

EXPLORING THE OPTIONS: DECOMMISSIONING SOLUTIONS IN A CHALLENGING ENVIRONMENT

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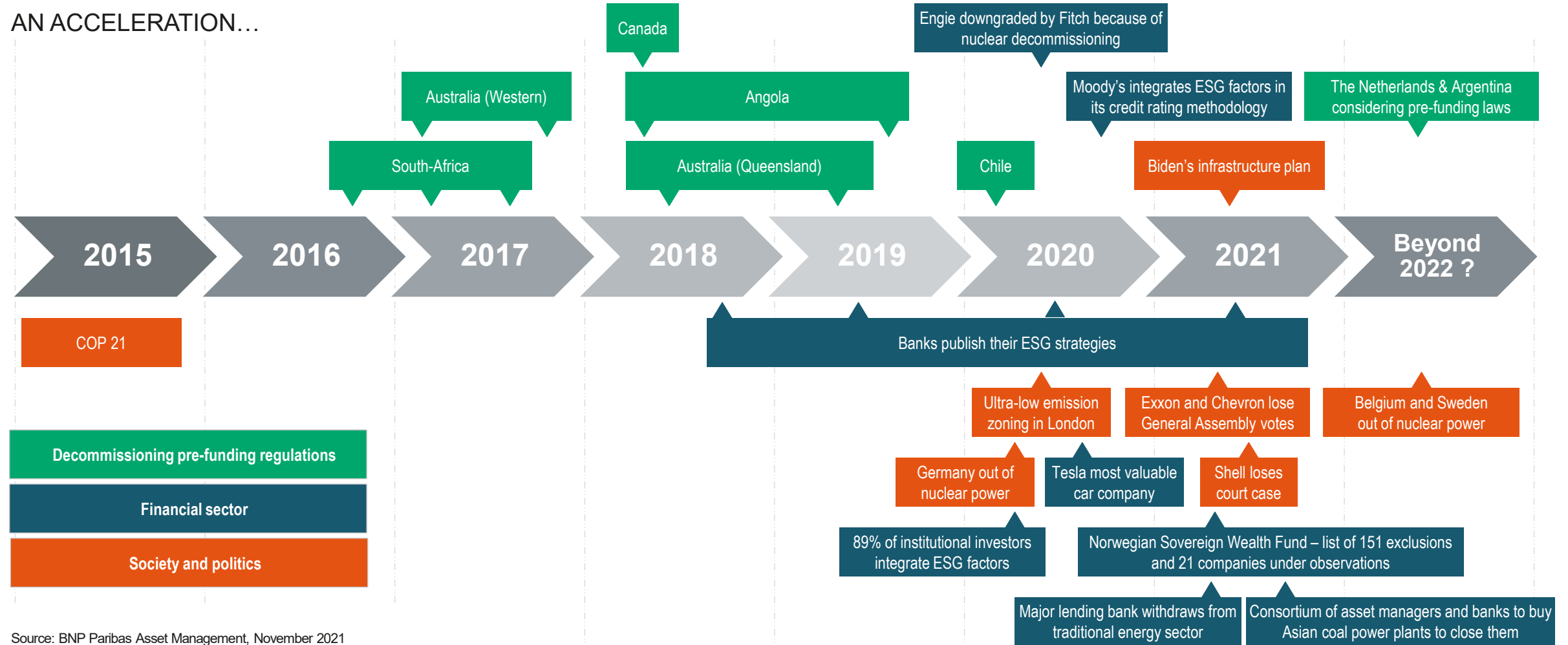


BNP PARIBAS
ASSET MANAGEMENT

The sustainable investor for a changing world

The Energy Transition

AN ACCELERATION...



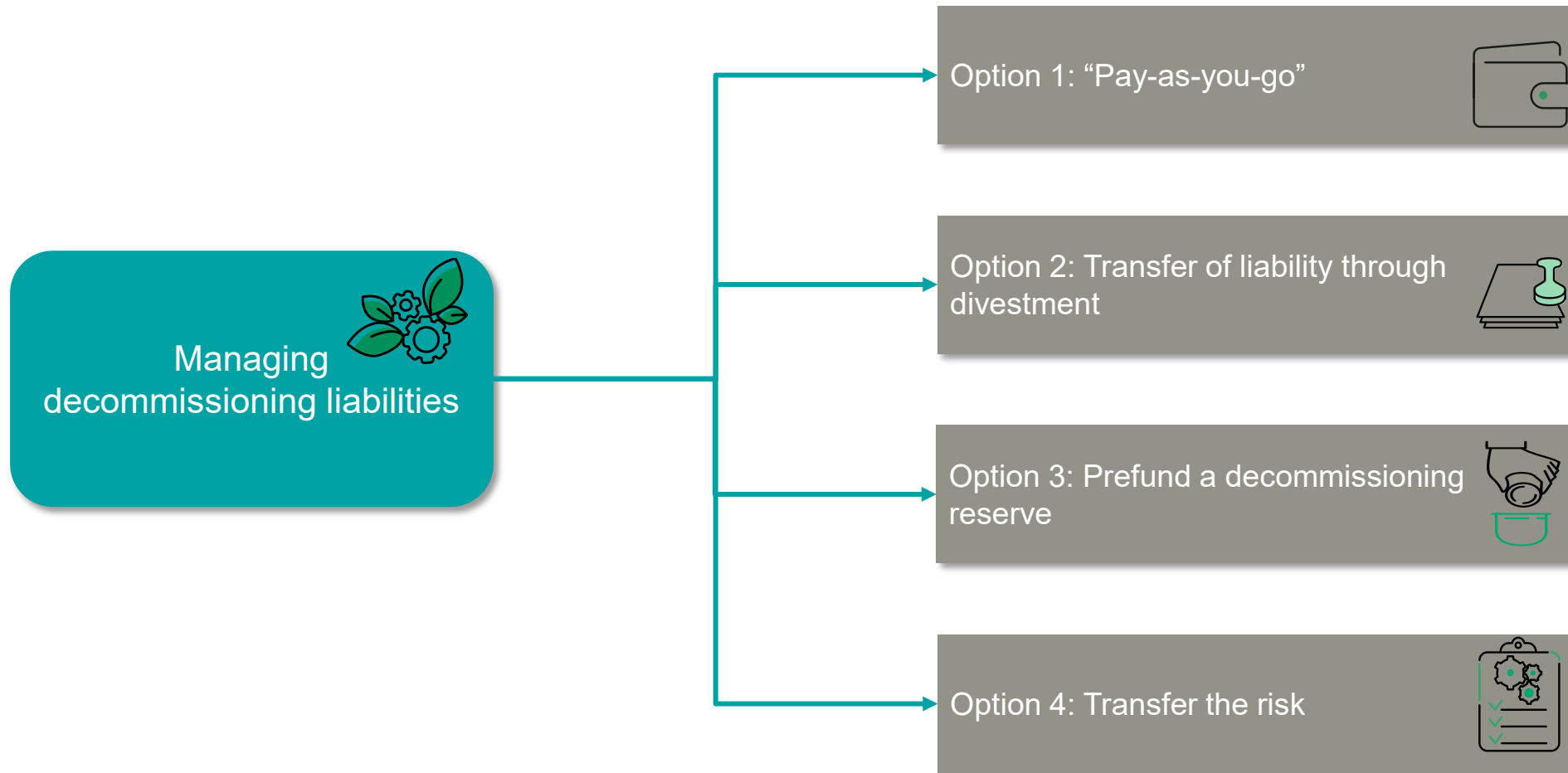
Source: BNP Paribas Asset Management, November 2021

Corporate stakeholders



Source: BNP Paribas Asset Management, April 2022

Alternative approaches to managing decommissioning liabilities

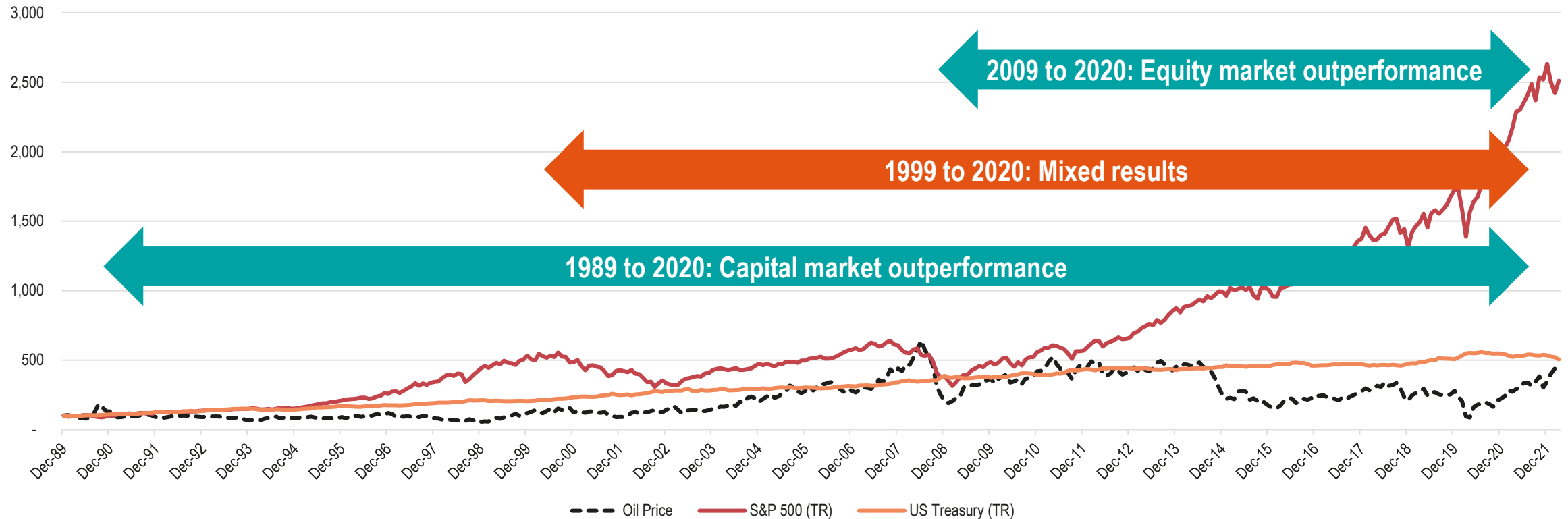


Option 1: “Pay-as-you-go”

	Comment	Overall assessment
What it is	Decommissioning costs are paid out of operating cash flow when they come due	✓
Risk level	Known but relatively high as this approach is exposed to essentially oil & gas prices	xx
Impact on O&G company’s financial standing	Dilutes earnings and drain operating cash flow over the long term	xx
Impact on corporate strategy	Reduces corporate activity and does not mitigate the risk of shortfall	xx
Impact on credit rating	Manageable by potentially disastrous if credit rating agencies decide to treat decommissioning liabilities differently	xx
Impact on ESG profile	No ESG offset offered by traditional solutions	xx

Option 1: Oil price performance vs. capital market performance

Oil price vs. S&P 500 and US Treasuries since 1989 (100 = Dec-1989)



Source: BNP Paribas Asset Management, May 2022
 Past performance is not an indication of future performance. TR: Total Return

Option 2: Transfer the decommissioning liability through divestment

	Comment	Overall assessment
What it is	Transferring the decommissioning liability by selling operational assets	✓✓
Risk level	Known and relatively low unless buyers do not implement decommissioning properly	✓
Impact on O&G company's financial standing	Potentially positive in the long term	✓✓
Impact on corporate strategy	Problematic as buyers are resistant to managing decommissioning programmes Risk of orphan liabilities if decommissioning is retained	✗
Impact on credit rating	Positive impact if decommissioning liabilities are transferred, otherwise potentially negative impact	✓ / ✗✗
Impact on ESG profile	Positive impact on ESG rating (even if decommissioning is retained)	✓✓

Option 3: Prefund a decommissioning reserve (see next section for more details)

	Comment	Overall assessment
What it is	Creates a financial reserve to meet decommissioning costs when they come due	✓✓✓
Risk level	Known and relatively low if the reserve is properly managed	✓✓
Impact on O&G company's financial standing	Initial contribution reduces available cash but potentially very positive in the long term if the reserve is well managed	✓✓
Impact on corporate strategy	Opens up more possible corporate activity routes and reduces the risk of shortfall	✓✓
Impact on credit rating	Positive impact (especially with S&P and Fitch)	✓✓
Impact on ESG profile	Positive impact on ESG rating if the reserve is invested in ESG financial assets	✓✓

Option 4: Transfer the decommissioning risk to an insurance company

	Comment	Overall assessment
What it is	Financial decommissioning is insured in the same manner as a pension buyout	✓✓✓
Risk level	Transfer can be scaled to meet risk budget / appetite of the operator	✓✓
Impact on O&G company's financial standing	Premium payment can be expensive but only one-off hit to the earnings	✓
Impact on corporate strategy	Opens up more possible corporate activity routes and reduces the risk of shortfall	✓✓
Impact on credit rating	Positive impact (especially with S&P and Fitch and based on pension buyout experience)	✓✓
Impact on ESG profile	Positive impact on ESG rating as it removes brown assets	✓✓

Decommissioning Pre-funding Solutions



General principles for decommissioning pre-funding solutions

O&G Companies may establish reserve Funds to meet decommissioning liabilities. These can have a number of benefits (including in the context of M&A transactions when the liabilities are retained by the seller).

Ring-fenced to immunize O&G Company's balance sheet

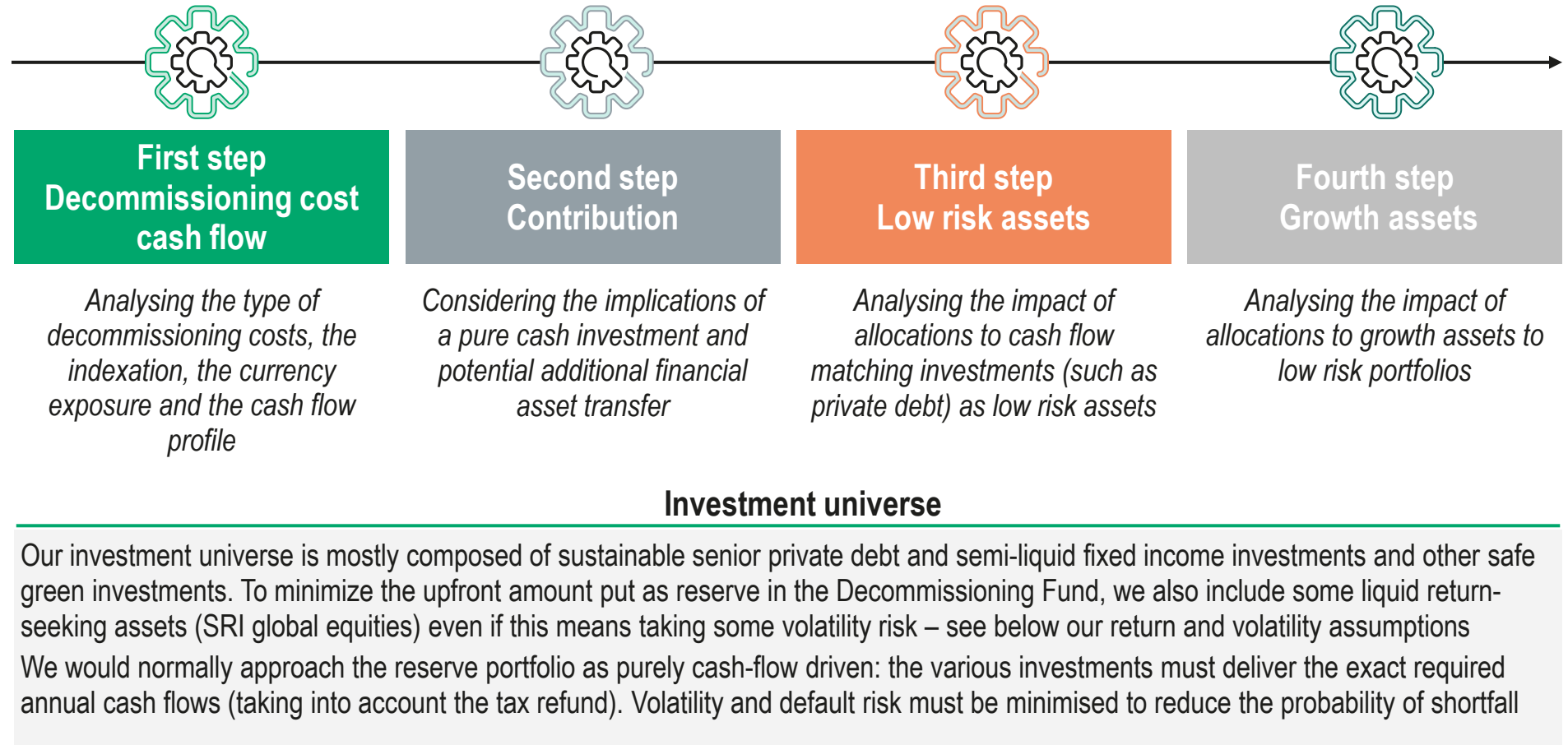
Invested in green assets, with an aim to meet the decommissioning costs

In the case of divestment, a Seller's can its decommissioning approach into its energy transition and sustainability strategies

- Dedicating the Decommissioning Fund to meet the actual Asset Retirement Obligations (incl. inflation) and oil price-indexed components
- Taking into account tax credits to Oil & Gas companies (where available)
- Positive credit rating implications
- Selecting an appropriate vehicle from governance and risk management perspective
- Avoiding material taxation implications
- Avoiding investment volatility risks
- Taking into account the currency of the various cost components
- Selecting appropriate cash flow matching and return-seeking asset classes
- Optimizing the funding strategy vis-a-vis the overall risk / return profile of the financial assets
- Potential to reduce overall cost of decommissioning
- Addressing the Seller's carbon emissions objectives
- Investing in green / sustainable assets and technologies
- Potentially enhancing the Seller's ESG rating
- Maintaining a strict control on the selected Decommissioning Fund vehicle

Investment roadmap – Focus on green / sustainable asset classes

Establishing a strong investment process based on a known decommissioning cash flow, stable asset classes and multiple levels of contributions enables BNP Paribas Asset Management to structure an investment portfolio that addresses exactly the O&G Company’s investment and funding objectives and preferences

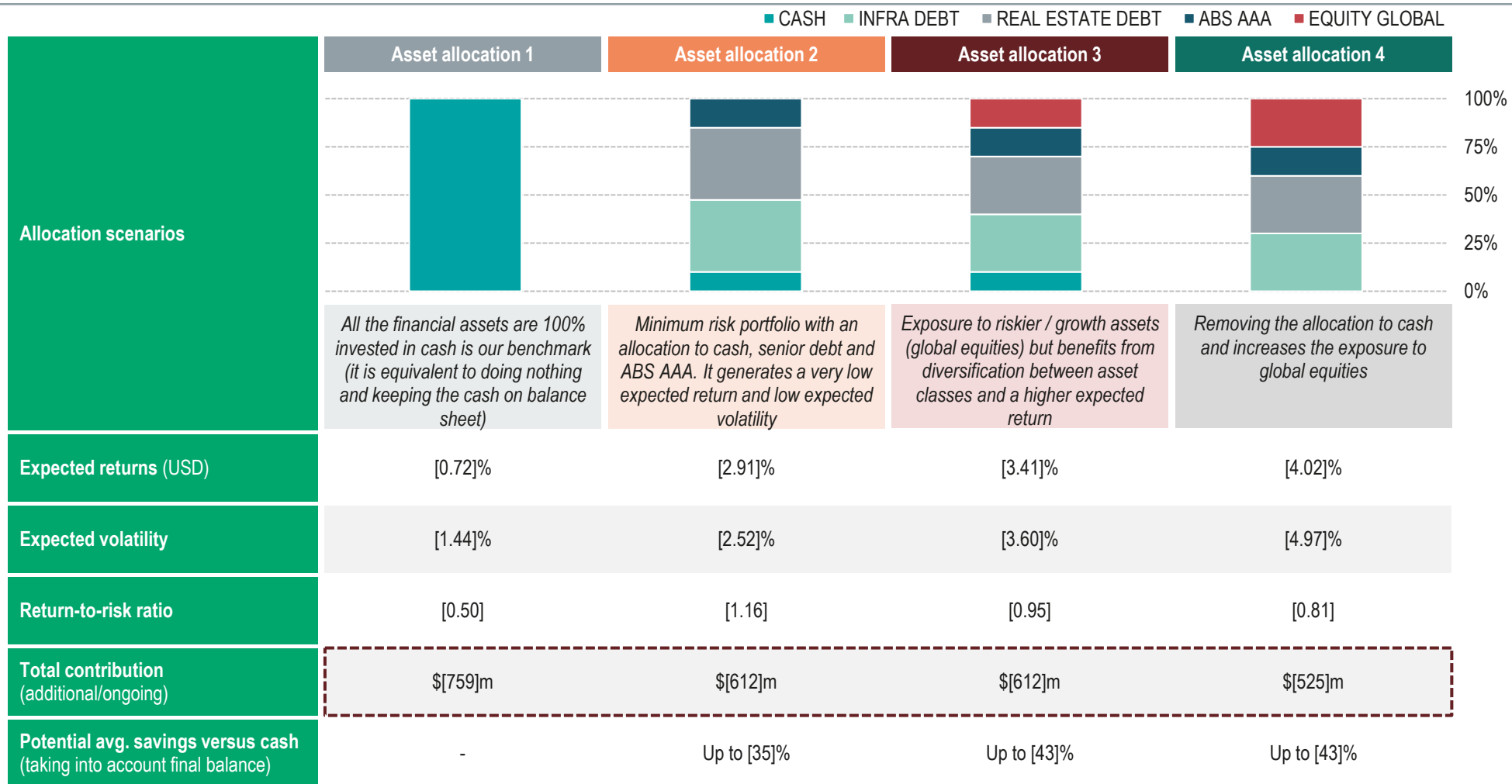


No assurance can be given that any forecast, target or opinion will materialize

Source: BNP Paribas Asset Management, May 2022

North Sea Field – Illustrative asset allocations and resulting savings versus cash

In practice, we tested four asset allocations with varying exposures to cash, gilts (government bonds), infrastructure and commercial real estate debt, AAA ABS and liquid equities



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

Source: BNP Paribas Asset Management, May 2022

Additional information and disclaimer



Examples of BNP Paribas' decommissioning fund mandates

Decommissioning fund mandates include single asset class strategies as well as full portfolio management

Waste management decommissioning fund (2021)

- Mandate to cover decommissioning costs of a Dutch waste management company over the next 30 years
- BNPP AM offers a diversified growth portfolio solution with dynamic de-risking
- Portfolio: 100% Liquid assets

Nuclear decommissioning fund

- BNPP AM has supported a French nuclear operator since the early 2000s via €1bn in various asset portfolios including public debt
- BNP Paribas is lead advisor on a bond issuance and buy-back programme

Nuclear decommissioning fund

- BNPP AM has supported another French nuclear operator since the early 2000s via €2bn+ in various asset portfolios
- BNPP AM manages multiple sleeves of decommissioning fund: sovereign debt, private credit, corporate credit and distressed debt



Oil & gas decommissioning (2022)

- Cash management mandate for a Dutch oil & gas decommissioning entity
- The mandate incorporates direct collaboration with Treasury and cash flow management to meet, among other things, decommissioning costs

Nuclear decommissioning fund (2016)

- Fiduciary management mandate since 2016 for a Dutch nuclear operator
- The mandate incorporates a flightpath based on hedging interest rates as they increase. Portfolio is comprised of short duration bonds and global equities

Oil & gas decommissioning fund (2020)

- Mandate to cover decommissioning costs of an international O&G company over the next 25 years
- BNPP AM offers a cash flow matching solution covering inflation, maturity and currency risk and capital growth
- Portfolio : 30% / 70% Liquid / Illiquid assets

Nuclear decommissioning fund (2018)

- Asset management mandate with Korean Nuclear Decommissioning Fund
- BNPP AM selected to offer asset management and fiduciary services

Note: This is for illustrative purposes only and should not be used as a basis for making any specific investment, business or commercial decisions

At the conference



Julien Halfon

**Head of Pensions and Corporate Solutions
BNP Paribas Asset Management**

Julien Halfon is Head of Pension and Corporate Solutions at BNP Paribas Asset Management. Based in London, Julien Halfon is responsible for constructing customised solutions for pension funds, endowment and corporate clients, including balance sheet management, multi-asset portfolios and decommissioning reserve funds.

Julien Halfon has extensive financial industry experience, gained within asset management, investment banking and consulting. Previous roles include Senior Consultant in the Structured Solutions Group at Mercer, Head of UK & European Coverage at P-Solve, Head of European Solutions at Lazard, Senior Consultant at Hewitt, Bacon & Woodrow and Senior Associate within European Pensions & Insurance Strategy at Goldman Sachs. He began his career as an economist at the French Finance Ministry, before working for the European Commission.

Julien Halfon holds a Masters in Banking, Finance & Insurance and a Masters in International Economics & Finance from Paris Dauphine University, an MBA from Wharton School at the University of Pennsylvania and an MA from the School of Advanced International Studies at Johns Hopkins University.



James Sheen

**Consultant Relations Manager
BNP Paribas Asset Management**

James Sheen is a Consultant Relations Manager within the Global Consultant Relations Group at BNP Paribas Asset Management. Based in London and working alongside the Multi Asset Quantitative and Solutions team, James is responsible for conducting fundamental quantitative analysis and financial modelling on the global scale of decommissioning within the Oil & Gas, Nuclear and Mining sectors. James is responsible for white paper writing, building customised client decommissioning profiles, financial and peer analysis of decommissioning liabilities.

James holds a First Class honours Bsc in Business & Management from Oxford Brookes University and holds the Investment Management Certificate, CFA UK.

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