

ASX Announcement

3 October 2019



COMPANY DETAILS

ABN: 62 147 346 334

PRINCIPAL AND REGISTERED OFFICE

Parkway Minerals NL
Level 1
675 Murray St
West Perth WA 6005

POSTAL ADDRESS

PO Box 1088
West Perth WA 6872

W www.parkwayminerals.com.au

E info@parkwayminerals.com.au

P +61 8 9479 5386

F +61 8 9475 0847

ASX CODE

PWN

FRANKFURT CODE

4IP

CORPORATE INFORMATION

As of 3 October 2019

- 1,215M Ordinary shares
- 245M Partly paid shares
- 55M Unlisted options

BOARD OF DIRECTORS

Mr. Adrian Griffin

Non-Executive Chairman

Mr. Patrick McManus

Managing Director

Mr. Bahay Ozcakmak

Executive Director

Mr. Patrick Power

Non-Executive Director

Updated Investor Presentation Outlining Enhanced Corporate Strategy

HIGHLIGHTS:

- **Updated Investor Presentation Outlining:**
 - New Vision for Parkway following acquisition of CPC.
 - Details about leveraging the aMES™ technology platform.
 - Plans to commence PFS for the Karinga Lakes Potash Project.
- **Project Portfolio Rationalisation**
 - Increased interest in the New Mexico Lithium Project to 70%.
 - Embarked on a prospective JV partner engagement program for the Dandaragan Trough Project.
 - Decision not to renew Lake Seabrook to prioritise efforts.

Parkway Minerals NL (ASX: PWN) (**Parkway**, **PWN**, or the **Company**) is pleased to provide the following corporate update. Following the recent acquisition of Consolidated Potash Corporation (CPC), the board of Parkway has continued to review the expanded technology and project portfolio, to determine the most suitable and prospective opportunities to pursue. In addition to progressing the advanced stage Karinga Lakes Potash Project towards PFS, the Company has determined that the opportunities resulting from the recently acquired aMES™ technology platform, provide significant near-term potential.

In the context of the revised corporate strategy, the Company has decided to advance and rationalize the Parkway project portfolio, as follows:

New Mexico Lithium Project – NMLP (PWN: 70%)

The NMLP covers approximately 40km² of BLM claims over the central region of the Lordsburg Playa in south-west New Mexico, USA. The project is highly prospective for lithium and to a lesser extent potassium enriched brines. Prior to the completion of the acquisition of CPC, Parkway advanced funds for the purposes of claim renewals and permitting, resulting in Parkway recently increasing its interest in the project from 50% to 70%.

Dandaragan Trough Project – DTP (PWN: 100%)

The Company has recently embarked on a prospective JV partner engagement program for the DTP, with the support of new major Parkway shareholders.

Lake Seabrook Project (PWN: 100%)

Notwithstanding encouraging brine sampling results announced earlier this year, the Company has deemed the timelines and costs associated with greenfield project exploration, not to be a priority for Parkway at this time. On this basis, the Company has decided not to renew the exploration licences and has commenced the relinquishment process for the Lake Seabrook project.

Updated Investor Presentation

Details about the enhanced corporate strategy and the New Vision for Parkway, together with additional details about the expanded technology and project portfolio are outlined in a new Investor Presentation, appended to this announcement.

Executive Director of Parkway **Mr. Bahay Ozcakmak** commented:

“The recently completed acquisition of CPC provides Parkway with a springboard into a number of high-impact and near-term opportunities. We’ve now commenced the formal PFS planning process with our JV partner at the Karinga Lakes Potash Project, and pleased to move to a majority equity interest in the New Mexico Lithium Project. Both these projects represent significant opportunities for Parkway, particularly in the context of the aMES™ technology, which we believe will deliver substantial advantages for these projects moving forward.

In addition to our own projects, we are also exploring a range of third-party brine projects, where there may be an opportunity for Parkway to provide a brine processing solution, based on the aMES™ technology. Importantly, some of these third-party projects are established operations, potentially providing Parkway with the opportunity to create significant value, without necessarily taking on greenfield project related risks.

We’ve provided additional details of our New Vision for Parkway in the attached presentation, and look forward to providing further details of our progress, in the near future.”

For further information please contact Parkway at:

Mr. Bahay Ozcakmak

Executive Director

P: +61 8 9479 5386

M: +61 414 596 007

E: bahay@parkwayminerals.com.au

Mr. Patrick McManus

Managing Director

P: +61 8 9479 5386

M: +61 408 956 798

E: patrick.mcmanus@parkwayminerals.com.au

Investor Presentation

October 2019

ASX: **PWN**

FSE: **4IP**

parkwayminerals.com.au

Disclaimer

This presentation is for information purposes only. Neither this presentation nor the information contained in it constitute an offer, invitation, solicitation or recommendation in relation to the purchase or sale of shares in any jurisdiction. This presentation may not be distributed in any jurisdiction except in accordance with the legal requirements applicable in such jurisdiction. Recipients should inform themselves of the restrictions that apply in their own jurisdiction. A failure to do so may result in a violation of securities laws in such jurisdiction. This presentation does not constitute financial product advice and has been prepared without taking into account the recipients' investment objectives, financial circumstances or particular needs, and the opinions and recommendations in this presentation are not intended to represent recommendations to particular persons. Recipients should seek professional advice when deciding if an investment is appropriate.

All securities transactions involve risks which include, among others, the risk of adverse or unanticipated market, financial or political developments.

Certain statements contained in this presentation, including information as to the future financial or operating performance of Parkway Minerals NL ('Parkway Minerals' or 'the Company') and its projects and technologies, are forward-looking statements. Such forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Parkway Minerals, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies, involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements, and may include, among other things, statements regarding targets, estimates and assumptions in respect of potash and phosphate production and prices, operating costs and results, capital expenditures, ore reserves and mineral resources and anticipated grades and recovery rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions including the satisfactory performance of certain technologies developed and/or acquired by Parkway Minerals. Parkway Minerals disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise. The words 'believe', 'expect', 'anticipate', 'indicate', 'contemplate', 'target', 'plan', 'intends', 'continue', 'budget', 'estimate', 'may', 'will', 'schedule' and other, similar expressions identify forward-looking statements. All forward-looking statements made in this presentation are qualified by the foregoing cautionary statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and, accordingly, investors are cautioned not to place undue reliance on forward-looking statements due to the inherent uncertainty therein. Many known and unknown factors could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements. Such factors include but are not limited to: competition; mineral prices; ability to meet additional funding requirements; exploration, development and operating risks; new technology related risks; uninsurable risks; uncertainties inherent in ore reserve and resource estimates; dependence on third-party smelting facilities; factors associated with foreign operations and related regulatory risks; environmental regulation and liability; currency risks; effects of inflation on results of operations; factors relating to title to properties; native title and Aboriginal heritage issues; dependence on key personnel, and share price volatility. They also include unanticipated and unusual events, many of which it is beyond the Company's ability to control or predict.

DINNER HILL RESOURCE STATEMENT

Information in the presentation that relates to the Mineral Resource estimate for Dinner Hill is fully described in the ASX release of 26 September 2017. The Company is not aware of any new information or data that materially affects the information included in this presentation. All material assumptions and technical parameters underpinning the Mineral Resource estimates and Exploration Target in this presentation continue to apply and have not materially changed. The K-Max Scoping Study referred to in this presentation was fully described in the ASX release of 10 January 2013, while the Phosphate Scoping Study was released on 19 September 2013 and updated on 30 September 2015. Both are based on low-level technical and economic assessments and are insufficient to support an estimation of Ore Reserves, provide assurance of an economic development case at this stage or provide certainty that the conclusions of the Scoping Study will be realised. All material assumptions and technical parameters used in the Scoping Study and included in this presentation continue to apply and have not materially changed. Parkway Minerals has concluded that it has a reasonable basis for including the forward-looking statements provided in this presentation.

Competent persons' statements

The information in this report that relates to the estimation of Exploration Targets and Mineral Resources is based on and fairly represents information and supporting documentation prepared by J.J.G. Doepel, a member of the Australasian Institute of Mining and Metallurgy. Mr Doepel, principal geologist of the independent consultancy Continental Resource Management Pty Ltd, has sufficient experience relevant to the style of mineralisation and type of deposit under consideration. He is qualified as a Competent Person, as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. This report is issued with Mr Doepel's consent as to the form and context in which the Mineral Resource appears. The information in this report that relates to reporting of Exploration Results is based on and fairly represents information and supporting documentation prepared by James Guy, a member of the Australian Institute of Mining and Metallurgy. Mr Guy is a consultant to the mineral industry and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration. He is qualified as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Guy consents to the inclusion in this report of the matters based on information in the form and context in which it appears. The metallurgical information in this report is based on and fairly represents information and supporting documentation compiled by Gary Johnson, a Member of the Australasian Institute of Mining and Metallurgy. Mr Johnson has sufficient experience relevant to the activity being undertaken to qualify as a Competent Person as defined in the 20012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Johnson is managing director of Strategic Metallurgy Pty Ltd. This report is issued with Mr Johnson's consent as to the form and context in which the results appear.

KARINGA LAKES POTASH PROJECT (KLPP) – RESOURCE DESCRIPTION

RESOURCE STATUS

On 20 February 2014, Verdant Minerals reported an in-situ SOP resource (in accordance with the 2012 JORC Code) for the Karinga Lakes Potash Project (KLPP). The 2014 resource is calculated using total porosity (total brine content) of the host rock. Subsequent to this resource estimate, in April 2019, the reporting requirements for brine resources under JORC have been updated, with a new set of requirements, which have been outlined in an AMEC (Association of Mining and Exploration Companies) publication titled, *Guidelines for Resource and Reserves Estimation of Brines*.

The updated brine reporting guidelines can be downloaded from the AMEC website:

https://www.amec.org.au/Public/Media/AMEC_Publications/AMEC_Brine_Guidelines.aspx

The guidelines recommend the use of drainable porosity of the host rock (brine content that can be drained by gravity). The 2014 resource is not consistent with the new guidelines in this regard. Revision of the resource estimate to be consistent with the guidelines will result in a reduction of the total reported resource. The 2014 resource estimate is comparable to other brine potash resources reported in accordance with the JORC Code 2012, that are calculated based on total porosity. During the transition to the new guidelines it has been common for companies to report both estimates calculated on total porosity and calculated on Drainable Porosity.

ADDITIONAL INFORMATION

Detailed hydrogeological studies at the KLPP have been based on significant datasets including drill hole, trench, production tests and monitoring data over several years provide confidence in the project. In collaboration with CPC's joint venture partner Verdant Minerals, the KLPP joint venture will determine an appropriate work program, (as part of a feasibility study) to revise the resource estimate for the KLPP. As a result, investors are cautioned not to make investment decisions based on the presently reported and publicly available mineral resource for the KLPP.

Presentation Overview

Overview

- Corporate Snapshot 4
- Acquisition of CPC – Transformational Transaction 5
- Parkway Minerals – Our Vision 6
- Mining Industry – Brine Processing Opportunities 7
- aMESTM – Solving Problems & Creating Value 8
- Proprietary aMESTM Technology Platform 9
- Fertilisers are of Global Strategic Importance 10
- Sulphate of Potash (**SOP**) – Industry Cost Curve 11
- SOP – Challenges & Opportunities by Segment 12
- Opportunities for SOP Production through aMESTM 13

Projects

- Karinga Lakes Potash Project (**KLPP**)
 - Overview 14
 - Project Appraisal 15
 - Forward Plan 16
- New Mexico Lithium Project (**NMLP**) 17
- Dandaragan Trough Project (**DTP**) 18
- Davenport Resources (ASX: **DAV**) 19

Appendices

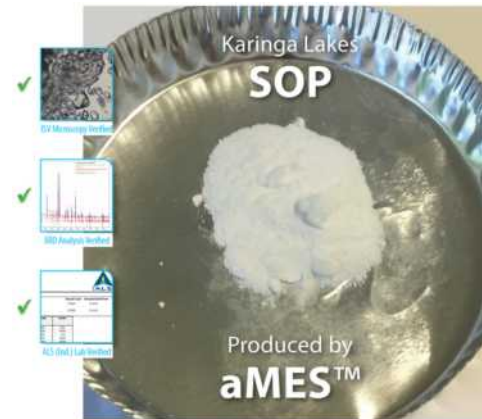
- aMESTM - Key Technological Innovations 20
- aMESTM - Value Creation Strategy 21
- Board of Directors 22

FLAGSHIP PROJECT



The Karinga Lakes Potash Project (KLPP)

- Extensive investigative studies performed.
- aMESTM technology provides advantages over conventional project development route.
- High-purity MOP and SOP produced through aMESTM technology.



SOP Product Specifications (SOP Produced from Karinga Lakes brine using aMESTM technology)

- The produced SOP is very high in purity with less than 0.5% Cl₂ well above industry benchmarks for premium SOP quality
- Only 1.2% of the SOP sample (SOP16) consisted of non-SOP constituents, indicating a SOP grade of 98.8%.

➔ **KLPP – PFS: Planning Underway with Verdant Minerals**

Corporate Snapshot

Capital Structure	Current
Ordinary Shares (PWN) on issue	1,214,906,085
12-month Trading Range	\$0.003 - \$0.010
Market Capitalisation (at \$0.006)	\$7.2 million
Partly Paid Securities (PWNCA)	245,158,677
Unlisted Options (\$0.02, 17 Aug 2020)	55,126,000

Major Shareholders	Percentage
Lions Bay Capital (CPC vendor)	18.4%
Activated Logic (CPC vendor, ED)	16.8%
Citicorp Nominees (HNW)	4.3%
Horn Resources (CFO)	3.1%
Rhodes Mining (CPC vendor)	2.8%
Patrick McManus (MD)	2.6%
Other Top 20	19.5%
Top 20	67.5%

Marketable Securities	Value (\$A)
34,300,000 units ASX:DAV @ \$0.05	\$1.65 million
7,142,850 units ASX: DAVO \$0.005	\$0.04 million
5,600,000 units ASX: LIT \$0.05	\$0.28 million
Total	~\$2 million

Parkway Minerals (PWN) – 3 Year Share Price Chart



Directors & Management

Adrian Griffin – Non-Executive Chairman

Patrick McManus – Managing Director

Bahay Ozcakmak – Executive Director

Patrick Power – Non-Executive Director

Robert van der Laan – Chief Financial Officer

Amanda Wilton-Heald – Company Secretary

Stock Symbols



ASX:
PWN



Frankfurt:
4IP

Acquisition of CPC – Transformational Transaction

1(a) CPC Transaction Timeline

Consolidated Potash Corp (**CPC**) is an unlisted Australian company.

- 05 Aug 2019 – Parkway agreed to acquire CPC.
- 27 Aug 2019 – Parkway raised \$450,000 (condition precedent).
- 13 Sep 2019 – Parkway shareholders approved acquisition of CPC.
- 17 Sep 2019 – Parkway completes acquisition (98.83% of CPC shares).

1(b) Assets Acquired Through CPC

Attractive Projects

- The acquisition of CPC, provides Parkway with direct ownership interests in two highly prospective brine projects:
 - Karinga Lakes Potash Project (**KLPP**)
 - Initial 15% interest, increasing to 40% (refer page 14)
 - New Mexico Lithium Project (**NMLP**, Central Lordsburg Playa)
 - 70% interest, increasing to 100% (refer page 17)

Disruptive Technology Platform

- The acquisition of CPC, also provides Parkway with direct ownership of the **aMES™ technology platform**, suitable for a range of brine processing applications, including the production of potash and lithium.

1(c) Corporate Synergies

- Complementary projects and technology, provide Parkway with substantial strategic and operational synergies.
- Enlarged project and technology portfolio together with an expanded board provide Parkway with critical-mass to execute & unlock value.

2(a) Growth Platform

- The acquisition of CPC provides Parkway with a pathway to create substantial value by focusing on the:
 - KLPP and NMLP projects
 - aMES™ technology platform
 - A deep organic business development pipeline - based on aMES™

2(b) Execute Business Plan

- Parkway is focused on advancing near-term, high-impact opportunities.

Leverage Technology Platform

- Commercialisation of aMES™ – advance potential opportunities to apply the technology, particularly to operating assets in the potash sector.

Key Project Priorities

- KLPP – scale-up aMES™ testwork and advance towards PFS.
- NMLP – farm-out for free carry, and/or shallow drill to define resource.

Davenport Resources (Parkway owns 20.8% of ASX: DAV)

- Establish partnership to explore collaborative opportunities and support Davenport Resources strategic activities in Germany.

2(c) Legacy Parkway Project Platform

- Dandaragan Trough – historical expenditure in the order of \$12 million.
 - Soliciting interest from prospective JV partners or acquirers.
- Lake Seabrook – initially encouraging SOP exploration results.
 - Parkway intends to divest the project to focus on key priorities.

Parkway Minerals – Our Vision

“ To transform
global brine processing methods,
through **innovative technology**
thereby improving sustainability,
and **creating value.** ”

Economic Value

- Improved mineral recovery
- Recycling of water & reagents
- Monetisation of byproducts

Environmental Value

- Reduced environmental footprint
- More sustainable operations

Social Value

- Meeting community expectations
- Securing Licence to Operate

aMESTM

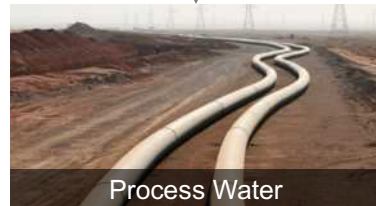
KEY APPLICATIONS

Desalination

Mining Brines

Potash – SOP

Mining Industry – Brine Processing Opportunities



Waste Brine
- chemicals
- salt
- water

1

i – Adapted from: "UN Warns of Rising Levels of Toxic Brine as Desalination Plants Meet Growing Water Needs", UNU-INWEH Study (14 Jan 2019).

1) Desalination Waste Brineⁱ

- For every litre of freshwater output, desalination plants produce on average 1.5 litres of brine.
- World's ~16,000 **desalination plants discharge 142 million m³/day of brine daily**.
- Brine management can represent **up to 33% of a desalination plant's cost** and ranks among the biggest constraints to more widespread development.
- Almost 22 million m³/day of brine is produced at a distance of greater than 50km from the nearest coastline. Despite the large volume of brine produced in these areas, very few economically viable and environmentally sound brine management options exist.

Brine Feedstock
- minerals
- salt
- water

2

2) Mineral Brine Feedstock

- Primary brine projects include **playa hosted brines** for the production predominantly **potash and lithium** Key opportunity
- Solution mining** (ISL/ISR) techniques are also utilised to **produce potash** and other valuable mineral products.

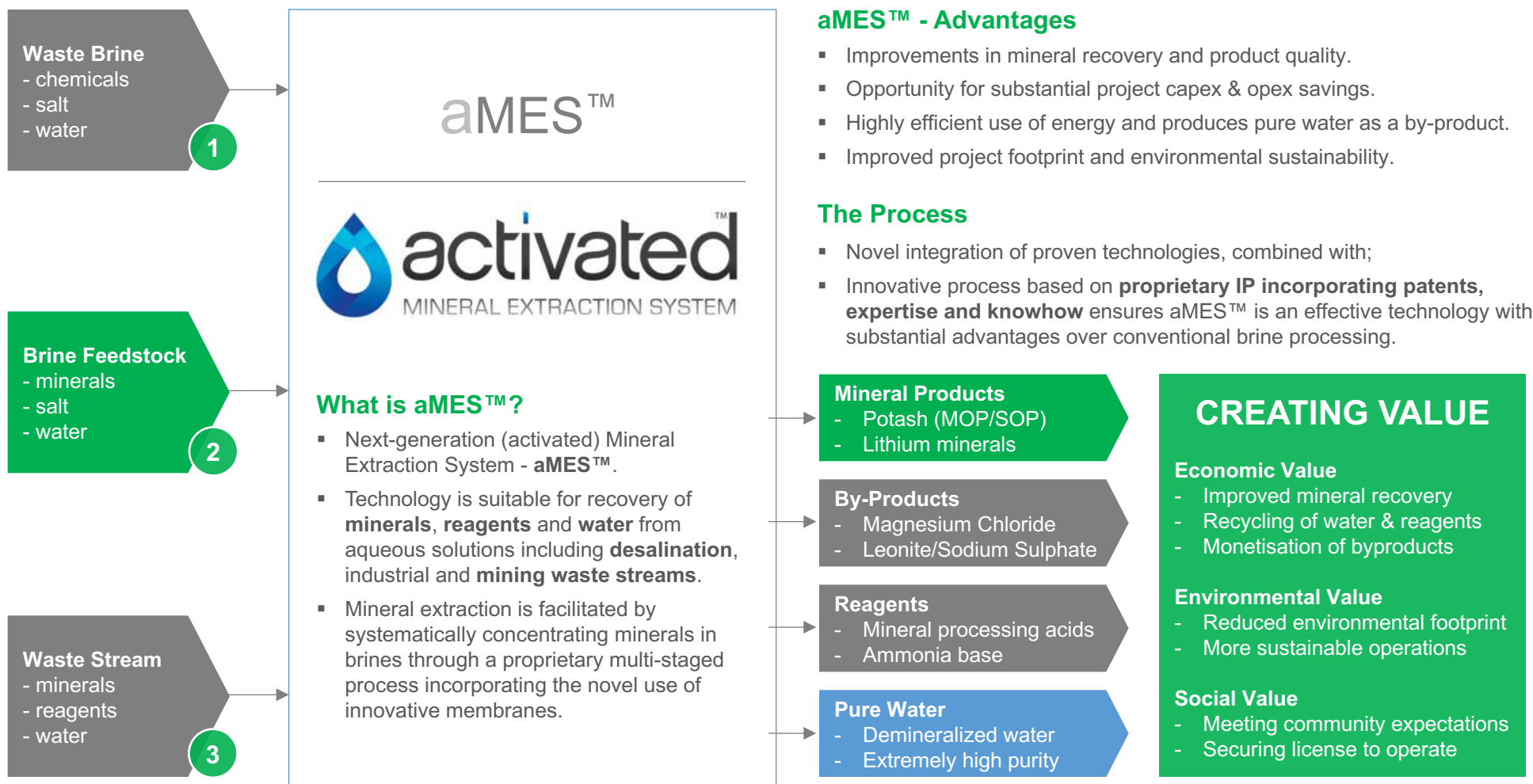
Waste Stream
- minerals
- reagents
- water

3

3) Tailings Waste Streams

- Typically have a large footprint and represent substantial environmental risks including community concerns.
- Tailings storage facility (TSF) construction, operation and maintenance represent **significant costs and risks**.
- Treatment of tailings solutions is a high growth sector.

aMES™ - Solving Problems & Creating Value



Proprietary aMES™ Technology Platform

High-Value Technology Platform

Through the acquisition of CPC, Parkway has acquired Activated Water Technologies (AWT), the owner of the aMES™ technology platform.

Through aMES™, AWT has developed:

- An efficient system to process concentrated brines to recover valuable minerals.
- Flexibility to optimise flowsheet to extract maximum value from a given feedstock.
- **A novel brine processing platform, with substantial barriers to entry.**

World-Leading R&D

- Subsidiaries recently acquired by Parkway, primarily AWT, are at the forefront of innovative brine processing related R&D.



AWT has a strategic collaboration and technology licensing agreement in place with VU. The partnership has been successful in securing prestigious Australian Research Council (ARC) grants to deliver R&D programs with budget exceeding \$1 million.

AWT is a founding member of ARC-EESep, a world-class team of scientists from 8 Australian universities, CSIRO, 3 Intl. universities, and includes 20 industry partners, with total funding of >\$10 million.



Novel Concept Design

- The aMES™ technology:
 - Is based on innovative system designs, including (patented) designs which provide significant advantages
 - Incorporates a range of proprietary modifications and integrations to established process designs & equipment



R&D Technical Partner

- Strategic partnership and technology licensing agreement with Victoria University (VU).
- Based on more than a decade of water sector research (>\$10M), has developed significant R&D expertise knowhow relating to:
 - Novel system designs
 - Robust operation of pilot plant facilities
 - State-of-the-art R&D



Pilot Plant Facilities

- A broad range of aMES™ pilot plant equipment and facilities suitable for:
 - Performing cutting-edge in-situ studies including crystallization kinetics
 - Investigating key process parameters and providing proof-of-concept for each feedstock
 - Validating performance and performing range of optimization studies



High Performance

- The design of each aMES™ project application is intended to achieve a material step-change in project performance as a results of:
 - Proprietary system design & operation
 - Integrated heat-exchanger (patented) to improve energy intensity
 - Utilising CHP principles to increase system efficiency



Leading Partnerships

- Established relationships with key partners essential for successful project delivery including:
 - Technical process development expertise
 - OEM suppliers, particularly plant and BOP system related
 - EPC contractors
 - Specialised consultants
 - Project proponents



aMES™ Pilot Plant

Innovative aMES™ pilot plant built and operated, with specialised equipment; options to significantly scale-up brine processing capacity as required.



aMES™ Operations

Proprietary brine extraction, preparation and processing capabilities based on the innovative aMES™ technology platform, support testing operations.



aMES™ Products

Extensive testwork based on proprietary aMES™ flowsheets has produced high-grade potash related products, including sylvite (MOP), leonite (KMS), sulphate of potash (SOP).

Fertilisers are of Global Strategic Importance

Mission Critical

- Modern agricultural food production **requires fertilisers**.

The Importance of NPK

- N-P-K are the Major Nutrients in agricultural fertilisers.
- Each of these nutrients, are essential for plant growth.
- Each of these nutrients, are **non-substitutable**.

Major Nutrients

- Nitrogen (N)
- Phosphorus (P)
- Potassium (K)

Minor Nutrients

- Calcium (Ca)
- Magnesium (Mg)
- Sulphur (S)

Micro Nutrients

- Mg, Zn, Fe,
- B, Cu, Mo, Cl
- and several others

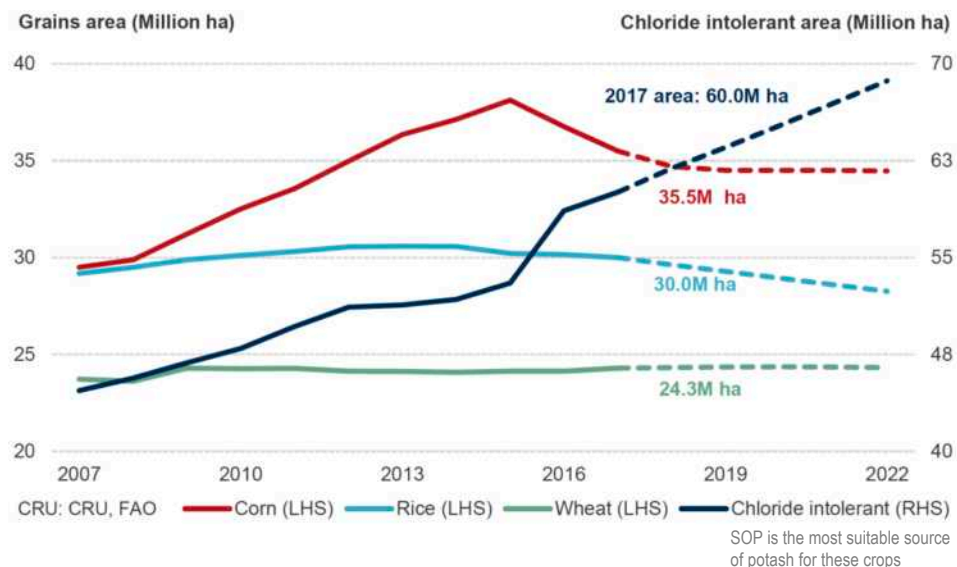
Potassium & Potash

- Potassium (K) stimulates plant growth, provides disease resistance and drought tolerance, and improves flavour, colour and shelf-life of fruits and vegetables.**
- Potash is a general term to describe compounds containing water soluble potassium suitable for plant growth.
- Muriate of Potash (**MOP**) – KCl, is suitable for many crops.
- Sulphate of Potash (**SOP**) – K_2SO_4 is superior for Cl sensitive crops and generally trades at a US\$200+ premium to MOP.

Potash – Concentrated Production Profile

- Global **potash production is dominated (92%) by a small number of countries**, including: Canada (35%), Belarus (19%), Russia (17%), China (12%), Israel (6%) and Germany (4%).

Major Crops in China (by area, Million ha)



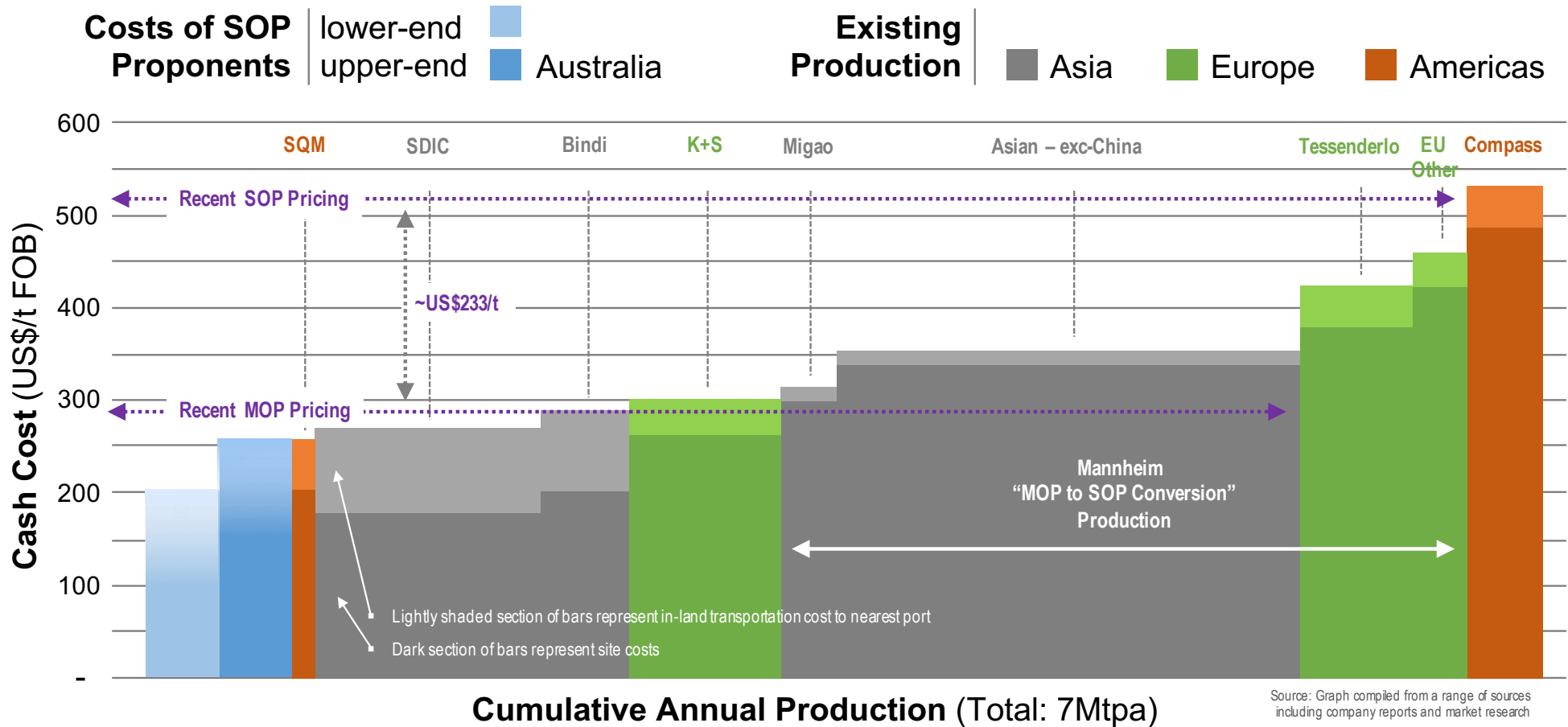
Long-Term Growth in Demand

- Population growth is driving demand for food, water and natural resources.
- To satisfy the increased demand for food requires intensification of agriculture, which in turn **requires fertilisers** to improve productivity.
- Production of higher value protein (meat) requires significantly more feedstock (grain), often 4 - 10x more grain to produce the equivalent meat.
- Improving diets in developing countries is increasing demand for tree nuts, fruits and vegetables, which are typically chloride intolerant (see chart), therefore MOP is unsuitable as a source of potash, and **SOP is required**.

Sulphate of Potash (SOP) – Industry Cost Curve

Recent Industry Developments

- The high-quality and low-cost segments of the SOP market are steadily growing, with the opportunity to displace high-cost and low-quality SOP production;
- Whilst there is excess production capacity for MOP, the transition to precision agriculture is increasing demand for higher quality fertilisers (SOP).



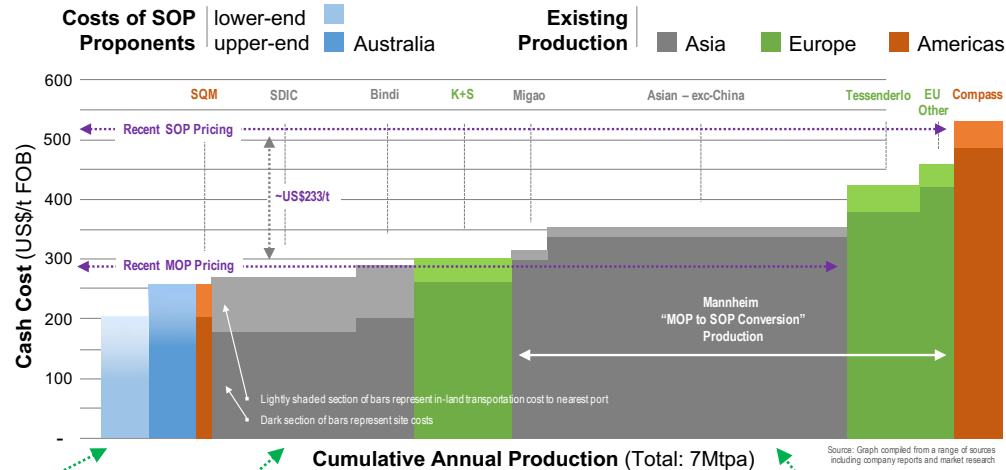
SOP – Challenges & Opportunities by Segment

Overview

- Each region/segment of the SOP industry cost curve faces unique **challenges** in maintaining existing, and increasing **additional SOP production capacity**.

Opportunities for aMES™

- For a given project or the corresponding segment of the SOP industry cost curve, there is an optimal aMES™ based application to address the specific challenges.
- In general, the aMES™ technology improves the water balance, reduces wastes, and yields a premium product mix.



aMES™ Value Creation

- The **scale of opportunities is substantial**, with the potential value creation attributable to a given aMES™ application comparable to a significant stand-alone project.
- Potential applications involve utilising existing site infrastructure, thereby **maximising ROI** and providing pathway to earnings (refer to page 22 for details).

Challenges – by Segment

Australian Production – Planned

- Projects generally located in remote and arid environments to maximise brine evaporation rates.
- Scarcity of process water is a major obstacle to many projects.
- Cost overruns likely.

Brine Production – China

- China is a substantial net-importer of potash, and has effectively subsidized the domestic potash industry.
- Unlikely China will become an exporter of material volumes due to increasing domestic demand.

K+S Production – Germany

- Waste brine disposal from, i) primary potash production, and ii) waste heap brine, are major challenges undermining sustainability and viability of future operations.
- Large-scale high-impact challenge.

Mannheim Production – Asia & EU

- Must be sold at a premium to the MOP price as this is a major input.
- Generally high-cost, low-margin, geared for domestic consumption.
- Disposal of HCl acid (waste product) is a major issue.

US Production

- Generally high-cost, low-margin, geared for domestic consumption.
- Often requires MOP in non-Mannheim conversion process.
- Other US operations are experiencing challenges with access to process water.

Opportunities – by Segment

Overview

- Recover fresh water from brine, removing/reducing need for fresh water bore field, reducing costs.
- Simplified flow sheet and potential to recover range of byproducts.

Overview

- Range of opportunities but not the current priority due to relatively opaque and fragmented domestic markets.

Overview

- Recover fresh water from waste brine streams to resolve residual waste disposal challenges.
- Recover additional product and byproducts from waste streams.

Overview

- Range of opportunities but not the current priority due to relatively opaque and fragmented domestic markets.

Overview

- Improved flow sheet and potential to recover range of byproducts.
- Other projects in the US have the opportunity to be lower cost producers with new flow sheets.

Opportunities for SOP Production through aMES™

Overview

- Whilst there is growing demand for SOP, maintaining existing and bringing new production online through conventional means, faces significant challenges.

1) Process Water

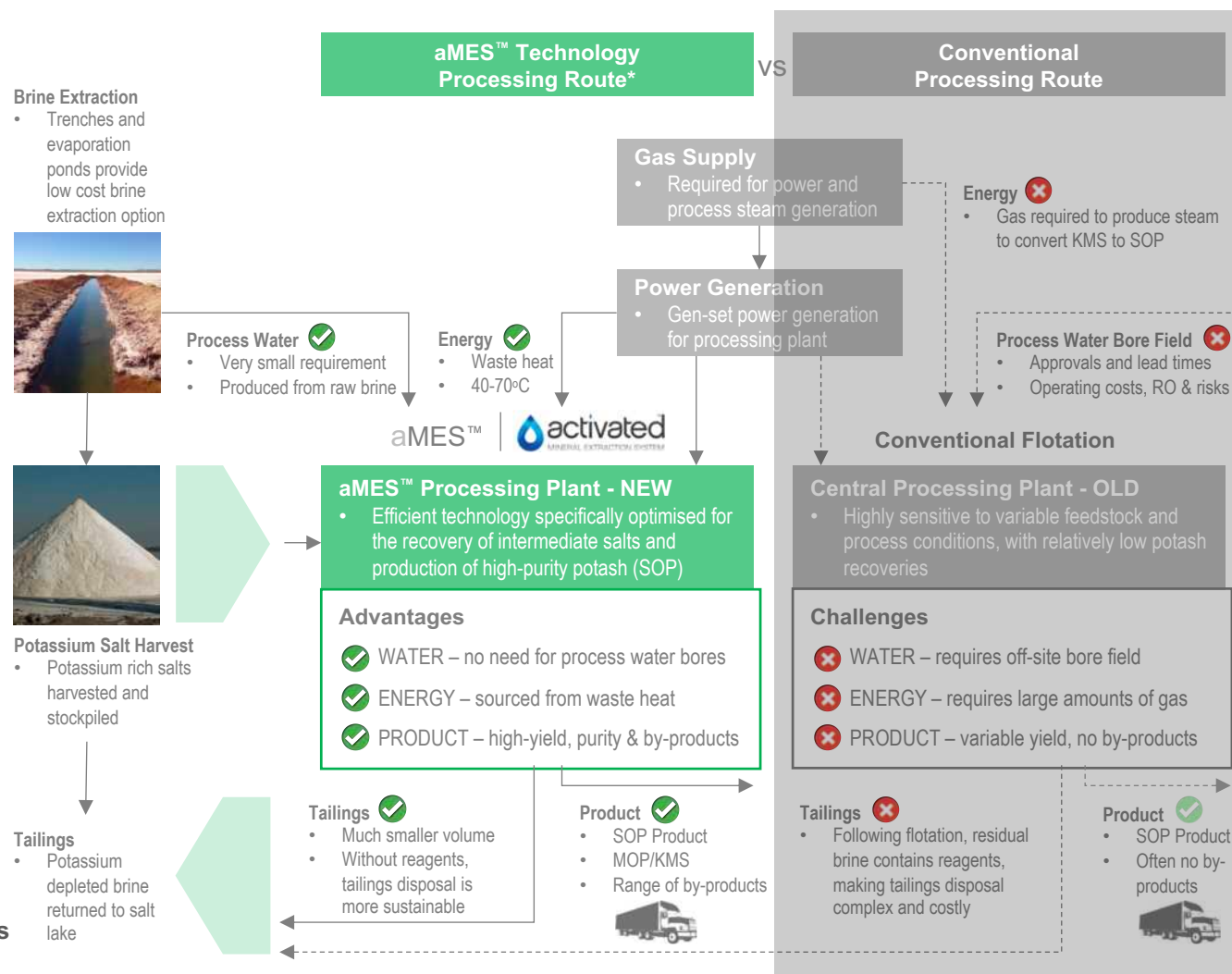
- Depending on the specific flowsheet, the production of 1 tonne of SOP can require in excess of 10m³ of fresh process water.
- The aMES™ technology recovers and recycles high-quality process water.**

2) Mineral Processing

- Mineral recoveries associated with flotation and other conventional processes are sensitive to feedstock composition.
- The aMES™ technology achieves high recoveries including of by-products.**

3) Waste Brine Disposal

- Various mineral processing stages associated with flotation, leaching and purge solutions, generate substantial waste brine streams.
- Disposal of these waste brine streams is often both complicated and costly.
- The aMES™ technology is able to process & recover products from these streams.**



* - The proposed aMES™ processing route outlined herein, has applications for the Karinga Lakes Potash Project, refer page 14.

Karinga Lakes Potash Project (KLPP) – Overview

Introduction

- CPC has earned an initial 15% interest in the KLPP, and has the right to acquire up to 40% through staged investment of further \$2 million.
- CPC holds a conditional optionⁱ to acquire additional 10.1%.
- In February 2019, CPC delivered a Scoping Studyⁱⁱ to the project operator, Verdant Mineralsⁱⁱⁱ, investigating a potential **development scenario for the KLPP based on the aMES™ technology**.
- CPC has established a JV with Verdant Minerals to pursue feasibility studies regarding potential project appraisal and development.

Infrastructure

- Brine lake system located in prime geological setting on pastoral land in Central Australia (Northern Territory).
- Ideally located, with major road and rail infrastructure located in proximity to the project, with regional gas options also available.

Geology

- The project consists of a chain of dry salt lakes and is located within the Central Australian Groundwater Discharge Zone.

Extensive Project Studies

- Extensive project appraisal studies have been performed by Verdant Minerals since 2010.
- On 20 February 2014, Verdant Minerals reported an in-situ sulphate of potash (SOP) resource (in accordance with the 2012 JORC Code) for the KLPP. Since announcing this resource, reporting guidelines have changed, as a result, investors are cautioned not to make investment decisions based on the presently reported and publicly available mineral resource for the KLPP. Further details, refer to the *Parkway ASX announcement on 5 August 2019*.



(A) KLPP Regional Infrastructure (Northern Territory). (B.i) Lake Mingere Trial Trench. (B.ii) Lake Mingere Brine & Salt Samples. (B.iii) SOP produced from Lake Mingere salts. (C) KLPP Exploration Licence Map. Maps and associated details are illustrative only and not to scale.



KLPP - potash brine preparation
brine extraction for aMES™ processing)

aMES™ Application Rationale

- Potential to rapidly develop a more capital efficient and sustainable potash production operation compared to conventional development pathways.
- The aMES™ pathway **potentially eliminates the requirement for flotation, process steam, gas pipeline and a freshwater bore field**, which collectively represent major costs in the traditional SOP production flowsheet previously evaluated.
- Potential to recover magnesium salts as a by-product.

i – refer Parkway [ASX Release 5 August 2019](#).

ii – refer Verdant Minerals [ASX Release 18 February 2019](#).

iii – formerly ASX: VRM, in June 2019 was acquired by CD Capital at a 113% premium.

Karinga Lakes (KLPP) – Project Appraisal

Projectⁱ Appraisal

- The KLPP has undergone comprehensive appraisal and represents a highly prospective sulphate of potash (SOP) brine project.
- Verdant Minerals have been exploring the KLPP area since May 2010 and on 20 February 2014 reported an in-situ potash resource for the project. The 2014 resource is based on the total porosity (total brine content) of the host rock. Refer to *Resource Status* sections for additional information about the resource status for the KLPP.
- Most of CPC's process development studies, including the recently completed technoeconomic study have been based on brine and salt feedstocks from Lake Miningere, where the reported brine composition was deemed to be particularly well suited for the production of SOP.

Projectⁱ Appraisal Status

- **The potash brine investigations were based on data acquired over several years, including;**
 - 93 brine samples from hand dug pits
 - 4 small backhoe trenches which were pump tested
 - 8 vibracore drill holes, 73 sonic drill holes & 200 aircore drill holes
 - 42 installed 50mm piezometers around drill holes & 48 piezometers around trenches
 - 47 installed 100mm wells
 - 10 pumping tests from 100mm wells
 - 4 long term pump tests from 3 trenches and a well
 - 142 porosity samples.



KLPP Project Evaluation - extensive drilling, sampling & investigative studies



KLPP Brine Flow-Testing

Resourceⁱ Status

- In collaboration with CPC's joint venture partner Verdant Minerals, the KLPP joint venture will determine an appropriate work program, (as part of a PFS) to revise the resource estimate for the KLPP to conform with updated guidelines.
- As a result, investors are cautioned not to make investment decisions based on the presently reported and publicly available mineral resource for the KLPP. Further details, refer to the *Disclaimer*.

ⁱ - On 20 February 2014, Verdant Minerals reported an in-situ SOP resource (in accordance with the 2012 JORC Code) for the KLPP (refer Verdant Minerals ASX Announcement, 20 Feb 2014). The 2014 resource is calculated using the total porosity (total brine content) of the host rock. Subsequent to this resource estimate, in April 2019, the reporting requirements for brine resources under JORC have been updated, with a new set of requirements. As a result, investors are cautioned not to make investment decisions based on the presently reported and publicly available mineral resource for the KLPP. Further details, refer to the *Disclaimer*.

Karinga Lakes (KLPP) – Forward Plan

Overview

- The KLPP represents an attractive opportunity for CPC, as extensive project evaluation initiatives demonstrate the brine can be readily accessed by trenching and concentrated through solar evaporation to produce a mixed salt containing precursors to SOP.
- On [18 February 2019](#), Verdant Minerals announced that CPC had satisfied all of the Key Performance Indicators (including the delivery of a **Scoping Study based on the aMES™ technology**) required in order to acquire an initial 15% of the KLPP and establish a Joint Venture with Verdant Minerals.

Scoping Study

- The KLPP Scoping Study was performed by CPC in collaboration with Verdant Minerals, Victoria University and a leading technoeconomic modelling expert. The budget for the study was ~\$1 million over 18 months.
- CPC has earned a 15% interest in the KLPP to date, by completing extensive bench scale testwork and a scoping study on the potential feasibility of producing SOP from the KLPP through the use of the aMES™ technology (refer Verdant Minerals ASX announcement, 18 February 2019 Karinga Lakes – Establishment of Joint Venture).
- The Scoping Study identified several important strategies **to simplify the development of the KLPP** by potentially eliminating the requirement for flotation, process steam, gas pipeline and freshwater bore field, which represent major costs in the traditional flowsheet.

CREATING
VALUE

Forward Plan

- As part of CPC's Stage 2 earn-in to the KLPP, Parkway is currently working with Verdant Minerals to develop an appropriate Pre-Feasibility Study (PFS) scope based on:
 - Updating the KLPP Resource Statement (no field work expected to be required)
 - Using the aMES™ technology package
- As a result of entering into an aMES™ licencing agreement with Verdant Minerals regarding the KLPP, Parkway subsidiary **AWT holds a 1% NSR over the KLPP**.

KLPP – aMES™ Mediated Project Transformation

- CPC has performed extensive studies on the KLPP since 2015, and most recently culminated in the delivery of a Scoping Study (18 Feb 2019) and the subsequent acquisition of an initial 15% equity interest in the project.
- **Key Findings of the aMES™ focused studies have identified:**
 - Important strategies to simplify the development of the KLPP by potentially eliminating the requirement for:
 - flotation,
 - process steam,
 - gas pipeline, and a
 - freshwater bore field,
 - which collectively represent major costs in the traditional potash production flowsheet.
 - The JV partners have indicated that they believe the **aMES™ technology provides the most suitable pathway to potentially developing the project**, subject to appropriate feasibility studies.
- **The optimisation opportunities identified at the KLPP have applications for many other potash projects:**
 - CPC has received interest in assisting other MOP and SOP project producers and proponents investigate the potential of the aMES™ technology.
 - Parkway is currently evaluating these opportunities.

New Mexico Lithium Project (NMLP) - Overview

Introduction

- Parkway has acquired an initial 70% interest in the NMLP, and has the right to acquire up to 100% through staged investment.
- Project covers ~40km² of federal BLM claims – no royalties payable.
- Project ideally located, with major road, rail, gas and power infrastructure passing through or adjacent to the project area.

Lordsburg Playa

- The project displays important geological components including:
 - i) “source” - lithium bearing volcanic rocks.
 - ii) “scale” - large catchment area to accumulate lithium.
 - iii) “concentration” - located in a geothermally active region.
 - iv) “trap” - closed central playa in an arid environment.
- The project area has not been previously explored for lithium.



[A] Map of the United States of America. [B] Map of New Mexico (N.M.). [C] NMLP Claim Map. Maps and associated details are illustrative only and not to scale. Map does not reflect recent claim consolidations.

Right Geology for Lithium Brine

- Basin and Range extensional faulting - actively defines subsiding closed basin.
- Volcanic source rock include lithium bearing rhyolites.
- Region of high heat flow including hot springs to leach lithium from rhyolites into brines in the closed Lordsburg basin.
- Basin morphology provides large catchment area for groundwater and brine recharge. Long lived basin for enrichment of lithium brines.

Forward Plan

- Seek to farm-out for free-carry, and/or shallow drill to define resource.



Lithium brines processed with aMESTM technology, as a pretreatment.

aMESTM Application Rationale

- Potential to **direct process the brine with aMESTM** technology, therefore eliminating or reducing the need for evaporation ponds.
- Potential to rapidly develop a more capital efficient and sustainable lithium production operation compared to conventional development pathways.
- Potential to process and recover range of additional compounds including **potash as a by-product**.
- Third-party interest in the NMLP, with potential to drill in conjunction with regional exploration company.

Dandaragan Trough Project (100% PWN)

Overview

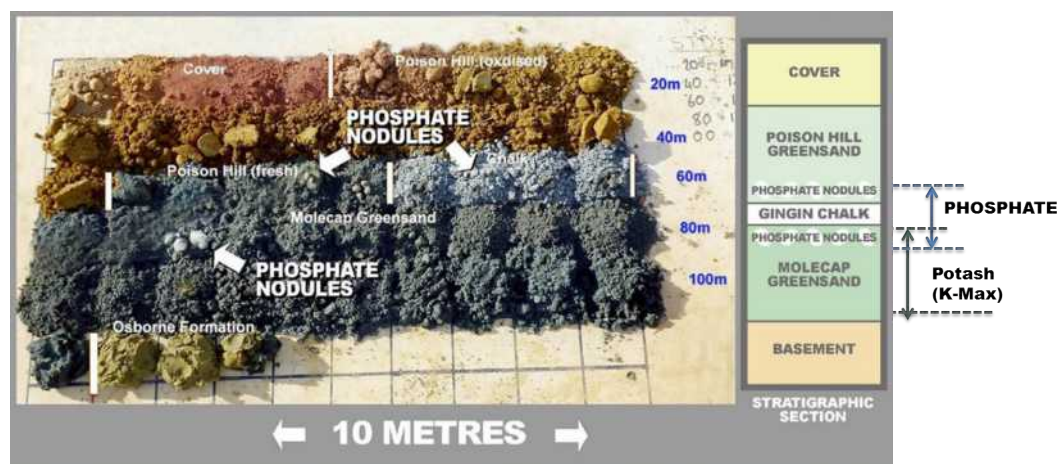
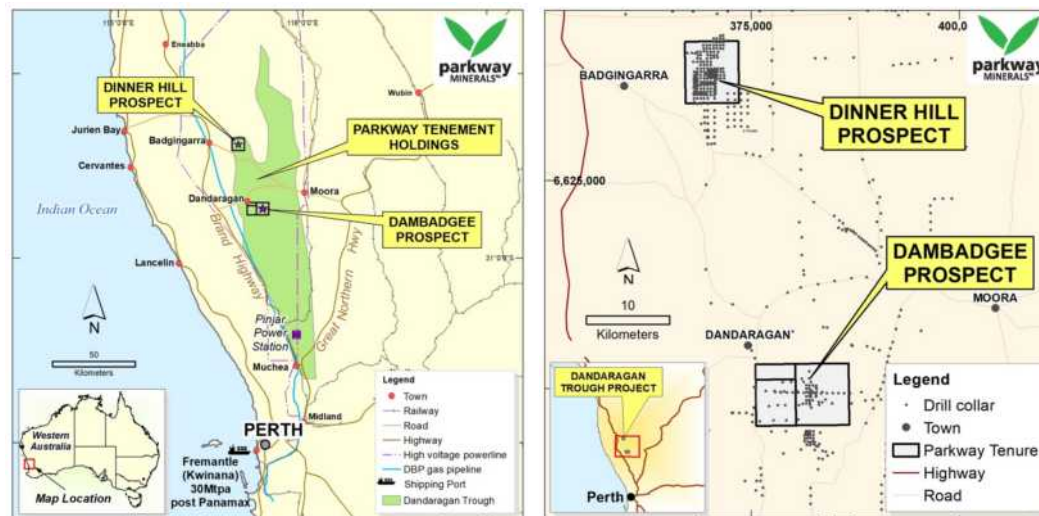
- The Dandaragan Trough hosts one of the **world's largest glauconite/greensands deposits**, containing abundant P and K.
 - Widths greater than 20km
 - Many intersections greater than 40m thick
 - Regionally extensive - extends ~150km along strike
- Great Infrastructure:
 - Rail, roads, towns, power, gas and water all nearby
 - Two major export ports and fertiliser plants at Geraldton and Kwinana, less than 200km away.
- Close to local markets WA SE and South Asia
- Similar mining activity already established in the region.

Resource Appraisal

- Indicated + Inferred Potash Resource – 910 Mt @ 3.8% K_2O , and
- Indicated + Inferred Phosphate Resource – 630 Mt @ 1.9% P_2O_5 .
- Resource covers 52 km² area (ASX release, 26 Sept 2017).
- Dambadgee – Recent drilling results suggest that the Dambadgee prospect may represent a higher quality resource than Dinner Hill. Exploration Target of 2 to 4 billion tonnes reported [28 Sept 2017](#).

Next Steps

- Parkway is exploring various pathways to introduce a joint venture or strategic partner to fund the next stage of feasibility studies, or potentially monetise the project interest.



Davenport Resources (ASX: DAV)

Overview

- Davenport Resources is a pure-play potash company with a globally significant potash resource inventory (largest in Western Europe), in an established potash mining district of Central Germany.

PWN Shareholding

PWN is the largest shareholder in Davenport Resources holding:

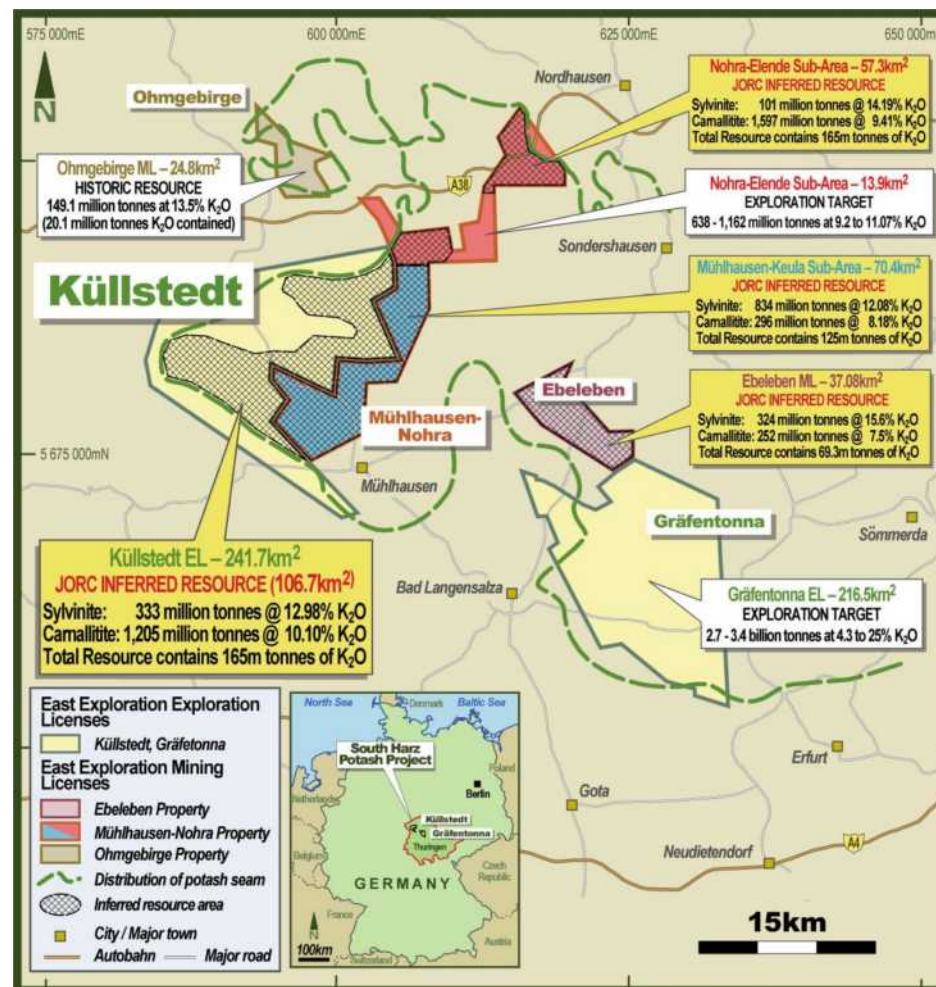
- 34,300,000 shares (~20.8% IC) and 7.1 million options (DAVO)

Potash Resource

- Davenport controls over 4.9 Billion tonnes (grading 10.6% K₂O) of JORC Inferred Resource from its Ebeleben and Mühlhausen-Nohra mining and Küllstedt exploration licences, including 1.6 billion tonnes of Sylvinitite grading 13.1% K₂O.
- Davenport's portfolio of resources represents **Western Europe's largest potash inventory** and contains a number of significant projects.

Corporate Synergies

- Approximately 75% of the potash resource (1,205 million tonnes) at the Küllstedt project consists of carnallitite grading at 10.1% K₂O, which may be **amenable to primary solution mining**.
- CPC's aMESTM technology has likely applications in both the primary processing of potash solutions as well as sylvinitite waste streams.
- CPC has previously performed testwork to demonstrate the suitability of the aMESTM technology to process primary and waste brine streams from other potash projects.
- Parkway has facilitated collaborative discussions between DAV and CPC, to explore potential pathways for adding value to the DAV project portfolio.



aMES™ - Key Technological Innovations

Selective & Precise

- Multilayered aMES™ process design provides several degrees of control.
- Range of aMES™ system designs are optimally suited for a given application.
- Different physicochemical parameters relating to:
 - Solubility (temp), reactivity, pH, kinetics and other conditions,
 - are utilised to develop an optimal flowsheet for a given application.

Impact

- Higher quality products.
- Flexibility in the recovery of products. If the compounds are soluble, then they can be extracted through aMES™ processing.
- Typical cations include; K, Mg, Li, B, Br, I and byproducts (Ca, Na, Si, NH₄)
- Typical anions include; Cl, CO₃, SO₄

Full Utilisation of Feedstock

- Unlike selective processes like IX or flotation, aMES™ provides the opportunity of selective/sequential harvesting of all major components.

Impact

- More products, less waste.
- The aMES™ technology allows the fractionated harvesting of constituents.

Robust Performance

- Significant piloting has demonstrated that stable operations can be achieved, under typically challenging circumstances (saturated solutions).
- Fouling tendency is minimised through innovative process design and operation philosophy, developed through extensive testing and optimisation.

Impact

- Process technology innovations ensure efficient and reliable performance.
- The aMES™ technology is typically less susceptible to changes in feedstock composition, as there is sufficient operational flexibility to adjust operating parameters to accommodate the changed feedstock.

No Reagents

- Unlike conventional processes, the processing of feedstocks with the aMES™ technology typically do not require any reagents or additives.

Impact

- More cost-effective and sustainable.
- The aMES™ technology performs a separating function by exploiting the physicochemical properties of a given feedstock, through process design.

Energy Efficiency

- The processing of concentrated solutions are typically energy sensitive.
- As aMES™ is a thermally driven process, project feasibility is often sensitive to the availability (cost) of thermal energy, although aMES™ is energy efficient.

Impact

- More efficient than conventional processes.
- Utilises low-grade waste heat, with significant advances have been made to further reduce the energy intensity of the aMES™ process.

aMES™ - Value Creation Strategy

Overview

- The aMES™ technology has attracted the interest of several major OEM and potential EPC partners, as well as prospective end users that recognise the potential of the technology.
- Parkway plans to create substantial value by developing a portfolio of strategic revenue opportunities.
- **Product Sales**
 - Specialised aMES™ related equipment sales (containerised unit).
- **Technology Licensing**
 - Larger projects that have undergone pilot-scale testing, will require a license to use the aMES™ technology.
- **Project Equity Participation**
 - Parkway may seek to support early stage aMES™ test work in return for a minority equity interest a project.
- **Corporate Activity**
 - Enabling and/or process technologies similar to aMES™ are highly sought after by industry incumbents and often drive M&A activity.

aMES™ Application Evaluation – Business Model

For each type of application, Parkway will typically develop an aMES™ technology integration pathway.

- Typically an initial aMES™ test program generating substantial analytical, process and design data.
- Test Program key deliverables include:
 - Preliminary aMES™ process flow diagram.
 - Basic engineering design, equipment specifications.
 - Technoeconomic Study
- Test Program delivered on a “paid-piloting” basis.
- Significant synergies across projects with similar application.

Technology Delivery – Business Model

Develop optimal aMES™ delivery proposal.

- Parkway to provide a license to aMES™ technology as part of an overall EPC proposal with either the client’s preferred engineering contractor or CPC’s strategic partners.
- **License fees or royalties** to reflect extent of value creation.
- Upfront fees to Parkway will allow client to share more of benefits derived through the use of the aMES™ technology.



Board of Directors



Adrian Griffin – Non-Executive Chairman

- Adrian is an Australian-trained mining professional, has had exposure to metal mining and processing worldwide during a career spanning more than three decades. A pioneer of the lateritic nickel processing industry, he has helped develop extraction technologies for a range of minerals over the years.
- Today, Adrian specialises in mine management and production. He is a former chief executive officer of Dwyka Diamonds Limited, an AIM- and ASX-listed diamond producer, was a founding director and executive of Washington Resources Limited and also a founding director of Empire Resources Limited, Ferrum Crescent Limited and Reedy Lagoon Corporation Limited. Moreover, Adrian was a founding director of ASX-listed Northern Minerals Limited, where he is currently a non-executive director. He is also managing director of ASX-listed Lithium Australia NL, a company focused on lithium extraction, battery technology and lithium recycling.



Patrick McManus – Managing Director

- Patrick has a degree in mineral processing from Leeds University and an MBA from Curtin University. A mining professional for more than 30 years, his work has taken him to many sites within Australia and overseas, including Eneabba and the Murray Basin in Australia, and Madagascar, Indonesia and the United States.
- During that time, Patrick has worked in operational, technical and corporate roles for RioTinto, RGC Limited and Bemax Resources Limited. He was a founding director and, from January 2007 to March 2010, managing director of ASX-listed Corvette Resources Limited.



Robert Van der Laan – Chief Financial Officer

- Bob is a qualified accountant with more than 25 years' experience in the management of financial and risk management systems of public and private companies, in the resources and engineering sectors.



Bahay Ozcakmak – Executive Director

- Bahay is the founder of Activated Water Technologies and the CEO of AWT's parent company, Consolidated Potash Corp. (CPC). In addition to two decades of successful technology commercialisation experience, Bahay has extensive corporate development expertise, including M&A, particularly in the energy and mining sectors, where he has led the successful acquisition of several flagship projects and major corporate transactions, particularly with listed companies.
- Bahay has broad corporate experience ranging from business and corporate strategy development through to CEO and director level roles in the energy and mining sectors. Recent experience with resources companies have been focused on gold, copper, nickel, cobalt, lithium, potash and uranium projects. Bahay is currently a director of several private and public companies and is currently the executive chairman of TSX-Venture listed Fidelity Minerals Corp.



Patrick Power – Non-Executive Director

- Patrick is the founder of Western Potash, and was instrumental in securing substantial investment for the company and advancing the Milestone (under construction) project in Saskatchewan, Canada.
- Patrick brings over 25 years experience in mining finance, management and venture capital. Patrick is currently a director of Western Potash and President and CEO of Arctic Star Exploration, a diamond exploration company. He has served as a director of other mineral exploration companies including Amarillo Gold Corp., First Narrows Resources Corp., and Goldtex Resources Ltd.



Amanda Wilton-Heald – Company Secretary

- Amanda is a Chartered Accountant with over 19 years of accounting, auditing (of both listed and non-listed companies) and company secretarial experience within Australia and the UK.

Parkway Minerals – Our Vision



“ To transform
global brine processing methods,
through **innovative technology**
thereby improving sustainability,
and **creating value.** ”