



Solar Power



Wind Power



Hydro Power

## Alternative Grid North Africa

### Information Memorandum

#### Pakistan



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## **Introduction**

Alternative Grid North Africa (AGNA) is an international renewable energy developer with our registered office in Dublin Ireland and branch offices in Tunisia and Libya. AGNA has been active in the North Africa marketplace since 2011.

Our professional team have much experience of international renewable energy and power infrastructure projects. AGNA benefits from the international leadership experiences of our non-executive Chairman, Mr Bertie Ahern, the former Prime Minister of the Republic of Ireland and our advisor Lord Anthony St John of Blesto, Member of the House of Lords and well known businessman.

In Tunisia AGNA been engaging with the Tunisian Government since 2012 and we recently submitted a proposal to the government to develop up to 500MW of renewable energy from renewable technologies. In 2013, AGNA secured a government decree to develop 2000MW of renewable energy in Libya and AGNA also secured 10,000 hectares of government land in Ghadames west Libya to build out the renewable energy facilities.

In the Kingdom of Saudi Arabia we are in talks for the forming a Joint Stock Company with a Middle East partner to deliver hybrid power projects and renewable energy projects. This Joint Stock Company will be incorporated in the 1<sup>st</sup> quarter of 2016 with first contract secured by the 3<sup>rd</sup> quarter of 2016. In Algeria AGNA is currently in talks with an Algerian government organisation in relation to forming a Joint Stock Company to deliver renewable energy projects of scale..

AGNA has some other pipeline opportunities in Sao Tome, Ghana, Ukraine and Pakistan and we have sole rights on 1200 hectares of land in the Northern Cape South Africa.

We are in discussions with major European organisations in relation to the exporting of renewable energy from North Africa to Italy.

## Role of AGNA

AGNA's role is to build relationships at government and utility level. Once these relationships are developed, the next stage is to identify suitable land and negotiate the Power Purchase Agreement (PPA). In essence there are three phases to successful conclusion;

- Phase 1 - Preliminary Design, Land Leases, Permissions, Environmental Study, Grid Connectivity, Power Purchase Agreement
- Phase 2 - Debt & Equity Project Finance Structure
- Phase 3 - Final Design, Construction & Operation

The lifecycle of a solar PV development is explained in the following broad generic phases

- Project Promotion / Development
- Secure Power Purchase Agreement
- Project Finance / Financial Close
- Mobilisation & Construction
- Operation & Maintenance



## **Our Key People**

### **Bertie Ahern – Non Executive Chairman**

Mr Bertie Ahern is a former Irish politician, who served as Prime Minister of Ireland from 26th June 1997 to 7th May 2008. His finest achievement was the Good Friday Agreement in Northern Ireland, negotiated in 1998 with the British Government under Tony Blair and the leaders of the Northern Ireland political parties, where his unrelenting commitment to finding peace and stability resulted in power sharing becoming an enduring reality. Under the Irish Presidency of the European Union in 2004, Bertie Ahern enjoyed a major European success, when he negotiated a new European Constitution, on behalf of the European Union, with the accession of ten member states taking place under his Presidency. His considerable political and business experience on the international stage and his worldwide recognised negotiation skills will be a major asset to growing our business

### **Lord Anthony St John - Advisor**

Anthony Tudor St John, 22nd Baron St John of Bletso is a British peer, politician, businessman and solicitor. He is one of the ninety hereditary peers elected to remain in the House of Lords after the House of Lords Act 1999. Previously he has worked at investment banks County NatWest, Smith New Court and Merrill Lynch. Anthony is well recognised for his understanding of the African marketplace and brings a wealth of commercial and international experience to AGNA.

### **Dr Mohammed Abdelsalam – Chairman**

Dr Mohammed Abdelsalam has a Doctorate (Ph.D.) in Economics and for the main part of his career worked at executive level in the National Oil Corporation of Libya. He represented the Libyan National Oil Corporation of Libya via a joint venture with the Algerian Libyan Exploration and Production Company (ALEPCO) in Algiers. He was also involved with the well-known international French oil company Total Oil where he was a Member of the Operating & Management Committee of Total Libya which was a Joint Venture between the Libyan National Oil Corporation and Total. He was a Member of the Owners Management Committee of Zeutina Oil Company which was a Joint Venture between OMV, Occidental Petroleum Corporation and the Libyan National Oil Corporation. He is well versed with the intricacies of doing business across North Africa and in particular dealing with the complex requirements of energy organisations. He is passionately committed to the advancement of corporate social responsibility; indeed he brings much focus to the priorities of the North African communities at every opportunity. He concluded a major study for the Libyan Government in relation to youth issues, on employment and entrepreneurship and advised with key strategies to facilitate improving the opportunities for the youth of Libya. In his early career he lectured in finance at Tripoli University, Tripoli Polytechnic and the University of Gharyan. Dr Abdelsalam is fluent in English and Arabic.

### **James Doyle – Chief Executive Officer**

James Doyle has over twenty five years business experience across the UK, Ireland & North Africa. His main areas of expertise are in the construction, technology, consulting and renewable energy sectors. For the past five years James has been predominantly focused on the realisation of business opportunities in the North Africa regions and has engaged extensively with governments at the highest levels. James brings considerable practical experiences of the needs and requirements of doing business in the Maghreb and has been the

main interface in developing viable opportunity. James has a Master's of Business Administration (MBA) and is currently based in North Africa where he continues to develop our business and build upon our early mover status.

#### **Padruig Counihan – Power Infrastructure Director**

Padruig is a Chartered Engineer B.E. C.Eng, M.I.E.I. and a graduate of the Harvard Business School. He has over forty years of international electrical power infrastructure experience. In his earlier career he managed one of the first combined cycle power stations in the UK, from inception on a green field site to commissioning and O&M. Subsequently he moved into power generation with emphasis on hydro and thermal generation. Padruig has significant European electrical power experience from financial close of projects to commercial operations. He has particular experience of Joint Ventures in the international power sector including being Director and Chairman of Bizkaia Energia Power Plant, Bilbao, Spain, a JV between ESB International and Osaka Gas of Japan. He was a Director and Chairman of Synergen Power Station, Dublin, Ireland, originally a JV between ESB International and Statoil Norway. Later he led the successful negotiation of the buy-out of Statoil by ESB International. He was a Director of Corby Power Station, Northampton, United Kingdom, a JV between ESB International and E.ON (U.K.) and a Director of Marchwood Power Station, Southampton, United Kingdom, a JV between ESB International and Scottish and Southern Electricity U.K.

#### **John Wootton – Chief Technical Officer**

John Wootton is an Electronic Engineer and has over 40 years business and manufacturing experience in Ireland, South Africa and Switzerland. He has been responsible for designing and manufacturing 10 and 23KV substation protection equipment to the Electricity Supply Board in Ireland, power supplies for Aer Rianta Irish airports and programmable microcomputer based motor control and timing equipment for an Irish Government subsidiary. He has been involved in designing and manufacturing led display lighting systems for service stations and car parks and remote solar powered lighting systems for mountain cabins. He also provided modem systems for remote data reporting in South African Escom sub stations. John has a considerable knowledge of radio serial data systems including equipment to interface with mobile phones via SMS and solar panels and grid tie inverter systems.

#### **Rory Mullan MEng MBA – Grid & Electricity Director**

Rory is a recognised expert in the connection of renewable generation in Ireland and Northern Ireland. Rory has been working in the Irish electricity industry since 1998. Rory has a background of working in commercial and technical roles in state utilities NIE, ESB and in EirGrid. His main expertise lies in the electrical engineering aspect of renewable energy grid connections and he has a comprehensive understanding of network operations, regulatory frameworks, market operation, connection & charging policies. Rory is a member of the IWEA council and has been chairperson of the IWEA and the NIRIG grid committees. Through his roles in the renewable trade associations he has been at the forefront of the development of connection policy over the past eight years.

#### **Armin Heppner – Solar Director**

Armin Heppner is a Master of Business Administration, to be precise Techn. Dipl. Betriebswirt FH, these particular studies had combined engineering and business

management. He has over 25 years business and manufacturing experience in responsible positions. Since more than 10 years he is engaged in renewable energies, especially in engineering, procurement and construction of Photovoltaic-plants. He has separate qualifications in designing 2-axis-tracking CPV-plants, off-grid and hybrid solutions.

#### **Dr Gassem Azzain – Technical Advisor**

Dr Gassem has a Ph.D. in Thermal Engineering with special emphasis on the field of solar engineering. He has much experience of working with the state utility GECOL in Libya and liaised with same from a renewable energy interface perspective. He is a leading pioneer of renewable energies in Libya and in a previous capacity worked with the DESERTEC University Network (DUN). He has published many papers on solar energy throughout his career and has lectured extensively on thermal and solar renewable energies in the University of Sebha. His primary degree was in the field of mechanical engineering and his M.Sc. degree was attained from the University of Warsaw in the Investigation of Solar-Thermal Energy Conversion and Storage Process using Flat Plate Solar Collector.

#### **James O’Shea – Chief Investment Officer & Business Development**

James has a Bachelor of Engineering Degree in Electronic Engineering and a Diploma from the Law Society of Ireland in Finance & Leasing. James has over thirty years’ experience in international business across many sectors, most notably manufacturing, aviation, property development, consulting, financial and legal. James utilises the counsel of local and global legal opinion to negotiate contracts in keeping with the fundamental rules of good practice. He has had business interests in West Africa, Eastern Europe, UK & Ireland and he currently is the lead for our business opportunities in the Far East & Asia

#### **Jeremy Friedlander – Chief Legal Officer & Business Development**

Jeremy has a BA LLB from the University of Cape Town and practised as an attorney after completing his articles in Cape Town. He joined Old Mutual as a legal advisor and in 1993 established McCreedy Friedlander, which became one of the premier property practices in South Africa and negotiated an association with Savills. In 1998 he listed McCreedy Friedlander as part of a financial services group on the JSE and shortly afterwards relocated to London. In the United Kingdom, Jeremy has been involved in many real estate transactions. More recently Jeremy was a director of Onslow Resources (Oil and Gas). He has been a business development director of a number of companies involved in uranium, coal, gold, gas and industrial minerals and brings much experience of the energy sectors.

#### **John Lane – Chief Projects Officer**

John is a vastly experienced international construction professional with over twenty year’s management experience in the UK, Middle East, North Africa, Ireland, Australia & Burma. John has managed projects up to US\$ 250 million dollars and has a B.Sc.Eng. in Structural Engineering and is a member of the Professional Bodies Institute of Engineers of Ireland (MIEI). He was most recently the Project Director responsible for the execution of one of the world’s largest dewatering operations for Saudi Aramco on their Jeddah storm water drainage project in Saudi Arabia. Previously he has successfully delivered projects across mining, geotechnical, infrastructure (airports, roads, utilities) commercial, residential and the oil and gas sectors.

## Our Partners

AGNA has many consortium partners to deliver our turnkey projects.

1.  SYBAC Solar is one of the leading international providers of large-scale photovoltaic systems. They have been building solar plants since 2004, and since 2009 their highly experienced team of finance experts, engineers and technicians have been specialising in large-scale solar projects in Germany, France and the USA - covering the entire process from planning and construction, financing and marketing to operation and maintenance.
2.  Founded in 1998, is one of the world's leading solar energy companies, specialising in solar installation & PV systems for businesses & solar farms
3. One of the world's most trusted, respected and long-standing solar panel companies. Founded in 1998, we've been around since the early days of the solar industry and have been part of the evolution that has made solar PV the attractive investment it is today. We've put solar on more types of sites than any other company in the industry, and have won multiple awards for product innovation.
4.  **Alternativ Capital investieren** Alcapı Solartwent Systems GmbH, deliver consulting, engineering and construction of both on and off grid renewable energy solutions including hybrid and fuel save solutions. Their technical expertise cover modules, inverters, mounting systems, energy storages (LeadGel, LiFePo, Redox Flow) and other accessories. Complementing the above services they also offer monitoring, maintenance, performance analysis, optimizing and repair and exchange of defect material
5.  ReneSola, founded in 2005, and listed on the New York Stock Exchange in 2008, ReneSola is a leading international manufacturer and supplier of green energy products. Leveraging its global presence with offices and warehouses in more than 16 countries and expansive production facilities and sales network, ReneSola is well positioned to provide the highest quality green energy products and on-time services for EPC, installers and green energy projects around the world.
6.  Atlantic Energy Partners offers years of relevant work experience with the financial services industry and unparalleled expertise in: project feasibility assessments; due diligence; legal framework implementations; corporate structuring and tax optimisation; capital raising and structuring.
7.  Solar Frontier leverages over 30 years of leadership in solar R&D and over 100 years of energy expertise derived from our parent company, Showa Shell Sekiyu. Solar Frontier began developing solar technologies in collaboration with the Japanese government, academia and early industry leaders such as Arco Solar. In 1993, the endeavour with the New Energy and Industrial Technology Development

Organization (NEDO, Japan) led to the exclusive focus on CIS technology. We found that CIS technology had the greatest potential of any PV technology and began commercial production in 2007. By July 2011, it achieved full commercial operation of the world's first gigawatt-scale CIS production facility, the Kunitomi Plant. Solar Frontier has since established itself as a global solar energy provider, with operations from R&D through to manufacturing, comprehensive system services and independent power generation.

8.  **STEG International Services**  
your partner for better access to electrical power  
STEG-IS is the international arm of the Tunisia state electricity utility and brings much experience of delivering energy projects in Africa.
9.  **COMETE**  
COMETE engineering that is based throughout Africa for all our engineering consulting, environment analysis, feasibility studies and geotechnical requirements.
10.  **BECQUEREL CAPITAL**  
Becquerel Capital is a private development and investment company. Participating across the life cycle of renewable energy infrastructure projects, Becquerel maximises returns and mitigates risk through strategic alliances and focusing on environmental and economic fundamentals. The partnership's current primary focus is Latin America and Africa due to the regions' substantial capacity for non-subsidized, grid parity renewable power generation.
11.  **D-I-T**  
AGNA is partnering with the Dublin Institute of Technology on solar panel efficiency and storage of renewable energies. Other areas of interest are autonomous lighting systems for buildings, combined PV and cellular antenna panel for building façade integration and design of an energy-based controller for an active solar collector.