



**etrion**

# **Renewables & Mining Summit and Exhibition**

**“Lessons Learned from Exploring a Long-Term PPA with a Mine”**

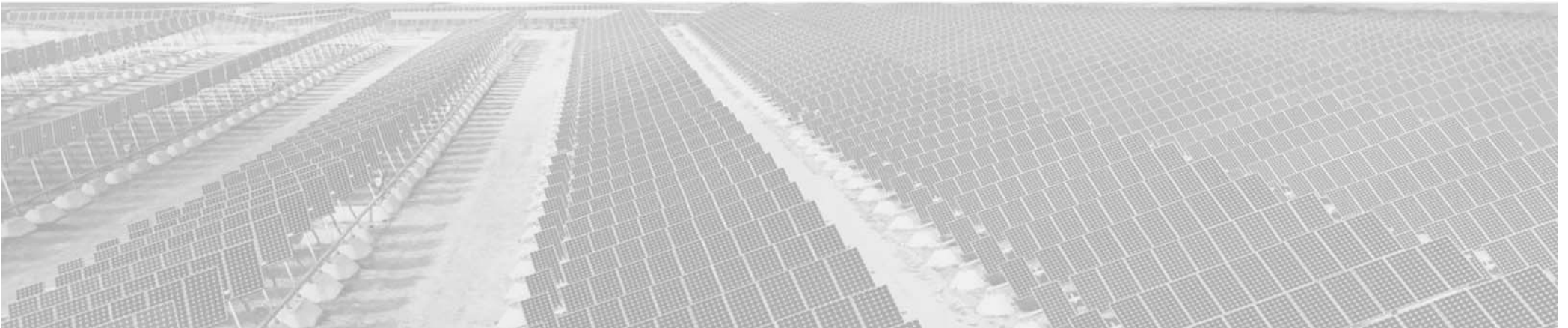
*Presented by: Marco Antonio Northland, Chief Executive Officer*

*October 16, 2014*



# CORPORATE OVERVIEW

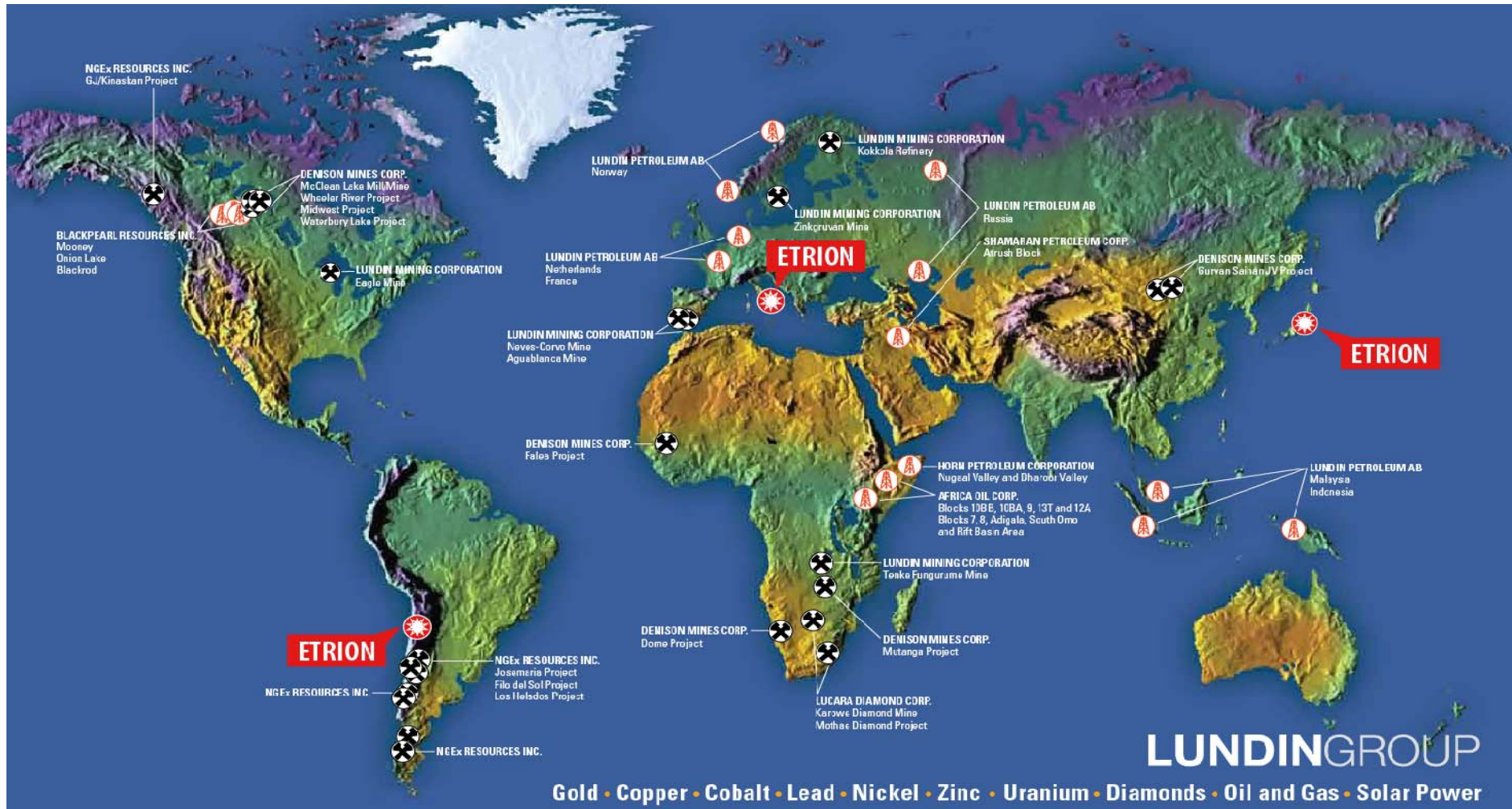
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# THE LUNDIN GROUP

- Etrion is part of the Lundin Group of Companies, 11 publicly-traded companies in the mining and energy sectors
- The companies range from exploration stage to advanced development and production, operating in over 30 countries worldwide with a combined market capitalization of over US\$15 billion



# ETRION CORPORATION

## Company Overview

- Independent power producer (IPP) that builds, owns and operates ground-based solar photovoltaic (PV) power generation plants focusing on three key markets (Italy, Chile and Japan)
- Listed on the Toronto Stock Exchange in Canada and the NASDAQ OMX Stockholm exchange in Sweden
- **Installed Capacity and Projects Under Construction** - 60 megawatts (MW) operational in Italy, 70 MW under construction in Chile and 34 MW under construction in Japan
- **Development Pipeline** - 99 MW in Chile expected to be fully-permitted by Q1-2015 and a target of 100 MW shovel-ready in Japan by 2015 with 300 MW by 2017
- Strategy focused on:
  - **Geographic diversity** – entering new regions with high electricity prices, large energy demand and abundant renewable resources or strong mandate to diversify energy mix with attractive government incentives
  - **Contract regime** – complementing Feed-in-Tariff (FiT) revenues with long-term power purchase agreements (PPAs) or merchant revenues
  - **Growth** – building a large pipeline of projects through key partnerships
  - **Yield** – preparing the company to pay dividends to shareholders

## Financial Summary

<b>Recent Share Price (TSX/OMX: ETX)</b>	CAD\$0.50 / SEK 3.31
<b>Shares Outstanding</b>	334.0 million
<b>Lundin Family Ownership</b>	24.3%
<b>Other Director/Management Ownership</b>	6.7%
<b>Revenues 2013A</b>	US\$53.9 million
<b>EBITDA 2013A</b>	US\$40.3 million
<b>Net Debt</b>	US\$327 million
<b>Market Capitalization</b>	US\$153 million
<b>Enterprise Value</b>	US\$480 million



### Notes:

- (1) US\$ refers to US dollars; CAD\$ refers to Canadian dollars; SEK refers to Swedish krona; € refers to euros.
- (2) ETX share price at closing on October 13, 2014.
- (3) Net debt as of June 30, 2014, includes US\$282 million at project level (including non-recourse project debt) and US\$45 million at the corporate level (including senior secured corporate bonds).

# UTILITY-SCALE SOLAR POWER GENERATION

Goal: Build, own and operate solar electricity plants at lowest cost per kWh



## *Competitive Advantages of Solar Power*

### Simplicity

- ✓ Easy to permit
- ✓ Fast to build
- ✓ Easy to operate
- ✓ High flexibility in location

### Economics

- ✓ Lowest marginal cost
- ✓ Competitive at all sizes
- ✓ Low risk
- ✓ Abundant resources

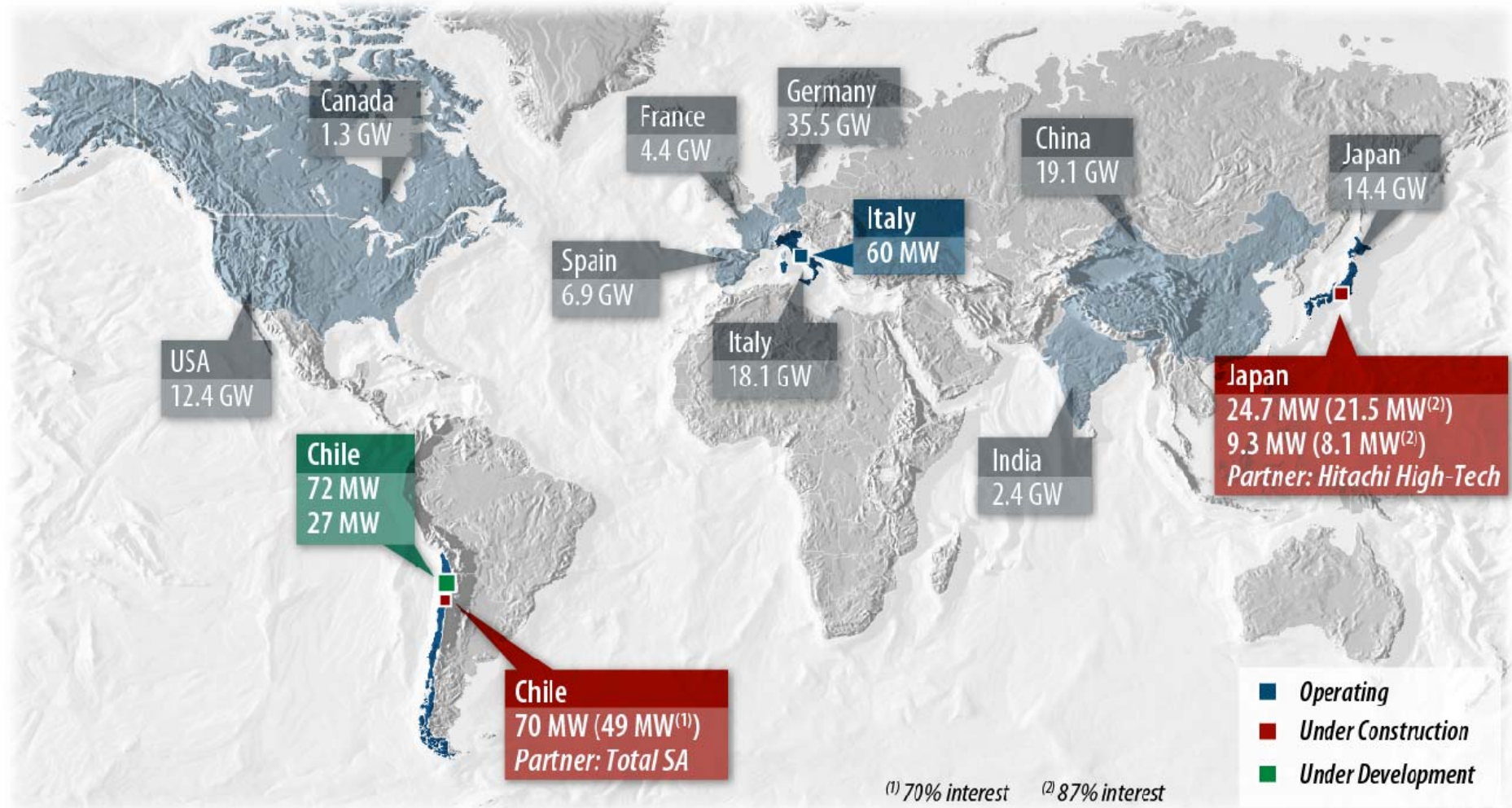
*Projects shown are Etrion solar PV parks and demonstrate the simplicity of ground-based solar technology.*

# BUSINESS MODEL – KEY DRIVERS

	Key drivers	Rationale
REVENUE	<ol style="list-style-type: none"> <li>1. Long-term contracts</li> <li>2. Solar irradiation</li> <li>3. Wholesale prices</li> </ol>	<b>PREDICTIBLE &amp; STABLE REVENUES</b> <ul style="list-style-type: none"> <li>▪ Annual solar irradiation varies less than 10%</li> <li>▪ Economic growth increasing power demand and wholesale electricity prices</li> <li>▪ Improving technology increasing plant performance</li> <li>▪ Fast time to market (development, construction and project finance within 2 years)</li> </ul>
COST	<ol style="list-style-type: none"> <li>4. Equipment prices</li> <li>5. Operating costs</li> </ol>	<b>LOW EQUIPMENT AND OPERATING COSTS</b> <ul style="list-style-type: none"> <li>▪ Cost reduction through increased supply, competition and technological improvements</li> <li>▪ Fixed price O&amp;M contracts, including preventive and corrective maintenance</li> <li>▪ Guaranteed performance on equipment from manufacturer and EPC contractor</li> </ul>
FINANCING	<ol style="list-style-type: none"> <li>6. Debt/equity ratio</li> <li>7. Cost of debt</li> </ol>	<b>GEARING OF PROJECTS</b> <ul style="list-style-type: none"> <li>▪ Leveraging total project cost with up to 85% of non-recourse project debt</li> <li>▪ Attractive long-term financing (i.e., tenor and interest rate)</li> <li>▪ Predictable revenue stream for attractive financing</li> </ul>
<ul style="list-style-type: none"> <li>▪ Low risk energy source</li> <li>▪ One of the lowest LCOE</li> <li>▪ Using abundant resources in remote locations</li> </ul>		

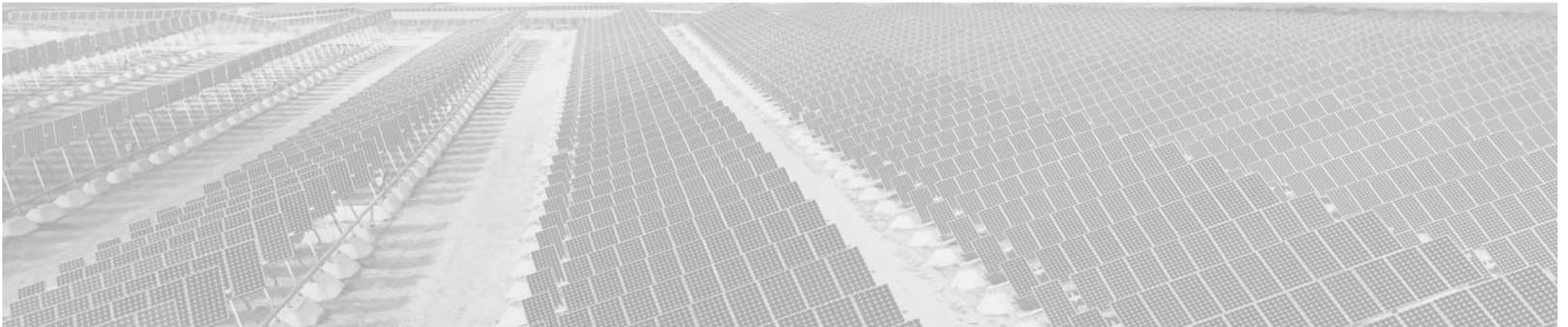


# ETRION ASSETS AND GLOBAL SOLAR CAPACITY (2013)



# CASE STUDY: OUR EXPERIENCE IN CHILE

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# CHILEAN POWER MARKET

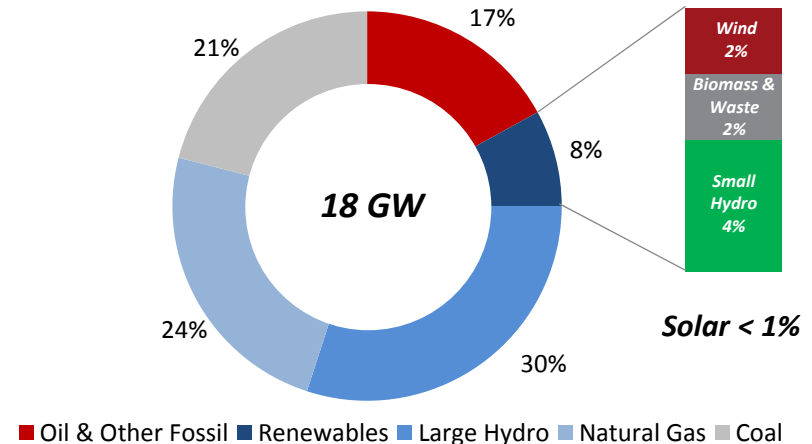
## Overview

- In 2013, Chile had 18 GW of total installed power capacity, of which large hydro and natural gas made up more than 50%
- Solar installed capacity expected to reach over 550 MW by the end of 2014, comprising nearly 3% of total capacity; growing from 15 MW in 2013
- Electricity market is divided into 4 networks: the two main networks, the SIC and SING, are where most of the mining companies are located
- De-regulated market whereby electricity generators can enter into bilateral agreements (denominated in US\$) directly with industrial clients

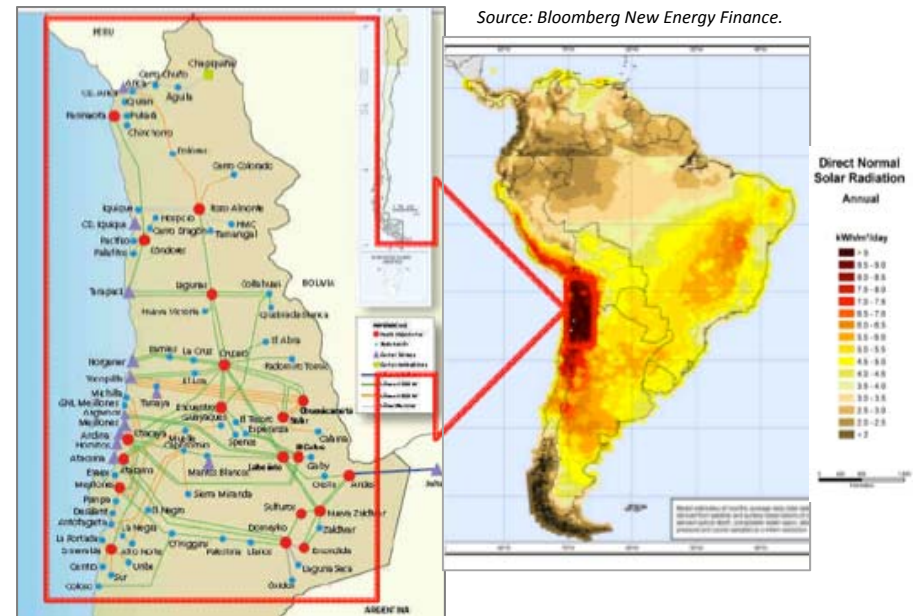
## Challenges

- Electricity network is not fully connected, particularly in the north, where most mining operations are located
- Transmission bottlenecks in certain sections of the grid
- Spot prices with high volatility, ranging from US\$50/MWh to over US\$200/MWh
- Unstable commodity prices
- Mining sector demands 24/7 energy resources, limiting the role of renewables in the energy mix

## Chile – Installed Capacity by Source 2013



Source: Bloomberg New Energy Finance.



# PPA VS. MERCHANT ELECTRICITY MARKET IN CHILE

TWO NON-EXCLUSIVE WAYS FOR SOLAR IPP TO OPERATE IN CHILE

## LONG-TERM PPAs

(solar power producers sell electricity through long-term US dollar-denominated contracts, either take-or-pay or base load supply, with industrial users, such as mining companies)

### Benefits:

- Long-term contracts, providing stable/predictable price for mining companies
- Ability to obtain attractive project finance (in terms of tenor and pricing)

### Challenges:

- Off-taker:
  - ❖ Susceptibility of mine to commodity pricing
  - ❖ Ability to commit to long-term PPAs (depends on mine life, future reserves, expansion plans, etc.)
- Project finance:
  - ❖ Ability to secure project finance on suitable terms (i.e., bankability of mining companies to support long-term tenors and attractive debt pricing)
  - ❖ Complications after PPA term for use of substation and transmission line (if solar project is in close proximity to mine)

## MERCHANT/SPOT

(solar power producers sell electricity on the spot market, delivered to the relevant electricity network)

### Benefits:

- Possibility to benefit from high pricing in certain scenarios
- Ability to benefit from PPAs in the future (with project already connected to electricity grid)

### Challenges:

- Uncertainty over future prices and ability to serve debt and/or provide return to shareholders
- Project finance:
  - ❖ Ability to secure project finance on suitable terms (i.e., banks appetite to finance projects at spot is uncertain)

# PROJECT SALVADOR – 70 MW, 200 GWH PER YEAR



## SALVADOR (70 MW)



Project Details	
Capacity	70 (49 net) MW
Irradiation Yield	2,916 kWh/kWp
Revenue Stream	Merchant project in the SIC (spot market pricing with ability to secure future PPAs)
Production	200 (140 net) GWh/year
Land	Government concession
Start of Construction	Q4-2013
Start of Operations	Q4-2014

### Notes:

- (1) Etrion acquired a 70% interest in the project with a total expected equity contribution of approximately US\$42 million. Following payback of Etrion's equity contribution, Etrion's ownership will decrease to 50.01%. After 20 years of operations, Etrion's ownership will decrease to zero
- (2) Notice to proceed with construction was given to SunPower in December 2013, and the solar project is expected to be fully operational by the end of 2014 (three months ahead of schedule)

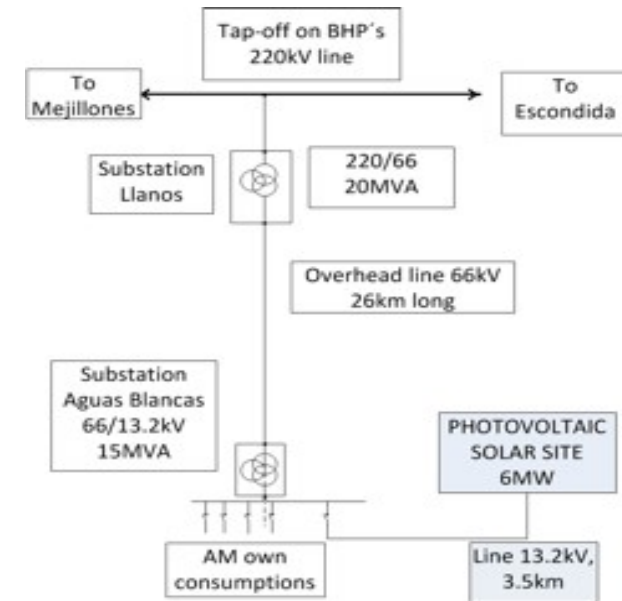
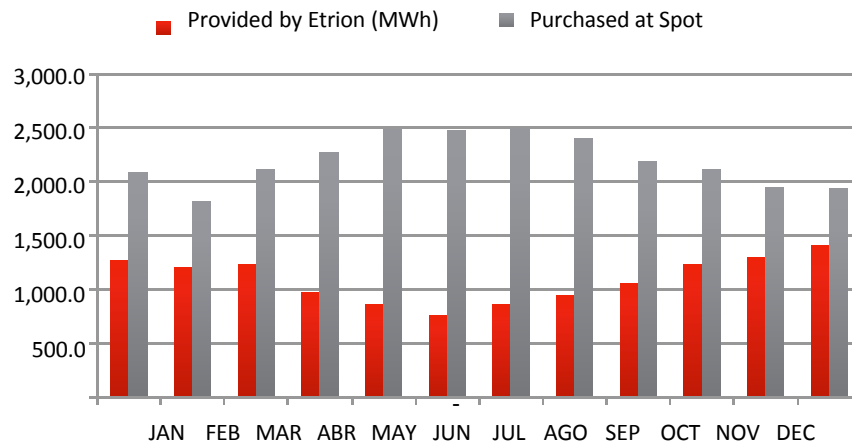


# ETRION ADDRESSING THE MINING SECTOR

ISSUE		ETRION'S SOLUTION
Energy Cost	➔	Defined price for the length of the PPA to on-grid / off-grid mining operations
Location	➔	Solar plant can be built in close proximity to mine (using mine's substation and transmission line) or off-site
Reliability	➔	Highly reliable solution with minimum moving parts and high availability (eliminating risk of transmission line and outages)
Energy Losses	➔	Solution to reduce energy losses, translating into further cost reductions
Scalability / Speed	➔	Ability to rapidly expand capacity of plant, using modular approach
Attribute Costs	➔	Fulfillment of ERNC requirements, eliminating penalty charges (with ability to structure flexible agreements with clients)
Customer Service	➔	24-hour real-time visibility and monitoring with dedicated account management
Reactive Power	➔	Solution to eliminate reactive power and reduce reactive power of energy provided by existing PPA
Public Relations	➔	Adopting a renewable power solution into energy mix contributes to positive company image worldwide
Mining Background	➔	Etrion is part of the Lundin Group, bringing in-depth knowledge of the mining industry
Optional Equity Partnership	➔	Co-ownership structures are possible with off-taker to further optimize production and economics for off-taker

# AGUAS BLANCAS PROJECT

- **Project (Aguas Blancas):** 8.8 MW PV solar power plant located in the north of Chile within the province of Antofagasta. Aguas Blancas, comprised of one site, located approximately 3 km from the mine, was to be connected directly to the mine's substation (minimizing transmission losses and eliminating toll fees)
- **Developer/sponsor:** Aguas Blancas was developed by Etrion, who was to act as sole sponsor, owning and operating the project for its remaining life. Etrion planned to own the project for the full 25 years of operation
- **PPA off-taker:** Electricity was to be sold to the Aguas Blancas mine, an iodine mine owned by Atacama Minerals Chile S.C.M. ("AMC"), a wholly-owned subsidiary of Sirocco Mining (TSX: SIM)
- **Total project cost:** US\$22 million



# SITE LOCATION – MAIN DECISION FACTORS

	BENEFITS	CHALLENGES
On Site	<p>Avoid interconnection losses</p> <p>Avoid marginal costs delta/risk</p> <p>Faster permitting (mining rights easements)</p> <p>“Close to Heart and Eyes” of off-taker</p>	<p>Interconnection ownership during and after PPA</p> <p>Site ownership during and after the PPA</p> <p>Logistics / access coordination</p>
Off Site	<p>More flexibility for:</p> <ul style="list-style-type: none"><li>- Location, depending on solar irradiation</li><li>- Additional PPAs with other off-takers</li></ul>	<p>Marginal costs risk</p> <p>Longer permitting process</p>



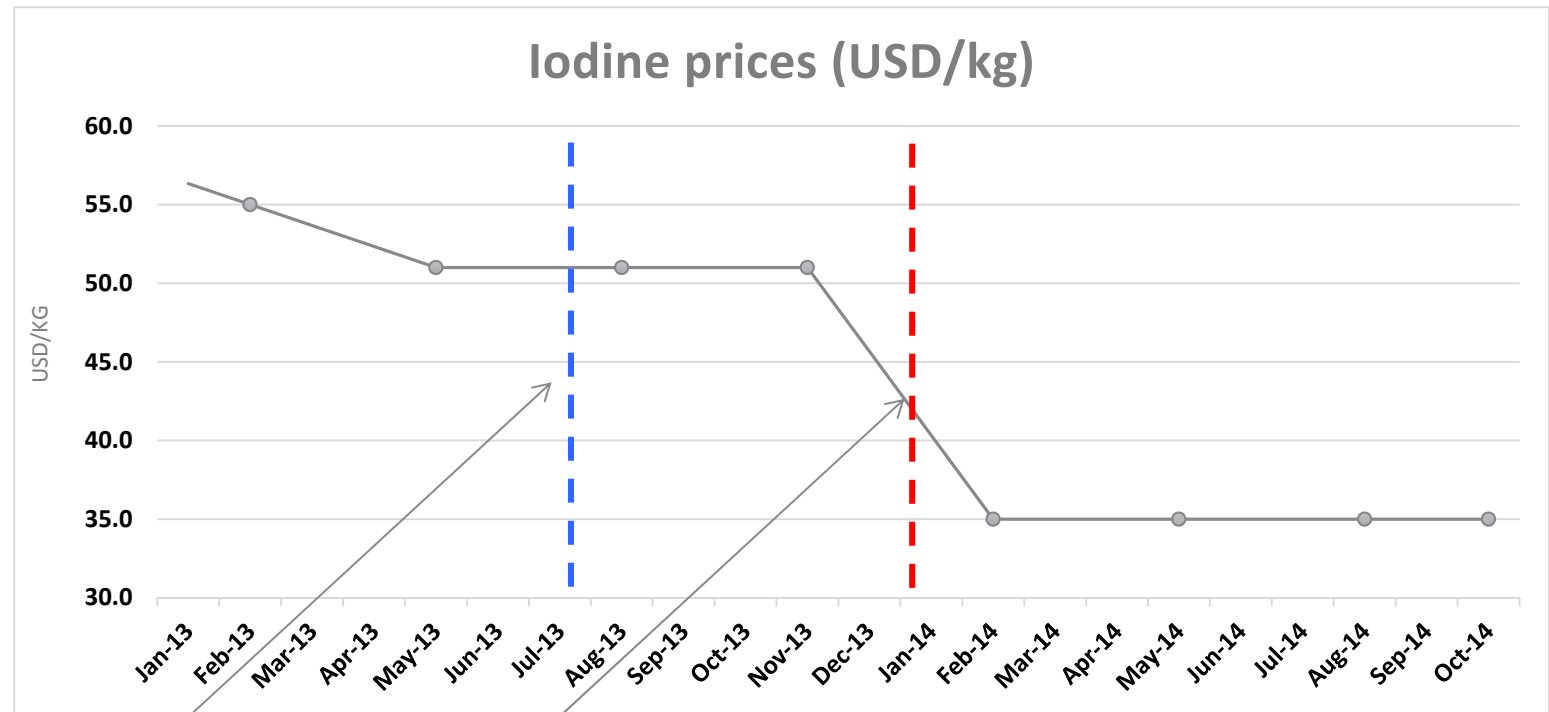


# VALUE PROPOSITION – COST BENEFIT ANALYSIS

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ITEM	VALUE PROPOSITION
Energy Solution <b>Scalability &amp; Reliability</b>	Etrion addressed 30% of AMC's energy needs. Over 99.5% availability and expansion capacity based on future needs
PPA Price <b>Peace of Mind</b>	Proposed PPA options of 15-20 years. Priced competitively nearly 10% below average PPA (adjusted CPI)
Spot Price <b>Flexibility</b>	Customer planned to blend PPA contract with spot market for a total energy solution
Capacity Cost <b>Independence</b>	Capacity cost was not passed to the customer
ERNC Obligations <b>Green Energy Credentials</b>	Solar is considered renewable generation meeting AMC's ERNC obligations at no additional cost
Injection and Toll fees <b>Independency</b>	Since project was on site, customer was not exposed to toll fees and delta cost exposure of marginal cost

# EXTERNALITIES

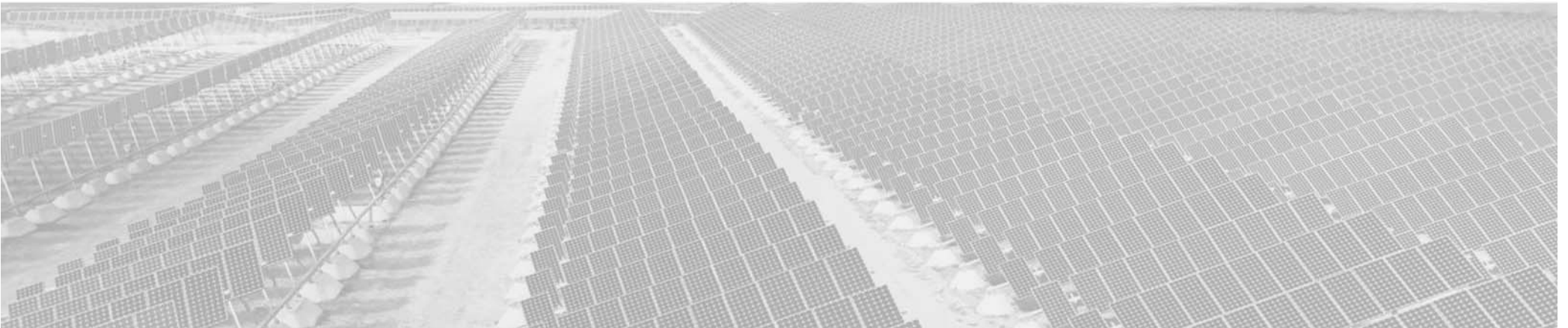


Etrion signs 15 year PPA with AMC

AMC announces suspension of production

# SUMMARY

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# ETRION – THE ENERGY SOLUTION FOR MINING COMPANIES

## OPERATIONAL EXCELLENCE

- 60 MW of installed capacity in Italy
- Operating platform of 17 solar power plants in Italy consistently perform above plan with 99.6% availability (YTD)
- Centralised monitoring system and effective asset management structure improves efficiency and increases production

## PROVEN TECHNOLOGY / TRACK RECORD

- Utility scale solar projects built using top-tier panel providers and EPC contractors (i.e., Hitachi, SunPower, ABB)
- Highly experienced management team with long-standing track record in development, construction, project finance and operations

## EXPANSIVE GROWTH PLANS

- Diversified platform in terms of geography (Europe, the Americas and Asia) and contract regime (combination of FiT revenues, PPAs and merchant/spot pricing)
- Growth plans focused on Latin American countries (including Mexico) and Asia

## STRATEGIC PARTNERSHIPS

- Strong track record of forging key strategic partnerships to develop utility-scale solar projects in high growth geographies: Total S.A. in Chile and Hitachi High-Tech in Japan
- Flagship renewable energy company in the Lundin Group

## IN-DEPTH KNOWLEDGE OF CLIENT'S NEEDS

- In-depth knowledge of the mining industry and the key concerns facing mining companies (i.e., electricity supply)
- Ability to provide flexible contract structures designed to meet client's needs



**THE IDEAL ELECTRICITY  
PROVIDER TO MINING COMPANIES**



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## Contact Details

### Etrion Corporation

Rue de la Rotisserie 1  
CH - 1204 Geneva  
Switzerland

Phone: +41 22 715 20 90

Email: [info@etrion.com](mailto:info@etrion.com)

Website: [www.etrion.com](http://www.etrion.com)

