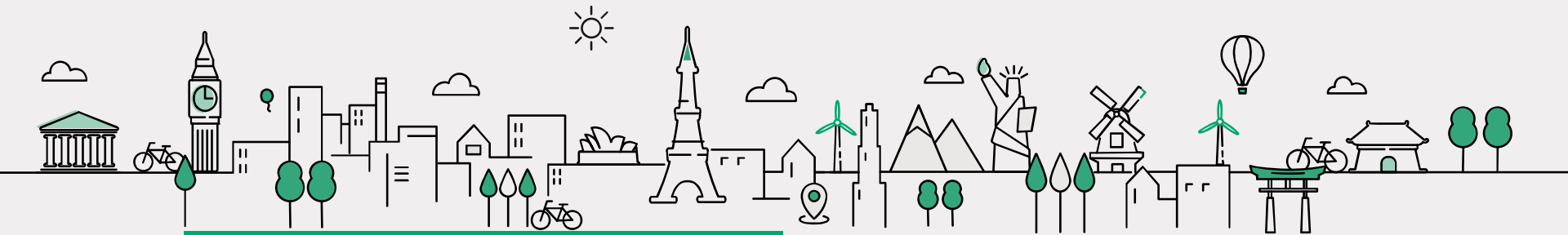


PRE-FUNDING SOLUTIONS FOR DECOMMISSIONING LIABILITIES



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10TH JUNE 2020



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The asset manager for a changing world



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ENERGY MARKETS IN 2020: A SEASON OF TURMOIL

Covid-19 is testing the limits of the global energy and climate system.

- The global energy demand is expected to decline by 6% in 2020, a decrease not seen since World War II
- A 25% collapse of oil demand in April has no equals for the oil & gas industry
- Energy-related greenhouse emissions should decline by 8%, the biggest annual reduction ever recorded
- For the first time in the history, oil prices turned negative

Total investment in the sector to plunge by an unprecedented 20%, or almost \$400 billion.

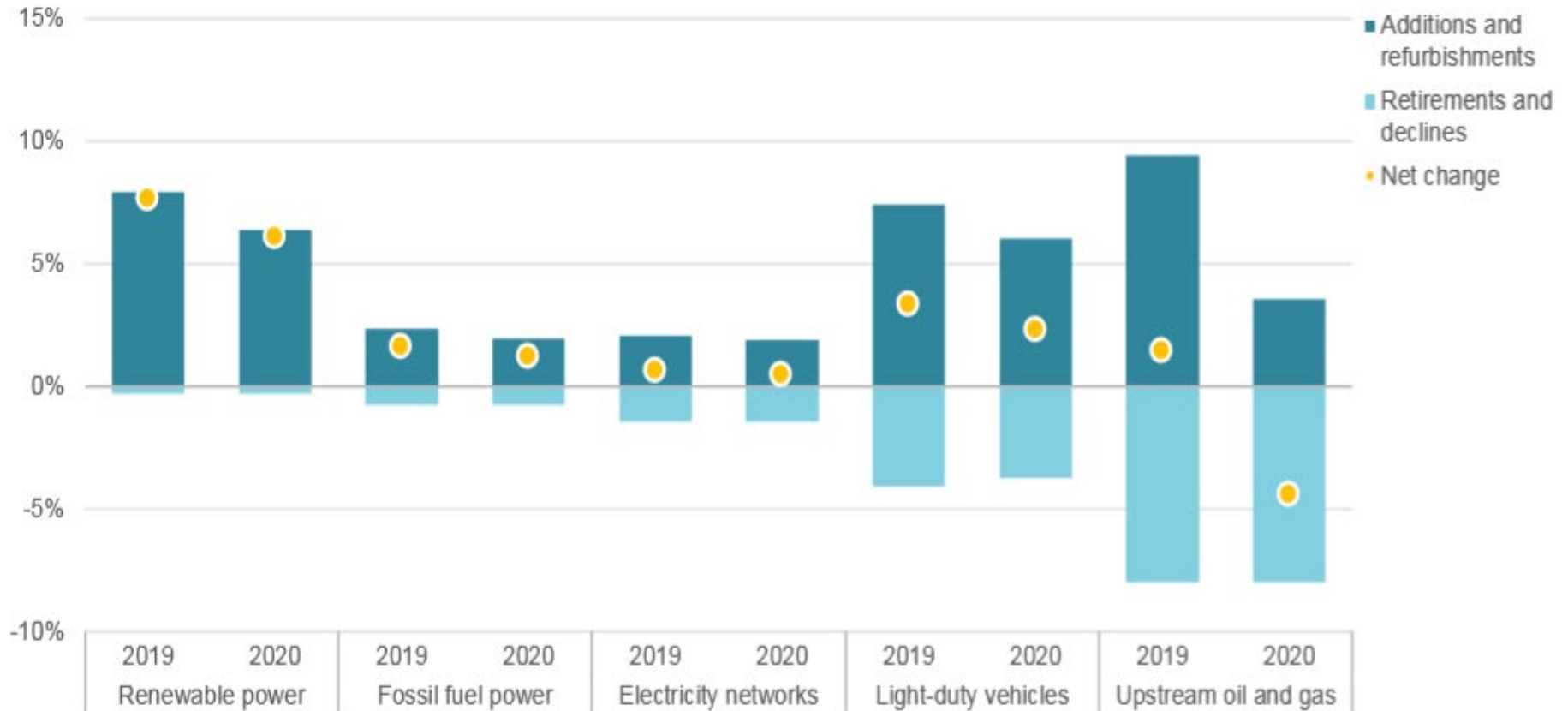
- Fuel supply investments hit hardest in 2020 while utility-scale renewable power has been more resilient
- Some of the most dramatic cuts are in the oil and gas sector – in many cases above 50%
- Investment in power sector are outpacing those in oil & gas at record levels

The crisis is hastening the retirement of some older plants and facilities, but it is also dampening consumer spending on new and more efficient technologies.

Source IEA, May 2020

ENERGY MARKETS IN 2020: CHANGES TO THE ENERGY-RELATED CAPITAL STOCK

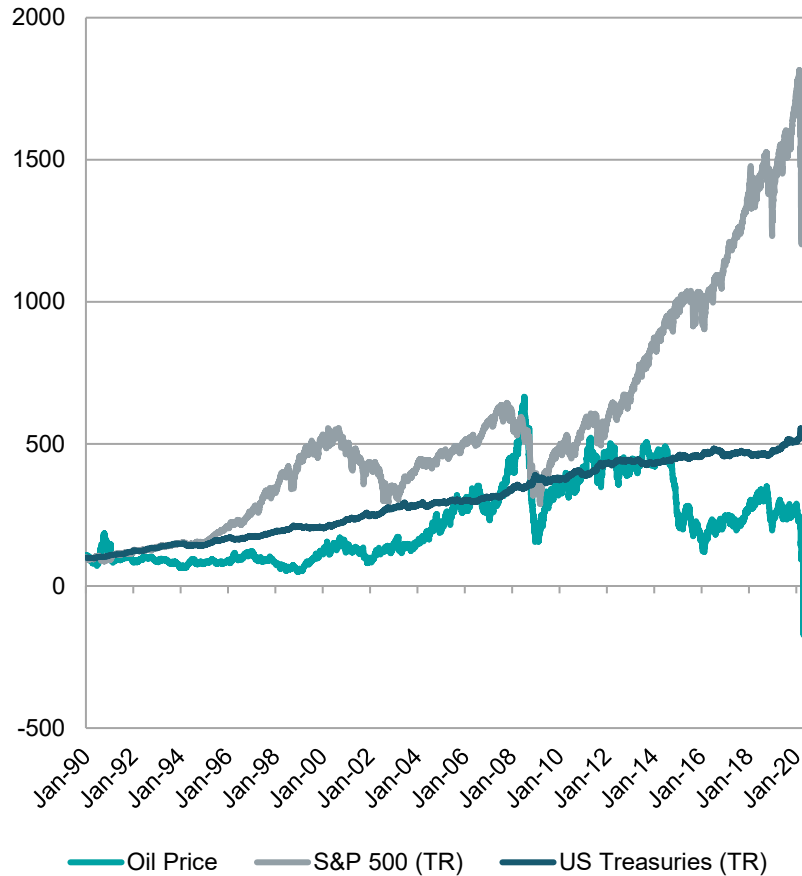
CHANGES TO THE ENERGY-RELATED CAPITAL STOCK IN 2019 AND 2020 AS A SHARE OF TOTAL STOCK IN THE PRECEDING YEAR



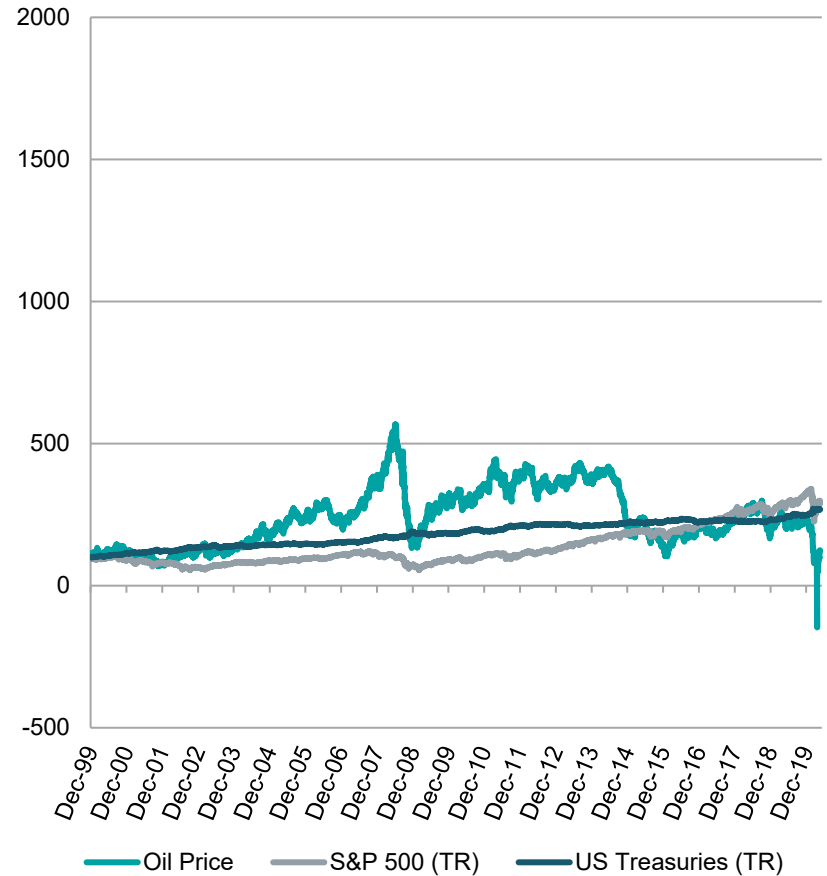
Source IEA, May 2020

ENERGY MARKETS IN 2020: OIL VS. MARKET SECURITIES

OIL PRICE VS. S&P 500 AND US TREASURIES
SINCE 1989 (100 = DEC-1989)



OIL PRICE VS. S&P 500 AND US TREASURIES
SINCE 1999 (100 = DEC-1999)



Past performance is not an indication of future performance. TR: Total Return

Source BNP Paribas AM, Bloomberg, June 2020

WHY PREFUNDING IS THE SOLUTION?

IMPROVES EFFICIENCY OF
MATCHING LIABILITIES



HELPS MITIGATE OPERATING
EXPENSES VOLATILITY



REDUCES BALANCE SHEET,
COST OF CAPITAL AND
CREDIT RATING PRESSURE



OFFERS MORE CORPORATE
OPTIONALITY



OPENS UP DELEVERAGING
OPPORTUNITIES



IS CRUCIAL WHEN FACING
EARLY DECOMMISSIONING



A COMBINED BNPP SOLUTION



FEATURES

- Pre-fund long-term liabilities with “Transition” bonds fully or partially dedicated to decommissioning
- Sustainable decommissioning investment objectives with clear ESG targets in line with the corporate strategy
- Holistic process covering all financial aspects of decommissioning:
 - Funding and corporate risk management;
 - Investment management; and
 - Governance arrangements.

INVESTMENT FRAMEWORK AND STRATEGY

- Bespoke (ESG-compliant) investment solutions for clients through decommissioning cash-flow matching portfolios
- Produced by a combination of liquid and illiquid solutions
- Generating net positive carry
- Controlled execution under strict portfolio management, risk management and governance processes
- Choice of vehicle
- Potentially using the Investment Reserve to (co)finance energy transition activities
- Access to the Investment Reserve in case of earlier than planned decommissioning

Source: BNP Paribas Asset Management, June 2020

KICK-START THE INVESTMENT RESERVE: ISSUING A “TRANSITION” BOND

WHAT WOULD IT BE?

A bond issued to pre-fund the decommissioning of old brown assets as well as land reclamation and repurposing activities in line with low-carbon and inclusive economy objectives.

The proceeds of the bond could target in priority pre-funding of decommissioning of brown assets, such as coal fired power plants, mines, O&G facilities.

WHY IS THIS PRODUCT INNOVATIVE?

Current green / transition bonds have been financing mainly greenfield projects or decommissioning of assets by issuers dedicated to this activities (i.e. the entity decommissioning is different from the owner/operator of the asset)

The current proposition would be a first in the market looking at effectively removing brown assets and also financing land rehabilitation with a dual environmental and social perspective.

WHO COULD ISSUE?

Issuers with ambitious transition strategy and solid sustainability strategy and ESG credentials

The issuance would enable to effectively align funding mechanism with issuers’ transition levers and overarching sustainability strategy, signalling to the market a clear transition towards low-carbon business.

WHO WOULD INVEST?

Investors with sustainability mandates and/or sustainability funds that can invest beyond “pure” green bonds and providing they are convinced by the issuer overarching sustainability strategy and ESG credentials and how the issuance fits within this context at issuer level.

Mainstream investors who are increasingly factoring ESG consideration in their investment decision as way to enhance risk adjusted returns and looking to invest in issuers with strong transitioning profiles.

PRE-FUNDING - THE DECOMMISSIONING INVESTMENT RESERVE

WHAT WOULD IT BE?

Proceeds of the bond issuance are invested in a decommissioning investment reserve / fund to meet the company's decommissioning liabilities in line with best practices in institutional investment.

HOW WOULD THE RESERVE / FUND INVEST?

The investment strategy takes into account the company's own corporate finance and sustainability objectives as well as the decommissioning profile.

Investment guidelines will aim to:

- Highlight the need to match all long-term decommissioning liabilities (not just pure operational ones)
- Ensure consistency between decommissioning project duration and the investment strategy horizon
- Provide a buffer for potential over-run costs
- Invest in sustainable and ESG-related asset classes

Other inputs in the development of the decommissioning investment strategy include:

- A clear affordability (i.e. issuance of the transition bond and other cash contributions) and security of any additional funding contributions
- The capacity to meet potential funding gaps (normal operations)
- The capacity to undertake early decommissioning (in nuclear for example) or implement complex strategic investment or corporate decisions

WHAT IS THE GOVERNANCE STRUCTURE?

The transparent investment vehicle or structure guarantees a strong governance and is open to independent verification, regular monitoring and effective risk management.

BENEFITS FOR OIL & GAS PRODUCERS

REINFORCE
SUSTAINABILITY
VIRTUOUS CIRCLE

All aspects of the corporate strategy are replicated in the pre-funding of the decommissioning investment reserve, which can help achieve the company's sustainability objectives

MEET REGULATION
AND STAKEHOLDERS
EXPECTATIONS

This strategy can demonstrate activities relevant for the **“do no harm” category in the EU Taxonomy**.
This strategy can demonstrate an increased amount of **capital expenditures towards activities that benefit the environment**.
The **strategy can be communicated to stakeholders** that transition bond issuance proceeds are invested in green vehicles

CAPTURE FINANCIAL
BENEFITS




Reduce financial cost for the company: The financial decommissioning cost is partially covered by the capital market returns.
Increase the ability to match liability: Commodity price exposure is fundamentally dissociated from remediation provisioning and expense. Long-term investments can diversify the income generation and reduce the conflicting demands on cash flow.
Reduce the pressure of cost of capital: Pre-funding reduces the standing requirement to maintain debt materially in excess of investment requirements and the negative impact on long-term return on capital.

IMPROVES
OPERATIONAL AND
CORPORATE
FLEXIBILITY

Reduce the impact of expense volatility: Exposure to expense volatility with high over-run probability can be better managed
Increase exit optionality: Corporate strategy may require divestment of an asset. Decommissioning obligations can form a material item in the negotiation of terms of sale. The attractiveness of the asset will in part be dictated by the ability to meet future remediation expenses and provide security to this effect.

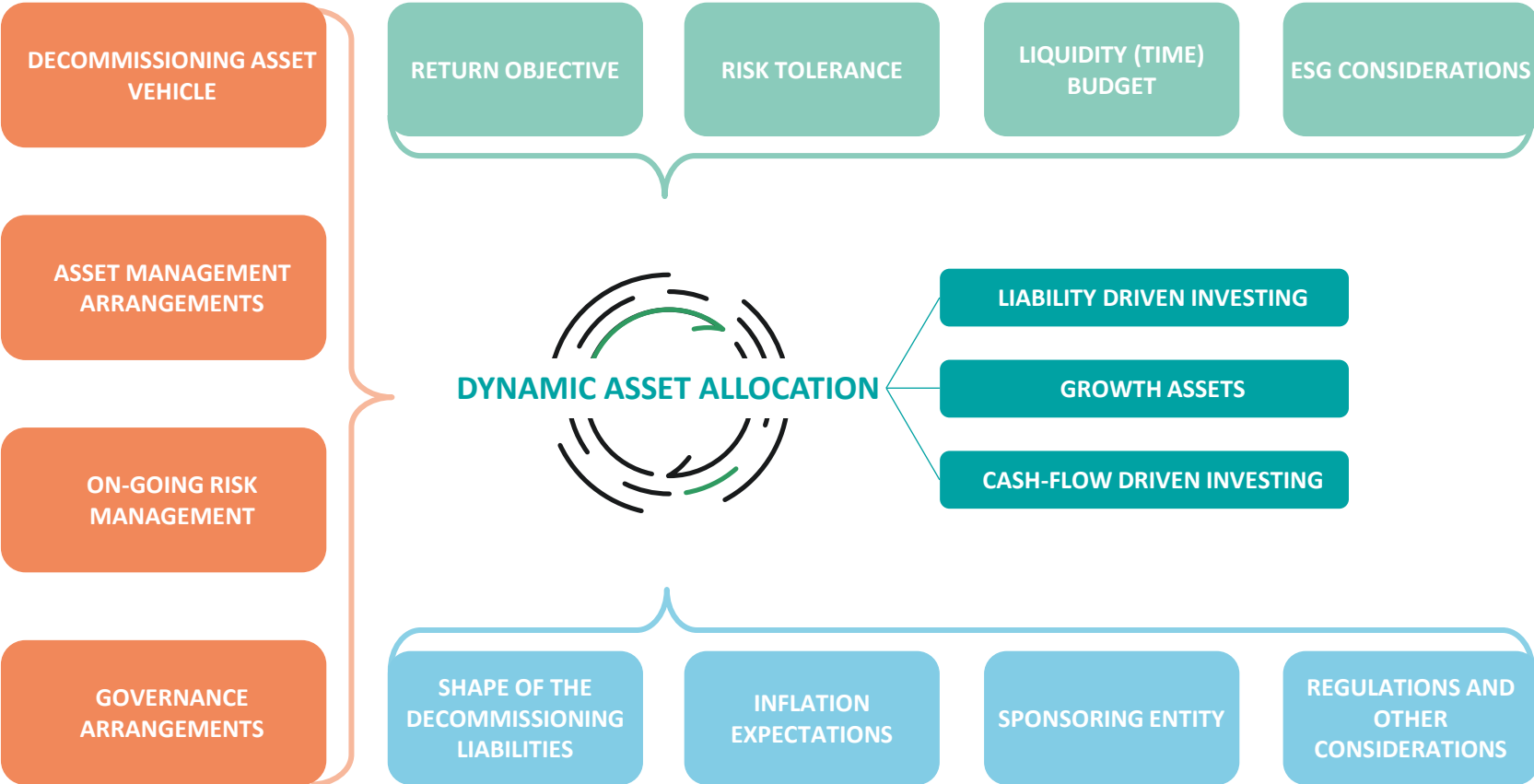
UNDERSTANDING A FUNDED DECOMMISSIONING APPROACH

KEY STRATEGIC DECISIONS AND DRIVERS

| |  LIABILITIES |  ASSETS |  STRUCTURE |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| DECISIONS | <ul style="list-style-type: none"> Consistence between the offshore oil decommissioning project duration and the decommissioning fund maturity Accounting for all costs (not just planned offshore oil decommissioning) Provide estimates of over-runs | <ul style="list-style-type: none"> Affordability and security of funding contributions Potential funding gaps (normal operations) Risk of early well closure | <ul style="list-style-type: none"> Fund management, captive insurance or trust structure |
| DRIVERS | <ul style="list-style-type: none"> Expected future decommissioning costs Inflation considerations Discount rate methodology | <ul style="list-style-type: none"> Contributions Investment principles Return objectives Risk tolerance Liquidity budget | <ul style="list-style-type: none"> Independent verification, regular monitoring and dynamic risk management. |

BRINGING IT ALL TOGETHER (I)

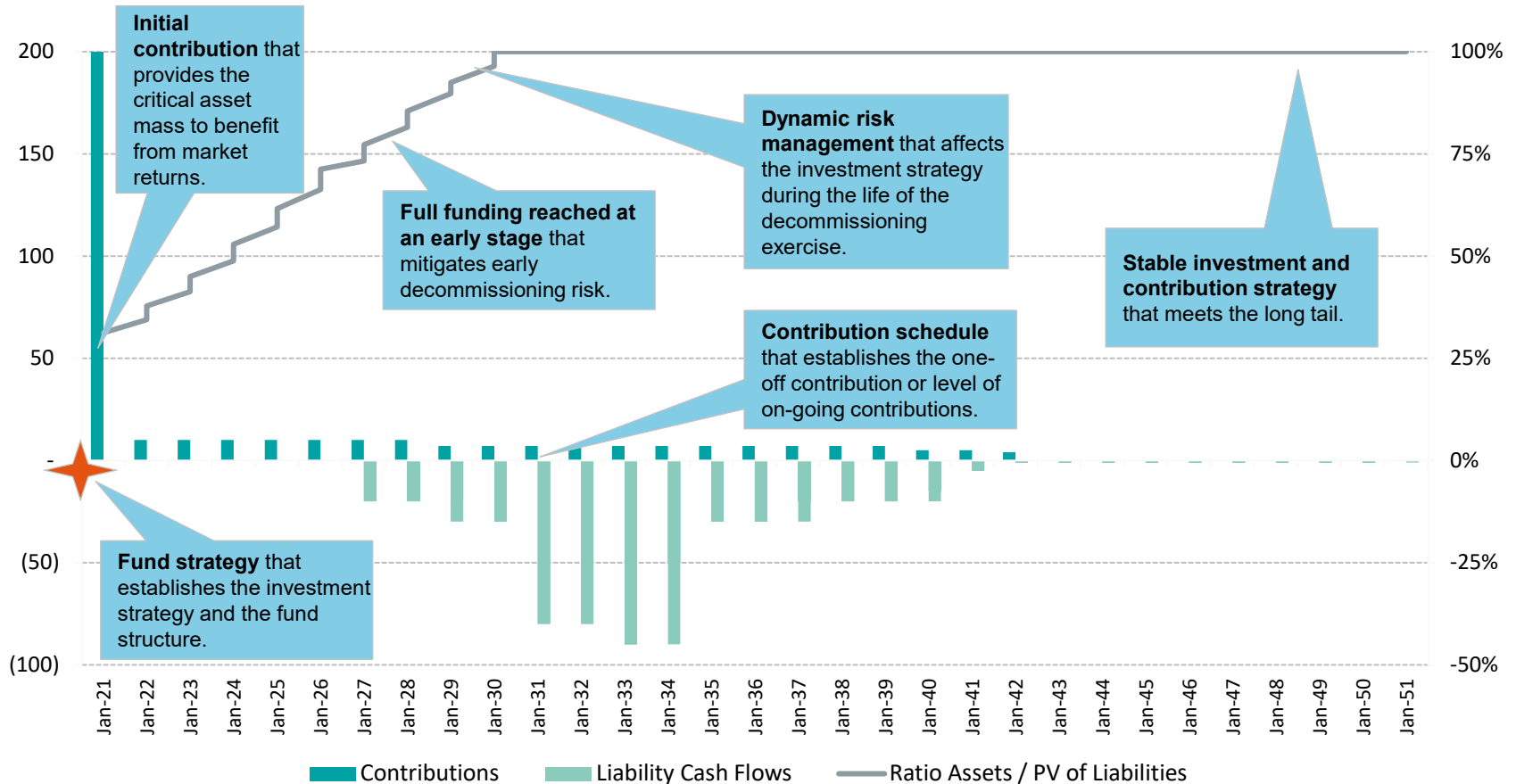
INVESTMENT STRATEGY, DECOMMISSIONING LIABILITIES AND IMPLEMENTATION ARRANGEMENTS



Source BNP Paribas AM, June 2020

BRINGING IT ALL TOGETHER (II)

LONG-TERM INVESTMENT STRATEGY: ILLUSTRATIVE LIABILITY CASH FLOW VS. CONTRIBUTIONS & ASSET CASH FLOW

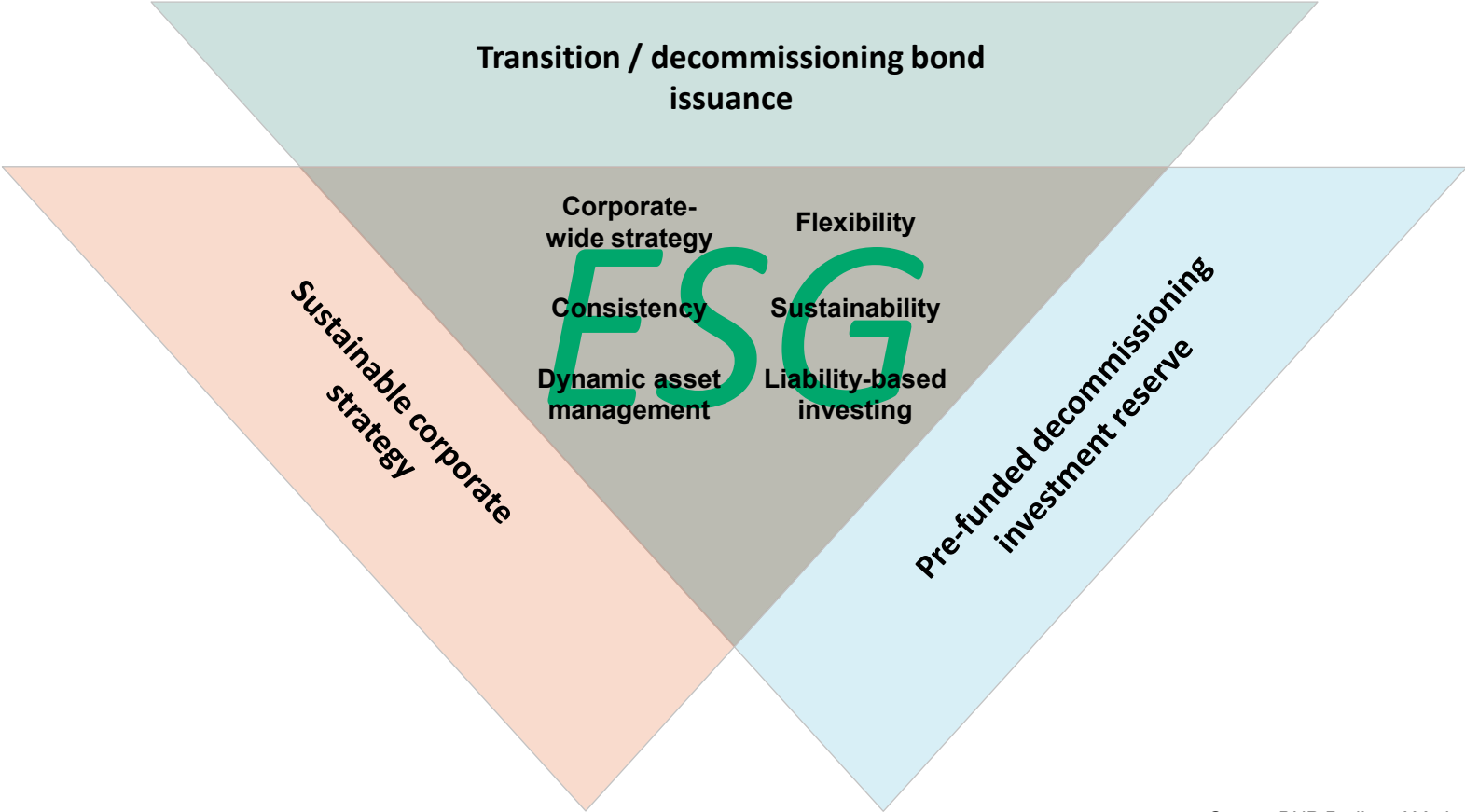


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Source BNP Paribas AM, June 2020

GUIDING PRINCIPLES

GUIDING PRINCIPLES FOR A SUSTAINABLE ENERGY TRANSITION AND FINANCIAL DECOMMISSIONING STRATEGY



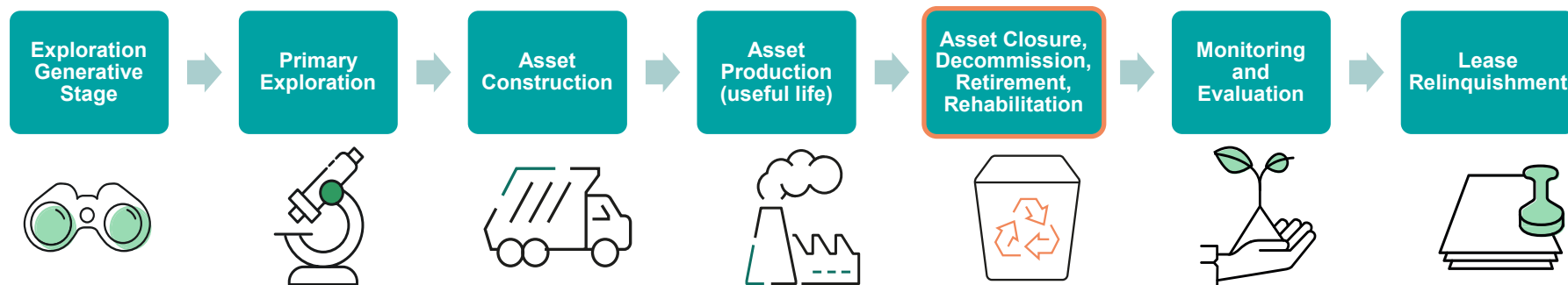
Source BNP Paribas AM, June 2020

Q&A

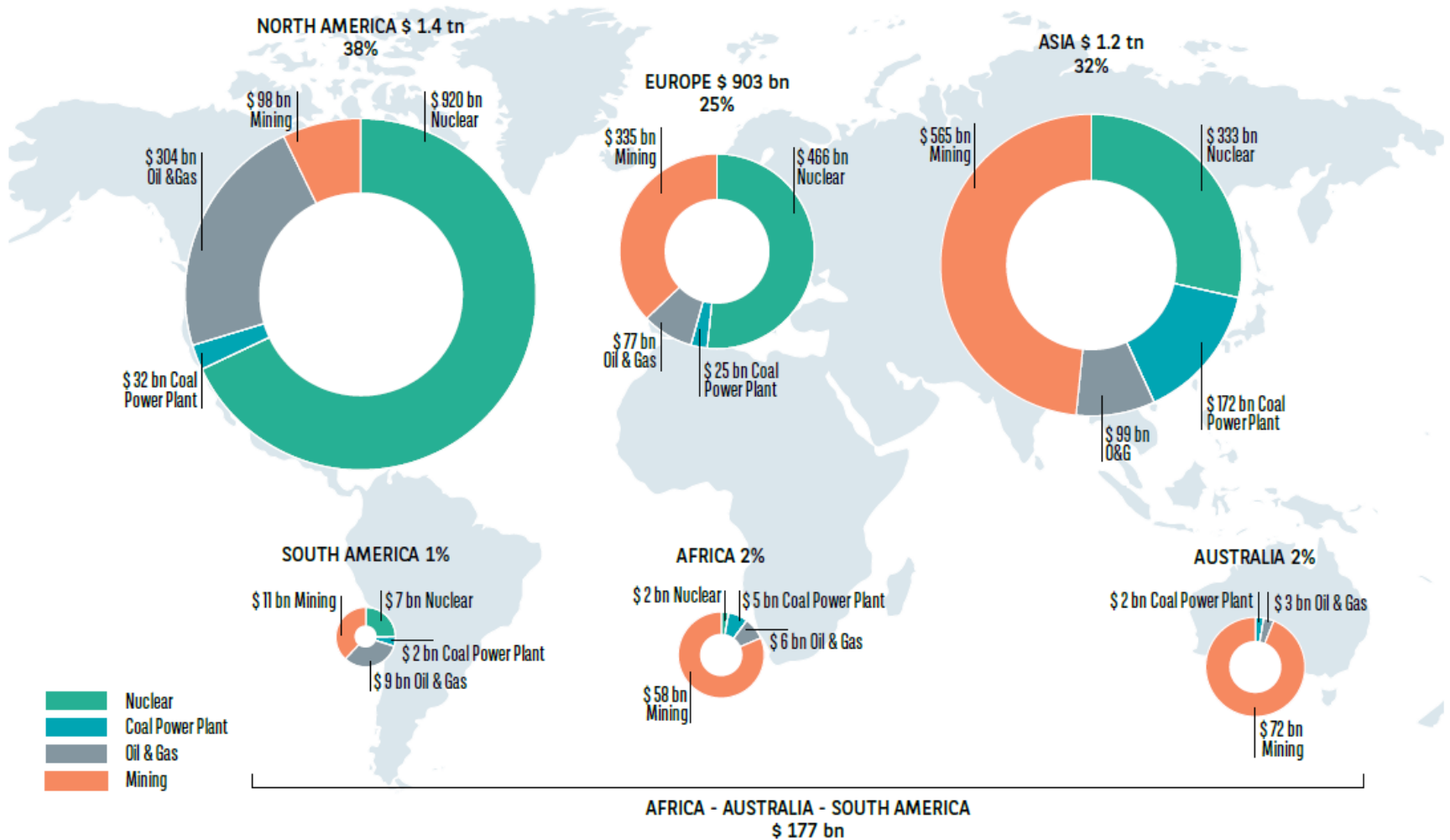
APPENDIX: THE DECOMMISSIONING CHALLENGE

STANDARD ASSET DECOMMISSIONING PROCESS

- Companies have decommissioning obligations in order to remedy the physical, social and environmental impact their activities have on the surrounding landscape, public health and communities.
- They also need to ensure a sufficient reversal of the negative impact that their fixed assets have on the environment upon the end of the useful asset life.
- The estimated cost related to such obligations are reported as balance sheet provisions.
- Across the 4 sectors studied the asset life cycle generally follows the below process:



ESTIMATED DECOMMISSIONING COSTS BY REGION



DECOMMISSIONING: THE SCALE OF THE CHALLENGE

OVER \$3.6 TRILLION

Is the global estimation of the asset retirement obligations across the 4 power sectors studied¹

OVER 35,000 COALMINES

Is the number of mines open or closed. We estimate this a conservative number³

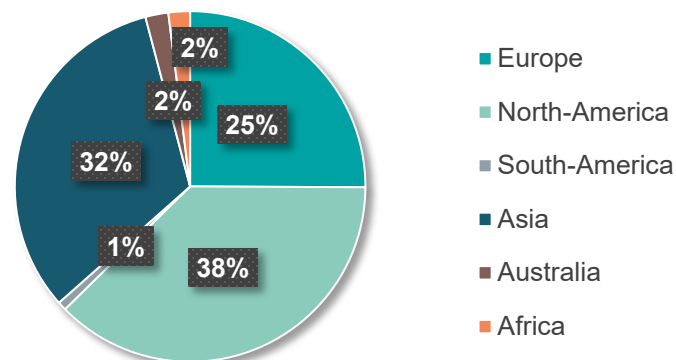
C. GBP 51 BILLION

Is the decommissioning bill of the Oil and Gas sector in the North Sea UK Continental Shelf area alone²

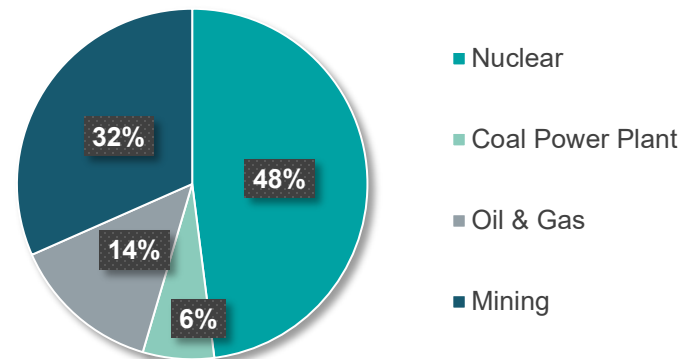
29,000 POWER PLANTS

Is the number of power plants, 2,000 of which coal powered, that were highlighted in the study¹

Estimated Decommissioning Costs by Region



Estimated Decommissioning Costs by Sector



¹ BNPP AM UK Review of 4 power sectors, 2019

² O&G Authority, 2019

³ UNIDO, 2018

No assurance can be given that any forecast, target or opinion will materialise.

DECOMMISSIONING: THE SCALE OF THE CHALLENGE

Only nuclear liabilities are partially backed by financial assets

Other sectors have very little or no assets set aside. In most cases, the level of pre-funding covers only a fraction of the estimated decommissioning costs.⁴

The size of decommissioning liability estimates have a material impact on the valuation of a company

Closing the current generation of large scale sites can cost hundreds of millions more than estimates. Many cases have proven to be in excess of \$1bn for a single asset.⁵ These liabilities weigh heavily on corporate balance sheets.

Nuclear and mining sectors have the highest global decommissioning costs

It is because of :

- Dismantling cost
- Remediation to environment
- Continued maintenance and monitoring on certain facilities
 - Nuclear plant fuel rods that have no permanent disposal repository can cost companies millions of dollars to monitor years after the end of the useful life of a power plant
 - Certain mines needs \$10m of expenditure in perpetuity to neutralise rock drainage from closed workings
- Regulatory onus such as ongoing water treatment, dam maintenance and environmental monitoring stays in place long after the closure of site.⁶

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