



Project Name	Client	Brief Scope Description	Start Date	End Date
Provision of services for conducting environmental studies for industrial facilities identified by LEPAP and preparing specific sector guidelines	United Nations Development Programme (UNDP)	The general objective of this Consultancy is to provide technical support to respond to the various technical requirements related to industrial pollution abatement interventions. The tasks I include conducting needed environmental studies in targeted industrial enterprises in line with national requirements and those of the World Bank.	Feb. 2019	ongoing
Environmental and Social Safeguards for the 220 MW Wind Farms in Akkar (Sustainable Akkar, Lebanon Wind Power, Hawa Akkar)	Sustainable Akkar	The assignment aims at ensuring that lenders E&S requirements are met prior to financial close. Lenders include FMO, EIB, OPIC and Bank Audi. Provided services: <ul style="list-style-type: none"> • Stakeholder Engagement Plans (preparation and delivery) • Environmental and Social Impact Assessment (with separate SIAs) • Ecosystems Service Assessment • Landscape and Visual Impact Assessment (LVIA) • Grievance Mechanism • ESMS and ESMPs • Disclosure materials, design of disclosure sessions and their implementation 	Jun-19	Mar-20
Scoping Report and EIA for the Implementation of 180 MW of Solar Photovoltaic (PV) Farms in Lebanon	Various Clients	<ul style="list-style-type: none"> • Prepare several scoping reports for the installation, operation and decommissioning of multiple 15-MW PV installation distributed in several locations in Lebanon 	Sep-17	Nov-17
HSEIA Review and HAZOP & SIL Studies for B1 and B2 Plants	Abu Dhabi Polymers Co. Ltd. (Borouge)	<ul style="list-style-type: none"> • Phase 3 HSEIA Review and Reports for B1 and B2 plants including HAZID/ENVID/OHID/ Workshops, Bowtie workshops, MOPO workshop, QRA Review, HSEMS Review, Hazard & Effect Register, EIA Report, OH Report, COMAH Report, Emergency Response Plan Review. • HAZOP Review and revalidation workshops for B1 and B2 plants. • SIL Review and revalidation for B1 plants. 	May-16	May-17
Supporting Industrial Pollution Abatement in Lebanon (LEPAP) - Improve Capacity for Environmental Compliance Project	Ministry of Environment (MoE) / funded by World Bank	<ul style="list-style-type: none"> • Assessment of current environmental status at the level of 12 selected industries - Deliverable: 12 pre-audit reports based on site visits to the selected industries 	May-15	Oct-16

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		<ul style="list-style-type: none"> • Conduct EAs for the 12 industries <ul style="list-style-type: none"> - Deliverable: 12 Draft EA Reports to be submitted to MoE for validation • Prepare & submit final Environmental Audits including Compliance Action Plans and Environmental Management Plans (CAPs/EMPs) for the 12 industries <ul style="list-style-type: none"> - Deliverable: 12 Final EA Reports including EMP/CAP for 12 industries 		
Preparation of a Cost Benefit Analysis for the use of Natural Gas and Low Carbon Fuels in the Energy Sector in Lebanon	United Nations Development Programme (UNDP)	<p>The main purpose of the study was to assess the feasibility of shifting these sectors to gas use as opposed to the current heavy reliance on liquid fuels. The assessment includes an analysis of demand, infrastructure requirement, and development of a CBA model, including sensitivity analysis on gas pricing and availability of gas, to evaluate different scenarios and identify to conditions upon which such gasification of the target economic sectors would be feasible. A policy analysis was also conducted in addition to the development of a case study for further implementation.</p> <ul style="list-style-type: none"> • Collection of national data, coordination with stakeholders and assessment of existing demand • Assessment of existing infrastructure • Support in development of CBA analysis • Support in policy analysis • Organization of national consultation workshop 	Jul-15	Apr-16
Consulting services related to the activity "Supporting Industrial Pollution Abatement in Lebanon (LEPAP) II"	Plan Bleu pour l'Environnement et le Développement en Méditerranée/ The Ministry of Environment (MoE)/ United Nations Development Program (UNDP)	<ul style="list-style-type: none"> • Preparation of pre-Audit and Audit Questionnaires • Conducting Audit field visits • Preparation of Major Finding Reports (MFR) • Designing sampling and monitoring programs for Wastewater discharges, Air emissions, and Noise emissions • Developing sampling and measurements protocols • Supervising the sampling and measurements activities • Preparation of Environmental Audits (EA) • Preparation of Environmental Management Plan (EMP)/Compliance Action Plan (CAP) 	Sep-14	Oct-15
Environmental Consultancy for the Framework Design	IBI Group / Saudi Industrial Property	<ul style="list-style-type: none"> • Environmental Site Appraisals • Site Investigations (including rapid ecological and archeological survey, air and noise baseline monitoring) 	Jun-14	Jun-16



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Services for Saudi Industrial Property Authority (MODON) - Type B – Projects: Master Plan Design for Thirteen (13) Industrial “Oasis” Cities	Authority (MODON)	<ul style="list-style-type: none"> Stakeholder Consultations (municipalities and local government authorities e.g., SCTA) Environmental Impact Assessment Studies for the 13 planned oasis cities Waste Management Plans for the 13 planned oasis cities Provision of guidance and details for the agreement and setting of environmental design standards for the operation and maintenance of the cities Attendance at design team meetings in KSA 		
Assessment of Energy Consumption and Mitigation Initiatives in the Commercial and Institutional Sectors	United Nations Development Programme (UNDP)	<p>This consultancy aims at providing services for the assessment of energy consumption and mitigation initiatives in the commercial and institutional sectors. This information enables the calculation of greenhouse gas emissions from both sectors that will be reported in Lebanon's next inventory submission to the UNFCCC. Work included:</p> <ul style="list-style-type: none"> Assessment of energy consumption from the commercial and institutional sectors in Lebanon for the period 2005 – 2012 and identification and characterization of all private mitigation initiatives undertaken to reduce emissions, through a nation-wide survey based on a statistically representative sample; Analysis of the survey results, trend assessment and extrapolation of the sample data to characterize energy consumption on a national scale; and Recommendations for an appropriate and tailored “Measurement, Reporting and Verification” (MRV) system to institutionalize both sectors' reporting to the Ministry of Environment, including a plan for QA/QC and uncertainty assessment. 	Jul-14	May-15
Strategic Environmental Assessment of Lebanon's Renewable Energy Sector Project	United Nations Development Programme (UNDP)	<ul style="list-style-type: none"> Assessment of the baseline conditions from a technical and environmental and social point of view; Analysis of the legal, institutional, and financial frameworks governing the renewable energy sector in Lebanon; Development of the SEA framework of objectives, indicators and targets; Identification of alternatives and their analysis against 1) the developed framework and 2) costs and benefits criteria in order to identify the most suitable alternative; Impacts assessment identifying potential environmental, 	Nov-13	Nov-14



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		<p>social and economic positive and negative impacts arising from the deployment of the most suitable alternative;</p> <ul style="list-style-type: none"> • Development of an environmental management framework to mitigate and/or alleviate negative impacts; • Development of recommendations covering: 1) the integration of the SEA findings into the Renewable Energy Strategy, 2) mainstreaming the SEA findings into national policies and plans, 3) EIA requirements, and 4) Legal, institutional, and financial measures; and • Organization of two multi-stakeholder workshops to engage stakeholders in the process and ensure their involvement in the decision making process. 		
<p>Consultancy Services for Ambient Air Quality & Stack Emission Monitoring of a Petrochemical Plant</p>	<p>Abu Dhabi Polymers Company (Borouge)</p>	<p>The project requires monitoring of stack emissions (maximum of 20 stacks on a quarterly basis) and Ambient Air Quality (AAQ) monitoring (for a period of 30 days in a year). The duration of the project is two (2) years from the date of commencement (non-continuous) with one-year extension. Purpose of monitoring is to ensure compliance with air emission standards as specified by ADNOC for point emissions sources and Ground Level Concentration in AAQ.</p> <p>Scope of work also includes submission of analysis report and presentation of findings to the company.</p>	<p>Mar-13</p>	<p>Feb-16</p>
<p>Technical Assistance in Support of Lebanon's Pollution Abatement Project (LEPAP)</p>	<p>GIZ</p>	<p>The LEPAP aims at reducing point-source/industrial pollution in Lebanon by providing technical and financial support to public and private enterprises so as to bring their discharges and/or emissions towards compliance with national environmental standards in a cost effective manner. ELARD in association with GFA, has provided technical assistance to establish the LEPAP financing facility which led to LEPAP starting operations in 2014, and is financed through a soft loan package of 15 Million USD from the World Bank and technical assistance grant from the Italian cooperation.</p> <p>During this LEPAP preparatory phase, environmental audits were conducted for selected borrowing industries, using the National Environmental Audit Manual as a guideline. The objectives of the environmental audits were to:</p> <ul style="list-style-type: none"> • assess compliance of the industry with the environmental regulations, related to effluent discharge and air emission prior to grating a credit; and 		



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		<ul style="list-style-type: none"> • Identify, assess and propose mitigation measures to reduce pollution from effluent discharge and air emission leading to bankable projects. <p>The Environmental Audits focused on addressing environmental issues related to reducing pollution from effluent discharge and air emissions, where ELARD conducted the following:</p> <ul style="list-style-type: none"> • Estimation of levels of emissions into air and water based on available data, mass balances and emission factors, and amounts and composition of wastes produced in the plants • Description of the processes used at the industries and the sources of different air and water pollutants and formation of wastes • Provide advice on different technical options to reduce releases to air and water, reduce deposited amounts of wastes either by process changes, material recovery, waste minimization, and/or end of pipe control. • Estimation of resulting releases of air and water pollutants and wastes after the possible control options • Estimation of costs for the different pollution mitigation options and implementation schedule • Determining the financial (if any) and economic pay back of the pollution control investments 		
<p>Environmental Site Assessment in the Industrial District of the King Abdullah Economic City (KAEC) – Kingdom of Saudi Arabia – Phase I & II</p>	<p>BURGEAP</p>	<p>Phase I:</p> <ul style="list-style-type: none"> • Project mobilization that includes activities such as the kick-off meeting with the Client, assignment and planning • Data gathering which comprises assembly, research and review of available project data with emphasis on the subject property • Review of records at existing local directories and interview with regulatory authorities, local directories and relevant individuals such as property owners/ managers and even occupants • Field Investigation activity which consists of a walk-over and spot checks at the planned development lots to identify potential environmental liabilities and pollution hotspots <p>Phase II:</p> <ul style="list-style-type: none"> • Review of the existing information and the development of a sampling work plan • Excavation of tentative pits located on the subject property and collection of soil samples from the different soil borings 	<p>Apr-11</p>	<p>Oct-11</p>



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		<ul style="list-style-type: none"> Evaluation of the results of the chemical analyses of the soil samples for different parameters; data interpretation and discussion of the findings 		
Environmental Impact Assessment for Lamprell Energy Ltd- Hamriyah Free Zone, Sharjah UAE	Lamprell Energy Ltd- Oil rigs fabrication and refurbishment Industry	<ul style="list-style-type: none"> Review of legal and institutional frameworks; Comprehensive environmental baseline survey; The Identification of environmental impacts related to the industry's activities; Development of an environmental management plan to mitigate the impacts and set basis for future monitoring; Development of a risk assessment analysis 	Aug-08	Jan-09
Autonomous Desalination Units based on Renewable Energy (ADU-RES)	WIP – Renewable Energies (Munich)	<ul style="list-style-type: none"> Assisting WIP in the overall coordination of the project; Development of individual needs assessment methodology using questionnaires and a computer spreadsheet model (for the calculation of energy needs, storage requirements, preliminary technology suggestions etc.) which is based on the MedWater Model for Integrated Water Planning; Assessment of water needs and consumption monitoring of four consumers from prominent user groups in the Mediterranean region in remote and rural areas (e.g. tourist resorts, plantations, food processing industries); Detailed study of the consumers of Task 2 concerning their paying ability using scenario comparison in respect of status quo expenditure on energy and water supply, additional beneficiaries, etc. Investigation of private and third-party financing schemes for the selected users. 	Apr-04	Jun-07