20 years in ANME, he participate to legislative and regulatory frameworks redaction and improvement, he worked on the energy conservation laws, the Energy Transition Fund, FNME and FTE creation, the Tunisian Solar Plan Drawing, the conception and the achievement of several projects and programs supported by International donors and financial institutions (UNDP, UNEP, GIZ, KFW, AFD, BAD, GCF, USAID,...) including DHC development project and Energy Efficiency programs in cooling sector etc.

Ministry of Industry, Mining and Energy: The ministry of Energy is one of the main stakeholders responsible for the development of strategies, rules and regulations related to the EE including heating and cooling technologies.

Mr. Abdelhamid Khalfallah, Director of Energy Transition

Abdelhamid Khalfallah is an Industrial Engineer and expert in energy transition policies, development of renewable energy and energy efficiency programs. Master degree, graduated from the National Engineering School of Tunis. Having a technical, economical and managerial background. Specialist in energy statistics, development of policies, strategies, regulatory frameworks and National Action Plans in Energy Efficiency and Renewable Energy fields (EE&RE). He contributed actively to the development of the EE&RE field in Tunisia. Participated in the various dialogues conducted by the Ministry and the Government with private sector stakeholders in the field of energy efficiency, renewable energy and green hydrogen. He supervised many cooperation projects with GIZ, BERD, WB, UNDP. He is conducting now the national energy transition process in the framework of international cooperation in several fields notably renewable energy, green hydrogen, electric mobility and electricity storage, implementation of regulator for electricity sector

Ministry of Health

Mr. Ramy Sghari, Chief Engineer in Charge of the Supervision of Hospital Projects

Chief engineer in charge of the supervision of hospital projects in the ministry of health. He was appointed as the Ministry of Health's representative on the DHC project unit studying the implementation of a pilot centralised COLD-HOT system for public health establishments.

MOROCCO

Ministry of Energy Transition & Sustainable Development: Energy efficiency being an important pillar of Moroccan energy strategy, the improvement of the competitiveness of our economy requires the implementation of energy efficiency measures, the benefit of which no longer needs to be demonstrated. Some measures present significant savings potential and very short return on investment times, in addition to their beneficial impacts in terms of job creation and added value. Today, economic players place energy at the heart of their competitiveness and are making greater use of energy efficiency to achieve tangible savings by implementing renewable energy solutions in particular.

Mr. Mohamed Lisser, Head of Energy Efficiency Promotion

Lisser Mohammed is a senior chief engineer and head of the Energy Efficiency Promotion at the Ministry of Energy Transition and Sustainable Development. He followed several training courses in physical energy, including training on the digital processing of satellite and GIS data at the Regional Center for Space Sciences and Technologies. He participated in the Géoforma Project on Remote Sensing (Processing of ASTER satellite images, LandSat, etc.) applied to geology, through the use of ERDAS-IMAGINE, PCI, ENVI, ARCVIEW, and other tools. He also completed training courses at various institutions: the SEC (Solar Energy Center) on Solar Energy Technologies and Applications in New Delhi, the RENAC (Renewable Academy) on Renewable Energies and Energy Efficiency in Berlin, “Planning Support for Introduction of Solar Power” training Generation in Japan, and “Training on Renewable Energy Management: Future Perspectives” at CEDDET FUNDACION in Madrid. Furthermore, he completed internships with electrical operators, including an immersion at Electricité de Strasbourg (és, GRD) in Strasbourg and an immersion at Vattenfall Swedish Electrical System Operator.

Moroccan Agency for Energy Efficiency (AMEE): The Moroccan Agency for Energy Efficiency (AMEE) plays a critical role in the cooling sector by promoting and implementing energy-efficient practices and technologies. AMEE works to enhance the efficiency of cooling systems, reducing energy consumption and environmental impact. Through policy development, capacity building, and awareness campaigns, AMEE encourages the adoption of sustainable cooling solutions. Our initiatives include the development of standards and regulations, as well as supporting innovation in energy-efficient cooling technologies. By fostering collaboration among stakeholders, AMEE aims to drive the transition towards more sustainable and resilient cooling practices in Morocco.

Ms. Nada Belkebir, Head of Building Service

Nada Belkebir, a Moroccan energy engineer, born on March 26th, 1991, in Meknes. After completing high school, she went on to earn a Bachelor of Engineering and Management Science from Al Akhawayn University in Ifrane. In 2015, she completed her Master of Science in Sustainable Energy Management from the same university, cementing her expertise in the field. Upon graduation, she has demonstrated her dedication and passion for promoting sustainable energy management and making a positive impact on the environment. In 2015, she started as an intern in the Oasis Tafilalet Project where she participated at the preparation of a Master Plan for the Tafilalet region in the field of energy efficiency for buildings and public lighting. In 2017, she served as Project Coordinator for FMEP (Fes-Meknes Energy Performance) at Al Akhawayn University in Ifrane, a project that aimed at promoting

energy efficiency to the communes of the region of Fes Meknes. She then continued her professional career as an Energy Efficiency and Renewable Energies Engineer in Agadir, where she conducted technical and financial studies of solar photovoltaic projects, analyzed the need and sizing of solar PV installations, and conducted energy audits in administrative, agricultural, and industrial sectors. In 2022, she joined the Moroccan Agency for Energy Efficiency as an Energy Efficiency and Renewable Energies Engineer, where she continues to work today. In her current role as Head of Building Service, she provides technical expertise on energy efficiency and renewable energy projects, manage projects, and conduct feasibility studies.

Innovative & Sustainable Solutions: Innovative & Sustainable Solutions is a team of consultants and experts, who are invited to participate in the various missions entrusted to it, according to their fields of intervention and skills. Thus, ISS is able to provide high quality professional services for the execution of various projects. ISS is able to call upon high-level international experts for technical support whenever it deems it necessary. ISS continuously capitalizes and develops its know-how by investing in its human and material resources. This allows it to have the necessary technology to provide technical services in various specialities.

Mr. Mustapha Chafik, Executive director

Former director of sustainable development for major Moroccan state developers, and behind sustainability frameworks of first ecocities in Morocco. Actually, Mustapha is the Founder of 'Innovative and Sustainable Solutions' and 'Ecogenesis', consulting, technical and financial support organizations specializing in urban sustainability and decarbonization in major urban projects. Today, Mustapha is advisor to public and private organizations, both Moroccan and international.

PAKISTAN

Punjab Central Business District Development Authority: PCBDDA aims to introduce and install DCS system in one of its pilot projects in Lahore. Cooling is an essential part of CBD high rise development and high demand required along with energy. DCS will provide new technology to the local industry along with green energy in the country which will be environmentally friendly and provide cheap cooling and power.

Mr. Muhammad Asif Iqbal, Director Project Management

Experienced Project Manager with a demonstrated history of working with Multinational organizations as well as Government in Telecommunications/Civil/Real Estate industry along with expertise in Project Management, 14 plus years of experience.

Mr. Yasir Usman Khattak, Deputy Director Renewables Energy & Smart Solutions

Yasir Usman is a Deputy Director Renewable Energy and Smart Solutions for Pakistan's first central business district, CBD Punjab. He has a MS in Finance from American University Washington DC, USA and holds a Bachelor of Science degree in management and marketing from University of Maryland College Park, USA. His role is integral to advancing sustainability initiatives in line with UNSDG and climate change advocacy.

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Link