

# Delivering private finance in the Middle East

Our passion for solution based advice helps countries around the world unlock investment for innovative programmes that deliver on need and ambition. From social infrastructure to transportation and energy to water, we connect our experts in region and globally to bring you outcomes beyond the ordinary.



# Mott MacDonald

## Your winning team for the complete solution

Long before construction work begins, much needs to be done to agree the contractual mechanisms to fund the project.

As the world's pre-eminent lenders' technical advisor, we know a thing or two about unlocking the investment needed to get new projects off the ground. Last year alone we advised on more than 236 PPP/PFI projects in 39 countries, bringing public and private sector together to realise new assets.

Mott MacDonald has over 50 years' experience working in the Middle East. With over 1500 staff in the region and offices in Abu Dhabi, Dubai, Bahrain, Oman and Qatar, we advise government ministries, private sector investors and construction contractors on infrastructure projects throughout the region.

The governments of the region recognise that continuing investment in economic and social infrastructure is critical to their economies and the wellbeing of their diverse and growing populations. With slowing growth and pressure on public finance, opportunities are increasing for local and international private sector sources of capital investment – and the PPP model is developing to accommodate them. New PPP laws and structures are being developed where they have not already been established, with distinct local characteristics.

The best designed assets bring economic benefits while having a positive social and environmental impact. Resilience is also important – in the event of unexpected social, economic, climatic or natural shocks, well-designed assets minimise the impact on service delivery. This is especially crucial in the emerging markets where much of the estimated US\$5trn a year in infrastructure investment will be spent.

Clients recognise that there is an evolving best practice to consider sustainability and resilience of projects. But evidence is mounting that a deeper assessment will lead to direct and indirect financial returns. So we are using our experience in project finance to assess projects to provide a more holistic approach to asset design and funding.

With constant demands for better service, the pressures of urbanisation, and a growing world population, the need for good, sustainable infrastructure is more important than ever. Our project finance expertise helps to bring well-designed, sustainable projects to completion.

Public stakeholders and potential investors need a high level of assurance and guidance to give them confidence in the profiling and allocation of project risk.

**Mott MacDonald understands these risks – we have the broadest knowledge and most detailed insight of the technical and commercial factors affecting every infrastructure sector.**



**No 1 in the global infrastructure finance market for the sixth time**

**Partnership Awards 2015**  
Best Technical Advisor of the Year

**IJGlobal Awards 2015**  
Best Global Technical Advisor of the Year

**P3 Awards 2014**  
Best Technical Advisor

**NCE/ACE Consultants of the Decade Awards**  
International Consultant of the Decade

# Services

## Strategic implementation

### Strategic planning and development

- Policy development
- Feasibility development
- Strategic and outline business case development

### Strategic and market analysis

- Market entry strategy
- Competitive environment analysis
- Acquisition target identification and evaluation

## Project inception

### Feasibility studies

- Economic, environmental and social impact analysis
- Procurement strategy
- Project scoping and viability

### Business case

- Full business case development, production and cost-benefit analysis
- Capex, Opex and lifecycle planning
- Revenue and cost modelling

### Transaction advisory

- Technical and commercial due diligence and risk assessment
- Lifecycle review and modelling
- Operational reviews (including variation/ change impact assessment)

## Project development and delivery

### Procurement support

- Procurement and contractual advice and tender administration
- Facilities management and operational strategy and planning
- PPP capacity building and institutional support

### Programme management

- Programme implementation
- Contract and programme management
- Quality reviews and audits

### Design

- Reviewable design data management
- Engineering design services
- Client representative

## Project operation

### Asset assurance and delivery

- Testing, certification and assurance
- Operation monitoring and payment control
- Condition survey

### Business improvement

- Business change support
- Service improvement and consultancy
- Post-merger integration support

### Acquisition/divestment

- Market sounding
- Portfolio optimisation
- Secondary market transaction support

# Transforming healthcare in Turkey with PPP

Turkey's government has embarked on an ambitious PPP programme to provide 95,000 new hospital beds by 2023. Leading international financial institutions, financiers and commercial banks are providing the private investment, subject to the due diligence carried out by Mott MacDonald. PPP is new to Turkey for infrastructure, so the programme's financial closure relied on our experts turning deep complexity into a major opportunity for the growing population of this fast-developing nation.

The hospitals in the pipeline will be some of the largest hospitals ever built. In particular, the Etlik and Bilkent Health Campuses will provide close to 4000 beds each, making them the largest in the programme.





**Project**

Health PPP Turkey

**Location**

Turkey

**Client**

International lenders and development banks

**Expertise**

Lenders' technical advisory (LTA), providing due diligence



**Winner of the British Expertise International Awards for Outstanding International Leadership Award 2015**

**Best Infrastructure Financing Award from among 100 candidates by the Bonds & Loans Turkey Awards 2015**

**Opportunity**

The Turkish Ministry of Health is building some of the world's largest hospitals to meet increasing healthcare demands as a result of a fast-growing population. The programme will renovate healthcare infrastructure throughout Turkey, bring together smaller hospitals under 38 integrated health campuses, and increase the quality and efficiency of the health service. Mott MacDonald won the lenders' technical advisory (LTA) role on the first hospital PPP project, the Kayseri Integrated Health Campus (1583 beds) in 2011. In 2012, we were appointed as LTA on the second and third schemes, Ankara Etlik and Bilkent hospitals. During 2013 we won the same role on the Istanbul Ikitelli hospital project. On a number of projects our role expanded to cover environmental and social due diligence. We are now working on 18 different hospital and laboratory campuses under 12 different PPP schemes across Turkey.

**Solution**

The key challenge of these projects was liaising with the Ministry of Health and sponsors in a country new to PPP projects, to arrive at a contractual agreement (in particular, the service specifications and payment mechanism) that was more in line with international PPP best practice for risk allocation, and therefore bankable for the international lenders. Our infrastructure finance and investment transaction and health specialists from the UK collaborated closely with our team on the ground in Istanbul and really went the extra mile to meet every client's expectations for face-to-face support. We worked with the Ministry, sponsors and their advisors to develop a commercial solution where the risk profile would be acceptable to the lending community. We advised sponsors on the acceptability of their environmental and social due diligence, which was essential to meet the standards, public disclosure and consultation requirements of lenders such as the International Finance Corporation (IFC), the European Bank for Reconstruction and Development (EBRD) and the Overseas Private Investment Corporation (OPIC).

**Outcome**

Mott MacDonald has been instrumental in assisting sponsors and the Ministry of Health to move forward towards a commercial solution that will meet the expectations of the international and Turkish lenders alike. To date, six of our twelve projects have successfully reached financial close. In 2015, building began on the Bilkent Integrated Healthcare Campus, the world's largest greenfield healthcare scheme covering over 1.2M m<sup>2</sup>, providing 3804 beds and parking for 7209 vehicles. It will include over 100 operating theatres and is expected to treat around 35,000 patients per day and employ approximately 8000 staff. Early in 2016, the Etlik Integrated Healthcare Campus, also one of the world's largest hospitals with 3577 beds across more than 1M m<sup>2</sup>, received the green light for construction to start. Keith Mitchell, Mott MacDonald's project director, commented at the time: "The sheer scale of this project and tight deadlines to deliver the financing and achieve financial close was a test of our due diligence expertise. However we overcame these challenges through excellent collaboration between our PPP transaction advisory experts in the UK and Turkey, who will now go on to lead our construction monitoring activities."



# Delivering Bahrain's first affordable housing PPP

## Opportunity

The Kingdom of Bahrain is attempting to meet the housing demands of a rapidly growing national population. As part of the strategy the Ministry of Housing, in partnership with the SPV (Sharaka For Housing Projects BSC), is constructing 2817 social and affordable housing units and apartments, including all associated secondary and tertiary infrastructure and landscaping. The works are split over two sites. The Al Lwzi site comprises 832 social housing units and the Al Madina Al Shamaliya site comprises 1985 social and affordable housing units and apartments. The project has been designed and developed to create neighbourhoods with a strong sense of community that incorporate the cultural and social needs of Bahrainis. The intention is that this will be achieved by providing not only desirable dwelling units but also the right amount of well connected-designed community facilities and public open spaces. The PPP project has also been registered with the USGBC (United States Green Building Council) and application is being sought for LEED ND (Neighbourhood Development) Certification at Al Lwzi and LEED NC (New Construction) Certification at Al Madina Al Shamaliya.

# 2817

Social and affordable  
housing units



The Bahrain Affordable Housing Public Private Partnership (PPP) project is the first of its kind in the Gulf Region and is the biggest project undertaken by the Kingdom of Bahrain's Ministry of Housing.

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**Project**

Bahrain affordable housing PPP project

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**Location**

Al Madina Al Shamaliya and Al Luwzi, Bahrain

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**Client**

The Government of the Kingdom of Bahrain as represented by The Ministry of Housing

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**Expertise**

Client representative

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**Solution**

Working as client representative, for both schemes, we managed the contract, managed and supervised design and monitored construction. We also monitored and oversaw the defects liability and facilities management phase. We drafted the RFP for the independent certifier. We provided advice and guidance on the suitability of the affordable housing sales agreement and also on the amendments to the concession agreement. We liaised with authorities and utilities providers on multiple contracts. We provided guidance to the client during negotiations to resolve disputes with the SPV.

**Outcome**

The project was awarded via a five year concession agreement under which the successful SPV is responsible for the design, construction, financing and operation of all 2817 units for a period of five years. Construction began in June 2014 and was completed at the end of September 2015. The overall end of the concession period is currently scheduled for mid-2019.





# Advancing Saudi Arabia's airport sector

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## Project

Madinah Airport

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## Location

Saudi Arabia

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## Client

TIBAH Consortium

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## Expertise

Traffic and business plan advisory services

## Opportunity

The General Authority of Civil Aviation (GACA) of the Kingdom of Saudi Arabia has set a goal of reforming and liberalising the country's airport sector. This initiative was focused around developing the airport sector on a commercial basis through the introduction of competition and increased private sector participation. To deliver this, GACA invited bidders to tender for the operation, maintenance, expansion, rehabilitation and modernisation of Madinah Airport within the structure of a long-term PPP. The traffic forecast for Madinah airport needed to reflect the additional dynamic of an airport receiving religious pilgrims who each year travel to the holy cities of Makkah and Madinah for the Hajj and to perform Umrah. These pilgrimages occur according to the Islamic Hijri calendar, but these timings vary year-on-year in relation to the Gregorian calendar, making the forecasting, business planning and operational management of the airport challenging. A critical part of this was assessing the split of this Hajj traffic between Jeddah and Madinah airports as both serve pilgrims to the holy cities.

## Solution

We spoke with airlines at their home bases and developed dedicated traffic forecasts covering the detailed religious programmes and movements over the forecast years, and benchmarked driven revenue and cost assumptions. Using this intelligence we then conducted full demand and peak hour projections so we could help efficiently size the new infrastructure – the airport requires substantial investment for the expansion and rehabilitation of the terminal buildings and associated infrastructure in order to improve service levels.

## Outcome

We helped our client, TIBAH Consortium, compile bid documents including bid strategy, aviation marketing development plans, operating plans and communications strategy. Our design data supported the consortium's airport planners and architect by underpinning the capital development programme. Our thorough traffic and business plan advisory services contributed to the TIBAH Consortium being awarded the 25 year, US\$1.5bn concession at the airport and continues our track record of advising the successful bidders in airport transactions round the world.



**Winner of 2012 Middle East and Africa Infrastructure Deal of the Year (PFI Awards)**

**World Finance PPP Awards 2013**  
Best Transportation Project



# Boosting renewable energy in Jordan

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## Project

Jordan Solar One solar photovoltaic (PV) power plant

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## Location

Al Mafraq, Jordan

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## Client

International Finance Corporation (IFC)

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## Expertise

Independent engineer/technical advisory services

## Opportunity

Jordan's government is looking to increase renewable energy contribution to 10% of the country's generation mix by 2020. The Jordan Solar One solar photovoltaic (PV) power plant has been proposed to support this aim. It will be located in Al Mafraq, 50km north of the Jordanian capital, Amman. All output generated by the project will be sold to Jordan's National Electric Power Company (NEPCO) under a 20-year power purchase agreement (PPA). Our client IFC needed an experienced and reputable consultant to conduct a thorough study of the plant's technical aspects to assess the project as a whole, identify any technical risks and produce a full energy yield estimation. This would enable the IFC to assess whether the project company has the capacity to service the proposed loan. The IFC also requested a detailed analysis of environmental, health, safety and security aspects to assess whether the project would comply with the environmental and social standards required in the area, including compliance with relevant international legislation.

## Solution

We carried out a full technical due diligence study of the project. Our review focused on assessing of three pivotal types of potential risks from a technical standpoint – development, construction and operational risks. We visited the site to assess its suitability for development of a solar PV project of this capacity from technical, environmental and social viewpoints, including shading and potential risks to energy generation and impact on local communities. Following successful financial close, our team is now visiting the project site on a quarterly basis to support the lenders in monitoring implementation in terms of schedule, budget compliance, quality of work, performance of the project participants and compliance with project agreements and environmental and social requirements.

## Outcome

We were able to offer holistic advice to the lenders by undertaking the complete lender's technical advisor (LTA) role – technical, environmental and social review – all in-house, taking advantage of our extensive, international experience with solar PV projects. Construction of the project is now complete and, while the plant is yet to start exporting generation to the grid, its positive impacts are already being witnessed in Jordan. The project has brought extensive awareness of the benefits of sustainable solar energy in the region, and especially in a country currently highly dependent on imported oil and gas products.



## First healthcare PPP in Egypt

### Opportunity

Egypt had a well-respected system of medical education, but had difficulty delivering high-quality medical care because of inadequate hospital facilities. The existing maternity hospital could not extend the full range of advanced services required in its current location, while the hospital facilities for neurology and other specialist services were being delivered in buildings that were over 80 years old and could not be safely adapted for the higher standards of patient care and advanced medical equipment now required.

### Solution

To address the issue, Egypt sought to develop its first PPP in the health sector to design, build and operate two new specialist teaching hospitals to be located at Alexandria University, a leader among Egypt's educational and healthcare institutions. The scope of our role as technical advisor covered construction of:

- A new 200-bed gynaecology/obstetrics university hospital located as part of a new hospital complex which also includes a new paediatric and a new emergency hospital at the Smouha hospitals complex.
- A new blood bank at the Smouha hospitals complex.
- A new 223-bed hospital near the existing Mowasat Hospital to provide highly specialised care services (centres of excellence), a neuro-centre and a urology/nephrology (including kidney transplants) centre.

Initial capital expenditure for the two hospitals was planned at US\$225M, including equipment.

We provided advisory services encompassing all aspects of facilities management, contracts, equipment and information management and technology for the development. This involved undertaking a review of existing arrangements, providing guidance on tender documentation and process, holding a training workshop for evaluators and being on hand to provide technical support during the evaluation process. Our team of facilities management, contract management, communications and technology professionals were supported by sub-contractors MTS, experts in healthcare equipment advisory services.

### Project

Alexandria University  
Hospitals PPP

### Location

Egypt

### Client

International Finance  
Corporation (IFC)

### Expertise

Lenders' technical advisory  
services featuring facilities  
management, procurement  
and medical equipment

### Outcome

We assisted the IFC  
throughout the project  
development to enable the  
concession contracts to  
be signed. An international  
consortium led by Bareeq  
Capital, an Egyptian  
private equity firm focusing  
on social infrastructure  
projects, together with  
local and international  
partners, G4S, Siemens  
and Detac, won the 20-  
year concession contracts.  
We subsequently acted as  
lenders' technical advisor  
to InfraMed Infrastructure.

This PPP project was  
part of the Egyptian  
Government's aim to  
strengthen its health  
infrastructure and  
was seen as a model  
for future hospitals.





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**Project**

Kuwait Schools  
Development Programme

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**Location**

Kuwait

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**Client**

Kuwait Authority for  
Private Partnerships

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**Expertise**

Transaction advisory services

# Creating the best space for learning in Kuwait

**Opportunity**

The State of Kuwait recognised the need to improve facilities management in schools and looked to international designers, contractors and facilities management service providers to help implement best international practice in the management of the school environment to provide the best opportunity and environment for learning. The State of Kuwait, through the Kuwait Authority for Partnership Projects, planned to develop nine new schools and an Olympic-size swimming pool as a public private partnership project. The project is a design, build, operate and maintain contract over 25 years. Investors will be responsible for the design and construction of each facility and the ongoing facilities management to specific performance criteria. The Ministry of Education in Kuwait shall be responsible for the delivery of the curriculum.

**Solution**

As transaction advisor our role included preparing pre-feasibility and feasibility studies and contract documents including output specifications. We provided cost consultancy services and developed the payment mechanism as well as preparing the EOI, RFQ and RFP documents. Throughout the procurement of the project we gave technical support and evaluated submissions at each stage of the tender process.

**Outcome**

The PPP is a pathfinder project for the state of Kuwait and includes use of performance based service specifications rather than the traditional input based contracts. The specifications we prepared looked to promote a whole-life perspective to the design, construction and facilities management of the asset so that a long-term sustainable solution can be delivered.



**Project**

Shuaibah III Expansion 33MIGD  
seawater reverse osmosis project

**Location**

ACWA Power (Shuaibah  
Expansion Project Company)

**Client**

Jeddah, Saudi Arabia

**Expertise**

Owner's engineer



# Fast-track solutions to meet Saudi Arabia's water needs

**Opportunity**

The challenge was to provide an additional 150,000m<sup>3</sup>/day of desalinated water capacity within 20 months to meet the accelerating demand in Jeddah. The project was co-located on reclaimed land adjacent to the Shuaibah Independent Water & Power Production (IWPP), the first IWPP in Saudi Arabia, and both plants use a common water discharge channel. The facility uses reverse osmosis (RO) technology in two pass design and energy recovery equipment and systems.

**Solution**

As owner's engineer we reviewed detail design of the seawater reverse osmosis (SWRO) plant including remineralisation as per multistage flash (MSF) and requirement of a water purchase agreement (WPA). We commented on the design of the debutant designer in SWRO technology and monitored project construction and co-ordination of site supervision. We reviewed and approved performance test procedures for RO plant and other plant. We reviewed acceptance test procedures in line with the WPA and reviewed energy demand model and plant billing system software test procedures. The plant comprises of seawater intake, one stage dual media filtration, cartridge filter, two pass RO modules and potable water treatment system and producing a total 150,000m<sup>3</sup>/day (33MIGD) of net potable water, interface with existing seawater outfall and potable water tank.

**Outcome**

Together, Shuaibah IWPP and Shuaibah III RO Expansion form the largest desalination plant in the world, with capacity of 1,030,000m<sup>3</sup>/day water production. This serves a critical role during the Holy Months of Ramadan and the Hajj period to ensure continuous and reliable power and water supply to the Makkah Mukarramah region.

Currently the  
largest desalination  
plant in the world

1,030,000m<sup>3</sup>/day  
water production



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**Project**

As Samra wastewater treatment plant

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**Location**

Jordan

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**Client**

Arab Bank

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**Expertise**

Lenders' technical advisory services

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Modern infrastructure is more efficient and better for the environment but not within reach of every asset owner and operator. When a new wastewater treatment plant was needed to service Jordan's growing capital city Amman, an innovative project finance model unlocked the investment required to get the project off the ground.

**Opportunity**

Constraints on financial resources are forcing infrastructure owners and operators to look for alternative ways of paying for new assets. The rapid increase in the population of Amman placed increased pressure on wastewater infrastructure, one of the impacts of which was the discharge of untreated sewage into watercourses. At As Samra, massive overloading of ageing wastewater stabilisation ponds was creating a growing environmental nuisance as well as significantly reducing the potential for water reuse. Jordan's Ministry of Water and Irrigation turned to the private sector for support and the delivery of a modern full scale wastewater treatment system. Affordability was a real issue so innovative financing was needed to realise the scheme.





# Affordable model brings environmental solution to Jordan

## Solution

The facility provides full wastewater treatment and biosolids management and achieves 75% energy recovery. It was constructed in two phases: the first phase (built 2003-08) with a throughput capacity of 260,000m<sup>3</sup>/day, which was expanded to 360,000m<sup>3</sup>/day on completion of the second phase (built 2012-15). Delivered through a design, build, finance and operate (DBFO) contract, the Samra Project Company will operate the facility for 20 years with full responsibility for whole-life costs, ensuring that asset management is prioritised. We provided technical and commercial due diligence to the lenders to achieve successful financial close of this complex project which involved viability gap funding provided through grants in Phase 1 from USAID and in Phase 2 from the Millennium Challenge Corporation through MCA Jordan. This was followed by construction phase assurance services and we were retained by the lenders to monitor the As Samra Project Company's performance during the commercial operations phase.

## Outcome

Phase 2 of the project was completed on time through a commitment to quality management and a partnership approach to technical and commercial problem solving with the backing of a long-term operational contract. A holistic approach to asset management has ensured very high operational reliability. The project has delivered multiple environmental benefits by resolving odour nuisance and pollution at the treatment plant, tanker reception centre and satellite pumping stations. The power requirements of intensive wastewater treatment have been minimised by utilising hydropower turbines and generators running on gas recovered from treated biosolids. Treated water is being used by local farmers with the remainder being discharged into the Zarqa River for further re-use. A commitment to training has upskilled the local workforce and provides valuable job opportunities. This PPP model has attracted the interest of both local stakeholders and international funders as a template – in Jordan and around the world – for delivering similar infrastructure projects that lead to more efficient, more resilient utility services and a cleaner environment.

# 75%

Energy recovery

# 40%

Increased capacity

## Need help with a private finance project?

Talk to us:

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