

# Eco Atlantic Oil and Gas

## Upping our discovered reserve and undiscovered resource estimates for recent success

### Increasing our risked NAV to 295p/sh: 120% upside to the current share price

Despite significant exploration success, Eco's share price has come down recently on lack of news flow, in our view. Following the recent updates on Guyana, we are increasing our risked NAV to 295p/sh from 216p/sh, as a result of increases to our existing discovered resource estimates, as well as including new exploration prospects, leading to >100% upside to our risked NAV. We are increasing our discovered resource estimates to 69mboe net to Eco from 56mboe, based on further data on Hammerhead and Jethro. We are maintaining our risking and US\$5.2/boe estimate, which results in a risked value of 85p/sh up from 68p/sh for the discoveries. We have added 5 new Tertiary aged prospects, which we estimate to have 1.1bnboe of gross unrisked prospective resource, based off our evaluation of their areal extents. These prospects are worth 61p/sh risked or >£3.50/sh unrisked. We expect Eco to release a new CPR including discoveries and new prospects in Q1'20.

### Increases to discovered resource at Hammerhead and Jethro

Hammerhead is a major discovery made by Exxon/Hess on the Stabroek Block, which extends onto the Orinduik Block. Eco believes ~10% of Hammerhead could lie on its block and Hammerhead could be 400-800mboe gross. Eco's last CPR (prior to the appraisal wells) only gave credit for 2mboe net to Eco and we have increased this to 9mboe based on 600mboe gross, with 10% on the Orinduik block following the positive appraisal results reported by Hess/Exxon. This gives a risked value of 12p/sh or 19p/sh unrisked. On Jethro, we are upping the estimated recoverable resource estimate to 250mboe from 215mboe to reflect the results exceeding the partners' pre-drill expectations. This gives a risked value of 46p/sh or 81p/sh unrisked. The pre-drill estimate for Jethro was 215mboe in the CPR on a P50 basis or 340mmbbl on a P10 basis. In the P10 case, using an NPV of US\$5/bbl, the discovery is worth >US\$250mm net to Eco on an unrisked basis.

### New Tertiary exploration prospects, derisked by Jethro and Joe

Eco has recently released a new exploration map, which contains a large number of new prospects that weren't in the original CPR published in March 2019. At that time the Tertiary play was only just starting to be understood, following the Hammerhead discovery, so there were only a few prospects that were included. The new map contains 8 new prospects of which 7 are Tertiary – we have included the largest 5 of these in our valuation. The Tertiary play has been heavily de-risked by the Hammerhead, Jethro and Joe discoveries. There are now 20 identified exploration prospects on the block, some of which are very low risk such as Jimmy and Jethro Extension, as they are potentially part of the existing discoveries. However, the other Tertiary prospects on the block are likely to have a high chance of success also, given the clear seismic definition and the calibration from the past discoveries.

### Appraisal and further exploration to come: unrisked value of £17/sh

Our risked NAV is 295p/sh, based on a flat long-term oil price of US\$70/bbl and a 12% discount rate, on the basis of which we calculate an average NPV of US\$5.2/boe for the resources in Guyana. The unrisked value of all the Guyana prospects and discoveries is around £17/sh. Eco also continues to advance exploration and value creation on its four Namibian offshore blocks, where it is seeing increased inbound interest and drilling activity in the region. Eco is a lean organisation with a highly experienced management team, has a proven track record of exercising farm-outs, is fully funded for its current planned activity and beyond, has an early mover advantage in its blocks, and we think management would sell for the right price.

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| GICS Sector                 | Materials |
|-----------------------------|-----------|
| Ticker                      | AIM:ECO   |
| Market cap 1-Nov-19 (US\$m) | 330       |
| Share price 1-Nov-19 (GBP)  | 135       |

| Risked NAV          | p/sh       |
|---------------------|------------|
| Core                | 15         |
| Guyana discoveries  | 85         |
| Guyana exploration  | 188        |
| Namibia exploration | 4          |
| <b>Total NAV</b>    | <b>295</b> |



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## Discovered Resource

We are increasing our discovered resource estimates to 69mmboe net to Eco from 56mmboe, based on further data on Hammerhead and Jethro. We are maintaining our risking and US\$5.2/boe estimate, which results in a risked value of 85p/sh up from 68p/sh. Our unrisked valuation of the discovered resource only is 148p/sh, with the shares currently trading on an 8% discount to this. We risk the discoveries to consider the appraisal risk that remains and the commercialisation risk.

### Hammerhead

Hammerhead is a major discovery made by Exxon/Hess on the Stabroek Block, which extends onto the Orinduik Block. Eco believes ~10% of Hammerhead could lie on its block and Hammerhead could be 400-800mmboe gross. Eco Atlantic's last CPR (prior to the appraisal wells) only gave credit for 2mmboe net to Eco and we have increased this to 13mmboe based on 600mmboe gross, with 10% on the Orinduik block. This gives a risked value of 12p/sh or 19p/sh unrisked.

Hess confirmed at its Q3'19 results that drilling and appraisal activities were completed at Hammerhead with encouraging results, including a successful drill stem test. These results are being evaluated for a potential future development. Well results for both Hammerhead-2 and Hammerhead-3 demonstrated three things that bode well for development. First both had high-quality reservoirs. The DST on Hammerhead-3 showed very good mobility. Finally, very good connectivity between all 3 wells (i.e. all 3 wells are in pressure communication). On the back of Hammerhead, Hess had been talking up the 750kbbbl/d production target for its Guyana discoveries to 1mmmbbl/d, which suggests the potential for Hammerhead to be fast-tracked.

### Jethro

As a result of the positive results on Jethro, we are upping the estimated recoverable resource estimate to 250mmboe from 215mmboe, as the discovery exceeded the partners' pre-drill expectations. This gives a risked value of 46p/sh or 81p/sh unrisked. The pre-drill estimate for Jethro was 215mmboe in the CPR on a P50 basis or 340mmboe on a P10 basis. In the P10 case, using an NPV of US\$5/bbl, the discovery would be worth >US\$250mm net to Eco on an unrisked basis.

The Jethro well, announced in August 2019, encountered high quality reservoir (which is important in terms of commerciality) and a thick section of reservoir (which is positive indicator for the size of the discovery). Eco's evaluation of the well data to date on the Jethro-1 discovery has confirmed that the sands intersected were as had been anticipated in its CPR. Tullow described the Jethro-1 well as having the potential to be a standalone commercial discovery, having a clear seismic definition and excellent reservoir. The JV partners are currently evaluating the requirements for an appraisal well. The Jethro Extension is a Tertiary aged stratigraphic accumulation of sand associated with the Jethro Prospect.

### Joe

Eco made a significant oil discovery, with the Joe-1 exploration well, which was drilled in 780m of water and reached a target depth of 2,175m. It is the first ever Upper Tertiary discovery in Guyana and hence has opened up a new play. The well encountered 16m of high-quality reservoir (continuous, thick, clean high-porosity sandstones) with further upside from thinner sands, which could be incremental pay. Joe has thinner pay than the 55m encountered at Jethro (Lower Tertiary) but given the shallow depth, cheaper well costs should lead to strong economics. The well was drilled at a cost of just US\$2.8mm net to Eco. Also, the well is thought now to have

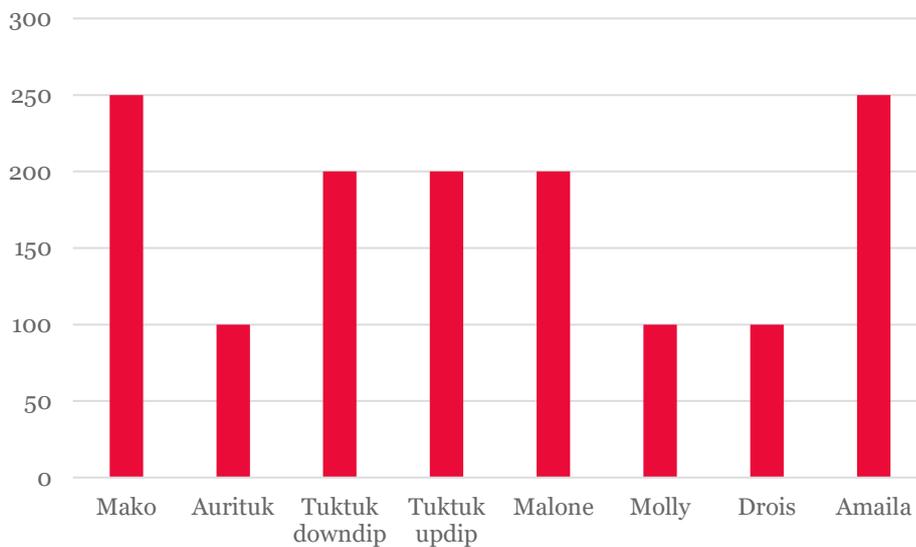
not been drilled at the optimal location. The 70mmbbl Jimmy prospect is thought to be an extension of Joe which means there should be a high chance of success.

## Exploration

We have added 5 new Tertiary prospects, which we estimate to have 1.1bnboe of gross unrisks prospective resource. These prospects weren't in the CPR released in March 2019 and we have estimated the sizes based on the areal extends shown on the map on a conservative basis. These prospects are worth 61p/sh risked or >£3.50/sh unrisks. EcoAtlantic has recently released a new exploration map, which contains a large number of new prospects that weren't in the original CPR published in March 2019. At that time the Tertiary play was only just starting to be understood, following the Hammerhead discovery, so there were only a few prospects that were included. The new map contains 8 new prospects of which 7 are Tertiary.

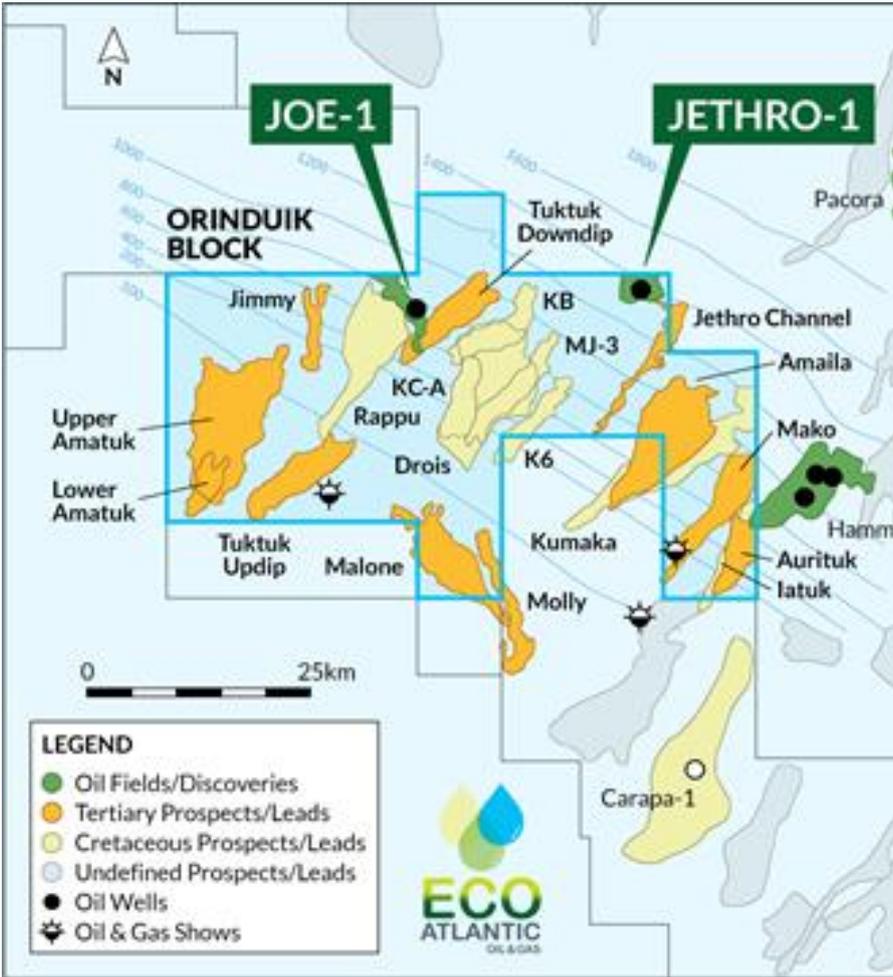
The Tertiary play has been heavily de-risked by the Hammerhead, Jethro and Joe discoveries. There are now 20 identified exploration prospects on the block, some of which are very low risk such as Jimmy and Jethro Extension, as they are potentially part of the existing discoveries. However, the other Tertiary prospects on the block are likely to have a high chance of success also, given the clear seismic definition and the calibration from the past discoveries. We expect the new Tertiary prospects to be included in an upcoming CPR.

New prospects added and H&P estimated gross prospective resource

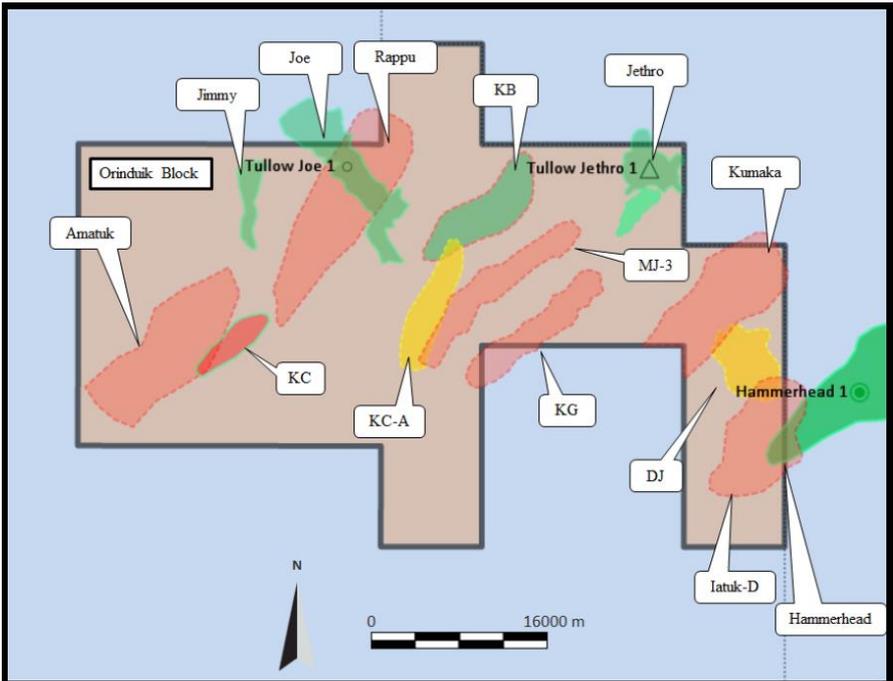


Source: H&P estimates

Updated discoveries and prospects map



Previous prospects map



Source: EcoAtlantic

## Valuation

| Asset                  | Country | Interest | Net Mmboe | US\$/boe | Unrisked US\$m | Unrisked p/sh | eologic CoS | Commerical CoS | Risked US\$m   | Risked p/sh  |
|------------------------|---------|----------|-----------|----------|----------------|---------------|-------------|----------------|----------------|--------------|
| 2019 G&A               |         |          |           |          | -\$1.4         | -0.6p         |             |                | -\$1.4         | -0.6p        |
| Warrants and options   |         |          |           |          | \$2.4          | 1.0p          |             |                | \$2.4          | 1.0p         |
| Apr '19 equity raise   |         |          |           |          | \$16.2         | 6.7p          |             |                | \$16.2         | 6.7p         |
| End '18 cash           |         |          |           |          | \$19.8         | 8.3p          |             |                | \$19.8         | 8.3p         |
| End '18 w/c            |         |          |           |          | \$0.1          | 0.0p          |             |                | \$0.1          | 0.0p         |
| <b>Core NAV</b>        |         |          |           |          | <b>\$37.1</b>  | <b>15.5p</b>  |             |                | <b>\$37.1</b>  | <b>15.5p</b> |
| Hammerhead/Aurituk     | Guyana  | 15%      | 9         | \$5.2    | \$46           | 19p           | 81%         | 75%            | \$28           | 11.7p        |
| Jethroe                | Guyana  | 15%      | 38        | \$5.2    | \$193          | 81p           | 80%         | 75%            | \$109          | 45.5p        |
| Joe                    | Guyana  | 15%      | 22        | \$5.2    | \$115          | 48p           | 80%         | 75%            | \$66           | 27.4p        |
| <b>Discovered NAV</b>  |         |          |           |          | <b>\$354.1</b> | <b>147.6p</b> |             |                | <b>\$203.0</b> | <b>84.7p</b> |
| <u>Exploration</u>     |         |          |           |          |                |               |             |                |                |              |
| Jethro Ext             | Guyana  | 15%      | 7         | \$5.2    | \$36           | 15p           | 60%         | 75%            | \$12           | 4.8p         |
| Jimmy/MJ-4             | Guyana  | 15%      | 5         | \$5.2    | \$27           | 11p           | 60%         | 75%            | \$8            | 3.3p         |
| Iatuk                  | Guyana  | 15%      | 94        | \$5.2    | \$485          | 202p          | 22%         | 66%            | \$66           | 27.4p        |
| KD                     | Guyana  | 15%      | 100       | \$5.2    | \$516          | 215p          | 22%         | 66%            | \$70           | 29.3p        |
| KB                     | Guyana  | 15%      | 36        | \$5.2    | \$188          | 78p           | 21%         | 66%            | \$20           | 8.4p         |
| KG                     | Guyana  | 15%      | 95        | \$5.2    | \$490          | 204p          | 22%         | 66%            | \$66           | 27.7p        |
| Rappu                  | Guyana  | 15%      | 80        | \$5.2    | \$414          | 173p          | 25%         | 66%            | \$63           | 26.2p        |
| Mako                   | Guyana  | 15%      | 38        | \$5.2    | \$193          | 81p           | 30%         | 66%            | \$34           | 14.1p        |
| Tuktuk downdip         | Guyana  | 15%      | 30        | \$5.2    | \$155          | 64p           | 30%         | 66%            | \$26           | 10.9p        |
| Tuktuk updip           | Guyana  | 15%      | 30        | \$5.2    | \$155          | 64p           | 30%         | 66%            | \$26           | 10.9p        |
| Malone                 | Guyana  | 15%      | 30        | \$5.2    | \$155          | 64p           | 30%         | 66%            | \$26           | 10.9p        |
| Amaila                 | Guyana  | 15%      | 38        | \$5.2    | \$193          | 81p           | 30%         | 66%            | \$34           | 14.1p        |
| Osprey                 | Namibia | 58%      | 164       | \$4.7    | \$764          | 318p          | 18%         | 20%            | \$7            | 3.1p         |
| Guy, Sharon, Tamar     | Namibia | Varies   |           |          |                |               |             |                | \$10           | 4.2p         |
| <b>Exploration NAV</b> |         |          |           |          | <b>\$3,768</b> | <b>1571p</b>  |             |                | <b>\$468</b>   | <b>195p</b>  |
| <b>Total NAV</b>       |         |          |           |          | <b>\$4,159</b> | <b>1734p</b>  |             |                | <b>\$708</b>   | <b>295p</b>  |

Source: H&P estimates, Company Data

**Good time to invest in exploration:** We believe that it is a favourable time to invest in exploration, as the lack of drilling success in the last 5 years has meant that investor sentiment is low at a time when major oil companies are looking to rebuild exploration portfolios after huge cuts in spending. Lower costs of obtaining exploration acreage and drilling creates a better value proposition. Exploration gives investors exposure to uncorrelated returns that aren't available from US E&Ps. Exploration success rates should improve as operators are now more capital disciplined forcing them to only drill their best wells.

**What are explorers chasing:** Liza (Guyana) and Lula (Brazil) are examples of the huge value creation that is possible through frontier exploration. Exxon has discovered >6Bboe in Guyana to date and may still find significantly more. Assuming an un-risked valuation of ~\$5/boe - there is potentially \$30B+ of value, which was de-risked by an initial well that likely cost ~\$100mm.

**Location, location, location:** There have been many non-commercial wells drilled in both Namibia and the Guiana-Suriname basin so being in the right place is important. We see Eco as well positioned in both basins. In Guyana it is up dip of and on trend with the significant discoveries made by Exxon next door. In Namibia it was an early mover, allowing it access to its preferred blocks and its blocks can be de-risked by wells on adjacent blocks over the next year

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