



# Feasibility Study

*“Confirms Citronen as One of the World’s  
Largest & Premier Zinc-Lead Projects”.*

# Disclaimer

## FORWARD LOOKING STATEMENTS

The following information is not intended to guide any investment decisions in Ironbark Zinc Limited.

This material contains certain forecasts and forward-looking information, including possible or assumed future performance, costs, production levels or rates, reserves and resources, prices and valuations and industry growth and other trends. Such forecasts and information are not a guarantee of future performance and involve many risks and uncertainties, as well as other factors. Actual results and developments may differ materially from those implied or expressed by these statements and are dependent on a variety of factors.

The Citronen zinc project is considered to be at an early development stage and will require regulatory approvals and securing of finance and there is no certainty that these will occur. Nothing in this material should be construed as either an offer to seek a solicitation or as an offer to buy or sell Ironbark securities. Consideration of the technical and financial factors requires skilled analysis and understanding of their context.

## JORC CODE COMPLIANCE AND COMPETENT PERSON STATEMENT & DISCLOSURE

### Competent Person Statement

The information included in this report relates to Exploration Targets, Exploration Results & Mineral Resources based on information compiled or reviewed by Mr Jonathan Downes (B. Sc, MAIG) and Ms Elizabeth Laursen (B. Esc (Hons.), MAIG, MSEG, GradDipAppFin), both employees of Ironbark Zinc Limited. Mr Downes and Ms Laursen have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Targets, Exploration Results, Mineral Resources. Mr Downes and Ms Laursen consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.

### Competent Persons Disclosure

Mr Downes and Ms Laursen are employees of Ironbark Zinc Limited and currently hold securities in the company.

### Cautionary Statement

Ironbark has concluded it has reasonable basis for providing the forward looking statements included in this presentation. The detailed reasons for that conclusion are outlined throughout this presentation. This announcement has been prepared in accordance with the JORC Code (2012) and the ASX Listing Rules.

The Company believes there is a reasonable basis for the production targets and the forecast financial information and income-based valuation derived from those production targets provided in this document based on the detailed reasons and material assumptions which are outlined throughout the ASX announcement dated 12 September 2017 titled Feasibility Study Update and Appendix 1 of this presentation.

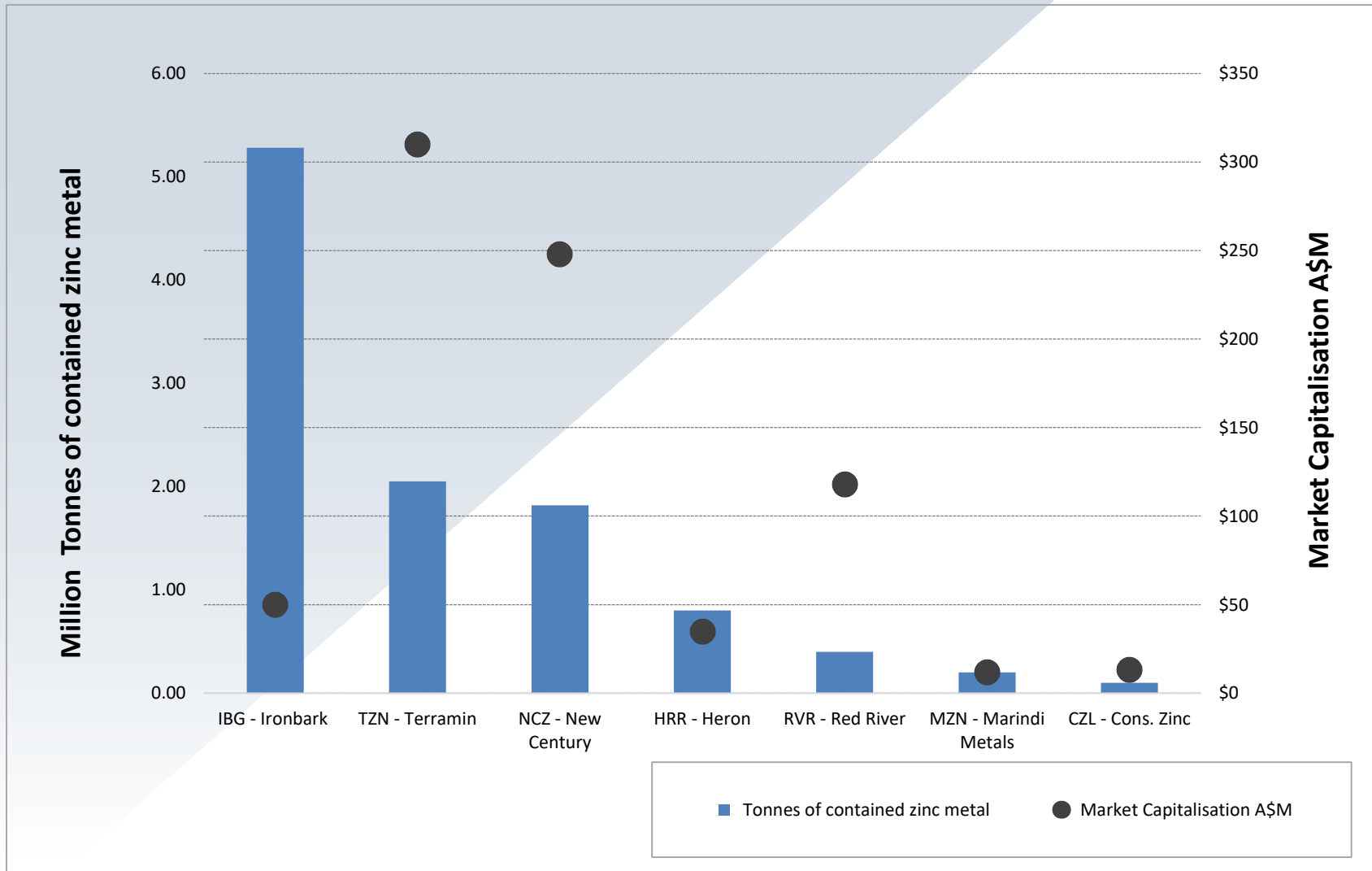
# ZINC – THE TIME IS NOW!

## The world is running out of Zinc (the fourth most consumed metal by volume)

- Major mine closures in recent years due to depletion
  - Century (500,000 tpa)
  - Brunswick (200,000 tpa)
  - Perseverance (128,000 tpa)
  - Lisheen (167,000 tpa)
- Yet at the same time demand is growing - forecast at 2.5-3% pa (or approximately an extra required 400,000tpa) to 14.7Mt zinc over 2017
- The falling supply against rising consumption is driving a price rise
- Ironbark has the rare opportunity to rapidly bring on a large scale zinc operation



# A Giant Amongst Peers – Yet to be Realised



# Ironbark Snapshot

- **Market Capitalisation of ~\$50M**
- **Major investors and strategic partners include**
  - Glencore International AG - world's largest zinc trader, major zinc miner and smelter
  - Nyrstar NV – major global zinc smelter group
  - China Nonferrous - major Chinese construction and engineering firm
- **Over 12.8 billion pounds of zinc identified at 100% owned Citronen\*\***
  - Current zinc prices are very strong
  - Provides extraordinary leverage to base metal prices

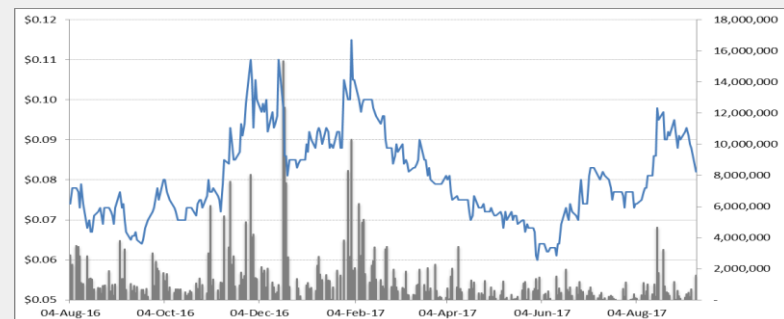
\*-Exercise price 30c x 5,000,000 expire December 2017  
 -Exercise price 13.3c x 14,000,000 expire November 2017  
 \*\* Refer to resource statement on slide 9

## Ironbark Zinc Limited (ASX: IBG)

Shares on Issue	539 million
Options on Issue*	19 million
Market Cap. (at 10 cents)	\$53 million
Cash at 30 June 2017	\$2.5 million

## Major Shareholders

Nyrstar NV	19%
Glencore	9%
Board and Mgt.	5%
<b>Total Top 20, Board and Mgt.</b>	<b>45%</b>



# Developing the Citronen Zinc Project

## One of the largest Zinc Projects in the world

- 12.8 Billion pounds of zinc defined- Open ended JORC Compliant Resource
- Exploration target 302-347Mt @ 4.4-5.0% zinc+lead\* (ASX announcement 28 January 2010)
- High grade zones from drill holes such as 16m @ 20.8% zinc

## 100% Ownership

- Over \$50M expended to date on the Citronen Project
- Low sovereign risk and supportive Government

## Bankable Feasibility Study completed, confirming world class scale

- Long mine life – Globally significant production
- Simple process flow sheet with excellent recoveries

## Mining Licence Granted (Exploitation Permit - Dec 2016)

- Right to exploit zinc and lead resources for a 30 year period

## Financing and Engineering works with NFC, major Chinese Firm

- China Nonferrous (NFC) appointed to incorporate current Chinese equipment and construction costs
- Prepare study to comply with Chinese banking requirements
- Ensure criteria meets the laws, regulations, standards and codes of both Greenland and China
- Assist Ironbark in securing Chinese project debt for the development of Citronen under the pre-existing MOU with NFC\*\*
- Engineer, Procure and Construct the Mining Operations

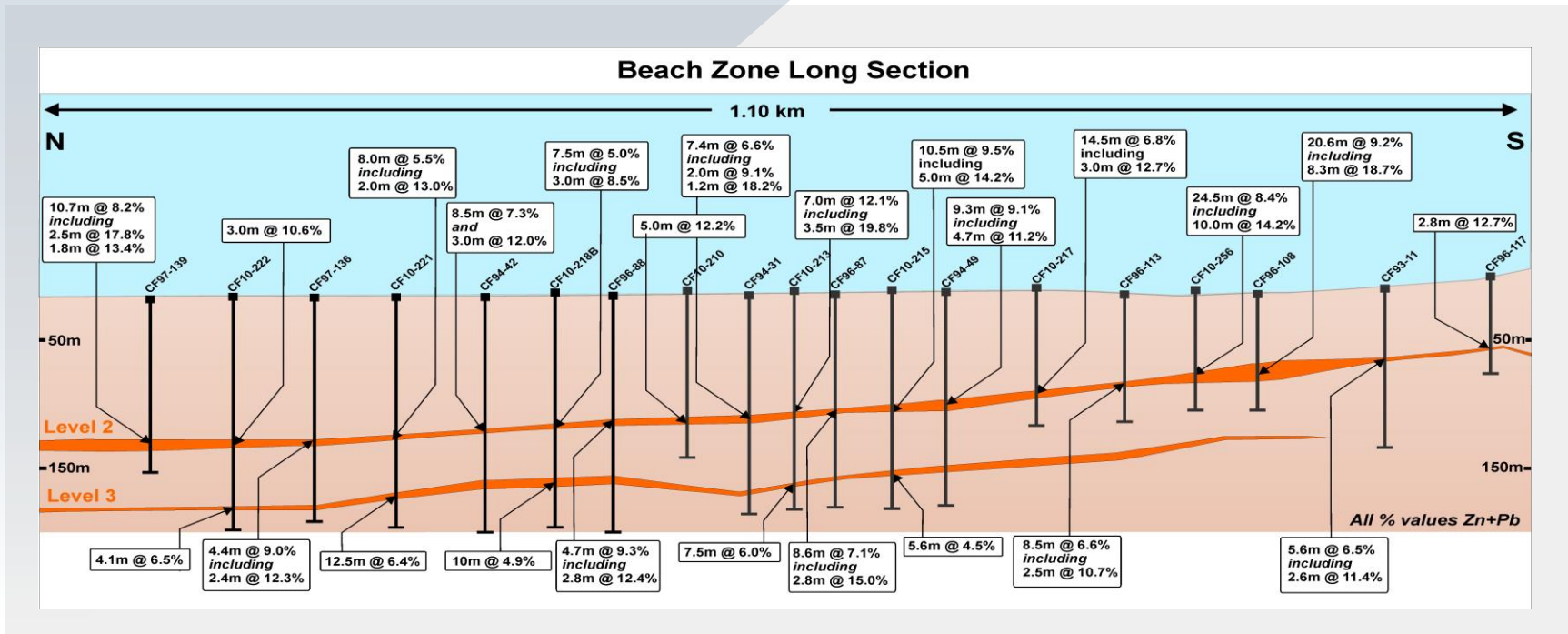
\*The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration completed to date to estimate a Mineral Resource in accordance with the JORC 2012 Edition Guidelines. It is uncertain if further exploration will result in the delineation of a Mineral Resource.

\*\*MOU with NFC for an EPC lump sum, fixed priced construction and commissioning contract with an associated 70% debt funding and 20% direct project investment



# Located adjacent to deep, protected water on the doorstep of Europe and North America

- Simple, flat and continuous ore zones
- Open-pit fresh sulphide potential with very low strip ratios to supplement higher grade underground mined mineralisation
- Simple, predominantly underground room and pillar mining operation. Proven DMS and flotation techniques to produce separate zinc and lead concentrates
- Will operate the mine all year round with 3 months shipping window

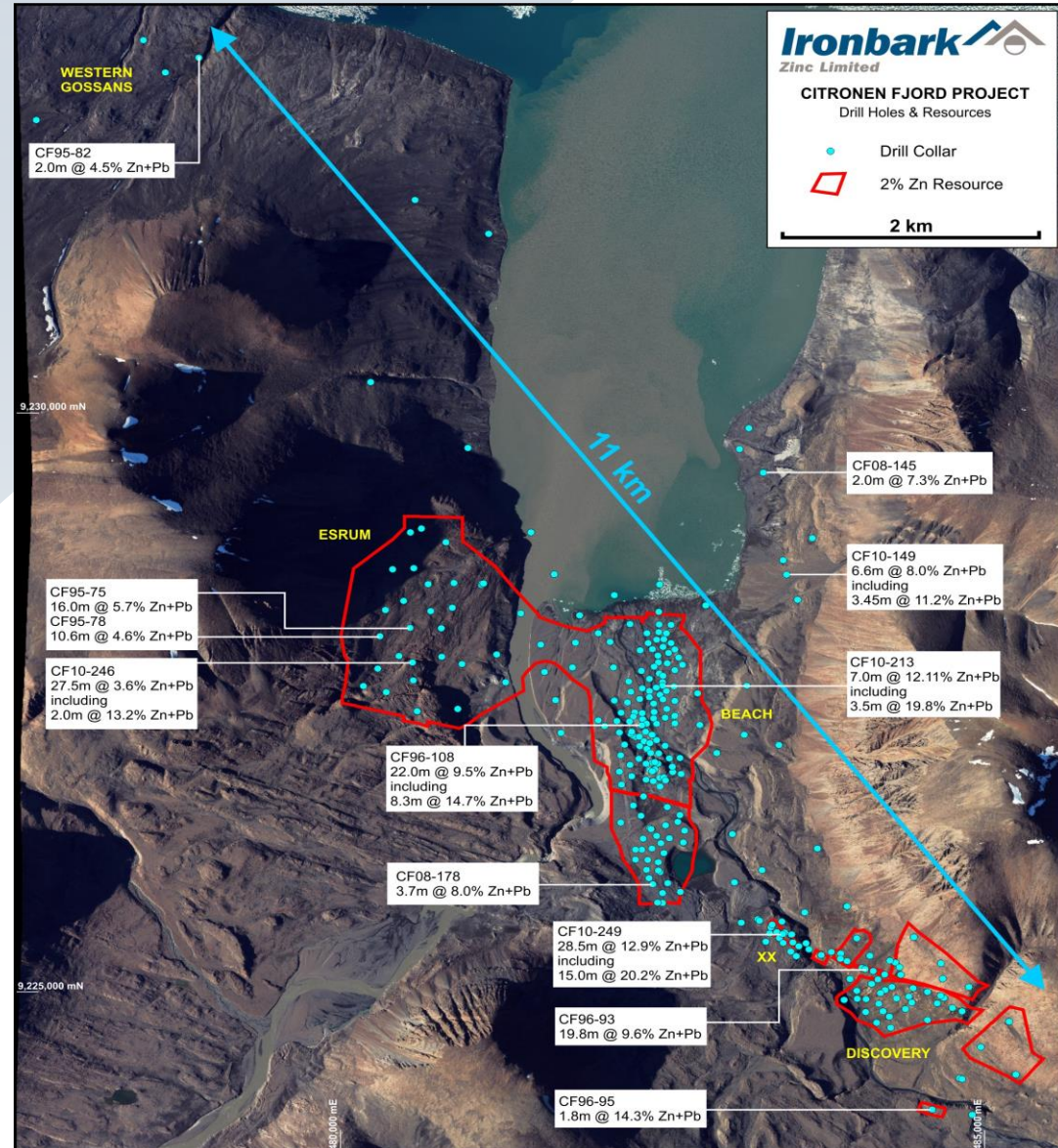


# A Globally Significant Zinc Project

Citronen is one of the world's largest credible zinc projects- JORC Compliant Resource

Considerable exploration potential in addition to existing resource

Many of the ore bodies are constrained only by drilling





# JORC Resource (2012 Compliant)\*

**+12.8 Billion**  
pounds of zinc and  
growing

\* For full details refer to ASX announcement dated 25 November 2014 – Citronen Project Resource Update – JORC 2012 compliant resource. Ironbark is not aware of any new information or data that materially affects the information included in this ASX release, and Ironbark confirms that, to the best of its knowledge, all material assumptions and technical parameters underpinning the resource estimates in this release continue to apply and have not materially changed.

\*\* The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration completed to date to estimate a Mineral Resource in accordance with the JORC 2012 Edition Guidelines. It is uncertain if further exploration will result in the delineation of a Mineral Resource.

## Resource Grade 30Mt @ 7.6% Zn + Pb (3.5% Zn cut-off)

Resource Category	Mt	Zn %	Pb %	Zn+Pb %
Measured	25.0	5.0	0.5	5.5
Indicated	26.5	5.5	0.5	6.0
Inferred	19.3	4.7	0.4	5.1
<b>Total</b>	<b>70.8</b>	<b>5.1</b>	<b>0.5</b>	<b>5.7</b>

## Within a Larger Resource 132Mt @ 4.4% Zn + Pb (2.0% Zn cut-off)

And an exploration target of 302-347Mt @ 4.4-5.0% zinc+lead\*\*

Resource Category	Mt	Zn %	Pb %	Zn+Pb %
Measured	43.1	4.1	0.5	4.6
Indicated	51.2	4.1	0.4	4.6
Inferred	37.7	3.8	0.4	4.2
<b>Total</b>	<b>132.0</b>	<b>4.0</b>	<b>0.4</b>	<b>4.5</b>

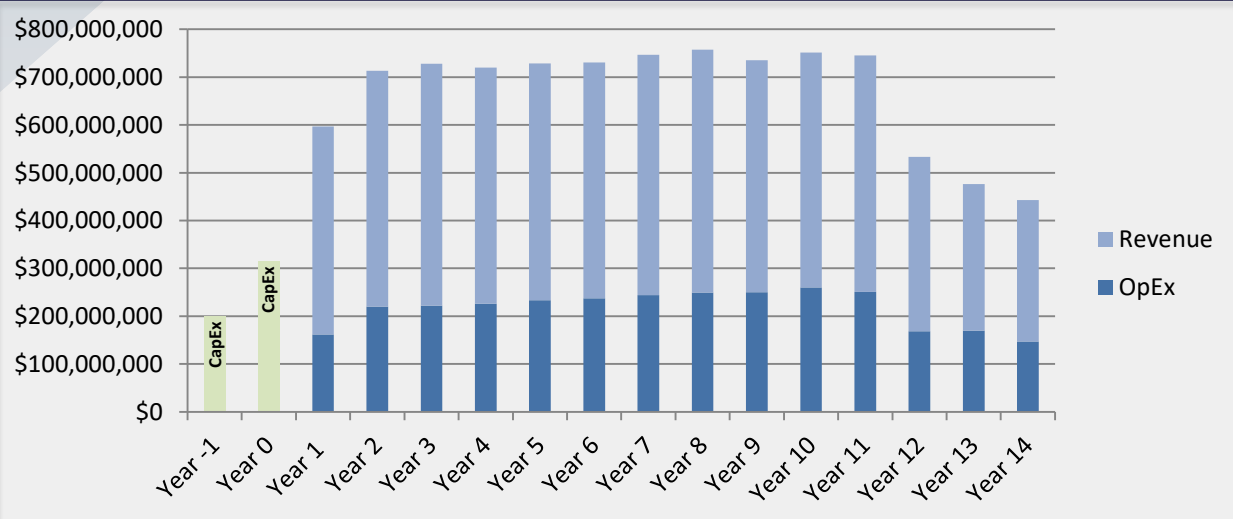
# Feasibility Summary\*

<b>NPV</b>	<b>US\$1,035 million (post tax US\$909 million**)</b>
IRR	36% (post tax 35%**)
<b>Capital Cost</b>	<b>US\$514 million</b>
Operating Cost <sup>1</sup>	(payable US\$ net of by-product credits)
- Site	52c / lb zinc
- Smelter Fees	14c / lb zinc
<b>Total Costs</b>	<b>66c / lb</b>
<b>Life of Mine NPAT</b>	<b>US\$1,836M**</b>
Life of Mine Revenue	US\$6,364M**

\* Price assumptions – refer to ASX announcement of 12 September 2017 for full details

\*\* Excluding withholding tax

There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.



# Advancing Towards Development – China Nonferrous (NFC)

- **Agreement (January 2017) with China Nonferrous - Major step towards advancing Citronen project Financing and Construction**
  - Incorporating current Chinese equipment and construction costs
  - Financing work commenced - Prepare Feasibility Study to comply with Chinese banking requirements
  - Ensure criteria meets the laws, regulations, standards and codes of both Greenland and China
  - Assist Ironbark in securing Chinese project debt for the development of Citronen under the pre-existing MOU with NFC
- **NFC - Major Chinese construction/engineering firm listed on the Shenzhen Stock Exchange (50,000 employees)**
- **Ideal Partner from a development and funding perspective**
- **Globally operates many mines and processing plants including zinc mines and smelters**
- **NFC rated by US authoritative publication, the Engineering News Record as one of the world's top engineering firms**
- **Major fabrication facilities**
- **Experience constructing and operating zinc mines, process plants and smelters.**



# Track Record of Delivery

**2007 Acquired Citronen Project – raised \$26M**

**2008 Drilled Citronen – Resource Upgraded**

**2009 Ongoing Drilling – Citronen Pre-Feasibility Study**

**2010 Ongoing Drilling – Resource Upgrade**

**2011 Ongoing Drilling – Feasibility Study Commenced**

**2012 Resource Upgrade-Met Work – Mine Scheduling**

**2013 Feasibility Study – Permitting Work Commenced**

**2014 Social Impact Assessment Lodged – Mining Licence Application Lodged**

**2015 Progressed Mining Licence Application**

**2016 Impact Benefit Agreement Signed – Mining Permit Awarded**

**2017 Updated Feasibility Costs – Financing... ONGOING**

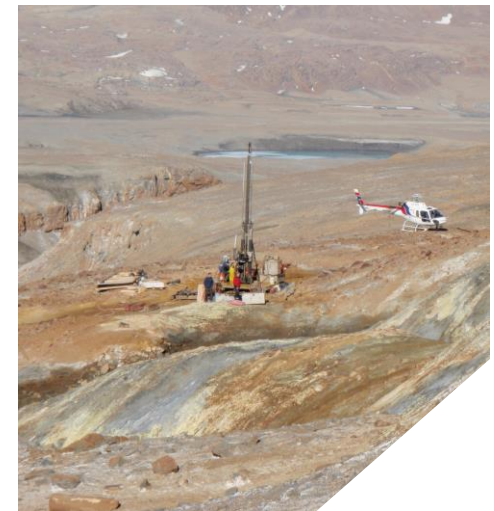
**Next Step – Development. Targeting Commencement of Construction in 2018**

# Project Summary

- **Feasibility Cost Update demonstrates compelling economics**
- NPV US\$1,035M\* (US\$ 909M\*\* post tax)
- Annual EBITDA up to +US\$270M
- **Mining Licence Granted for 30 years**
- **Advancing with NFC towards production – under Financing and Engineering, Procurement and Construction (EPC) MoU**
- **Over \$50M expended on the Citronen project to date**
- **Greenland has a zinc mining history**
- **Feasibility Study work to date confirms the world class scale of Citronen project**
- long life base metal mining operations
- excellent recoveries
- simple process flow sheet
- **Pathway to funding under the MOU with China Nonferrous (NFC)**
- Ironbark has an MOU with NFC for an EPC lump sum, fix priced construction and commissioning contract with an associated 70% debt funding and 20% direct project investment
- **Poised to be a Globally Significant Zinc Miner in a low sovereign risk location between North America and Europe**

\* See slide 10

\*\* Excluding withholding tax



# Zinc Market Summary

## Compelling Zinc Market Fundamentals

- Zinc demand continues to grow strongly
- Zinc stocks are reducing – moving towards the critical “stocks: consumption” inflection point of 3 week consumption
- Zinc price is historically closely correlated to available stock levels
- Major zinc mines have closed (e.g. Century, Lisheen, Brunswick, Perserverence) undersupply forecast



# DEVELOPING THE 100% OWNED CITRONEN ZINC PROJECT

All the pieces are in place:

- ✓ Strong Zinc Price
- ✓ Feasibility Study
- ✓ Mining Licence
- ✓ Pathway to Funding
- ✓ Supportive Partners (Nyrstar, Glencore and China Nonferrous)

Financing work commenced, targeting commencement of construction in 2018...

# Board and Management

**Peter Duncombe Bennetto** - Chairman  
Banking & Finance, GAICD, SA Fin

**Jonathan Charles Downes** - Managing Director  
Geologist, BSc. Geology, MAIG

**Jason Dunning** - Non Executive Director  
M. SC. Geology

**Gary Comb** - Non Executive Director  
Engineer, BE (Mech), BSc, DipEd

**David Kelly** - Non Executive Director & Glencore  
Representative  
Accountant, Bcom, CA



## APPENDIX 1 – FORWARD LOOKING AND CAUTIONARY STATEMENTS

Ironbark Zinc Limited (“Ironbark” or the “Company”) has concluded that it has a reasonable basis for providing the forward-looking statements and production targets discussed in this announcement. Ironbark also considers that it has reasonable basis to expect that it will be able to fund the development of the Citronen base metal mine. The detailed reasons for those conclusions are outlined throughout the ASX announcement dated 12 September 2017 titled Feasibility Study Update.

Ironbark is not aware of any new information or data that materially affects the information included in this ASX release, and Ironbark confirms that, to the best of its knowledge, all material assumptions and technical parameters underpinning the resource estimates in this release continue to apply and have not materially changed

This announcement has been prepared in accordance with the JORC Code (2012) and the ASX Listing Rules. The Company advises that it completed a Feasibility Study in April 2013 and has now completed the re-costing update detailed in this announcement following the grant of the Mining Licence over the Project. The Production Targets and Financial Information contained in this announcement are preliminary in nature and some of the conclusions are in part based on technical and economic assessments and are subject to certain risks. The outcome of this study provides a reasonable basis for the company to release the results whilst not providing an assurance of the economic development of the Project. This is based on the current mining inventory indicating that for the 14 years following commencement of production the material can be sourced from the resource base.

This announcement includes certain statements that may be deemed ‘forward-looking statements’. All statements that refer to any future production, resources or reserves, exploration results and events or production that Ironbark expects to occur are forward-looking statements. Although the Company believes that the expectations in those forward-looking statements are based upon reasonable assumptions, such statements are not a guarantee of future performance and actual results or developments may differ materially from the outcomes. This may be due to several factors, including market prices, exploration and exploitation success, and the continued availability of capital and financing, plus general economic, market or business conditions. Investors are cautioned that any such statements are not guarantees of future performance, and actual results or performance may differ materially from those projected in the forward-looking statements. The Company does not assume any obligation to update or revise its forward-looking statements, whether as a result of new information, future events or otherwise.

## CAUTIONARY STATEMENTS (continued)

### Project Financing and Sources of Capital

The Company has commenced work to appoint a financing advisor to assist with establishing a debt facility. The Company has received a number of expressions of interests in the role of financial advisors and/or facilitator of the Project. The Company plans to progress the selection of a Financial Advisor as soon as possible.

There are no assurances that Project finance will be obtained. However, Ironbark believes there are reasonable grounds that the approximate US\$514 million in initial capital required to develop the Project, plus working capital of approximate US\$50 million for first fills and commissioning costs to be incurred prior to first receipt of sales proceeds, will be funded on the basis as set out in ASX announcement dated 12 September 2017 titled Feasibility Study Update.