

# CAPABILITY STATEMENT

WORLD CLASS EXPERTISE IN EMERGING MARKETS

Modern Energy Management (MEM) is a renewable energy development services provider, delivering project lifecycle certainty to renewable energy investors with focus in rapidly expanding emerging markets. Its expertise is in creating “investment grade” projects through technical and commercial de-risking coupled with financial optimization.

The firm’s team enable project investors to successfully develop, construct and deliver complex, profitable projects in remote, rapidly expanding emerging markets.

MEM established its corporate offices in Thailand in 2013, and has since expanded to Singapore, Vietnam and Philippines to accommodate its growing regional project pipeline. MEM is now the market leader for development and wind project advisory services in SE Asia.

**“Modern Energy Management delivers investment certainty in rapidly expanding, emerging markets.”**

MEM has delivered over 10,000MW of projects for investors:

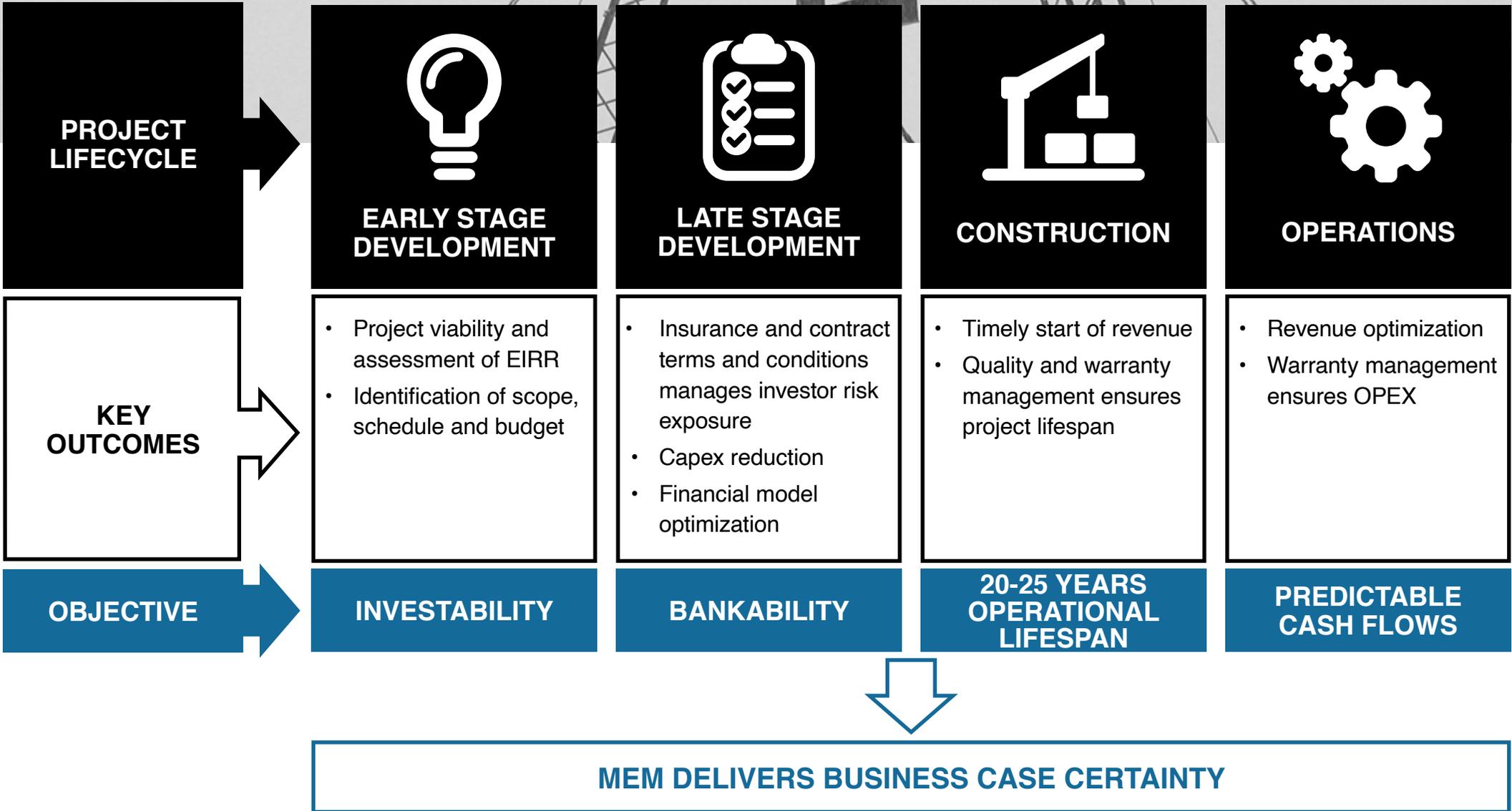
- Development
- Contracting
- Construction
- Asset Management

Our core markets include:

- Vietnam
- Philippines
- Thailand
- Indonesia

“Modern Emerging Management delivers world class expertise in emerging markets.”

“MEM’s experience unlocks significant cash flow and superior investor returns throughout the project lifecycle.”



Experienced project management professionals are essential for the successful delivery of renewable energy projects in challenging emerging markets. MEM provides experienced project leadership as the driving force to achieve investor requirements efficiently and effectively in every phase of the project lifecycle. Working as Owner's Representative, MEM bridges the typical Owner's Engineer scope of services into contracting, contract management, insurance interfaces and overall project management in order to de-risk projects, delivering enhanced financial performance to investors. We have a proven track record of reducing project cost, improving project financial returns and enhancing project credit. MEM is unique in its focus on the financial success of our client's renewable energy project investments.

**“Our unique approach minimizes risk, maximizes margins and increases investor returns.”**

## ORIGINATION OF INVESTMENT OPPORTUNITIES

Modern Energy Management's clients are investors, and we understand our success is dependent on their ability to identify superior investment opportunities. Investment decisions for renewable energy projects should be accompanied by thorough risk analysis. Modern Energy Management goes beyond a mere “academic” assessment of a project. Our team is uniquely qualified with real world experience developing, building, and operating renewable energy plants in emerging markets. This gives us an advantage in assessing risks related to investment decisions.

### Project Origination

- Identification of greenfield sites via proprietary data sets (800 discrete sites identified across 5 ASEAN markets)
- Technical, land, regulatory and stakeholder evaluation
- Fatal flaws assessment, preliminary resource assessment and financial performance assessment

### Project Acquisition Due Diligence

- Market intelligence on 30GW of projects regionally
- Commercial and technical due diligence
- Preliminary financial analysis

## PROJECT DEVELOPMENT SERVICES

Modern Energy Management’s experience in bringing projects from concept to financial close is a distinct asset to our clients. This is due to our unrivaled experience developing, building and operating wind and solar projects for investors in SE Asia. We typically work as “Owner’s Representative” providing overall project leadership to develop and financially optimize “Investment Grade” projects for our clients.



### Project Management (Owner’s Representative)

- Overall project leadership managing scope, budget and schedule
- Interface and communications management with internal and external stakeholders
- Reporting, governance and budget management
- Manage lender advisor processes up to financial close

### Renewable Energy Engineering

- Wind and solar energy yield analysis
- Technology optimization
- Micrositing
- Site design, technical and financial optimization

### Technical De-risking

- Identification of technical requirements (construction and operations)
- Grid, environmental and social studies
- Plant design, technical and financial optimization

### Commercial Contracting

- Development of procurement strategy
- Procurement tenders
- Contracting and contract management
- Commercial negotiations

## CONSTRUCTION PROJECT MANAGEMENT

Modern Energy Management understands our clients' investment returns are based on predictable 20-25 year cash flows, and the sensitivity of EIRR to potential project delays. Our construction project management teams are unique in their experience and proactive stance in managing construction risks to deliver quality projects on schedule and on budget.

### Construction Project Management

- Owner's Representative (for EPC) or EPCM project management
- Risk and contract management insurance
- Contractor claims management

### Quality and HSE Management

- Design review, risk and value optimization
- Construction quality management
- Acceptance testing



## ASSET OPTIMIZATION

Renewable energy projects are unique in their commercial complexity. Due to the variability of production, owners typically don't know how much revenue has been lost until production and yield analysis has been performed by skilled, experienced experts, typically after a year or more of operations data has been collected.

Modern Energy Management understands stable and predictable cash flow from operations is the foundation of the investor's business model. In emerging markets, this is built on establishment of plant operations processes, transfer of skills to the local (SPV) plant operations team and oversight from experienced operations managers to sustainably optimize revenue.



### Asset Optimization

- Establish plant management business processes and training to optimize asset performance
- Provide “Standard Operating Procedures” to integrate plant into overall business operations
- Integrate site and remote surveillance to manage plant availability
- Insurance and contractor claims management
- Ad hoc support for faults, defects and upgrades



## VALUE ENGINEERING

Every project is unique in both design and risk profile. “Standard” design specifications typically lead to overbuild in areas where it is not required, and do not adequately address areas that present risk to construction and operations. MEM has a track record of balancing the reduction of project cost and risk effectively.

Value engineering is not strictly about reducing cost. It’s about reducing waste and overbuild, while focusing on project-specific risks. This helps to ensure the project is delivered on-time, on-schedule and according to investor expectations. Due to Modern Energy Management’s distinct project management capabilities, we have a truly unique ability to reduce cost and risk on our projects, thereby improving investor returns.

“Standard project design specifications no longer fit the bill. Instead, we focus exclusively on mitigating project specific risks. This eliminates project over build while improving investor returns.”

Reduction of wind farm CAPEX and OPEX are our specialty. In fact, to date the value of savings and improvement to project IRR we have achieved for our clients often outweighs fees charged on their projects, typically making Modern Energy Management “cost neutral” to the project.

Matching wind resources at the project site with the selection and placement of the ideal wind turbine is the core of optimizing the wind project energy yield. MEM has in house capability to perform integrated services for each phase of the project development, which include:

- Acquisition due diligence
- Wind measurement campaign
- Wind farm layout and siting of wind turbines
- Energy yield calculations
- Noise and flicker
- Wind turbine selection
- Cost of energy analysis
- Financial modeling

## EXAMPLE OF MEM'S UNIQUE VALUE PROPOSITION

- Wind project finance enhancement
- Optimised financial return through intergrated risk management approach

| FINANCE KPI  | BASE       | IMPROVEMENT | CHANGE    |
|--------------|------------|-------------|-----------|
| Construction | 142.46mUSD | 138.66mUSD  | -3.8mUSD  |
| IDC          | 3.8mUSD    | 2.56mUSD    | -1.24mUSD |
| Total CAPEX  | 146.26mUSD | 141.22mUSD  | -5.04mUSD |
| IRR          | 15.73%     | 17.12%      | 1.39%     |

### EXAMPLE:

60MW wind farm - MEM project team in contracting phase to improve project plan, commercial contracting and payment milestones

### SUCCESS CRITERIA:

MEM team improved levered IRR to above 16% requirement

### DRIVERS:

- Optimized construction schedule
- Optimized construction cash flows

# TRACK RECORD

MEM has diverse experience managing projects in emerging markets of Southeast Asia. Typically operating as Owner's Representative, MEM has a proven track record of delivering services throughout the life cycle of wind and solar projects from development, construction, and operations.

We work with some of the most active investors and market leaders in the region:



**TO DATE, OUR TEAM HAS SUCCESSFULLY COMPLETED FINANCE,  
CONSTRUCTION AND OPERATIONAL PROJECT WORK IN OVER 29 COUNTRIES AROUND THE WORLD** 📍



**PROJECT  
LOCATIONS**



## AARON DANIELS

### Co-Founder and Managing Director



Aaron Daniels co-founded MEM in 2013. He has more than 22 years of project management experience, the last 12 years focused on renewable energy in emerging markets. His Asia experience includes development of Vestas first PMO (Project Management Office) where he had budget responsibility for Vestas' USD 750m construction portfolio. He then moved to a development role with Thailand based Wind Energy Holding, where he managed a 1,000MW development portfolio and the construction of the first, and still largest, wind project in Thailand, a 207MW single phase of construction. He has managed the development and construction of more than 4,300MW of wind power projects: 2,400MW of construction and 1,900MW of development. Aaron has had budget responsibility of portfolios to USD 750m and projects up to USD 450m. Aaron holds an MBA, a Diploma in Directorship (Singapore Management University) and is a certified Project Management Professional (PMP).

#### Professional Qualifications

- MBA (Chinese Business)
- PMP (Project Management Professional)

#### Contact Details

+66 (0) 89 926 6652

aaron@modernenergy.management



## LARS LUND

### Co-Founder and Director



Lars co-founded MEM and leads the company's PMO (Project Management Office). He has 22 years' construction project management and asset management experience in renewable energy with a focus on emerging markets including North America (when it was an emerging market), North Africa, Japan, and SE Asia. He has held leading roles on more than 3,000MW of construction and operational assets on behalf of OEMs, developers and investors with focus in asset optimization and asset turnaround. He is in high demand as leadership for investors on boards of directors and technical committees that oversee utility-scale RE projects and portfolios for investors. Lars holds an MSc in Electrical Engineering, a Diploma in Directorship (Singapore Management University) and is Project Management Professional (PMP) certified.

#### Professional Qualifications

- MSc Electrical Eng.
- PMP (Project Management Professional)

#### Contact Details

+66 (0) 84 753 5858

lars@modernenergy.management



## LINGLING ZHAI

### Partner and Senior Commercial Manager



Lingling has over 13 years of commercial contracting and negotiations experience in the renewable energy industry, with focus in Asia. Her wind experience began at Vestas, where she was a Senior Contract Manager, responsible for negotiation and contract management for onshore and offshore wind turbine supply and operations agreements totaling more than 1,400MW. Following this, she was Manager for Contract and Risk for Spanish EPC Contractor, Abengoa, responsible for EPCF (EPC + Finance) for their business in China. Lingling joined MEM in 2014 as Senior Contract Manager, where she leads negotiations and contracting on behalf of both investors and contractors. Lingling holds a master's degree in international trade and has over 4 GW experience negotiating EPC, EPCF, supply and operations agreements for on and offshore wind and solar projects. A native mandarin speaker, Lingling serves as MEM's primary interface with Chinese contractors and suppliers.

### Professional Qualifications

- MSc in Economics
- Mandarin Speaker

### Contact Details

+66 (0) 92 584 8880  
lingling@modernenergy.management



## MARC WRIGHT

### Head of Development



Marc leads MEM's in-house engineering and development team. He has over 12 years of experience developing renewable energy projects, exclusively in emerging markets. Marc's development experience began at BioTherm Energy, a developer operating in sub-Saharan Africa whose investors include Denham Capital. Prior to joining MEM, Marc was the Program Leader for Mott MacDonald, responsible for lender and investor advisory roles for their sub-Saharan Africa business unit, and supported SE Asia including China, Vietnam and Thailand. Marc joined MEM in 2017, leading MEM's development and engineering business on over 2 GW of projects spanning SE Asia, working closely with clients. Marc has over 10 GW of renewable energy experience, representing 130 projects in Africa and Asia. Marc holds a PhD in Wind Science, MSc in Environmental Science, a BSc Honors Energy & GIS, BSc in Geography & Environmental Management, and is a registered scientific professional with SACNASP (South African Council for Natural & Scientific Professionals).

### Professional Qualifications

- PhD Wind Science
- MSc Environmental Science
- BSc Hons Energy & GIS
- BSc Geography & Environmental Management
- PMP (Project Management Professional)

### Contact Details

+66 (0) 65 520 4404  
marc@modernenergy.management



**DANIEL BOIE**  
**Senior Project Manager**



Dan has over 32 years of construction project management experience of large infrastructure projects, primarily acting with full budget and schedule responsibility as the EPC project manager. His renewable energy experience began as Senior Project Manager at Mortenson Construction, which is the largest renewable energy EPC contractor in North America. He led design, installation and quality management of wind projects totaling >1.5 GW. Dan joined MEM in 2015 as Senior Project Manager, providing project leadership in the role of Owner's Representative for construction of wind and solar projects. His emerging market project construction experience includes more than 1 GW in Thailand, Vietnam, Malawi, and the Philippines. Additionally, Dan has led development teams for intertidal wind projects in Vietnam. Dan holds a BSc in Industrial Technology with concentration in Building Construction and is Project Management Professional (PMP) certified.

**Professional Qualifications**

- BS in Industrial Technology
- PMP (Project Management Professional)

**Contact Details**

+66 (0) 98 250 3533

daniel@modernenergy.management

MEM registered and established its corporate headquarters in Thailand in 2013. In 2015 MEM registered in Singapore, and in 2019 in Vietnam to accommodate its growing international pipeline.

### **Our offices are located at:**

#### **SINGAPORE**

Modern Energy Management Pte., Ltd.  
80 Robinson Road #20-00,  
Singapore 068898

#### **THAILAND**

Modern Energy Management Co., Ltd  
Unit 1204, 12/F GPF Witthayu Tower B  
93/1 Wireless Road, Lumpini  
Bangkok, Thailand 10330

#### **VIETNAM**

Modern Energy Management (Vietnam) Limited  
Liability Company  
Room 28F2, Level 14, Saigon Centre Tower 1,  
65 Le Loi Street, Ben Nghe Ward, District 1,  
Ho Chi Minh City, Vietnam

[www.modernenergy.management](http://www.modernenergy.management)

[enquiry@modernenergy.management](mailto:enquiry@modernenergy.management)

