



# Annual General Meeting Presentation

21 November 2019

ASX: OEL

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# FY19 – Achievements and Activity

Building on FY18's success in the Gulf of Mexico with major partnerships and drilling activity

## Free Cash Flow

- **Net operating cashflow<sup>[1]</sup> of ~US\$24m from production of 741,626 boe [WI share] a 282% increase over FY18 production**

## Reserves Growth

- **1P Reserves<sup>[2]</sup> growth of 49% net to Otto** to 3.670 Mmboe as of 30 Jun 2019
- **Multiple opportunities to diversify and expand current projects and reserves via development drilling**, with the Green #2 well at Lightning in progress

## Drilling Record

- Active exploration and development drilling campaign in Gulf of Mexico
- **2 commercial discoveries from wells drilled in FY19**

## Respected Team

- **Experienced exploration and commercial team** - with a track record of value creation and risk management, complemented by quality project partners

## Focused Strategy

- **Partnership Strategy** allows for more deal opportunities in the region
- **Liquids / gas mix** – maintain project portfolio with positive liquids/gas mix
- **Strategic Goal** - Build to the expected 5,000+ boepd production base in Gulf of Mexico by end of 2020

# FY20 Outlook

A disciplined approach to investing in oil and gas projects and successfully growing shareholder value

## Otto's activity

- **Drilling at the Green #2 development at Lightning** commenced in October 2019
- **Currently permitting the Beluga exploration well with Hilcorp Energy** onshore Texas with drilling expected in Q4 CY19
- **Tarpon and Mallard exploration wells** with Hilcorp energy expected to be drilled in 1H CY20
- **Green Canyon 21 "Bulleit" well in development with first production expected Q3 CY20**
- **Further development drilling at SM 71 and Lightning undergoing evaluation**
- Evaluation of Hilcorp Package II and additional partnership opportunities

## Otto's strategy

- **Current portfolio of production assets to achieve strategic goal of 5000 boepd by end 2020**
- **Development program funded by cashflow and recently secured debt facility**
- **Delivery of 8.9 Mmboe in 2P<sup>1</sup> reserves net to Otto with NPV 10 of ~US\$210m<sup>2</sup> as at 29 October 2019** since embarking on its Gulf of Mexico program (before US corporate tax)
- **Sustained cashflow from current projects to be reinvested into further high quality and high value projects** to deliver further increased shareholder value
- **Well-respected Board and Management team with a track record** of successfully growing, operating and divesting oil and gas assets globally who understand risk and capital management

[1] Per independent reserves audit via Collarini and Associates and Ryder Scott as at 30 June 2019 and 29 October 2019 released to the ASX on 19 September 2019 and 7 November 2019. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements of 19 September 2019 and 7 November 2019 and that all the material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Refer to slides 18-20 for further information on reserves and prospective resources.

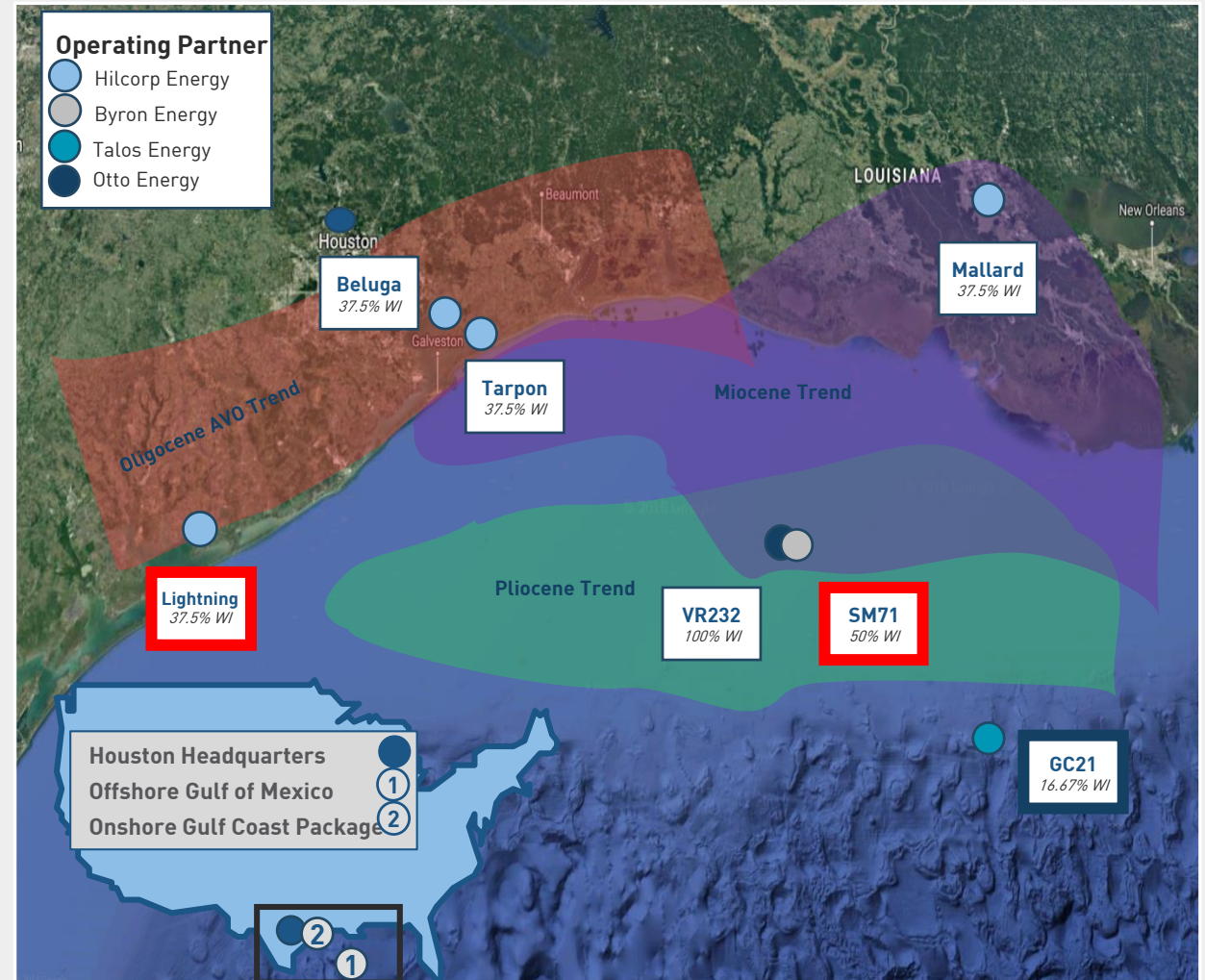
[2] Net Present Value at 10% pre-tax (NPV-10) does not purport, nor should it be interpreted, to represent the fair market value of oil and gas properties

# Otto Energy - Investment Exposure to the Gulf of Mexico

ASX-listed, US focused, diversified conventional oil and gas production and exploration business

## Otto Energy Investment Highlights

- Current production of ~2600 boepd will generate net operating cashflow of greater than US\$30m p.a. based on current prices
- Significant credit facility of US\$55m with Macquarie Bank available for development
- Reserves value NPV10 of ~US\$210m on a net 2P basis for 8.9 Mmboe across SM 71, Lightning, and GC 21 \*
- Drilling Lightning #2 development well – expected on production 1Q CY20
- GC 21 development underway with first production expected late Q3 CY20
- 3-4 wells planned to be drilled with Hilcorp in Gulf of Mexico exploration program – beginning Q4 CY19
- SM 71 well opportunities under evaluation with Byron Energy (ASX:BYE) – expected Q1 CY20
- Evaluation of new exploration opportunities underway focused on Gulf of Mexico region



# Otto Energy – Reserves at SM 71, Lightning and GC 21 in the Gulf of Mexico

Otto reserves have NPV10 value of US\$ 213 m at the 2P level net to Otto delivered from the active drilling program

Total	Gross (100%)			Otto Net			NPV 10 US\$ MM*
	Oil (Mbbl)	Gas (MMscf)	MBoe	Oil (Mbbl)	Gas (MMscf)	MBoe	Otto Share
Proved Producing	3,219	12,599	5,318	1,271	3,910	1,923	52,808
Proved Behind Pipe	682	3,765	1,310	265	1,118	452	5,446
Proved Undeveloped	7,508	16,360	3,779	1,490	3,991	2,156	41,339
<b>Proven (1P)</b>	<b>11,409</b>	<b>32,724</b>	<b>10,407</b>	<b>3,027</b>	<b>9,019</b>	<b>4,531</b>	<b>99,593</b>
Probable	12,217	26,576	9,398	3,234	7,001	4,401	114,069
<b>Proven Plus Probable (2P)</b>	<b>23,626</b>	<b>59,300</b>	<b>33,509</b>	<b>6,260</b>	<b>16,021</b>	<b>8,930</b>	<b>213,662</b>
Possible	3,664	34,468	9,409	1,599	10,306	3,316	44,441
<b>Proven Plus Probable Plus Possible (3P)</b>	<b>27,290</b>	<b>93,768</b>	<b>42,918</b>	<b>7,859</b>	<b>26,326</b>	<b>12,247</b>	<b>258,103</b>

\* Before US Corporate Tax

Note: Above table summarises the net present worth of Otto's reserves in SM71, Lightning and GC21 as at 1 July 2019 and has been adjusted for GC21. The NPV 10 has been calculated by Collarini and Associates for SM 71 and Ryder Scott for Lightning and GC 21 using pricing assumptions provided by Otto Energy

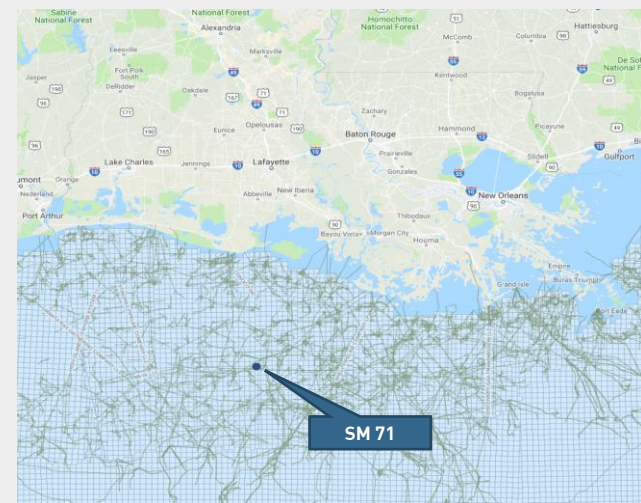
Refer to slides 18-20 for further information on reserves and prospective resources.



# Production - South Marsh Island 71, offshore Gulf of Mexico

Oil and gas revenue provides strong cashflow foundation for growth

South Marsh Island 71				
Joint Venture	Otto Energy 50.0% Byron Energy (operator) 50.0%			
Fiscal Terms	Federal Royalty 18.75% Held by production licence			
Location	Offshore Federal OCS, 40 meters water depth (131 feet)			
Geology	Pleistocene to Pliocene age sands ranging in depth from 5,000 feet to 8,800 feet Total Vertical Depth ("TVD"). Productive from discrete hydrocarbon-bearing sandstone reservoirs which are primarily trapped in three-way structural closures bound either by salt or stratigraphic thinning, on their updip edge.			
Drilling	<b>Well</b> F1 F2 F3	<b>Drilled</b> April 2016 Nov 2017 Jan 2018	<b>Reservoir</b> D5 B55 D5	<b>Depth (MD)</b> 7,477 feet 7,700 feet 7,717 feet
Production (gross)	Current 3,100 bopd plus 3.3 MMscf/d Cumulative 1.8 MMbbl and 2.5 Bcf (through 30 Sept 2019)			
Net Reserves <sup>(1)</sup>	<b>1P</b> 2.34 MMBoe <b>2P</b> 4.87 MMboe <b>3P</b> 6.08 MMboe			
Facilities	F Platform, owned by joint venture Capacity for up to 6 production wells and 5,000 bopd			
Development	Two step-out wells, F-4 and F-5, proposed by Operator , under evaluation by Otto			



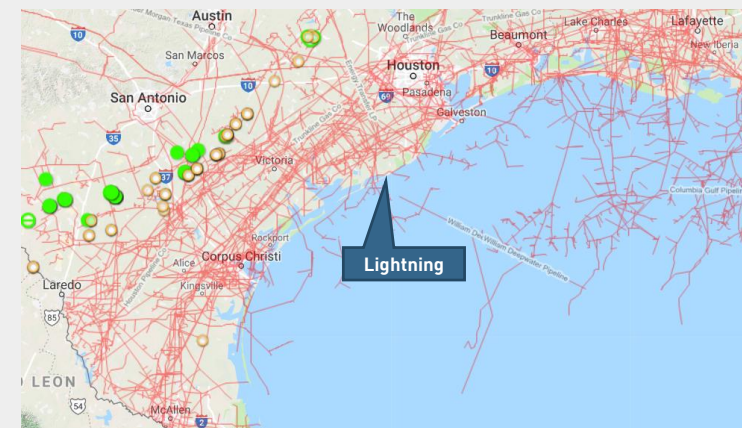
SM 71 F Production Platform (Gulf of Mexico)

# Production - Lightning, onshore Texas Gulf Coast

First discovery under Gulf Coast Drilling program – 2<sup>nd</sup> development well in progress to increase production

## Lightning Discovery

Joint Venture	Otto Energy	37.5%		
	Hilcorp Energy (operator)	62.5%		
Fiscal Terms	Landowner Royalty	24.9%		
	Held by production licence			
Location	Onshore Matagorda County, Texas			
Geology	Slope channel/fan setting within Oligocene (Tex Miss). Overlaying production from the shallower Miocene levels dates back to the early 1930's. Recent modern 3D seismic has yielded discoveries that prove working analogues in the slope channel/fan setting at Baer Franklin in the deeper Oligocene setting.			
Drilling	<b>Well</b>	<b>Drilled</b>	<b>Reservoir</b>	<b>Depth (MD)</b>
	Green #1	Feb 2019	Tex Miss (Oligocene)	15,218 feet
	Green #2	Oct 2019	Tex Miss (2/3)	in progress
Production (gross)	Current	~12 MMscf/day and ~360 bopd condensate		
Net Reserves <sup>(1)</sup>	<b>1P</b> 1.32 MMBoe	<b>2P</b> 2.23 MMboe	<b>3P</b> 4.07 MMboe	
Facilities	Surface facilities to handle gas/condensate production, tie in to nearby gas export pipeline completed in Q2 2019			
Development	Development well (Green #2) commenced drilling October 2019 Further field evaluation ongoing			



Lightning location map, showing gas pipeline infrastructure

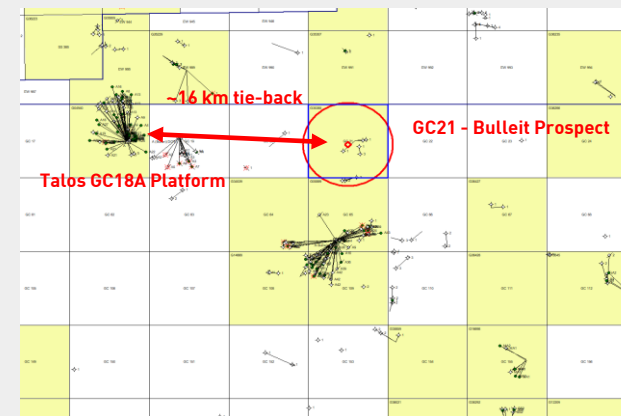


# Discovery – Green Canyon 21 “Bulleit”, offshore Gulf of Mexico

Two target discovery with Talos Energy – wellbore suspended for completion in mid CY20

## Green Canyon 21 “Bulleit” Prospect

Joint Venture	Otto Energy	16.67%
	Talos Energy (operator)	50.00%
	Enven Energy Ventures LLC	33.33%
Fiscal Terms	Federal Royalty	18.75%
	Primary term exploration lease	
Location	Offshore Federal OCS, 370 meters water depth (1,200 feet)	
Geology	Bulleit is an amplitude-supported Pliocene prospect with similar seismic attributes to the analogous sand section in Talos’s Green Canyon 18 field, which has produced approximately 39 MMboe to date.	
Drilling	<b>Well</b> Bulleit	<b>Drilled</b> May-Aug 2019
	<b>Reservoir</b> Pliocene	<b>Depth</b> 15,675’ (MD)/13,828’ (TVD)
Production	Talos intends to complete the well as a subsea tieback in mid2020 with first production expected in late Q3 CY2020	
Discovery	Approx. net 140 ft TVD oil pay encountered in DTR-10 interval Approx. net 110 ft TVD oil pay encountered in MP interval	
Facilities	Talos will complete well as a subsea tieback to the Talos operated GC 18A Platform.	
Net Reserves <sup>(1)</sup>	Maiden pre-production reserves announced to the ASX on 7 Nov 2019 <b>1P</b> 0.86 MMBoe <b>2P</b> 1.83 MMboe <b>3P</b> 2.09 MMboe	



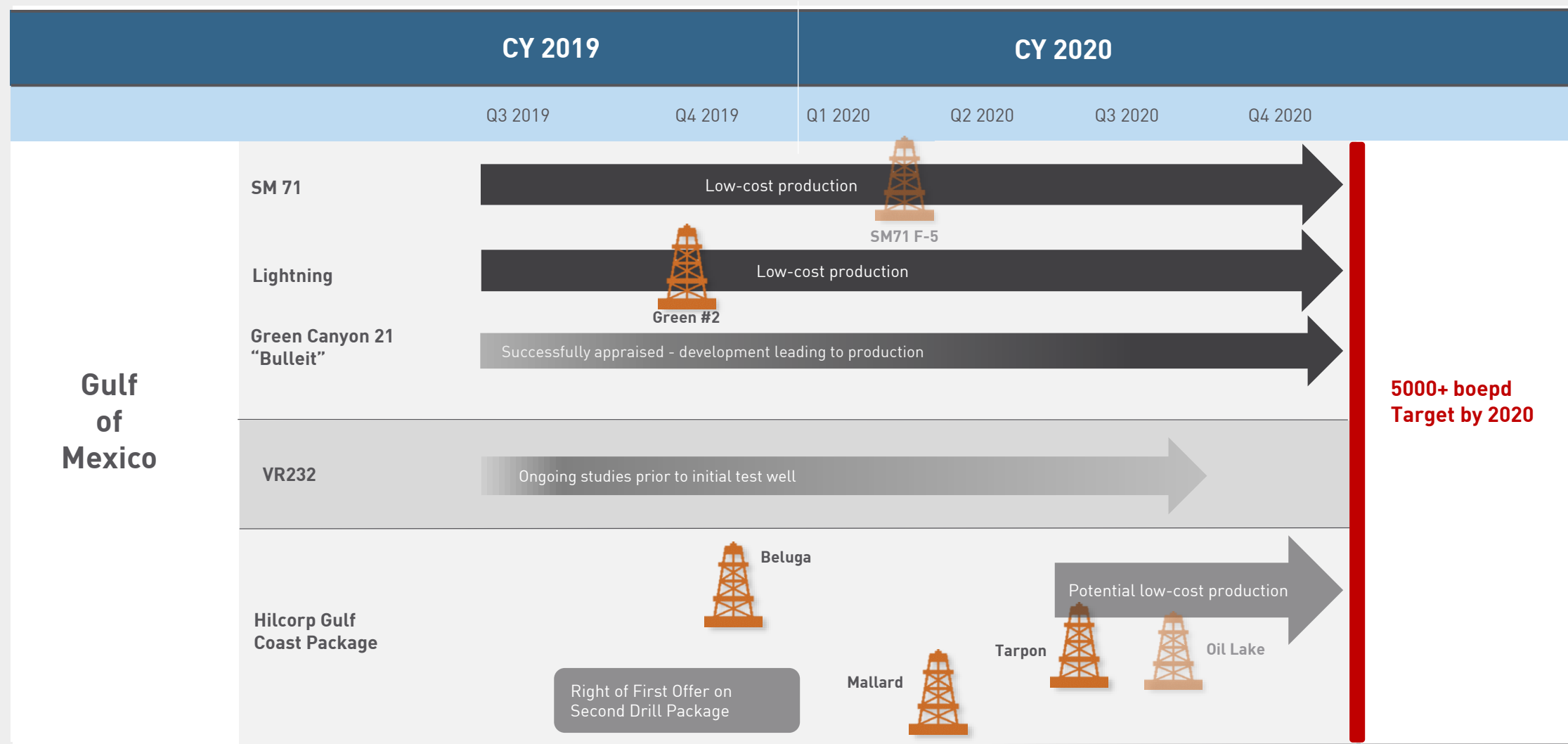
Green Canyon 21 proximity to Green Canyon 18A platform



Green Canyon 18A Production Facility

# Pipeline of Opportunities

Otto has assembled an exciting pipeline of upcoming activities as a result of its non-operating partnership strategy





# Appendix





# Corporate Snapshot (ASX:OEL)

## CAPITAL STRUCTURE

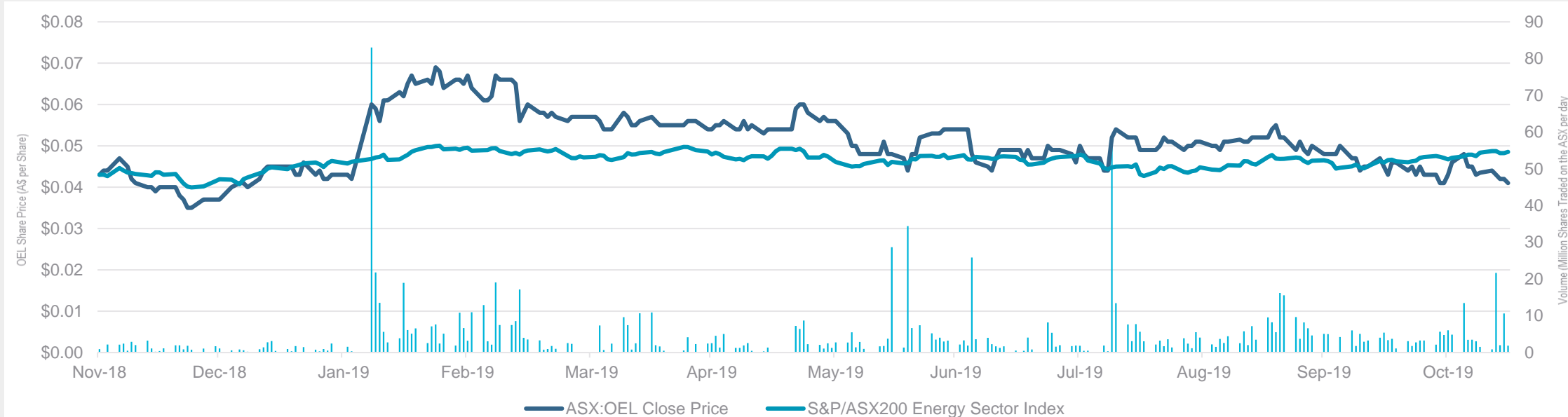
Fully paid ordinary shares	<b>2.460b</b>
Performance Rights	<b>42.5m</b>
Unlisted Options	<b>42.5m</b>
Market capitalisation <sup>1</sup>	<b>A\$100.9m</b>

## FUNDING POSITION

Cash (30 Sep 2019)	<b>US\$8.8m</b>
Debt - Commitment - Currently Drawn (15 Nov 2019)	<b>\$55m \$22m</b>

## SHAREHOLDERS

Perennial Value Management	<b>14.8%</b>
Molton Holdings	<b>12.4%</b>
AMP	<b>5.0%</b>
Directors & Management	<b>2.9%</b>



# Otto Energy Gulf of Mexico Area Key Projects<sup>1</sup>

Strong cashflow base to fund growth from oil and gas sales at SM 71 and Lightning

Metric	SM 71	Lightning	Gulf Coast	Green Canyon 21	VR 232
Type	JV	JV	JV	JV	JV
Ownership Structure	50% WI	37.5% WI	37.5% WI (50% of Cost <sup>2</sup> )	16.67% WI	100% WI
NRI	40.625%	28.50%	28.50%	13.336%	81.25%
Status	Production	Production	Exploration	Development	Exploration
Onshore/Offshore	Offshore	Onshore	Onshore	Offshore	Offshore
Operator	Byron Energy (50% WI)	Hilcorp (62.5% WI)	Hilcorp (62.5% WI)	Talos Energy (50% WI)	Otto Energy
Comments	3 Wells Generating ~US\$2 Mil. Op Net Cashflow per month and new wells under evaluation	Steady state oil and gas production. 2 <sup>nd</sup> dev well , Green #2, currently in progress	3-4 wells remaining depending on permitting and approvals	Commercial oil discovery. Talos to complete well in mid2020	Block adjacent to SM 71

# Board of Directors



**Ian Boserio**  
**Non-Executive Chairman**  
**BSc (Hons)**

Executive Technical Director of Pathfinder Energy Pty Ltd. Former executive positions with Shell & Woodside in international exploration roles.



**John Jetter**  
**Non-Executive Director**  
**LLB, BEc INSEAD**

Former MD/CEO J.P. Morgan Germany. Non-Executive Director of Venture Minerals and Peak Resources Ltd.



**Paul Senyica**  
**Non-Executive Director**  
**BSc (Hons), MAppSc**

International oil & gas experience gained over 35 years. Specific focus on Australia, USA, South East Asia & Africa. Previous roles at Beach, Woodside Energy and Shell International.



**Matthew Allen**  
**Managing Director & CEO**  
**BBus, FCA, FFin, GAICD**

Global exposure to the upstream oil and gas industry with over 18 years experience in Asia, Africa, USA, Australia and Middle East. Previous senior roles with Woodside over an 8 year period.



**Kevin Small**  
**Executive Director &**  
**Senior Geophysicist**  
**BSc (Geophysical Engineering)**

Extensive Gulf of Mexico exploration experience with Blue Streak Exploration, Westport Oil and Gas Company, Superior Oil Company and McMoran Oil and Gas.



# Management Team



**Matthew Allen**  
**Managing Director & CEO**  
**BBus, FCA, FFin, GAICD**

Global exposure to the upstream oil and gas industry with over 18 years experience in Asia, Africa, USA, Australia and Middle East. Previous senior roles with Woodside over an 8 year period.



**Kevin Small**  
**Chief Geophysicist and Executive Director**  
**BSc (Geophysical Engineering)**

Extensive Gulf of Mexico exploration experience with Blue Streak Exploration, Westport Oil and Gas Company, Superior Oil Company and McMoran Oil and Gas.



**Philip Trajanovich**  
**Senior Commercial Manager**  
**B.Com (First Class Honours)**

Global experience as a commercial manager working with Aurora Oil & Gas, ConocoPhillips and Woodside. Extensive international and US experience in all facets of upstream oil and gas operations and commercial structures.



**Will Armstrong**  
**Vice President, Exploration and New Business**  
**B.S Geology, M.S. Geology (Geophysics and Hydrogeology)**

Over 30 year's experience working the Gulf Coast and Gulf of Mexico as an explorer both as a prospect generator and prospect screener. Previous roles with Tri-C, Newfield, CL&F, Westport, Petroquest and Tenneco Oil Company based in Houston and Lafayette.



**Mark Sunwall**  
**Senior Exploration Consultant**  
**B.S Geology, M.S. Geology**

Successful 40+ year career with onshore Gulf Coast and Gulf of Mexico major and independent operators. Mark has worked with Aurora Oil & Gas, Woodside and Texaco.



**Mike Smith**  
**Chief Geologist**  
**B.S. Geology**

Extensive Gulf of Mexico and Gulf Coast exploration experience with Marlin Energy, Ocean Energy, and CNG Producing

# September Quarter FY20 Highlights

Otto achieved a 4% increase in sales revenue for the quarter on the back of a 6% increase in oil production and steady oil revenue and a substantial increase in gas and NGL revenue from Lightning

## Oil and Gas Sales

- WI Share of hydrocarbon sales equate to 2623 boepd, a 28% increase over prior quarter
- WI share ~143,186 bbls oil, 492,771 Mscf gas, and 16,038 bbls NGLs

## Sales Proceeds

- US\$6.8 m in proceeds net of royalties relating to June, July and August 2019 production
- A 4% increase in sales revenue over the prior quarter

## Corporate

- Closing cash balance of US\$8.8m (A\$12.5m)
- Subsequent to quarter end, finalization of US\$55m finance facility to fund developments

## Production

- Production of 4.3 MMscf/d in raw gas and 125 bbl/d in condensate (WI share) from Lightning and 1435 bbl/d oil and 1.5 MMscf/d gas (WI share) from SM 71
- Maiden reserves reported at Lightning as part of the Annual Reserves Statement

## Subsequent Events

- Green #2 development well at Lightning commenced drilling in October 2019
- GC 21 development plan table to the JV as announced on 4 October 2019 with maiden reserves released 7 November 2019

# Glossary

Abbreviation	Expanded Term	Definition
GoM	Gulf of Mexico	
MMboe / mboe	Million barrels of oil equivalent/ thousand	
MMscfpd	Million standard cubic feet per day (gas)	
Bopd/boepd	Barrels of oil (equivalent) per day	
TD	Total Depth	The depth of the bottom of the well
MD	Measured Depth	The total length of the wellbore measured along the actual well path
TVD	True Vertical Depth	The vertical distance from a point in the well (usually the current or final depth) to a point at the surface, usually the elevation of the rotary kelly bushing (RKB)
TVT	True Vertical Thickness	The thickness of a bed or rock body in a well measured in the vertical direction at a point
boe	Barrels of oil equivalent	1 mcf of natural gas contains ~1/6 of the energy of a barrel of oil; Calculated equivalent of a barrel of oil's energy from liquids and gas
WI	Working Interest	an interest in an oil and gas lease that gives the owner of the interest the right to drill and produce oil and gas on the leased acreage. It requires the owner to pay a share of the costs of drilling and production operations.
NRI	Net Revenue Interest	the total revenue interest that an entity owns in a particular oil or gas production unit, such as a lease, well, or drilling unit.



# Competent Persons and Cautionary Statements

## Competent Persons Statement

The information in this report that relates to oil and gas reserves and resources at SM 71 was compiled by technical employees of independent consultants Collarini and Associates, under the supervision of Mr Mitch Reece BSc PE. Mr Reece is the President of Collarini and Associates and is a registered professional engineer in the State of Texas and a member of the Society of Petroleum Evaluation Engineers (SPEE), Society of Petroleum Engineers (SPE), and American Petroleum Institute (API). The reserves and resources included in this report have been prepared using definitions and guidelines consistent with the 2007 Society of Petroleum Engineers (SPE)/World Petroleum Council (WPC)/American Association of Petroleum Geologists (AAPG)/Society of Petroleum Evaluation Engineers (SPEE) Petroleum Resources Management System (PRMS). The reserves and resources information reported in this Statement are based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of, Mr Reece. Mr Reece is qualified in accordance with the requirements of ASX Listing Rule 5.41 and consents to the inclusion of the information in this report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to oil and gas reserves and resources at the Lightning Field was compiled by technical employees of independent consultants Ryder Scott Company, under the supervision of Mr. Ali Porbandarwala PE. Mr. Porbandarwala is a Senior Vice President at Ryder Scott Company and is a registered professional engineer in the State of Texas and a member of the Society of Petroleum Engineers (SPE). He has a B.S. Chemical Engineering from the University of Kansas and an MBA from the University of Texas. The reserves included in this report have been prepared using definitions and guidelines consistent with the 2007 Society of Petroleum Engineers (SPE)/World Petroleum Council (WPC)/American Association of Petroleum Geologists (AAPG)/Society of Petroleum Evaluation Engineers (SPEE) Petroleum Resources Management System (PRMS). The reserves information reported in this Statement are based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of Mr. Porbandarwala. Mr. Porbandarwala is qualified in accordance with the requirements of ASX Listing Rule 5.41 and consents to the inclusion of the information in this report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to oil and gas prospective resources in relation to the Gulf Coast Package (Mustang, Beluga, Oil Lake, Tarpon and Mallard) in the Gulf of Mexico was compiled by technical employees of Hilcorp Energy Company, the Operator of the Gulf Coast Package, and subsequently reviewed by Mr Ed Buckle B.S. Chemical Engineering (Magna Cum Laude) who has consented to the inclusion of such information in this report in the form and context in which it appears.

The information in this report that relates to oil and gas reserves and resources at the Green Canyon 21 Field was compiled by technical employees of independent consultants Ryder Scott Company, under the supervision of Mr. Ali Porbandarwala PE. Mr. Porbandarwala is a Senior Vice President at Ryder Scott Company and is a registered professional engineer in the State of Texas and a member of the Society of Petroleum Engineers (SPE). He has a B.S. Chemical Engineering from the University of Kansas and an MBA from the University of Texas. The reserves included in this report have been prepared using definitions and guidelines consistent with the 2007 Society of Petroleum Engineers (SPE)/World Petroleum Council (WPC)/American Association of Petroleum Geologists (AAPG)/Society of Petroleum Evaluation Engineers (SPEE) Petroleum Resources Management System (PRMS). The reserves information reported in this Statement are based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of Mr. Porbandarwala. Mr. Porbandarwala is qualified in accordance with the requirements of ASX Listing Rule 5.41 and consents to the inclusion of the information in this report of the matters based on this information in the form and context in which it appears.

Mr Buckle is a full-time contractor of the Company, with more than 30 years relevant experience in the petroleum industry and is a member of The Society of Petroleum Engineers (SPE). The resources included in this report have been prepared using definitions and guidelines consistent with the 2007 Society of Petroleum Engineers (SPE)/World Petroleum Council (WPC)/American Association of Petroleum Geologists (AAPG)/ Society of Petroleum Evaluation Engineers (SPEE) Petroleum Resources Management System (PRMS). The resources information included in this report are based on, and fairly represents, information and supporting documentation reviewed by Mr Buckle. Mr Buckle is qualified in accordance with the requirements of ASX Listing Rule 5.41 and consents to the inclusion of the information in this report of the matters based on this information in the form and context in which it appears.

# Competent Persons and Cautionary Statements

## Reserves cautionary statement

Oil and gas reserves and resource estimates are expressions of judgment based on knowledge, experience and industry practice. Estimates that were valid when originally calculated may alter significantly when new information or techniques become available. Additionally, by their very nature, reserve and resource estimates are imprecise and depend to some extent on interpretations, which may prove to be inaccurate. As further information becomes available through additional drilling and analysis, the estimates are likely to change. This may result in alterations to development and production plans which may, in turn, adversely impact the Company's operations. Reserves estimates and estimates of future net revenues are, by nature, forward looking statements and subject to the same risks as other forward looking estimates.

## Prospective Resources Cautionary Statement

The estimated quantities of petroleum that may potentially be recovered by the application of future development projects relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

## Reserves and Resources Governance

Otto's reserves estimates are compiled annually. The operator of SM 71, Byron Energy, engages Collarini and Associates, a qualified external petroleum engineering consultant, to conduct an independent assessment of the SM 71 reserves on behalf of the joint venture. Collarini and Associates is an independent petroleum engineering consulting firm that has been providing petroleum consulting services in the USA for more than fifteen years. Collarini and Associates does not have any financial interest or own any shares in the Company. The fees paid to Collarini and Associates are not contingent on the reserves outcome of the reserves report.

Otto engages Ryder Scott Company, a qualified external petroleum engineering consultant, to conduct an independent assessment of the Lightning Field reserves on behalf of Otto. Ryder Scott Company is an independent petroleum engineering consulting firm that has been providing petroleum consulting services in the USA for more than fifty years. Ryder Scott Company does not have any financial interest or own any shares in the Company. The fees paid to Ryder Scott Company are not contingent on the reserves outcome of the reserves report.

# Reserves and Resources Reporting Notes

## Pricing Assumptions

Oil price assumptions used in the independent report represent forward prices (CME Nymex) as at 28 June 2019.

## ASX Reserves and Resources Reporting Notes

- i. The reserves and prospective resources information in this document is effective as at 30 June, 2019 (SM 71 and Lightning) and 29 October 2019 (GC 21) (Listing Rule (LR) 5.25.1)
- ii. The reserves and prospective resources information in this document has been estimated and is classified in accordance with SPE-PRMS (Society of Petroleum Engineers - Petroleum Resources Management System) (LR 5.25.2)
- iii. The reserves and prospective resources information in this document is reported according to the Company's economic interest in each of the reserves and prospective resource net of royalties (LR 5.25.5)
- iv. The reserves and prospective resources information in this document has been estimated and prepared using the probabilistic method (LR 5.25.6)
- v. The reserves and prospective resources information in this document has been estimated using a ratio of 6,000 cubic feet of natural gas to one barrel of oil. This conversion ratio is based on an energy equivalency conversion method and does not represent value equivalency (LR 5.25.7)
- vi. The reserves and prospective resources information in this document has been estimated on the basis that products are sold on the spot market with delivery at the sales point on the production facilities (LR 5.26.5)
- vii. The method of aggregation used in calculating estimated reserves was the arithmetic summation by category of reserves. As a result of the arithmetic aggregation of the field totals, the aggregate 1P may be a very conservative estimate and the aggregate 3P may be a very optimistic estimate due to the portfolio effects of arithmetic summation (LR 5.26.7 & 5.26.8)
- viii. Prospective resources are reported on a best estimate basis (LR 5.28.1)
- ix. For prospective resources, the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons (LR 5.28.2)
- x. The reserve numbers assume some investment over the life of the field outlined above.

## Glossary

Bbl = barrels  
bcf = billion cubic feet  
Bcfe = billion cubic feet equivalent  
boe = barrels of oil equivalent  
Bopd = barrels of oil per day  
Btu = British Thermal Units  
EUR = Economic Ultimate Recovery

Mcfg = thousand cubic of gas  
Mcfgpd = thousand cubic feet of gas per day  
MMcf = million cubic feet  
MBL = thousand barrels of oil  
MMBL = million barrels of oil  
Mboe = thousand barrels of oil equivalent  
MMboe = million barrels of oil equivalent  
MCF = thousand cubic feet  
mmbtu = million British Thermal Units



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