# Arjun Infrastructure Partners
# SUSTAINABILITY REPORT 2022

ARJUN Infrastructure

# AT A GLANCE

## Arjun Infrastructure Partners

31

Full-time employees[1]

90+

Senior team's years of operational experience

4★

UN Principles for Responsible Investment

***Strategy & Governance*** and ***Infrastructure Modules***

## Our investments

€5.3bn

Assets under management[2]

21

Investments / platforms

7

Countries

Cover image: **Enviromena, Three Maids Hill**, United Kingdom

Three Maids Hill is a 25.4MW ground-mounted solar project located in Winchester, Hampshire. The site was commissioned and connected to the grid in November 2022.

1 Full-time employees at the time of report publication, May 2023.
2 AUM includes invested and committed capital.

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*Date of publication: May 2023. Unless otherwise stated, all information is correct as of 31 December 2022.*

# FOREWORD

## LETTER FROM FOUNDER AND MANAGING PARTNER

**We are delighted to publish our 2022 Sustainability Report. It has been an eventful year and we are pleased to share some of the many positive impacts that our strategy has delivered.**

Infrastructure assets have a critical role to play in the fair, just and equitable transition to a net zero and sustainable economy. As trusted managers of our investors' assets, we are responsible for implementing strategies that actively contribute to this objective, while delivering resilient and stable returns over the long term.

This is an enormous responsibility, which our team is proud to be entrusted with.

### Infrastructure Alliance Europe 2

*Advancing the UN Sustainable Development Goals*

Since forming Arjun in 2015, 'sustainability' and 'purpose' have been at the heart of our business. This was embodied in our first commingled fund, Infrastructure Alliance Europe 1 (IAE-1), which has provided investors with access to businesses driving the sustainable transition of vital infrastructure. With five investments in the European mid-market infrastructure space, including our first digital investment, IAE-1's investment period concluded in June 2022.

Building on the success of IAE-1, we launched Infrastructure Alliance Europe 2 (IAE-2), which achieved first close in July 2022. In keeping with our sustainable business purpose, IAE-2 was designated as an Article 8 fund[1], with sustainability outcomes linked to the UN Sustainable Development Goals. In our view, this designation provides the necessary flexibility to acquire sustainable investments, while also supporting the transition of brownfield assets. This 'brown' to 'green' transition, when executed correctly, can deliver significant value and impact; for shareholders, stakeholders and society.

1 Under the EU Sustainable Finance Disclosure Regulations, financial products must be categorised as either 'Article 6', 'Article 8' or 'Article 9'. Article 8 designations are for products which "promote social and/or environmental characteristics"

### Onivia

*Arjun's entry to the digital sector*

In 2022, Arjun marked its entry into the digital sector with an investment in Onivia, the first independent fibre network operator in Spain. Since our investment, we have already seen the business further expand its network footprint and extend the reach of high-quality and secure broadband to even more communities.

As highlighted during the Covid-19 pandemic; secure, reliable and high-speed digital infrastructure is fundamental to addressing the 'digital divide' and improving social inclusion.

> The digital sector not only offers our investors opportunities to acquire high-quality assets with core infrastructure characteristics; but also delivers significant environmental and social impact. For instance, fibre technology is significantly more energy efficient than traditional copper networks and is key to abating the 1-1.5% global electricity use attributed to data transmission networks[2].

### SBS Kliplev and Three Maids Hill

*Significant expansion of our renewables capacity*

During 2022, we celebrated the commissioning of two key greenfield renewable energy projects: SBS Kliplev in Denmark and Three Maids Hill, in the United Kingdom.

Arjun invested in SBS Kliplev, a project to construct one of the world's largest biogas plants, in 2020. The plant has an annual output capacity of 41 million $m^3$ of biomethane and, in June 2022, began exporting green biogas into the Danish gas grid. This milestone was achieved two months ahead of schedule and reflects the efforts of the management team, EPC contractors and the Arjun team overseeing this investment. Biogas already makes up more than 25% of the gas supplied to the Danish gas network, and SBS Kliplev will make a significant contribution to reaching the Danish Energy Agency projection of 40% by 2025.

Three Maids Hill is a 25.4MW solar project located in Winchester, UK, capable of generating enough clean electricity for over 9,500 homes. The 44.5 hectare site was granted planning permission in summer 2021 and

2 International Energy Agency, *Data Centres and Data Transmission Networks*, 2022

began commercial operation in 2022. The project is the first UK site to be developed by Enviromena, an Arjun portfolio company and leading clean energy developer. With a development pipeline of over 500MW and numerous sites granted planning permission, we are well-positioned to significantly contribute to the UK government's target of a decarbonised electrical network by 2035.

These projects demonstrate the additionality of our portfolio, adding low-carbon and sustainable energy capacity to the grid.

## The Ukraine conflict

*Infrastructure policy, the 'energy crisis' and 'clean energy imperative'*

The ongoing Ukraine conflict has caused unprecedented market and policy impacts which are continuing to reshape energy infrastructure priorities.

The conflict has highlighted Europe's dependence on Russian gas supplies and the need for a more diversified, secure and accelerated energy transition. Although the invasion led to significantly higher gas prices, which in turn caused a limited short-term demand for coal-fuelled energy as an alternative, the longer-term impact has been a re-emphasis of the importance of energy security.

> In response to the Ukraine war, the EU Commission published the REPowerEU plan. This includes an increased target of 45% share of renewables in final energy consumption, exceeding the 40% target previously under negotiation[3]. In particular, the plan aims to phase out Russian gas, which will require diversification of gas supplies, including building out domestic biomethane capacity.

We believe that this global energy crisis is also a clean energy imperative.

Renewable generation can offer the lowest cost option for adding domestic capacity - low-carbon or otherwise. When coupled with policy support, renewables can rapidly contribute to the goal of energy security, together with addressing the urgent need to reduce greenhouse gas emissions.

As demonstrated by SBS Kliplev and Three Maids Hill, our portfolio companies are working hard to deliver secure and low-cost energy solutions.

## High inflation, high-interest rate and low growth environment

*Testing the infrastructure case*

Linked to the energy crises, and delays in rebuilding the supply chains to match the rebound in consumer demand, 2022 saw inflation rise to a 40-year high across OECD countries. This has led all major central banks to start raising policy rates at a fast pace. At the time of publishing our previous Sustainability Report (May 2022), SONIA rates – the Sterling Overnight Index Average rates, the reference for most infrastructure debt – were around 1%. Twelve months on, SONIA rates are around 4%. As a result of these rising interest rates, economic growth has slowed. Although all major economies have avoided technical recessions so far, the consensus for 2023 is that growth rates will remain low.

However, inflation protection, forecastable cashflows and 'recession resilience' have long been the promise of core infrastructure, and Arjun's portfolio is no exception. In fact, our research indicates that rising rates have resulted in higher available nominal returns to our investors[4]. We are confident that the portfolio will demonstrate its resilience in current market conditions and continue to perform well over the long term.

Aside from the financial performance of our portfolio, we are acutely aware of the impact that inflation and the energy crises are having on customers, households and over 10,000 direct employees across the breadth of our operational footprint. The potential political responses, as well as labour market dynamics, may be commercially significant and difficult to predict.

Our portfolio company management teams are working hard to respond to these challenges. This involves developing responses which are commercially robust, but also sympathetic to the hardships being felt by everyone across society.

3 International Energy Agency, *Russia's War on Ukraine*, 2023

4 Arjun Infrastructure, *Core infrastructure: keeping it real*, 30 March 2023

## European heatwaves

*Another year of extreme weather and record-setting events*

Last year, I wrote about the severe flooding of European countries in July 2021, which claimed over 200 lives and resulted in a $12 billion loss to the insurance sector[1]. This year we faced another exceptional weather event: the European heatwaves of summer 2022. Record-breaking temperatures were recorded across Europe, with infrastructure faltering and an estimated 15,000 people losing their lives[2].

Although the disruption was relatively minimal, our portfolio assets were not immune from these impacts and we have been taking proactive steps with management teams to explore initiatives to improve resilience.

Unfortunately, these may not be isolated events and future extreme weather impacts appear highly likely.

The *Sixth Assessment Synthesis Report*[3] – published by the Inter-governmental Panel on Climate Change ('IPCC') in March 2023 – casts doubts on the ability to limit global warming to 1.5°C above pre-industrial levels. This means that climate-related impacts on our assets may become more frequent and severe.

This is why, in June 2022, we signed a partnership agreement with a specialist climate science advisor, Cervest. Since then, we have been examining a range of potential physical hazards – ranging from flooding and extreme heat, to droughts and wildfires – across multiple time horizons and return periods.

> Time is short and an unprecedented level of effort – including accelerated regulatory and policy interventions – will be needed to limit future climate change.

We are working with companies to proactively prepare for these changes, as well as associated technology and reputational risks, which may affect the financial resilience of assets.

1 Estimate provided by CRESTA, a Zurich-based insurance industry organisation that provides a global standard risk aggregation zones and catastrophe industry losses. Estimate excludes insurance losses funded by the regional governments in Belgium which amount to $1.2 billion

2 World Health Organisation, Statement – *Climate change is already killing us, but strong action now can prevent more deaths*, 7 November 2022

3 The synthesis report (finalised in March 2023) draws together the findings from the preceding three working group (WG) reports: *WGI, the physical science basis*; *WGII, impacts, adaptation and vulnerability*; and, *WGIII, mitigation of climate change*

## Disclosure, transparency and clarity

*Delivering on our client ambitions and strategy objectives*

We should acknowledge the challenges faced by the 'sustainable finance market' during 2022. Whether it is "the great reclassification" – the downgrading of sustainability labelling across swathes of financial products – or the concerns raised of ESG considerations conflicting with managers' duty to maximise returns for shareholders.

In our view, the integration of ESG considerations and 'sustainability' is central to the achievement of our clients' aims. That is, stable, reliable, risk-adjusted returns over the long term.

Sustainability, particularly climate change, continues to weigh heavily on social and political discourse. We should expect these issues to shape changes in policy, regulation, technology and markets. Over the long term, the rate of these changes may be financially material.

Aside from risk management, we also have an opportunity to maximise positive impacts: whether is it climate change mitigation as part of the energy transition, or supporting the rollout of electric vehicles.

Our investment approach positively aligns these positive impacts with our financial objectives. In many cases, this will also deliver material value creation opportunities.

Unfortunately, there is a growing and increasingly complex vocabulary around 'sustainable investments' and evolving methods for how ESG factors are evaluated. At the same time, investors have become increasingly concerned with the impacts of their investments – both positive and negative.

To that end, I trust you will find our report to be honest, clear and informative.

In the meantime, to our current clients, we look forward to building our relationship and our continued success. And to those that are less familiar with Arjun, we hope you will join us in pursuit of purposeful returns.

**Surinder Toor**

Founder and Managing Partner

*May 2023*

# BUSINESS HIGHLIGHTS, 2022

## Infrastructure Alliance Europe 2

*Promoting UN Sustainable Development Goals*

Launch of our second commingled fund, building on the success of our inaugural IAE-1 fund, which was fully deployed in 2022. IAE-2 is an Article 8 fund under the Sustainable Financial Disclosure Regulation (SFDR), with an objective of advancing the aims of the UN Sustainable Development Goals.

## SBS Kliplev, Denmark

*Export of first gas*

SBS Kliplev – the greenfield development of one of the world's largest biogas facilities – reached a key milestone: the export of biogas into the Danish grid.

## Freehold II, United Kingdom

*Expanding our UK Motorway Service Area (MSA) coverage*

Arjun closed the acquisition of Extra motorway services. Extra operates a network of strategically located sites across the UK. This adds to Arjun's existing MSA portfolio, including operators in the UK and Canada.

## Onivia, Spain

*Arjun's first digital sector investment*

Arjun completed its first digital investment, Onivia. Onivia is Spain's first independent fibre business and a leading fibre-to-the-home ('FTTH') operator across urban, semi-rural, and rural areas.

## Enviromena, United Kingdom

*Three Maids Hill energised*

Enviromena energised its first UK solar site, Three Maids Hill. The 25.4 MW solar site was delivered under Enviromena's fully-integrated development and operations business model.

## Cervest partnership

*Leveraging best available climate science in our risk management*

In June 2022, Arjun signed a partnership agreement with Cervest – a leading climate science platform. Together, we have been leveraging best available climate science to inform our climate risk management.

## Amarenco Solar, France

*Arjun's first investment in France*

Arjun acquired a co-controlling interest in a leading independent solar power producer platform.


Image: **50 Pall Mall, London**, UK

To support Arjun's strong business growth, the company relocated to a newly refurbished premises during February 2022.

Sustainability was considered throughout the relocation process. This included the ability to adopt renewable energy tariffs and 'zero landfill' waste management solutions. The refurbishment was informed through staff consultation, with the design and specification promoting staff wellbeing and collaboration.

# 01

# ARJUN INFRASTRUCTURE PARTNERS

Image: **Monegros**, Spain

The Monegros portfolio is located in the province of Aragon, Spain. It consists of 12 onshore wind farms with a total capacity of 487.4 MW and an expected annual power generation of approximately 1,400 GWh.

# ARJUN INFRASTRUCTURE PARTNERS

**Arjun Infrastructure Partners ('Arjun') is an independent infrastructure asset management business, created in 2015.**

Arjun is an infrastructure investment specialist focusing predominantly on mid-market companies or platforms with an enterprise value in the range of €100 million to €1 billion – which, if managed properly, provide downside protection and sustainable long-term income streams.

Our aim is to invest in core and core-plus assets, with a long-term view, to generate competitive risk-adjusted returns. Of our 21 investments, we hold control or co-control positions in 16. This allows us to engage directly with management teams and drive asset-level initiatives to improve to sustainability performance and business resilience.

**Courtney Aubrey-Tootell**
*Team Administrator*

"Arjun comprises 31 staff, from a range of professional backgrounds. The team range from 22 to 68 years of age and represents 10 nationalities. Our diverse experience and knowledge help to make the most informed decisions for our clients"

## Purpose driven

### *A team approach*

Arjun is exclusively focused on infrastructure asset management, with no other business lines or service offerings. Our culture and structure provide strong alignment between Arjun's staff and our clients, to achieve successful long-term performance across the mandates we manage.

### *Our team*

The Arjun team comprises individuals with extensive experience in European infrastructure investment and asset management.

The team comprises 31 professionals and eight industry partners. The senior team members bring significant operational and financial experience, and professional relationships. These are leveraged to execute Arjun's investment and asset management activities successfully.

Arjun's team includes a dedicated Head of ESG, who is active across the breadth of Arjun's business, from deal origination and execution, through asset management, and involved during exit.

Our greatest asset is our people. We are proud that our staff turnover rate is significantly better than the peer and market averages.

## Arjun key figures[1]

**A growing team** — *Full-time employees* — **31**

**Investment professionals** — *Providing a broad range of infrastructure experience* — **20**

**Experienced leadership** — *Senior team's years of operational experience* — **90+**

**Average years of experience** — *Average years of experience of senior management team (Partners and Managing Directors)* — **24**

**Male/female** — *Arjun team gender split* — **70/30**

**Investing in our team's knowledge and expertise** — *Team training hours delivered in 2022* — **823**

1 As of May 2023.

## Our operations

*Limiting our impacts*

As part of Arjun's operations, we are constantly considering the impact of our business. Despite having a relatively small direct operational footprint in terms of staff numbers, suppliers, and leased premises, we are taking practical steps to reduce our impact.

In February 2022, Arjun moved to a new office location, 50 Pall Mall, London. This has provided increased control over our office operations and allowed us to significantly improve the sustainability performance of our office.

We have also baselined our greenhouse gas emissions associated with our office, staff commuting and business travel. This is presented under Section 4, together with an analysis of greenhouse gas emissions resulting from our investment portfolio.

## Office sustainability, 2022

### 100% renewable electricity

Since moving into 50 Pall Mall, 100% of Arjun's electricity consumption has been renewable.

### Zero waste to landfill

Using a specialist waste contractor, all of Arjun's office waste was diverted from landfill. This was achieved through a combination of recycling, and diversion of all non-recyclable waste sent to generate green energy.

### 1,500kgs waste to energy

100% of non-recyclable waste was sent to renewable waste-to-energy facilities. This resulted in approximately 1,000kWh of electricity generated. In addition, 375kg of food waste was sent for anaerobic digestion.

## Infrastructure Alliance Europe

*Our flagship infrastructure funds*

In addition to Separately Managed Accounts, Arjun manages two commingled funds, representing over €2 billion in assets under management:

### Infrastructure Alliance Europe 1 (IAE-1)

IAE-1 is a commingled fund which had its final close in March 2021. The strategy targets mid-market, yield-focused, (co-)controlling interests in Europe.

The fund was fully deployed by June 2022, and its investments comprise of five assets spanning the renewables, digital and transportation sectors.

IAE-1 promoted the objectives of the following UN Sustainable Development Goals:


### Infrastructure Alliance Europe 2 (IAE-2)

Following the success of IAE-1, IAE-2 was launched in 2022, with first close achieved by July 2022.

The strategy focusses on (co-)controlling positions across EU members states, the United Kingdom and Switzerland. Targeted sectors include renewables, regulated assets, contracted transportation, digital and social infrastructure.

While fundraising is ongoing, the fund has made two investments in the utility and renewables sectors.

IAE-2 is classified as an Article 8 fund under the EU Sustainable Finance Disclosure Regulation, i.e. a financial product which promotes, among other characteristics, environmental and/or social characteristics. These characteristics are mapped against the following UN Sustainable Development Goals:

# 02

# INVESTMENT APPROACH AND GOVERNANCE


Image: **Beckton Combined Heat and Intelligent Power (CHiP) power plant**, UK

Beckton power plant uses bio-liquid fuel to generate electricity. Waste heat utilised at an adjacent gas pressure reduction station, thereby saving the energy costs and emissions that would otherwise occur.

# INVESTMENT APPROACH AND GOVERNANCE

**Arjun is committed to making and managing investments in a responsible manner and incorporates ESG at all stages of the investment lifecycle.**

Our sustainable investment practices represent an essential part of our asset management approach and are central to our ability to deliver attractive risk-adjusted returns over the long-term.

Our approach is continually evolving to address market good practice and respond to our client's needs, as well as regulatory requirements. Over the past year, this has included strengthening our climate risk analysis, integrating Principal Adverse Impacts[1] and supporting management teams in strengthening ESG data reporting.

Infrastructure can present unique opportunities to create broad positive externalities, including job creation, improved air quality, and improved resilience of our water resources.

We aim to make quality business decisions that strengthen the commercial performance of assets and enhance these positive externalities.

PRI Principles for Responsible Investment

| Strategy and Governance: | 4* | Infrastructure: | 4* |
|---|---|---|---|

| | |
|---|---|
| **Principle 1** | We will incorporate ESG issues into investment analysis and decision-making processes. |
| **Principle 2** | We will be active owners and incorporate ESG issues into our ownership policies and practices. |
| **Principle 3** | We will seek appropriate disclosure on ESG issues by the entities in which we invest. |
| **Principle 4** | We will promote acceptance and implementation of the Principles within the investment industry. |
| **Principle 5** | We will work together to enhance our effectiveness in implementing the Principles. |
| **Principle 6** | We will each report on our activities and progress towards implementing the Principles. |

Latest UN PRI scores.
Arjun has been a signatory of UN PRI since April 2019.

1 Principal Adverse Impacts (PAI) form part of the reporting requirements under the Sustainable Finance Disclosure Regulation. PAI are potential impacts of investment decisions or advice that results in a negative effect on sustainability factors, such as environmental, social and employee concerns, respect for human rights, anti-corruption, and anti-bribery matters.

## 2.1 INVESTMENT APPROACH

**Arjun's responsible investment practices are documented in our internal ESG implementation handbook and summarised below.**

### A materiality-driven approach

The materiality of ESG issues will vary depending on many factors, including asset type, age, size, geographic location, and maturity. As a result, a 'one-size-fits-all' checklist approach is not suitable and the ESG evaluation during the investment process is tailored to each asset.

Arjun defines material ESG issues as current and future risks that can:

1. adversely impact the financial performance and valuation of an asset. Examples include operation interruption from flooding, or delays resulting from extended right-of-way negotiations
2. result in a legal impact, such as improper labour management, general governance risks, or legal challenges to greenfield developments
3. adversely impact the reputation of an investee company, Arjun, investors, or other project-related stakeholders

**Romain Py**
*Partner*

"Infrastructure has a key role in the transition to net-zero. The long-term nature of our investment strategy, coupled with our operationally focussed asset management, means we are uniquely positioned to support well-planned strategies that protect value and unlock opportunities"

Climate change – both physical and transitional risks – is integrated into our risk approach. Climate risk can have broad future impacts on our assets, ranging from business interruption to higher insurance premiums and coverage risk. Our approach to climate risk is discussed under Section 3.

## Proprietary ESG deal screening

To assist in the materiality and assessment of ESG issues, a proprietary ESG Deal Screen Tool has been developed, with the assistance of external specialist ESG consultants.

The tool is based on a range of international standards and frameworks, including:

### Sustainability Accounting Standards Board

The Sustainability Accounting Standards Board (SASB) materiality tools provide an overview of sustainability risks across 77 industries. The sustainability risks cover environment, social capital, human capital, business model and innovation, and leadership and governance.

### World Bank Group, *Environmental, Health and Safety Guidelines*

The guidelines are technical reference documents with general and industry-specific examples of 'Good International Industry Practice'. These are used by the International Finance Corporation, as well as many Development Finance Institutions, globally. Although they are primarily adopted in Emerging Markets, the guidelines provide a useful reference of 'good practice', that can be leveraged across Arjun's investment geography.

### Equator Principles

The Equator Principles are a financial industry benchmark for determining, assessing and managing environmental and social risk in projects. Primarily adopted by commercial banks and credit agencies, the Equator Principles, nonetheless, provide a useful risk management framework for private market investors.

### Walk Free, *Global Slavery Index*

The Walk Free initiative is an independent, privately funded, international human rights organisation. Walk Free produced a *Global Slavery Index* (2018) which is based on nationally representative surveys; risk-model extrapolation; as well as estimation, to measure modern slavery risk globally. The index takes into account estimated prevalence; vulnerability of populations; government responses; as well as analysis completed by the G20[2].

The tool was further refined to add ESG issues known to Arjun as potentially significant, as well as consideration pertaining to Climate Risk as set out under under the Taskforce on Climate-Related Financial Disclosures (TFCD).

In short, the tool provides a comprehensive overview of potential material ESG issues on a sector-specific basis, drawing from a range of international standards and team experience.

## Considering ESG within deal pursuit and completion

Infrastructure assets that we evaluate as potential investment opportunities can be at significantly different levels of progress towards incorporating ESG issues within their policies and operations. When we identify that current ESG standards are unsatisfactory, or where material ESG risks are identified, we may still be prepared to invest if we have conviction that we can mitigate the risks and improve ESG outcomes during our ownership.

Before submitting a binding offer, all material ESG risks identified via due diligence must be evaluated and documented in Arjun's final investment report. Each risk must be assigned mitigation, and each opportunity assigned a delivery plan. This can be achieved through one or more of the following:

- asset management initiatives, including the 100-day plan or longer-term asset management plan
- applying ESG considerations on revenue/cost/capex/opex assumptions
- adjusting valuation/cost of capital
- incorporating protections/requirements within the transaction documentation, e.g. covenants in the sale and purchase agreements

2 The G20, also known as 'Group of 20', is an intergovernmental forum comprising of 19 countries and the European Union. It works to address major issues related to the global economy.

## ESG Implementation Process

### Investment origination and execution → Asset management






**High-level screen**

All potential deals are screened to confirm alignment with our ESG policy and client mandates. This includes a high-level review of the target's long-term resilience and sustainability credentials, including transitional climate risks, such as future policy and market risk.

**Materiality screen**

All deals which proceed past the high-level screen are assessed using our proprietary ESG tool. The tool identifies material sector-level risks and opportunities, optimising the due diligence scope and resources on the most material issues.

**Due diligence**

Arjun benefits from a network of trusted due diligence consultants. The due diligence builds on the findings of the materiality screen, with the results integrated across the broader technical, commercial, and legal analysis.

**Transaction execution**

Due diligence findings are documented in Arjun's investment report, together with planned mitigation where material risk is found. Where ESG opportunities are identified, these are carried into our asset management plan.

**Portfolio company governance**

Arjun ensures that governance structures are appropriate and that management devotes sufficient resources to ESG. Responsibility for ESG and safety matters is assigned to one or more executive manager(s) who report directly to the board of directors.

**Asset management plan**

Arjun works with the company's management team to establish an asset management plan and reporting requirements. This includes ESG related initiatives to address risks and opportunities identified during the pre-investment phase.

### ESG deal screen tool

A proprietary ESG Deal Screen Tool guides the investment team on sector-, geography-, and maturity-related material ESG risks. This was developed in 2021, and has been rolled out across the firm. Since its implementation over 40 prospective deals have been screened, and the findings integrated to our Investment Committee meetings. The deal screen identifies ESG considerations (both risks and opportunities) relevant to the business being assessed.

### ESG implementation handbook

Our handbook sets out how our ESG policy is put into action. Compliance with the handbook forms part of Arjun's performance review process and associated variable compensation for all team members.

Exit






| Set KPIs and targets | Climate-related risks and opportunities | Selection and monitoring of third-party operators | Stakeholder engagement | Construction, maintenance and upgrade projects | Exit |
|---|---|---|---|---|---|
| Asset management plans include ESG KPIs (such as emissions reduction or resource efficiency) and initiatives to deliver improvements. Management remuneration structures are linked to performance against KPIs and targets where possible. | A climate risk assessment is included in asset management plans. This ensures that asset management teams examine climate-related risks and opportunities. Where material risks are found, mitigation initiatives are developed. | Third-party operators often provide operations and maintenance services to Arjun-managed assets. When signing or renewing contracts, ESG factors are included in the evaluation process. Where possible, contracts include ESG-related reporting requirements, performance targets, and incentives. | Infrastructure investments we manage have a material impact on local communities, customers, and other stakeholders. Effective engagement is essential to maintaining our 'social licence to operate' and is fundamental to our asset management approach. | ESG forms an integral part of project evaluation, planning, and execution. Risks and opportunities are project-specific and can include: sensitive environmental receptors, construction material specification, and community-related concerns or expectations. | We believe that our ESG practices, and emphasis on sustainable long-term value creation, will position portfolio companies favourably to incoming acquirers. As part of the transaction, we provide our ESG policies and asset-level ESG information, as appropriate. |

**Asset management plan**

Asset management plans are a fundamental part of Arjun's ESG implementation, and ensure that the risks and opportunities identified as part of the investment process are captured and managed. The asset management plans include '100 day' actions, which can include priority ESG items. These can include the establishment of specific policies and procedures, the completion of climate risk screening, or further assessments to augment the data made available during the investment due diligence. Asset management plans are reviewed regularly (at least annually), with ESG engagement on at least a quarterly frequency.

## 2.2 GOVERNANCE

**Effective ESG management requires good governance. Every member of the investment and asset management team is responsible for implementation of Arjun's ESG policy, with strong governance structures in place to support this.**

### Arjun Management Committee

Arjun's Management Committee oversees the implementation of our sustainable investment policy, with executive responsibility delegated to Peter Antolik (board member, COO, and Head of Asset Management).

ESG matters are discussed in all Arjun committee forums (board of directors, management committee, investment committee, risk management and compliance committee) and relevant regular internal meeting forums (all staff meeting, investment, asset management, marketing, operations, valuation review).

**Peter Antolik**
*Partner and Chief Operating Officer*

"Environment, social and governance factors can affect an investment's financial performance or valuation at exit. It's essential that we integrate these factors into our investment process if we are to deliver on our objective of resilient returns, over the long term"

### ESG Working Group

Arjun benefits from an in-house working group, led by a Head of ESG, and comprising senior members of the team working across all company functions. The working group meets regularly to ensure that all policies, procedures and initiatives are being implemented appropriately. The working group provides regular updates to Arjun's Management Committee.

### A team approach

Every member of the investment and asset management team is responsible for implementation of Arjun's sustainable investment policy during the investment evaluation, execution and asset management phases of the investment lifecycle. Team training is undertaken to ensure that team members have the appropriate knowledge to carry out their responsibilities.

### ESG pillars

To understand the areas where our investments can, and do, have the greatest impact, Arjun conducted a materiality assessment process incorporating input from key stakeholders, including portfolio companies, our clients, and our team members.

Collectively, our ESG impacts and engagement priorities were agreed to centre around the following four pillars:

#### Climate resilience and GHG emissions

Ensuring that our assets contribute towards a just and orderly transition to net zero, and are resilient in the long term.

#### Diversity and inclusion

Promoting fair, equal and inclusive workplaces within Arjun and the businesses we invest in.

#### Community impact and engagement

Working with communities to ensure that our businesses deliver on national-scale societal needs, in a manner which is sensitive and responsive to local priorities and concerns.

#### Health and safety

Ensuring that health and safety is a board-level priority, and every employee returns home safe and unharmed from work.

## Key committee details


Surinder Toor


Rhyadd Keaney-Watkins


Charles Hazelwood


Catherine McCall


François Bornens


Julian Skinner


Peter Antolik


Baafour Totoe


Serkan Bahçeci


Rrona Humolli


Thomas Laverty


Alison Edet


Romain Py

### Board of Directors

Surinder Toor, Charles Hazelwood, François Bornens, Peter Antolik

- Ultimate responsibility for operations, including regulatory compliance
- Oversee investment performance
- Approval of investor reports and communications
- Designated Senior Managers under UK's Financial Conduct Authority (FCA) Senior Managers and Certification Regime

### Investment Committee

Charles Hazelwood, Serkan Bahçeci, Surinder Toor, Peter Antolik.
*Thomas Laverty, Catherine McCall, Rhyadd Keaney-Watkins and other executives in attendance as required.*

- Review investment pipeline, including deal screening to ensure that opportunities are compatible with ESG policy and investor mandates
- Oversee investment process (including appointment of advisors, review of business plan, structuring of investment, valuation and sensitivities, ESG considerations and post-investment plan)
- Investment, divestment and key asset management decisions

### ESG Working Group

Peter Antolik, Rhyadd Keaney-Watkins, Romain Py, Baafour Totoe, Rrona Humolli, Alison Edet

- Executive responsibility for ESG is delegated to Peter Antolik (Partner, Board Member and COO)
- Develop ESG strategic direction and underlying implementation policies and tools
- Deliver in-house ESG training to develop staff knowledge and effectiveness of ESG integration
- Support investment team as required, including screening and advisor selection
- Support asset management team as required, including quarterly asset-level ESG reviews and engagement

### Management Committee

Surinder Toor, Charles Hazelwood, François Bornens, Peter Antolik, Serkan Bahçeci, Thomas Laverty, Romain Py

- Day-to-day decision making
- Ensure effective resourcing
- Review and approve valuations
- Oversee ESG Working Group and support implementation, including approval of ESG policies and practices, as required
- Oversee operations (including finance, HR, IT, and compliance)

### Risk Management and Compliance Committee

Peter Antolik, Catherine McCall, Surinder Toor, Julian Skinner, Thomas Laverty

- Oversee day-to-day risk management and compliance activities, including related Sustainable Finance regulations
- Maintain corporate risk register and conflicts register
- Maintain corporate compliance policies
- Escalate issues to the Management Committee and Board as necessary

### Industry Partners

Henrik Valgma (energy and renewables), Keith Harris (water), Colin Hood (energy and utilities), Abhi Naha (telecoms), Jim McPhillimy (utilities), Jeremy Cross (renewables), Nigel Tinsley (UK institutional), Stine Birk (ESG)

Industry partners are an integral part of the Arjun team, providing deep technical knowledge, extensive relationship networks and sector-specific experience of operating and managing infrastructure businesses in Europe and globally.

Arjun's industry partners have regular engagement with the investment team on strategic and organisational matters affecting investments and play an important support role in the due diligence. Our industry partners also serve as non-executive directors on existing portfolio companies within the Arjun portfolio.

# 03

# TASKFORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURES

Image: **Bigadan, Horsens Biogas Plant**, Denmark

Horsens is a co-digestion plant producing biogas from manure and waste from nearby agricultural facilities. The biogas is upgraded onsite to biomethane, which is then directly injected into the Danish gas network.

# TASKFORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURES

**Given the long-term nature of our clients' investment objectives; climate change presents a critical risk and opportunity within our investment strategy.**

Arjun voluntarily adopted the Task Force for Climate-related Financial Disclosure (TCFD) recommendations in October 2021. Since then, we have been developing our governance processes and integrating tools to assist in the analysis, measurement and monitoring of climate-related risks and opportunities. We are pleased to share our inaugural TCFD disclosures below.

## 3.1 GOVERNANCE

### Board oversight of climate-related risks and opportunities

Arjun's clients, as owners of the underlying assets, are particularly exposed to the financial impacts of climate risk. As the manager of these assets, Arjun has a responsibility to consider climate risk as part of its broader risk management processes.

Similarly, there is an opportunity for assets to benefit where it is possible to unlock the opportunities that a low-carbon transition will present. Robust governance and board oversight in managing these risks and opportunities is key to delivering long-term returns for our clients.

- **Dedicated in-house expertise** Arjun has a Head of ESG, Rhyadd Keaney-Watkins, who reports to Peter Antolik (board member, COO and Head of Asset Management). Rhyadd is a Chartered Environmentalist via the Institution of Environmental Sciences. In addition, Arjun has a partnership agreement with Cervest – a leading climate intelligence platform.
- **Board-level oversight** Arjun's Board Directors are informed regularly on material climate risks that may impact portfolio companies, funds, and the portfolio as a whole. Arjun's Head of ESG prepares quarterly board briefings on ESG, which may also include material climate-related updates.
- **Industry engagement** Arjun engages at an industry-level to ensure best practices are adopted. For instance, Arjun's Head of ESG is a member of the Initiative Climat International (iCI) and Global Infrastructure Investor Association (GIIA) Infrastructure working group.

### Assessment and management of climate-related issues

Climate risk is captured within broader ESG risk, which is delegated to Peter Antolik. In turn, this is also a responsibility for our Head of ESG.

Tools and training are used to effectively drive the integration of climate considerations across business functions. These include:

- integration of climate risk within our Deal Screening Tool;
- use of Cervest's climate intelligence platform to integrate physical risk and scenario analysis in our investment papers; investment committee meetings; and due diligence; and
- development of a Climate Risk Tool to assist the asset management teams in robustly integrating climate risk to asset risk registers.

At a portfolio company level, boards are mandated to regularly consider ESG, including climate risk. Arjun has also provided training to portfolio companies on Net Zero Transition Plans, based on the consultation frameworks published by the UK Transition Plan Taskforce. Future initiatives include developing net zero policies for portfolio company board-approval, which will be followed by the development of asset-level net zero transition plans.

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

# 3.2 STRATEGY

## Climate-related risks and opportunities

### Our investment strategy

Arjun is a specialist infrastructure manager, investing in long-duration assets which are critical to the functioning of society. This ranges from providing drinking water and clean energy, through to digital connectivity. The resilience of these assets, in the face of increasing climate impacts, is of paramount importance.

An overview of our investment portfolio, including sector allocations, is provided under Section 5. These allocations balance 'brown assets' – which are traditional assets which need support to transition to net zero and sustainable operations (and can unlock material value for our clients) – with the security of investing in 'green assets'. Our strategy aims to strike a commercial balance between transition risk and transition opportunity, within the risk tolerances of our specific strategies.

### Defining short-, medium- and long-term

The likelihood and significance of climate-related risks and opportunities differs with time. For this reason, Arjun considers potential impacts across multiple time horizons, appropriate to the infrastructure asset, commerical assumptions, and investment strategy. A summary of how our physical and transition risk assumptions vary over these time horizons is provided below.

**Table 3.1: Defining short-, medium- and long-term: indicative considerations**

| | Short term \| 2030 | Medium term \| 2040 | Long term \| 2050 |
|---|---|---|---|
| Infrastructure considerations | Infrastructure assets are long-lived and capital-intensive assets. The essential nature of infrastructure services means that 'traditional assets' will be required alongside the development of nascent technology.<br>Due to the lagging nature of physical risk, these will continue to manifest over the short- to medium-term, irrespective of the rate of decarbonisation today. | | By 2050, the severity of physical impacts of climate change will begin to diverge depending on the success of today's decarbonisation policies.<br>Transition risk is elevated across all asset classes, as nascent technologies are further developed and deployed at scale.<br>Depending on the asset type, the useful economic life used in the investment case may extend to 2050, and beyond. Even where the economic life expires before 2050, there may be life-extension options available that we would wish to pursue beyond 2050. |
| Commercial assumptions | Infrastructure assets typically benefit from long-term contracts and predictable cashflows. For instance, in the case of renewable assets, power purchase agreements of 15+ year duration are common.<br>The capital structuring of infrastructure assets typically includes an element of debt, which can vary in tenor from 3 – 15+ years. Transition risks may impact the available liquidity and pricing of debt in the event of future refinancing.<br>For assets at higher transition risk, terminal value assumptions should be assessed as part of the commercial sensitivity analysis. | | |
| Investment strategy | Our clients take a long-term investment horizon. This means that investments made now could be potentially held until the late 2030s and beyond. | | Beyond the initial holding period, our strategies may include an option to extend. Depending on the specific characteristics of the asset, it is possible that investments made in 2022 would be held into the 2040s and beyond. |

### Physical risks

Physical risks from climate change can be event-driven (acute), such as extreme weather events, or longer-term (chronic) shifts in climate patterns, such as sustained higher temperatures that result in sea level rises. Increased global warming will continue to manifest increases in these physical risks to our assets.

These risks have been assessed across our portfolio, using Cervest Earthscan[1] and the associated risk grading methodology, which is presented under Appendix B. The results of this analysis, covering multiple time-horizons and climate scenarios, is provided overleaf.

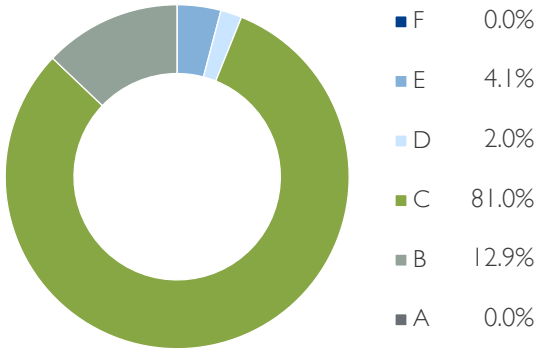
Overall, there is relatively low risk at a portfolio-level. This reflects the distriubtion of our assets across our investment geography, which covers western and southern Europe, the United Kingdom and Canada.

However, this reflects a blended risk. Further analysis shows that certain assets or geographies are potentially at elevated physical risk. For example, the highest risk factor across the portfolio is heat stress, which at a

1 Cervest Earthscan is a software service providing on-demand climate intelligence of current and predictive climate risk. For more information, see cervest.earth

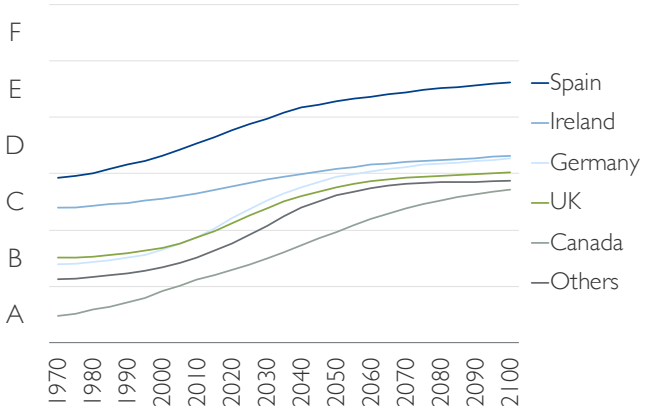
portfolio-level is graded as "C", which is considered "moderate risk" (see overleaf for definitions). This is the **materiality risk threshold** adopted by Cervest Ratings™. However, closer analysis of this risk finds that there are individual assets within the portfolio at greater risk:

**Figure 3.1 Heat stress exposure of assets (%), based on 'emissions peak in 2040' climate scenario and 2050 time horizon:**




This analysis shows that while heat stress risk is "moderate" at a portfolio-scale, there are specific assets at greater risk. These assets, representing 6.1% graded as 'D' or 'E', are located in Spain and Ireland. Country-level analysis (figure 3.2) shows how heat stress risk, across our portfolio, changes with time.

**Figure 3.2 Heat stress risk by investment geography, based on 'emissions peak in 2040' climate scenario and 2050 time horizon.**




Under an 'emissions peak in 2040' climate scenario, the heat stress will increase across all areas.

Although Spain remains at highest risk throughout; Canada will see the largest increase in risk, rising from 'A' to 'C' by 2100.

Reference: Cervest (2023), All Assets, CC BT 4.0 License

## What are 'climate scenarios'?

Climate scenarios are projections of future greenhouse gas (GHG) emissions, used to explore the potential impacts of climate change under different socioeconomic conditions. They describe plausible climate futures rather than predict how the evolution of human activity may interact with and drive changes in our climate system – positively or negatively.

**The use of scenario analysis is viewed as best practice, recommended under TCFD, and a key criteria for reporting assets as aligned under the EU Taxonomy.**

Cervest Earthscan is based on climate scenarios from the models used to inform the Paris Agreement, as well as the assessment reports produced by the Intergovernmental Panel on Climate Change. These scenarios combine:

- **Shared Socioeconomic Pathways** (SSPs) that describe possible social and economic development between now and 2100; and
- **Representative Concentration Pathways** (RCPs) that describe how GHGs interact with the climate system.

SSPs and RCPs are combined to provide three scenarios:

- **Paris aligned** (SSP 1 / RCP 2.6), which is based on an increasing shift toward sustainable practices
- **Emissions peak in 2040** (SSP2 / RCP 4.5), and is based on a "central" decarbonisation pathway
- **Business as usual** (SSP 5 / RCP 8.5) which assumes an energy intensive, fossil-based economy.

**Table 3.2: Portfolio-level exposure to physical risks across multiple climate scenarios and time horizons**

| | Time horizon | 2030 | | | 2040 | | | 2050 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Climate scenario | SSP1 | SSP2 | SSP5 | SSP1 | SSP2 | SSP5 | SSP1 | SSP2 | SSP5 |
| Flooding | Estimates of inundation depths of riverine and coastal flood events for undefended terrain. Risk assessment variables and parameters include sea level rise, storm surges, river flow, and differences in terrain | A | A | A | A | A | A | A | A | A |
| Wind risk | Extreme wind risk based on estimated maximum wind speeds (wind gusts) during extreme wind events. It accounts for extratropical cyclones, tropical cyclones (hurricanes and typhoons) and tropical storms | A | A | A | A | A | A | A | A | A |
| Heat stress | Heat stress estimates exposure to heatwaves and extreme temperatures based on annual temperature maximum and heatwave length | C | C | C | C | C | C | C | C | C |
| Precipitation | Extreme precipitation estimates annual maximum 5-day precipitation | A | A | A | A | A | A | A | B | B |
| Drought | Drought estimates aridity based on the number of annual connsecutive dry days | A | A | A | A | A | A | A | A | B |
| Wildfire | Wildfire estimates wildfire danger – the potential spread and intensity of wildfire should ignition occur | A | A | A | A | A | A | A | A | A |

**Cervest Ratings™** are a globally standardised framework of the potential framework for climate-related risks to cause physical damage to assets. A summary of the rating descriptions is provided below:

| | |
|---|---|
| A | "Excellent" Minimal risk of climate hazard events that have the potential to cause physical damage and/or disruption |
| B | "Good" Low risk of climate hazard events that have the potential to cause physical damage and/or disruption |
| C | "Moderate" **Cervest materiality threshold** Medium risk of climate hazard events that have the potential to cause physical damage and/or disruption |
| D | "Poor" High risk of climate hazards events that have the potential to cause physical damage and/or disruption |
| E | "Very poor" Very high risk of climate hazard events that have the potential to cause physical damage and/or disruption |
| F | "Extremely poor" Extreme risk of climate hazard events that have the potential to cause physical damage and/or disruption |

Using Cervest, Arjun is able to extract a range of quantitative forecasts to assess asset resilience and operability risk, in the event of extreme heat events occurring. At the investment stage, these projections are shared with technical advisors as part of our due diligence. Within asset management, the projections are used to engage with management teams and workshop whether there are commercially viable interventions to improve asset resilience.

An example of quantitative forecasts is provided below. This includes maximum temperature and heatwave days, based on a 1 in 100 year event. Due to the inherent uncertainties associated with forecasting, Arjun adopts 50th and 95th percentiles, which can be taken into account when assessing risk and mitigation options.

Similar quantitative analysis is conducted across all Cervest-modelled physical hazards.

**Table 3.3: Summary of quantitative heat stress projections for Spanish assets, across multiple time horizons, using an 'emissions peak in 2040' climate scenario**

| Heat stress hazard | Unit | Return Period[1] | Percentile | 2030 | 2040 | 2050 |
|---|---|---|---|---|---|---|
| **Maximum temperature** The warmest temperature a given location experiences in a given year | °C | 1:100 years | 50th | 43.37 | 44.01 | 44.59 |
| | | | 95th | 44.57 | 45.45 | 46.20 |
| **Heatwave** Annual maximum number of days exceeding the 95th percentile of the warmest season | days | | 50th | 11.52 | 13.57 | 15.63 |
| | | | 95th | 16.74 | 20.32 | 24.07 |

1 Return periods estimate the average time between events of a similar intensity occurring and represent the probability of an event within a given year. This probability is often given in years and describes the average time between events of a similar magnitude. The higher the return period, the greater the intensity of the event.

## Transition risk

Transitioning to a lower-carbon economy may entail policy and legal, technology and market changes to address mitigation and adaptation requirements related to climate change. Depending on the nature, speed and focus of these changes, transition risks may pose varying levels of financial and reputational risks to assets.

As part of our investment strategy, we consider transition risk at a subsector level and take into account the policy direction of the specific geography. Within asset management, we engage to ensure that management teams are pro-actively responding to evolving transition risk. Similarly, the transition to a low-carbon economy will present opportunities for businesses, which we aim to capture to enhance the value of investments.

## Business resilience

Arjun manages infrastructure investments on behalf of long-term investors. Identifying assets and businesses which are commercially resilient in the long-term, taking into account climate-related risk, is a fundamental aspect of our strategy. Our active asset management approach, coupled with our operational experience and in-house climate analysis, allows us to engage to include material risks and opportunities within portfolio company business plans.

**Alison Edet**
*Analyst*

"Infrastructure assets, being long-term and physically exposed, are potentially vulnerable to climate risk. This could be from *physical risk*, such as extreme weather events which cause damage; or *transition risk* associated with the transition to a low-carbon economy. In either case, the impacts can be material"

## 3.3 RISK MANAGEMENT

### How we identify risks and opportunities

Climate risks and opportunities are integrated to our in-house Deal Screen Tool, which is described under Section 2. This forms part of our initial deal-screening and becomes progressively detailed as the transaction proceeds, due diligence is completed, and direct engagement with the target company is made. Details of sector- and asset-level climate risk and opportunities are included in all Investment Committee papers.

High-quality data is needed to inform robust risk management decisions. To achieve this, we use a blend of our in-house deal screening tool; Cervest climate intelligence; and specialist external advisors.

Physical and transitional climate risk is a standing item in our Investment Committee meetings and is integrated within our broader commercial analysis. All prospective investments are assessed and, where necessary, specialist studies are instructed as part of the due diligence.

Climate risks are also considered during asset management. Post-acquisition, climate risk analysis forms part of our 100-day plan. During this time, we engage directly with management teams to agree further actions related to our initial climate-risk screening completed as part of the investment process. We will ensure that ESG – including climate risk – is a board-level consideration and that appropriate resources are allocated for climate-risk to be managed robustly.

### What is a 'net zero transition plan'

A transition plan is integral to an entity's overall strategy, setting out its plan to contribute to and prepare for a rapid global transition towards a low-GHG-emissions economy. The UK Transition Plan Taskforce has published a net zero transition plan framework, which is formed of 19 disclosures, across five pillars: foundation; implementation strategy; engagement strategy; metrics and targets; and, governance.

One of our ongoing priorities (discussed further in Section 6) is the establishment of net zero policies for board-level approval. This will assist in legitimising and supporting the future development of net zero transition plans.

## 3.4 METRICS AND TARGETS

### Greenhouse gas emissions

We have adopted a comprehensive approach to greenhouse gas accounting, which is presented in Section 4 of this report. This will be used as a baseline against which future emissions are compared.

We will continue to monitor absolute emissions as well as carbon intensities. The carbon intensity metric i.e. the tonnes of $CO_2$ per million pounds of assets under management will allow for comparison between years as Arjun, and our portfolio companies, grow.

We are in the process of developing portfolio-level net zero targets. This is discussed under Section 4, and forms an ongoing priority, which is discussed under Section 5.

# 04

# NET ZERO AND GREENHOUSE GAS EMISSIONS

Arjun, in line with its clients' ambitions, is committed to aligning its portfolio with 'net zero'. Together, as asset owners and active managers, we have an important role in helping businesses in this transition.

# NET ZERO AND GREENHOUSE GAS EMISSIONS

**Net zero means reducing greenhouse gases as far as possible, with residual emissions being 'neutralised', using 'removal offsets'. Despite its relatively simple definition, delivering this across the various infrastructure sectors will require an unparalleled rate of innovation and business transition.**

## 4.1 OUR NET ZERO COMMITMENT

*Net zero by 2050, at the latest*

We are committed to aligning investments with net zero by 2050, at the latest. This is fundamental to achieving our objective of long-term, stable returns.

All of our investment geography is covered by national-level net zero commitments which, in turn, could see a range of policy and legal interventions to drive decarbonisation across the economy. Examples include banning non-electric vehicles; enforcement of improved energy efficiency in buildings; and the potential for future carbon taxes.

We are currently developing portfolio-level targets and, in parallel, working with portfolio companies to work toward establishing asset-level net zero plans.

**Rrona Humolli**
*Analyst*

"Measuring greenhouse gas emissions is fundamental to assessing our portfolio's performance in transitioning to net zero. It will also be key to identifying cost-efficient mitigation measures and making informed capital planning decisions"

## 4.2 GREENHOUSE GAS (GHG) EMISSIONS

### Our 2022 GHG emissions

Arjun is reporting its 2022 greenhouse gas emissions using the methodology published by Initiative Climat International (iCI) and Environmental Resources Management (ERM), *Greenhouse Gas Accounting and Reporting for the Private Equity Sector* (2022). This provides supplementary guidance to asset managers in how to account greenhouse gas emissions in line with the Greenhouse Gas Protocol.

GREENHOUSE GAS PROTOCOL

The Greenhouse Gas Protocol establishes comprehensive global standardized frameworks to measure and manage greenhouse gas emissions from private and public sector operations, value chains and mitigation actions.

PCAF Partnership for Carbon Accounting Financials

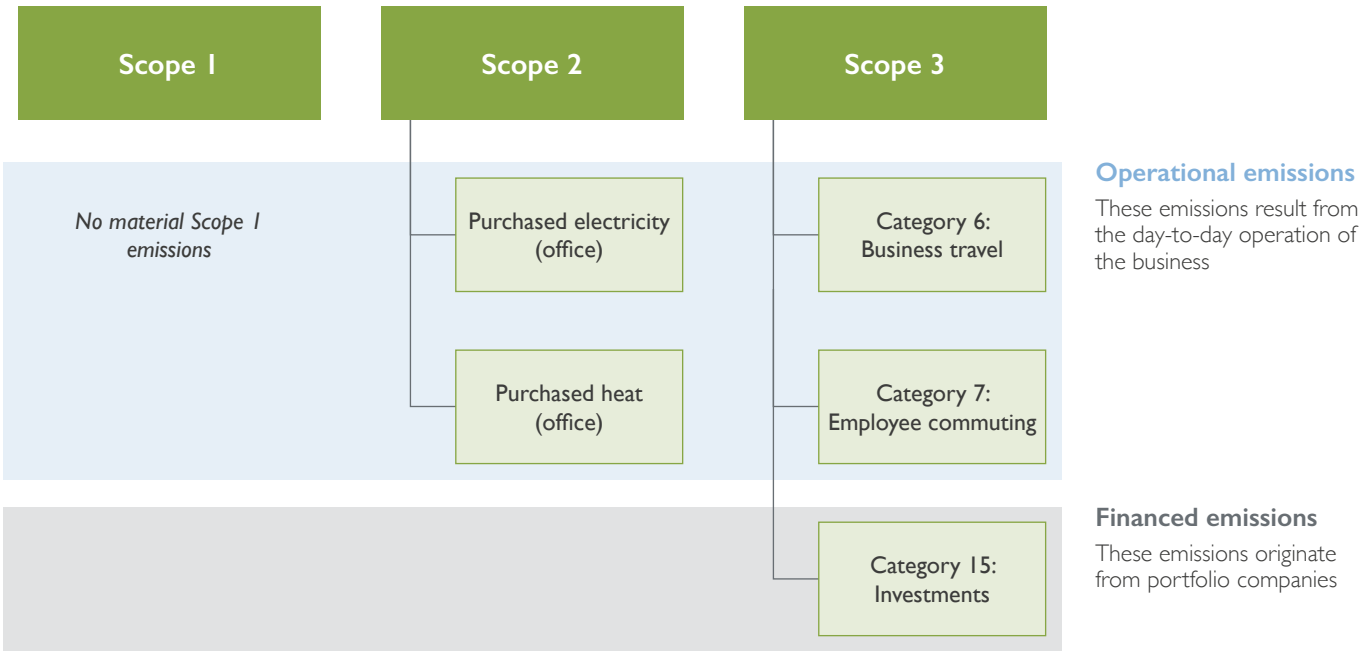
PCAF is a global partnership of financial institutions that work together to develop and implement a harmonised approach to assess and disclose the greenhouse gas emissions associated with their loans and investments.

initiative climat international
Private equity action on climate change

The iCI is a global, practitioner-led community of over 200 private markets firms and investors representing over US$3.2 trillion in AUM that seek to better understand and manage the risks associated with climate change.

Arjun's 'emission boundaries' and further detail on the accounting methodology is provided under Appendix A – Carbon Accounting Notes.

**Figure 4.1: Arjun's 2022 greenhouse gas emissions**




Arjun's 2022 greenhouse gas emission will be used as the baseline for comparison against future years.

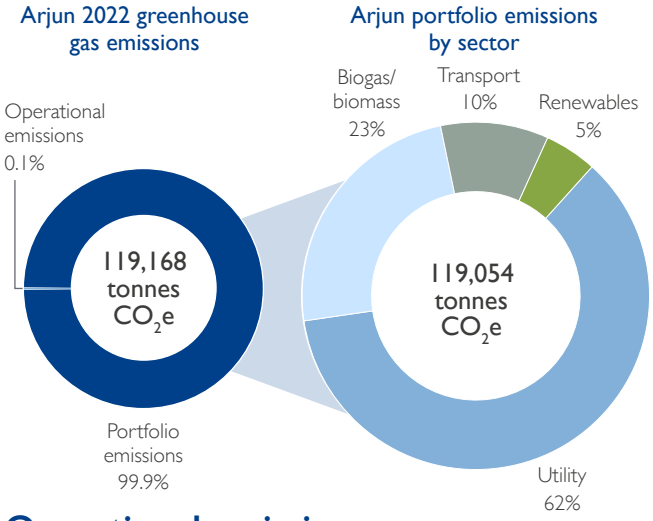
**Table 4.1: Arjun's greenhouse gas emissions, 2022**

| Emission source | Activity data | Emissions factor (tonnes $CO_2e$) | Emissions (tonnes $CO_2e$) | Emissions intensity (tonnes $CO_2e$ / £m AUM) |
|---|---|---|---|---|
| **Scope 1, direct emissions** | | | | |
| - | - | - | - | - |
| **Scope 2, indirect energy-related emissions** | | | | |
| Purchased electricity (UK) | | | | |
| Location-based emissions[1] | 24,717 kWh | 193.4[3] | 4.8 | 0.002 |
| Market-based emissions[2] | | 0[4] | 0 | - |
| Purchased heat (UK) | | | | |
| Location-based emissions[1] | 92,240 kWh | 182.5[5] | 16.8 | 0.006 |
| **Scope 3, indirect emissions** | | | | |
| Category 6, business travel | km travelled | Various[6] | 70.6 | 0.024 |
| Category 7, employee commuting | km travelled | Various[6] | 21.3 | 0.007 |
| Category 15, financed emissions[7] | - | - | 119,054.3 | 40.226 |

Notes
1 Average emissions intensity of the national electricity grid
2 Emissions from electricity specific to each supply / contract
3 UK electricity generation emissions factor from the Department for Business, Energy & Industrial Strategy (Greenhouse Gas Reporting: Conversion Factors 2022)
4 Arjun's office is supplied with electricity that is 100% generated from renewable sources. Therefore an emissions factor of zero is applied
5 UK natural gas emissions factor from the Department for Business, Energy & Industrial Strategy (Greenhouse Gas Reporting: Conversion Factors 2022)
6 Where emissions associated with travel are not provided on a receipt, emissions have been calculated by applying emissions factors for different modes of transport published by the Department for Business, Energy & Industrial Strategy (Greenhouse Gas Reporting: Conversion Factors 2022)
7 Scope 1 and Scope 2 emissions have been reported for Category 15, financed emissions

Over 99% of Arjun's greenhouse gas emissions are from the Arjun *financed emissions*, which are portfolio company scope 1 and scope 2 emissions. These are allocated to Arjun based on an *attribution factor*, which takes into account Arjun's investment as a percentage of the overall enterprise value of the portfolio asset.

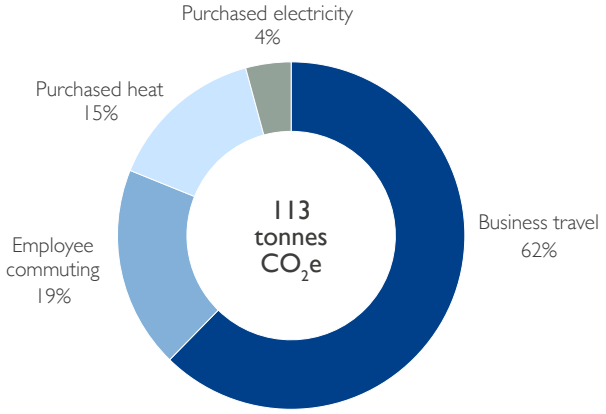
**Figure 4.2 Breakdown of Arjun's 2022 emissions**




## Operational emissions

The most material source of Arjun's operational emissions relate to business travel. This represents 62% of operational emissions (0.06% of total emissions). Typically, business travel relates to client meetings and asset visits – both of which are crucial elements of our business. Although we continue to adopt teleconferencing where possible, it is not a true substitute for in-person attendance, relationship building and 'on the ground' engagement with portfolio company management teams.

**Figure 4.3: Breakdown of Arjun's operational emissisons**




To reduce these emissions moving forward, where travel is necessary, we will continue to adopt a 'carbon hierachy'. This involves a default preference for the most low-carbon mode of travel, wherever practicably possible.

## Financed emissions

### Sector overview

Financed emissions account for over 99% of Arjun's greenhouse gas footprint. This is common for finance-sector businesses and illustrates the importance of engagement and active asset management to reduce Arjun's, and our clients', greenhouse gas emissions.

In calculating our financed emissions, we have successfully engaged with all of our portfolio and received emissions data for 100% of investments where Arjun has (co-)control of the asset. On a portfolio-level, we have achieved 95% data coverage and are working to improve this moving forward. At the same time, we will continue to challenge the reliablity of data being reported. As accounting practices mature, we expect a degree of variance in reported emissions as accuracy improves.

| **100%** | **100%** | **95%** |
|---|---|---|
| Engagement with portfolio | Data coverage for (co-)controlled investments | Total portfolio coverage |

An analysis of 2022 emissions by sector confirms that our utilities investments (Section 5.4) are the largest emitters. This is largely driven by the operation of gas-fired power plants in Energia, which provide critical security of supply to the transmission network around Dublin, Ireland. This capacity is essential to supporting the intermittency of renewable generation.

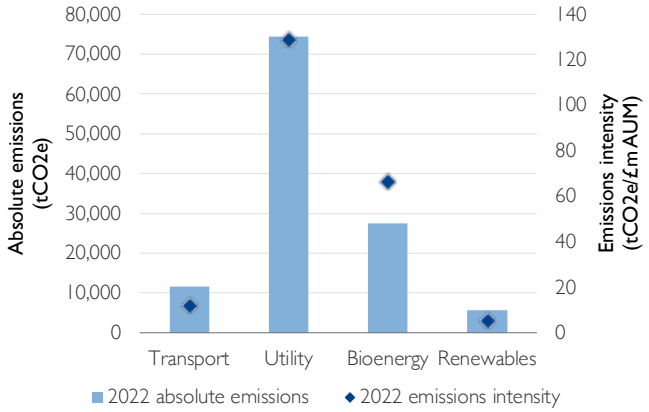
The second largest emission source is from our bioenergy holdings. The emissions can be categorised as:

- **non-biogenic emissions** resulting from the combustion of sustainable biomass. When biomass is combusted, carbon dioxide, methane, and nitrous oxide are emitted. The carbon dioxide is recaptured by trees, and is therefore reported separately under

biogenic emissions (see below). However, the methane and nitrous oxide are not recaptured and are therefore accounted under the asset's scope 1 emissions.

- **biogas fugitive emissions** which arise through methane leakage during the production of biogas.

**Figure 4.4: Absolute emissions and emissions intensities of Arjun portfolio assets, by sector**




## Biogenic emissions

In line with the greenhouse gas protocol, direct carbon dioxide emissions from the combustion of biomass are not included in Scope 1 but reported seperately. Biogenic emissions arise from our sustainable biomass combined heat and power plant. The biogenic emissions have been calculated in line with industry practice and are provided below:

**Table 4.2: Arjun portoflio's biogenic emissions**

| | Portfolio biogenic emissions ($tCO_2e$) | |
|---|---|---|
| Year | Total | Arjun-apportioned |
| 2022 | 175,793 | 168,592 |

## Avoided emissions

Avoided emissions are the difference between the GHG emissions generated by an asset, and the GHG emissions that would have occurred otherwise. In the case of Arjun's portfolio, avoided emissions arise through the generation of renewable energy, which avoids generation from non-renewable sources.

Currently, GHG accountacy practices do not permit the deduction of avoided emissions from the reported emissions. However, in our view, avoided emissions serve as an important metric to monitor and communicate the quantitative climate impacts of assets.

Therefore, for information purposes, an estimate of the avoided emissions resulting from our portfolio companies is shown below.

**Table 4.3: Arjun portoflio assets total avoided emissions, 2022**

| | Avoided emissions in 2022 ($tCO_2e$) | |
|---|---|---|
| Sector | Total | Arjun apportioned |
| Wind | 1,741,820 | 277,043 |
| Solar | 43,150 | 28,045 |
| Biomass/biogas | 311,981 | 139,467 |
| Utilities | 1,170,029 | 56,168 |
| Transport | - | - |
| **Total** | **3,328,689** | **500,723** |

# 05

# OUR INVESTMENT PORTFOLIO


Image: **Red Funnel**, UK

Red Funnel has been operating ferries between Southampton (England mainland) and Cowes (Isle of Wight), since 1861. Today, Red Funnel provides 'floating bridge' infrastructure which is vital to the local economy and used by over three million passengers every year.

# OUR INVESTMENT PORTFOLIO

**Our investment approach considers portfolio impacts across a broad development context. This approach considers the sustainability impacts of our business, which are mapped against the UN Sustainable Development Goals[1].**

## 5.1 SUSTAINABLE DEVELOPMENT GOALS

**Portfolio alignment with SDGs[2]**

| UN SDG | AUM % | Second Tier | AUM % |
|---|---|---|---|
| **SDG 7: AFFORDABLE AND CLEAN ENERGY**<br>Our solar and wind generation assets provide enough clean electricity to supply over 300,000 households, while our biogas facilities offer innovative alternatives to fossil gas. Our high-efficiency combined heat and power plants are fuelled with certfiied biofuels, supporting energy security and an orderly transition to fossil-free power. | 42.2% | Wind power<br>• 1,053MW offshore wind platform, UK<br>• 73MW onshore wind platform, Ireland<br>• Monegros, 487MW onshore wind, Spain | 16.0% |
| | | Solar power<br>• 200MW solar platform, UK<br>• Enviromena, solar platform, EMENA<br>• Amarenco, solar platform, Europe<br>• NextEnergy, >800MW solar fund, UK | 10.6% |
| | | Biomass<br>• Bio-energy platform, UK<br>• Bigadan, biogas plaform, Denmark<br>• SBS Kliplev, biogas plant, Denmark<br>• Falcon, biogas platform, Italy | 15.6% |
| **SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE**<br>Energy utilities are critical infrastructure, with our investment in energy utilities providing reliable delivery of gas and electricity to over a million residential and commercial properties.<br>Transport represents almost a quarter of Europe's greenhouse gas emissions, and is the main cause of air pollution in cities. Our investments in motorway service areas are key to supporting the broader adoption of electric vehicles, and are actively supporting the development of the necessary charging infrastructure.<br>Meanwhile, our investment in Red Funnel helps provide low-carbon transport and connectivity between the Isle of Wight and mainland England.<br>Arjun's investment in Onivia also delivers vital digital infrastructure, allowing for connectivity across Spain. | 45.1% | Energy utilities<br>• Indigo, gas and electricity distribution, UK<br>• Energia, vertically integrated power utility, Ireland | 7.7% |
| | | Sustainable transport<br>• Welcome Break, motorway services areas, UK<br>• ONroute, motorway services areas, Canada<br>• Freehold, motorway services areas, UK<br>• Freehold II, motorway services areas, UK<br>• Red Funnel, ferry services, UK | 33.9% |
| | | Fibre<br>• Onivia, fibre-to-the-home (FTTH), Spain | 3.5% |
| **SDG 6: CLEAN WATER AND SANITATION**<br>Our investments deliver clean, affordable water every day, to millions of customers. As managers of these assets and public services, we are actively improving the resilience of water supplies against the potential risks of future climate change impacts – such as increased termperature, increased drought-risk, and greater variability in precipitation patterns. | 12.7% | Water utilities<br>South Staffordshire Plc, UK<br>Southern Water, UK | 12.7% |

1 The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. For more information on the SDGs, please see sdgs.un.org/goals.

2 Based on net asset value of investments as at Q4 2022.

# OUR INVESTMENT IMPACTS

**Purposeful returns, contributing to a decarbonised and sustainable future.**

## SDG 8
## Decent work and economic growth

*10,000+ direct jobs supported across our portfolio*

Our investments directly support over 10,000 jobs, providing regular income and security for thousands of households across our investment geography.

## SDG 9
## Industry, innovation and infrastructure

*10,900 km fibre network*

Onivia's network comprises 10,900km of high-quality fibre network, covering urban and rural communities.

## SDG 15
## Life on land

*542 hectares of land protected for natural habitats, plants and wildlife*

South Staffordshire Plc actively manages and protects over 500 hectares of land.

Image: **Owls Lodge**, UK

Owls Lodge is a 10MW solar farm, located near Andover. The site comprises 35,000 PV modules, over 16 hectares, and generates enough electricity to power over 3,000 homes.

## 5.2 RENEWABLE ENERGY

At the time of our 2021 report, renewables were expected to account for almost 95% of the increase in global power generation capacity through to 2026.

Following the invasion of Ukraine and "the first truly global energy crisis", renewable capacity expansion is now expected to be even faster[1].

The renewables sector includes a spectrum of technologies, including wind power, solar power, hydroelectric power, ocean energy, geothermal energy, biomass, and biofuels[2].

Renewable energy is a core part of our investment strategy and can be categorised into wind, solar and biomass.

### The energy crisis

*A clean energy imperative*

The Ukraine war is accelerating Europe's renewable energy ambitions. Notably, the REPowerEU plan, published in May 2022, aims to end the EU's reliance on Russian fossil fuels by 2027. In addition, the plan aims to increase the share of renewables in final energy consumption to 45% by 2030.

Analysis by the International Energy Agency[1] suggests that, under current policy's permitting and licencing regimes, the EU will fall short of the REPowerEU goals.

Policy improvements are likely to be necessary, which will further support opportunities for private investors to invest in additional greenfield and impactful development.

**Julian Skinner**
*Managing Director*

"Renewable energy will continue to play a crucial role in achieving net zero emissions, as well as providing energy security and reducing dependency on imported fossil fuels"

1 International Energy Agency, Renewables 2022
2 Definitions of 'renewable energy' are provided under Article 2(1) of the EU Renewable Energy Directive (EU) 2018/2001.
3 International Energy Agency, *Solar PV: Technology Deep Dive*, September 2022

## AT A GLANCE

**2,400GW**

The global energy crisis has sparked unprecedented momentum for renewables. The International Energy Agency forecasts a 2,400GW growth in renewable capacity over the next five years (2022 – 2027). This is equal to the entire installed power capacity of China, today[1].

**45%**

Following the invasion of Ukraine, the EU published its REPowerEU plan. This includes a target of 45% share of renewables in final energy consumption, by 2030.

**25%**

Average annual solar generation growth needed in the period 2022 – 2030 to follow the International Energy Agency's Net Zero by 2050 scenario[3].

**155 billion cubic metres**

The volume of imported Russian gas in 2021. In 2022, the EU committed to phase out dependence on fossil fuels from Russia "well before 2030" (and ideally, by 2027). This will require diversification of gas supplies, including development of biomethane capacity and the substitution of fossil fuel generation with renewable sources.

## Wind and solar

*A core, and growing, portfolio holding*

Wind and solar continue to form the core of our renewable energy assets. These also continue to present the lowest cost technology options[1].

Renewable electricity will play a pivotal role in the transition to a net zero future, and enable the decarbonisation of other sectors – ranging from transport with the adoption of electric vehicles at scale, through to the heating of homes via electric boilers and heat pumps. Renewable electricity can also be used to decarbonise elements of industrial heat, and provide a near-term solution to reducing industrial emissions.

During 2022, we were delighted to announce that **Enviromena's Three Maids Hill** site was commissioned and connected to the grid. The 25.4MW site provides enough electricity to supply over 9,500 homes, and is the first of a deep development pipeline to be delivered.

As intermittent wind and solar generation increases, the importance of smarter ways of managing demand, including the build out of storage technology, will also increase. In particular, long-duration storage for daily balancing (energy supply between four to eight hours) is essential to supporting the growth of renewable energy systems. Ultimately, this will be one of many technologies that will enable the orderly and secure transition from gas-fired power.

There is also growing demand for '24/7 renewable energy', which matches electricity demand with renewable energy, every hour, every day. There are notable commitments by companies in the IT sector to achieve this by 2030. This is a challenging (but achievable) goal which depends on the continued decline in cost of storage. This will be realised as technologies improve, economies of scale are realised, and implementation is improved with experience and learning.

### Summary of solar and wind investments

| Asset | Technology | Location | Total capacity (MW) | Description | Investment date |
|---|---|---|---|---|---|
| UK solar platform | Solar | United Kingdom | 226 | Portfolio of 43 ground mounted photovoltaic solar farms. | January 2017, June 2019 |
| Enviromena | Solar | Europe | >500[1] | Leading clean energy project developer active in Europe. | November 2017 |
| Amarenco | Solar | France | 400 | Co-controlling interest in a leading independent solar power producer platform. | December 2022 |
| NextEnergy | Solar | United Kingdom[2] | 865 | Preferred equity investment in a UK solar company. | November 2018 |
| UK wind platform | Offshore wind | United Kingdom | 1,053 | Minority investment in three UK offshore wind projects in partnership with Ørsted. | December 2018, December 2021 |
| Irish wind platform | Onshore wind | Ireland | 73 | Acqusiitions of operational onshore wind farms in Republic of Ireland. | November 2020, March 2021 |
| Monegros | Onshore wind | Spain | 487 | Co-control investment in a portfolio of 12 onshore wind farms. | May 2021 |

1 Development pipeline of over 500MW capacity.
2 Total of 99 solar assets, 91 across UK and 8 across Italy.

### Solar and wind investment impacts, 2022 summary

**1,256,779 MWh exported electricity**

*(2021: 1,250,000 MWh)*

Based on electricity exported from our wind and solar assets, and taking into account Arjun's equity holdings (attribution). This is enough to supply over 214,000 households.

**305,088 tonnes $CO_2$ avoided**

*(2021: 338,432 tonnes $CO_2$ avoided[2])*

Our renewable assets can displace the production of electricity from more carbon-intensive, fossil-fuelled, generation assets. Avoided emissions have been attributed based on Arjun's ownership of each solar and wind asset.

Calculations are based on asset location average grid factors. As the carbon intensity of electricity grids fall, the amount of avoided emissions also fall. For instance, the UK grid emission factor fell from 212.3g$CO_2$/kWh in 2021, to 193.38g$CO_2$/kWh in 2022.

1 The Levelized Cost of Energy (LCOE) is a financial metric used to assess the cost of generating electricity from a particular source over the lifetime of the project. It represents the average cost per unit of electricity generated, taking into account all the costs associated with building, operating, and maintaining the power plant, as well as the amount of electricity it is expected to produce over its lifetime.
2 Updated 2021 figure.

## Biomass

*Enabling the transition from fossil fuels*

Biomass is a collective term for the biogenic feedstocks used as fuel to generate renewable energy. Arjun's investment strategy includes biomethane and biomass combined heat and power, as part of delivering a diversified set of renewable technologies across its portfolio. Importantly, these sources of renewable energy complement wind and solar in that they are dispatchable and, in the case of biogas, capable of being easily stored.

### Biomethane

When biogenic wastes are landfilled or otherwise discarded, they enter a natural decomposition process which generates methane ($CH_4$). Methane is a greenhouse gas more potent than carbon dioxide at trapping heat in the atmosphere, and thus is a significant contributor to climate change.

Urgent and rapid reduction in emissions of methane are fundamental to reducing climate change impacts, and achieving net zero.

Anaerobic digestion (AD) is a way of controlling the decomposition of biogenic waste, and harnessing the methane generated to provide an energy fuel, for purposeful application. One such application is the production of biomethane (a methane-rich biogas), which can replace the use of fossil fuel gas when injected into the grid.

There are a number of additional aspects of biomethane which make it a key tool in the pursuit of net zero. These include:

- **Energy storage**: the ability to 'store' energy as biomethane, which can be used when required, complementing the intermittency of solar, wind, and other renewable technologies.
- **Organic fertilisers**: the use of the resulting digestate (the AD waste product/residue), providing organically-bound nitrogen and other nutrients, which can be applied as a fertiliser. This can replace the use of industrially-manufactured fertilisers, providing additional emissions savings as well as agricultural cost-savings and improved price stability.
- **Carbon dioxide concentrate**: the biomethane production process generates carbon dioxide, which can be captured and applied across a number of processes, including industry and manufacturing.
- **Transportation**: biomethane, in the form of compressed or liquified biogas, can directly replace both petrol and diesel as well as liquid petroleum gas for use in diesel engines (heavy goods vehicles, buses, shipping and maritime), providing an effective route to decarbonise the transport sector. Additionally, there is growing interest in the use of both biomethane and captured carbon dioxide in the creation of jet fuel additives, providing a pathway to reducing the emissions across the air transportation sector.

During 2022, we announced that our greenfield biogas project, **Sustainable Bio Solutions Kliplev**, had started to inject biomethane into the Danish gas network. The project is one of the largest biogas facilities in the world. At capacity, it will deliver 6,000$m^3$ per hour of green biomethane directly into the gas network. Domestically, the project significantly adds to the already prevalent use of green gas in Denmark's network. The Danish Energy Agency is committed to growing green gas usage, from 25% today to 40% by 2025. SBS Kliplev, and biogas development more generally, is also fundamental to the EU's goal of eliminating reliance on Russian fossil fuels by 2027.

### Biomass combined heat and power

The minimisation of waste disposal to landfill is fundamental to achieving a circular economy, and the commercial generation of energy from end-of-life materials, or materials which would otherwise be left to decay naturally (potentially releasing methane), is a key tool in achieving this.

Arjun's biomass combined heat and power (CHP) plants use, as feedstock, a mixture of certified end-of-life bio-liquids (such as tallow), as well as whisky distillery draff (distilling industry waste residues), sawmill residues, and non-commercial forestry arisings.

Arjun's biomass facilities use state-of-the-art technology, with high availability and low operational energy consumption. The sustainability credentials of our CHP assets are recognised under the UK's Renewable Obligations Certification (ROC) scheme.

## Summary of biomass investments

| Asset | Technology | Location | Description | Investment date |
|---|---|---|---|---|
| Bigadan | Anaerobic digestion (biomethane production) | Denmark | Leading Danish biogas platform company with nine operational biogas plants, providing an energy production capacity of 1.32 TWh, together with four compressed biogas truck refuelling stations. | July 2021 |
| Sustainable Bio Solution (SBS) Kliplev | | Denmark | A greenfield development project, which generated its first gas to grid in May 2022, two months ahead of schedule. Kliplev is the largest biogas plant of its type, with >41 million $m^3$/yr biogas output capacity. | November 2020 |
| Falcon | | Italy | A development portfolio, comprising an initial five greenfield subsidy-backed biogas projects and one unsubsidised project, in Italy. All plants are scheduled for commissioning in 2023. | November 2021 |
| Combined heat and power platform | Biomass-fuelled combined heat and power | United Kingdom | Two operational renewable combined heat and power plants. Both benefit under the UK's Renewable Obligation Certificate (ROC) scheme. | February 2019 |

## Biomass investment impacts, 2022 summary

### 2.01 TWh installed biogas capacity

*(2021: 1.46 TWh)*[1]

Renewable generation capacity of Arjun's operational biogas facilities.

### 190,100,000 $m^3$ biomethane capacity

*(2021: 138,300,000 $m^3$)*[1]

Indicative biomethane capacity across all operational biogas facilities in 2022.

### 191.3 GWh electricity produced from CHP

*(2021: 179.8 GWh)*[1]

Electricity exported, from Arjun's biomass-fired combined heat and power (CHP) assets.

### 3,400,000 tonnes of processing capacity

*(2021: 2,420,000 tonnes)*[1]

Our biomethane facilities provide a purposeful end-use for a significant volume of biogenic waste.

1 Updated 2021 figure.

# CASE STUDY
# Enviromena: Three Maids Hill, United Kingdom

Three Maids Hill is a 25.4MW ground-mounted solar project located in Winchester, Hampshire. Commissioned and connected to the UK grid in November 2022, the renewable electricity production of the site will avoid around 5,300 tonnes of $CO_2$ emissions every year.

## Governance and sustainable solutions

When Arjun invested in Enviromena, a governance structure was established to ensure board and management focus on ESG and sustainability. Today, ESG is a standing board agenda item and a mandatory consideration in corporate strategy and business development.

Arjun has ensured that ESG principles are at the forefront of decision-making and activities throughout the build programme of the site and the ongoing operation. Such principles are driven from senior management, right through to the supply chain.

## Health and safety and a partnership approach

Recognising an elevated health and safety risk in solar farm investments, Arjun deployed significant asset management resource to Enviromena, which resulted in an outstanding performance in terms of health and safety throughout the construction of the Three Maids Hill project.

## Community impact and engagement

When operational, the plant will avoid around 5,300 tonnes of $CO_2$ emissions annually, supporting the UK government's goals of decarbonising the electrical grid by 2035 and becoming net zero by 2050.

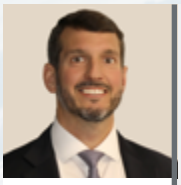
Throughout the development and construction of the solar project, Enviromena's team worked closely with local community, including undertaking virtual meetings with local parish councils at the height of the Covid-19 pandemic. This relationship led to Enviromena supporting the local parish in refurbishing a local play park.

Furthermore, throughout the build programme, Enviromena supported the local community by procuring taxis for elderly people to be transported to the local shops when their bus service was disrupted by project cabling works.

**PROJECT COMMERCIAL OPERATION DATE**
November 2022

**CAPACITY**
25.4MW (47,088 modules)

**ENVIROMENA INVESTMENT DATE**
November 2017



**Cabell Fisher**
*Chief Executive Officer, Enviromena*

"The Three Maids site was delivered through our fully integrated development and operations model. This spans the entire project development, from sourcing a land-option through to power plant energisation.

With the support of Arjun, we collected and tracked key project ESG metrics, such as carbon intensity of the construction. These will form the basis for future improvements as part of the sector's continued decarbonisation."

## Other company highlights
### AT A GLANCE

Three Maids Hill is a 25.4MW solar site, comprising 47,088 high-efficiency bifacial modules. The site will provide enough electricity to power 9,500 homes.

The renewable electricity produced by the project is equivalent to avoiding 5,300[1] tonnes of $CO_2$, per year

1 Based on the 2022 greenhouse gas conversion factor of 0.19338kg$CO_2$/kWh. Source: UK Government, greenhouse gas reporting: conversion factors 2022

## 5.3 TRANSPORTATION

**Transportation is a key component of sustainable development, a driver of economic growth, social development, and provides access to education, employment and healthcare**

**However, these benefits are not without cost. Transportation is a major source of global greenhouse gas emissions. Other impacts include air and noise pollution, which can have significant effects on public health.**

**Arjun has made targeted investments across the transport sector, focusing on assets that will enable and support the transition to low-carbon and low-pollution mobility. To date, Arjun's transport investments are focused on motorway service areas and ferry operators.**

### Motorway service areas (MSAs)

*A key enabler in the EV revolution*

A commitment towards a net zero future has started an unprecedented revolution for the mobility sector. Electric vehicles (EVs) feature heavily in EU and UK net zero strategies. With road transportation accounting for 70% of all transport emissions, this is fundamental to decarbonising transport.

A reliable network of high-powered charge points is key to building consumer confidence and addressing "range anxiety" – the worry of EV drivers that the battery will run out before reaching the destination of a suitable charging point. MSAs represent the most convenient and cost-effective ways of establishing a national network of ultra-rapid charge points.

From a business resilience perspective, the installation of charge points is key to maintaining an attractive turn-in rate from passing traffic. Furthermore, income related to EV-charging will be needed to compensate declining fossil fuel revenues as EV penetration increases.

## AT A GLANCE

**90%**

To achieve net zero, EU transport emissions need to be reduced by 90% by 2050. This will require deep decarbonisation across road, rail, aviation and water-based transport[1].

**70%**

Road transport accounts for 70% of the EU transport emissions[1].

**2035**

From 2035 (at the latest), the sale of new diesel and petrol vehicles will be effectively banned across the EU and UK.

**5x**

By 2030, the UK expects to reach 300,000 public EV charge points. This is equivalent to almost five times the number of fuel pumps on the roads today[2].

1 European Commission, *Strategy for Sustainable and Smart Mobility*, December 2020

2 UK Government, *News story: Quick off the spark: electric vehicle sales continue to soar in green revolution*, 24 May 2022

In the UK, **Welcome Break** offers the largest network of EV charge points on motorways. Arjun is working with co-shareholders and management to maximise the opportunities that EVs will present, such as increased dwell times.

**Adam Delaney**
*Managing Director*

"The installation of EV charge points, ahead of demand, ensures that ONroute can play an important role in supporting the transition pathway to net zero and decarbonisation of the transport sector. We were delighted to assist ONroute in partnering with Ivy Networks in 2022. This provides visitors with access to fast-charge technology and adds resilience to ONroute's turn-in volumes"

During 2022, **ONroute** partnered with Ivy Charging Network to open over 80 EV charge points at its MSAs along Canada Highways 401 and 400. By the end of 2022, charge points were operational at 20 ONroute MSAs.

## Ferry operators

*Essential 'floating bridge' infrastructure*

Ports, harbours and ferry transportation are critical components of the wider transportation network, and have a key role to play in achieving a system of low-carbon mobility. While ferry transportation is already a relatively low-carbon intensive form of transport, further decarbonisation will be required.

In 2017, Arjun invested in **Red Funnel**, a ferry service operating between Southampton (mainland England) and the Isle of Wight for the last 160 years. The ferry is critical infrastructure supporting tourism, business and trade; generating local employment; and supporting local communities through a range of events and initiatives. Arjun is working with co-shareholders and Red Funnel management to prepare the business for the transition to zero-emission ferries and net zero.

### Summary of transport investments

| Asset | Technology | Location | Description | Investment date |
|---|---|---|---|---|
| Welcome Break | Motorway service areas (MSAs) | United Kingdom | A leading operator with 52 MSAs and 31 hotels across the UK major road and motorway network. | August 2017, October 2018 |
| ONroute | | Canada | An Ontario-focussed MSA operator with 23 sites located along Highways 400 and 401. | May 2019 |
| Freehold II | | United Kingdom | A company owning ten motorway service areas and operating a landlord-tenant business model. | June 2022 |
| Freehold | MSA freeholds | United Kingdom | A property portfolio of eight MSA freeholds. | November 2021 |
| Red Funnel | Ferry operator | United Kingdom | A ferry operator sailing between Southampton (UK mainland) and East and West Cowes (Isle of Wight). The fleet comprises modern purpose built Ro-Pax vehicle ferries and Red jet Hi-Speed passenger catamarans. | June 2017 |

### Transport investment impacts, 2022 summary

**Over 819,000 Hi-Speed passengers**
**Over 804,500 vehicles**

Our ferry operator carried over 819,000 passengers on Hi-Speed catamarans and over 804,500 vehicles in 2022.

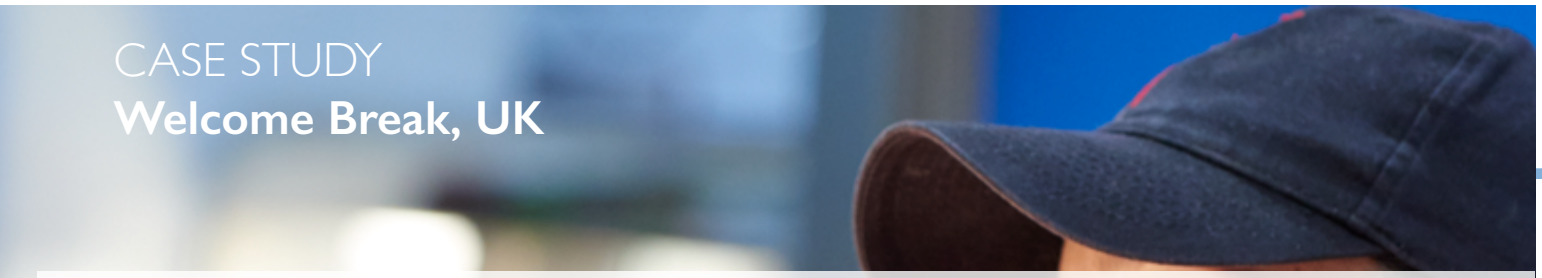
**85 motorway service areas**

*(2021: 75 motorway service areas)*

Our portfolio includes 85 motorway service areas, providing well-equipped and convenient rest stops for millions of travellers.

CASE STUDY

# Welcome Break, UK



Welcome Break is a successful UK motorway and trunk road service area operator. Its locations offer retail, catering, accommodation, and parking for over 85 million motorists a year. In addition to supporting health and safety on UK roads, Welcome Break pursues environmental and other social responsibility goals, including climate change, food waste and charitable causes.

## Too Good to Go – Tackling food waste one Magic Bag at a time

Welcome Break partners with Too Good to Go – an app that allows shops and restaurants to supply 'surprise bags' of surplus food to customers at reduced price and prevent it from going to waste. In 2022 Welcome Break, sold 45,673 bags, saved 114,182 $kgCO_2e$, engaged with 20,000 unique customers and achieved 828k item views on the app.

## Welcome Break's social responsibility – a multitude of ways to empower our employees

Welcome Break has a strong record of supporting its employees. The organisation focuses on team member development into operational leadership positions and offers rotation across departments and brands. The company is a member of Women in Hospitality Travel & Leisure (WiHTL), utilising development programmes such as, the Global Female Leadership, Ethnic Future Leader and Ethnic Senior Leaders. Welcome Break also offers LEAD – a Leadership Development Programme aimed at strengthening the capability of senior leaders and Heads of Departments. Welcome Break is also an early adopter of Hospitality Rising – a campaign to promote careers in hospitality among young people.

## Future-proofing the MSA business

Welcome Break offers a large network of electric vehicle chargers on the UK motorway. Visitors at Welcome Break sites now have the option to charge their electric vehicles with chargers from GRIDSERVE Electric Highway, Tesla, Instavolt and Applegreen Electric, with the number of charging points growing every year. The rollout of charging infrastructure across all of Welcome Break's sites will support the UK's energy transition, reduce transportation greenhouse gases, and support visitors in the switch to electric vehicles.

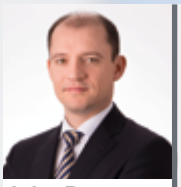
## Arjun's value add

Arjun, together with its joint co-shareholders, has been working closely with Welcome Break management to develop the company's electric vehicles strategy, and ambitious plans for future expansion of charging infrastructure.

**COMMERCIAL OPERATION DATE**
1959

**CAPACITY**
52 MSAs across the UK

**INVESTMENT DATE**
2017, 2018



**John Diviney**
*Chief Executive Officer, Welcome Break*

"Whether it is our almost 6,000 employees, or 85 million visitors we welcome each year, Welcome Break is a people-focussed business. We continue to invest in learning and development for our team members creating career paths at all levels of the company. Our Too Good to Go partnership is an excellent example of how we can take practical steps to support customers – particularly during the current cost of living crisis – and also deliver measurable progress in reducing food waste."

## Other company highlights

AT A GLANCE

Welcome Break offers a large network of electric chargers, enabling the transition to zero carbon mobility

Welcome Break directly employs almost 6,000 people

## 5.4 UTILITIES

**Our utilities sector investments include the supply of water, electricity and gas services to residental and commercial customers. The essential nature of these services means that utility companies are often heavily regulated by governments.**

**The Arjun portfolio contains several regulated utilities operating across the United Kingdom and Ireland. These assets provide the opportunity to contribute to the energy transition and resilience of these essential services.**

### Regulated water sector

*Deliving faster progress on net zero*

Water companies are challenged with achieving net zero operational emissions by 2030[1]. At the same time, companies have to proactively respond to the risks and uncertainties of climate change to ensure the long-term resileince of services to customers. For instance, the recent UK Enviroment Act requires water companies to abstract less water in future. This is of considerable significance for the Cambridge area, where all water comes from below ground through boreholes, and the levels of groundwater are under threat.

Ofwat, the UK water services regulation authority, set out a Net Zero Principles Position in January 2022 to support water companies in their planning for net zero. This has particular importance for the development of business plans for PR24 ('pricing review 2024', which sets the price, service and incentive package for 2025 – 2030). Ofwat has also proposed, as part of PR24, a "common reduction level for operational emissions… being incentivised through a common performance commitment"[2].

An Arjun portfolio company – **South Staffordshire Plc** – is proactively addressing the challenges of net zero. This is being achieved through a blend of performance efficiencies (the business is on track to hit

1 In 2019, water companies in England, including Arjun portfolio companies South Staffordshire Water, Cambridge Water and Southern Water, committed to reaching net zero across scope 1 and 2 emissions by 2030.
2 Ofwat, *Ofwat's regulatory framework and net zero*, August 2022

## AT A GLANCE

**1,700,000**

Number of people served by South Staffordshire Plc, across Staffordshire, parts of the West Midlands, and in and around Cambridge[1].

**150 litres**

We use far more water than previous generations. In total, we each use about 150 litres every day, and this is likely to rise[2].

**1%**

The UK water sector is responsible for a fifth of UK waste sector's greenhouse gas emissions. This equates to approximately 1% of the UK's total emissions[3]. UK water companies are targeting 'net zero operational emissions' (Scope 1 and 2) by 2030, under the Water UK industry initiative.

**58,600 households**

During the cost of living crisis, South Staffordshire and Cambridge Water have supported over 58,600 households with additional financial support[1]. This includes schemes such as South Staffordshire Plc's Assure Social Tariff, payment plans, as well as a Charitable Trust.

1 Cambridge Water and South Staffs Water, *Annual performance report 2021/22*, 2022
2 Ofwat, *customer water use*, 2023
3 Ofwat, *Ofwat's regulatory framework and net zero*, August 2022

a 15% leakage reduction by March 2025); renewable energy consumption; transitioning to an electric vehicle fleet; and exploring a range of onsite energy solutions, such as biomethane generation using sewerage wastes. South Staffordshire Plc has also been deploying pioneering ceramic-membrane technology at their Hampton Loade treatment plant. Once complete, this will provide enhanced water quality to around 700,000 customers and reduce carbon emissions by around 1,000 tonnes per year.

Even so, delivering decreased operational and embedded carbon emissions in line with Ofwat and UK Government targets will require innovation and investment at a significant scale.

Arjun is working closely with our water sector investee companies to explore potential synergies and transfer of expertise across our portfolio.

## Regulated energy utilities

*Supporting the transition of energy generation and distribution*

Electricity utilities are also positioned to play a critical role in the decarbonisation of the energy sector, across their entire value chain. This includes the generation of low-carbon and renewable electricity; the distribution of this renewable electricity to both homes and businesses; and the provision of a range of retail services, including energy solutions (such as smart meters).

Where conventional thermal (non-renewable) power is used to guarantee a secure energy supply, our portfolio companies have ambitious development pipelines to scale up renewable generation and pursue energy storage solutions.

For instance, **Energia**, an Arjun portfolio company, operates 747MW of gas-fired power stations at Huntstown, Dublin. These power stations provide critical security of supply to the greater Dublin area, as well as supporting Ireland's growing renewable generation capacity. In parallel, Energia also set a net zero target to reduce the carbon intensity of its electricity generation by 50% in 2030 . To achieve this, Energia will need to increase its onshore renewable generation by 300%.

While the future unabated use of fossil natural gas is unlikely, it will remain a key component in an orderly transition to net zero.

Since acquiring **Indigo Networks**, Arjun has been working to prepare the business for the uncertainties associated with the energy transitition; particulalry the impacts on gas transmission and distribution infrastructure.

Despite supporting a resilient energy system today, we recognise that there is a potential risk in the future role of gas. Despite Indigo's network being compatible with biomethane and hydrogen gases, there is not yet certainty on their future use for residential and commerical properties. In fact, there is growing expectation that future properties will be 'all electric', with green gases reserved for industrial applications.

In anticipation of this risk, Arjun assisted Indigo in securing an electricity distribution license and is now supporting the business development of electricity connections to residential, commercial and industrial premises. This will ensure that Indigo will have an important role to play in the energy transition, whatever the energy strategy.

**Charles Hazelwood**
*Partner*

"Energy utilities are faced with both having to ensure security of supply today, and delivering a renewable energy system for tomorrow. Achieving this will require significant development of new and emerging technologies; changes in how the energy system is operated; and long-term investment"

## Summary of utility investments

| Asset | Technology | Location | Description | Investment date |
|---|---|---|---|---|
| South Staffordshire plc | Regulated water-only companies, and non-regulated water sector companies | United Kingdom | 100% owner in integrated utility business, comprising of two regulated water companies, South Staffordshire Water and Cambridgeshire Water; and various non-regulated water sector companies. | July 2018, August 2022 |
| Southern Water | Regulated water and wastewater company | United Kingdom | Minority investment in a water and wastewater company, operating along the southern coast of the UK from Hampshire to Kent. | May 2016 |
| Energia | Regulated vertically integrated electricity utility | Republic of Ireland and Northern Ireland | A modern, renewables-focused, customer-centric utility operating across Ireland. Assets include 309MW of wind generation, two gas-fired power plants, and a 3GW development pipeline of renewables. | April 2017 |
| Indigo Networks | Regulated last-mile gas and electricity distribution | United Kingdom | Acquisition of a regulated last-mile natural gas and electricity utility that maintains residential and commercial connections. | February 2019 |

## Utility investment impacts, 2022 summary

### 7.8TWh electricity sales

*(2021: 7.3 TWh)*

Energia electricity sales across Northern Ireland and the Republic of Ireland, during financial year 2021/22. of which over 50% was generated from renewables. Energia supplies 821,000 customer sites.

### 58,611 households supported

*(2021: 49,279)*

South Staffordshire has provided financial support to 58,611 households, ensuring continued supply of water through financial difficulties.

### c. 198,000 connections

*(2021: 193,000 connections)*

Indigo Networks is an independent carrier of energy to around 198,000 domestic and commercial premises across the UK.

### 8,675km pipeline

Water pipeline length maintained by South Staffordshire Plc (South Staffordshire Water and Cambridge Water).

1 Energia Group Limited, *Annual Report and Consolidated Financial Statements 2022*, 31 March 2022
2 Cambridge Water and South Staffs Water, *Annual Performance Report 2021/22*

CASE STUDY

# South Staffordshire Plc The PEBBLE Fund

PEBBLE, Projects that Explore Biodiversity in the Local Environment, is a biodiversity improvement fund operated by South Staffordshire Water, the regulated water company owned by South Staffordshire Plc.

Up to £10,000 is available for each project successfully funded. Applications are invited from projects that are designed to improve, restore, or create new habitats which benefit biodiversity, the environment, and have a positive impact on the local community.

During the 2021/22 financial year, South Staffordshire Water awarded over £35,000 to 14 charities and community groups for projects that will enhance the environment in more than 10 hectares across the company's Cambridge and South Staffordshire operating areas.

## Projects benefitting

This year, successful applications for funding included projects to build and improve forest school habitats and nature gardens in local schools, the creation and development of community biodiversity gardens, and a number of projects to enhance river and marshland habitats.

## An example project

Cambridge Sport Lakes Trust was awarded a £4,000 PEBBLE grant to support common tern – a type of inland gull, also referred to as a "sea-swallow" – to one of its lakes. Common terns have been identified as a conservation priority and are amber listed in Birds of Conservation Concern 4.

The trust is a registered charity that was established to construct and maintain Milton Country Park, situated just north of the city of Cambridge. The park offers a varied natural habitat with woodlands and lakes, which host a range of biodiversity all year round.

PEBBLE funding enabled a common tern platform to be built to provide a safe, sheltered place for common terns to nest.

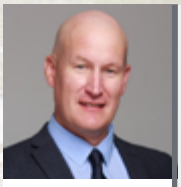
The platform has been a huge success and, after a few weeks, a breeding pair of common terns occupied the platform and successfully raised three chicks. The terns were seen at the lake again in Spring 2023 and the trust is hoping that they will again make use of the breeding platform.

**LAUNCH DATE**

The PEBBLE fund is now in its seventh year of operation.

**INVESTMENT DATE**

Arjun first invested into South Staffordshire Plc in 2018. During 2022, Arjun acquired a 100% stake.



**Andy Willicott**

*Managing Director, South Staffordshire Water*

"We recognise the importance of the local environment, and the part we play in the conservation and enhancement of biodiversity.

Increasing the variety of natural living things and the diversity of the habitats where they live not only benefits wildlife, it can also enhance local communities and our open spaces.

We are delighted to be able to support a wide range of projects – both large and small – that will leave a lasting and positive environmental legacy in the regions where we operate."

## Case study highlights

AT A GLANCE


In the seven years PEBBLE has been operating, it has supported 96 projects across both operating regions.

Over 140 hectares of space have been improved through the PEBBLE scheme.

## 5.5 DIGITAL

**Whether it is continued demand in cloud and hosting services, growth in streaming traffic, online shopping, remote working/ learning, or the future of autonomous vehicles and the 'Internet of Things'[1], affordable, reliable and high-speed internet connectivity is an essential utility for households and businesses.**

**This will require strategic and equitable deployment of digital infrastructure – ranging from data centres to fibre networks – across rural and urban areas.**

**The growing role and need for digital infrastructure is set to become a defining issue for the coming decade.**

Seamless connectivity is something which is easy to take for granted. As 'internet connectivity' penetrates even deeper into daily life, the importance of being able to connect, reliably, will become even more important.

### Gigabit networks, strategic infrastructure

Gigabit (Gb) connectivity, where networks can achieve download speeds of 1Gb per second, are central to the European Comission's digital strategy. This speed of connection is termed 'Very-High Capacity Networks' and is most commonly represented by fibre-to-the building (FTTB) and fibre-to-the-home (FTTH). FTTH can even achieve speeds of up to 10Gb per second.

### The 'digital divide'

The Covid-19 pandemic highlighted the significant gap in digital infratructure between urban and rural areas, which has been termed the 'digital divide'. Addressing this gap is a infrastructure policy priority, recognising that 'digital infrastructure' is linked to broader discrepancies across countries.

1 The Internet of Things (IoT) refers to a network of physical devices, vehicles, home appliances, and other items embedded with sensors, software, and network connectivity that enables them to collect and exchange data. The IoT enables new applications in areas such as healthcare, transportation, agriculture, manufacturing, and smart homes. The data generated by the IoT can be used to improve efficiency, reduce costs, and create new services and business models.

## AT A GLANCE

### >99% coverage

The European Commission's Digital Strategy ambition is that by 2030, all European households will be covered by a Gigabit network[1]. Similarly, the UK's Digital Strategy aims to achieve at least 85% gigabit coverage by 2025 and at least 99% coverage by 2030[2].

### x20

Since 2010, the number of internet users worldwide has more than doubled, while global internet traffic has expanded 20-fold[3].

### 1-1.5%

The International Energy Agency reports that data centres and data transmission networks each account for 1-1.5% of global electricity use[3].

### Energy efficient

Fibre technology is widely recognised as the most energy efficient broadband technology, due to its reliance on fewer intermediate devices and amplifiers than other technologies[4].

1 European Commission, *2030 Digital Compass: the European was for the Digital Decade*, 09 March 2021
2 UK Department for Digital, Culture, Media & Sport *UK Digital Strategy*, 04 October 20222
3 International Energy Agency (IEA), *Data Centres and Data Transmission Networks*, September 2022
4 European Commission, *Fibre is the most energy efficient broadband technology*, 24 November 2020

Delivering this infrastructure affordably, together with the associated digital skills, will be key to unlocking its socio-economic benefits, enhancing individuals quality-of-life, and addressing national inequalities.

**Rohini Pahwa**
*Managing Director*

"As 'connectivity' becomes ever more entwined in our daily lives, the availability of fast, secure and affordable internet access has become an important utility for households. Providing this service equitably across urban and rural communities is vital to addressing inequalities and allowing everyone to participate in the opportunities digitisation will bring"

## Digital's role in decarbonisation

Fibre offers significant energy savings compared to other broadband technologies. Affordable, high-bandwidth and low-latency internet connection enables businesses and individuals to operate more efficiently. This, in turn, enables remote work meetings rather than travel, or streaming a movie in high definition rather than buying a physical copy. These behaviours, on a national scale, can generate measurable benefits.

## The significance of digital infrastructure in Arjun's long term strategies

Digital infrastructure benefits from unprecedented policy support and offers an attractive opportunity for our investors. In particular, it is attractive to those seeking social-related positive impact, as well as the opportunity to lay the low-carbon foundations of future digitalised society. This is in addition to high-quality investments with core infrastructure characteristics.

Arjun's investment in Onivia (see case study, overleaf) has been a key success of 2022. We are actively scanning the market for suitable opportunities and expect to add to our digital portfolio in the near term.

**Summary of digital investments**

| Asset | Technology | Location | Description | Investment date |
|---|---|---|---|---|
| Onivia | Fibre-to-the-home (FTTH) | Spain | Diversified Spanish fibre wholesale platform across five of Spain's largest cities and rural areas. | June 2022 |

**Digital investment impacts, 2022 summary**

### 2,500,000 homes

Onivia's network includes over two million connections. These are broadly split 50/50 between urban and rural areas, across the breadth of Spain.

### 10,900km fibre laid

Onivia's networks comprise 10,900km of high-quality fibre network. This is enough fibre to run from Madrid to Shanghai, China (10,250km).

# CASE STUDY
# Onivia, Spain

The investment in Onivia in 2022 represents Arjun's first investment in the digital sector. Onivia is Spain's first neutral and independent wholesale fibre network operator.

## A balanced network

Onivia's network includes Spain's largest cities (Madrid, Barcelona, Seville, Malaga and Valencia), and a large number of smaller municipalities in rural areas all over the country. The scale of the combined network gives Onivia a truly national presence.

## Improving fibre-coverage and consumer choice in rural municipalities

Soon after Arjun's investment, Onivia completed the acquisition of an additional 500,000 homes from MasMovil. The acquisition significantly enlarged Onivia's fibre-to-the-home (FTTH) network.

Onvia's more concentrated coverage in rural municipalities offers a flexible and attractive bitstream service for both large- and small-internet service providers).

The network also provides retail customers with more choice and helps connect communities, supporting growth and innovation in all sectors of the economy.

## Future potential

Demand for reliable ultrafast broadband in Spain is expected to continue to grow significantly, as many of Spain's workforce take the opportunity to work with more flexibility from home. The Spanish government has also set an ambitious target that 100% of the Spanish population should have access to internet speeds in excess of 100 Mbps by 2025[1].

This presents a significant growth opportunity for Onivia.

Arjun looks forward to working with our shareholder partners and management team to expand Onivia's footprint and connect even more businesses and communities.

**COMPANY ESTABLISHED**
2019

**CAPACITY**
2.5 million homes

**INVESTMENT DATE**
2022

**Jose Antonio Vázquez Blanco**
*Chief Executive Officer, Onivia*

"With the support of our investors, we can deliver a more flexible and secure broadband bitstream service for both large and small internet service providers, boosting competition in the broadband market and reducing the digital divide between urban and rural areas in Spain. This helps Onivia's growth and its consolidation as the first neutral and independent fibre network operator."

## Other company highlights
### AT A GLANCE

Onivia owns 10,900km of laid fibre, covering 2.5 million homes across Spain. Long enough to run a fibre connection between Madrid and Shanghai (10,250km)

Fibre technology is recognised as highly energy efficient compared to alternative technologies. In turn, this has the potential to significantly reduce the energy-related emissions from data networks

1 Digital Spain 2025 Agenda

# 06

# OUTLOOK AND PRIORITIES FOR 2023

Image: **Bigadan, Kalundborg Biogas Plant**, Denmark

Kalundborg processes waste products from insulin and enzyme production to produce 8 million $m^3$ of biogas every year. The biogas is upgraded on site, before being injected into the natural gas grid.

# OUTLOOK AND PRIORITIES FOR 2023

**Although significant progress has been made on the ability of the financial markets to direct capital flows towards 'sustainable investment', 2022 saw a number of significant events which will both challenge and accelerate the quality of non-financial disclosures, and the alignment of portfolios and assets with sustainability outcomes – including net zero.**

**Looking ahead, we will continue to monitor these developments and adapt accordingly to ensure Arjun and our portfolio companies are positioned to meet investor expectations and drive action at portfolio company level.**

## Non-financial disclosures

*Clear and reliable data reporting*

Since the implementation of the EU Sustainable Finance Disclosure Regulation (SFDR) in March 2021, the market has been adopting standardised sustainability disclosures. The next milestone in SFDR's implementation will be 'Level 2 reporting', which is due by 30 June 2023. Level 2 reporting requires entity- and product-level reporting against 'Principal Adverse Impacts', such as greenhouse gas emissions; share of non-renewable energy consumption and production; and exposure to companies active in the fossil fuel sector.

As managers and investors prepare for this reporting, there is a growing urgency for data. But this also risks the reporting of any data, rather than quality data.

Data quality can be particularly challenging in private markets, where portfolio companies may not fall under a regulatory requirement to provide non-financial reporting. In this case, a significant level of assistance and capacity building is needed to generate quality data. Greenhouse gas reporting is particularly notorious for data inaccuracies.

Arjun has been anticipating these requirements and, during 2022, facilitated specialist GHG accountancy support to a number of portfolio companies. This has been overwhelmingly successful and during 2023 we will be extending this support to additional portfolio companies.

Aside from investor reporting requirements, this data is being used by Arjun to monitor and assess the performance of its portfolio. In particular, reliable GHG data will be fundamental to identifying least-cost GHG mitigation strategies, or make informed capital-planning decisions.

## Net Zero

*Developing portfolio net zero targets*

Arjun is committed to aligning investments with net zero by 2050, at the latest. This is fundamental to achieving our objective of long-term, stable returns. To monitor our progress towards this goal, we intend to establish portfolio-level targets, which are science-based and consistent with industry best practices.

At present, there are limited methodologies available to infrastructure managers to develop portfolio-level targets. One of the most appropriate methodologies is the Paris Aligned Investment Initiative's Net Zero Investment Framework (NZIF) which only recently published its infrastructure component, in March 2023.

To assist in the usability of the NZIF infrastructure methodology, Arjun is a founding member of an industry working group to develop supplementary implementation guidance. The purpose of the group is to provide additional detail and clarity on the practical application of NZIF to infrastructure assets. The working group comprises leading infrastructure asset managers from the Institutional Investor Group on Climate Change (IIGCC) and iCI membership bodies.

This guidance is due in 2023, following which Arjun intends to develop portfolio-level net zero targets. This will enable Arjun to join the Net Zero Asset Managers Initiative, confident that there is a robust target-setting methodology available.

## Climate risk analysis

*Assessing asset resilience*

Following our partnership with Cervest in 2022, we have significantly improved our integration of climate risk across the investment process. Using Cervest, we

have completed scenario analysis across six different climate risks (flooding, extreme wind, heat stress, precipitation, drought and wildfire) and across multiple future climate scenarios and timelines.

During 2023, we will be focussing on engagement with portfolio company management teams to workshop the findings from our scenario analysis. The aim of these sessions will be to identify potential vulnerabilities within the asset and, where necessary, agree measures to improve resilience.

For our development platforms, we will specifically challenge the design-stage assumptions and whether they are valid against our forward-looking climate risk assessment.

**Rhyadd Keaney-Watkins**
*Head of ESG*

"There is a generational opportunity for investors to assist the transition to a net zero and sustainable future.
There is also a responsibility to consider how investments will perform against the policy, technology and market changes that will arise from this transition.
We implement a commercially-driven approach to ESG to manage investment risk, enhance value and promote the impact of our clients' investments"

## Strategy development

### *Sustainability-driven products*

We will continue to explore opportunities to mobilise capital for sustainable impact, particularly relating to the transition to net zero. We believe there is a growing demand from investors for strategies such as these, particularly where managers can demonstrate expertise in assessing, measuring, optimising and reporting sustainable impacts.

When executed correctly, we believe that resilient returns over the long term can be coupled with sustainability impact. We will harness the expertise from across our business to develop integrated solutions, which can deliver measurable and meaningful impact.

**François Bornens**
*Partner and Head of Investor Relations*

"By integrating ESG factors in our investment process, we are able to help investors understand the impact of their assets.
There is an exciting opportunity for private capital to make a significant positive impact, such as contributing to the energy transition. Arjun has the expertise to deliver these positive impacts alongside long-term returns, and we will continue to develop and provide access to such strategies for our clients"

# APPENDICES

# APPENDIX A

## CARBON ACCOUNTING NOTES

### Carbon accounting methodology

The methodology for calculating Arjun's Scope 1, 2 and 3 emissions is set out below.

#### Scope 1

Scope 1 emissions include direct emissions arising from refrigerants and the stationary or mobile combustion of fuels. As Arjun leases its offices and does not have any company vehicles, there are no material sources of Scope 1 emissions.

#### Scope 2

Arjun's Scope 2 emissions include indirect emissions arising from purchased electricity and purchased heat at the London office.

For purchased electricity, the GHG Protocol presents a dual-reporting methodology for the reporting of emissions; location-based and market-based. These are outlined below.

| Method | Description | Emissions factor used by Arjun |
|---|---|---|
| Location-based | Reflects the average emissions intensity of the national electricity grids from which consumption occurs | The emission factor used for calculating emissions from electricity consumption in the United Kingdom is from the Department for Business, Energy & Industrial Strategy (Greenhouse Gas Reporting: Conversion Factors 2022) |
| Market-based | Reflects emissions from electricity specific to each supply / contract | Arjun's electricity supply is from renewable sources, and so an emissions factor of zero is used |

Arjun's gas usage has been assigned under Scope 2, rather than Scope 1. This is due to Arjun leasing a floor within a multi-tenant office block, where there is a single gas-fired boiler providing heat to the whole building. Each tenant is invoiced by the landlord based on the proportion of floor space which is leased, and Arjun has no direct control over the boiler. Therefore, as per ICi guidance, this gas usage has been assigned as purchased heat, under Scope 2.

For both purchased electricity and heat, data was only available for 11 out of 12 months, due to the office move taking place in February 2022. Therefore, an average monthly consumption was calculated and added to the consumption data for the 11 months to reach the emissions for the full calendar-year period.

#### Scope 3

In line with the ICi sector guidance, the material Scope 3 emissions categories for asset managers are:

**Category 6 – Business Travel**

Emissions from business travel were calculated using emissions from receipts, as well as estimates in a small number of cases where emissions data was not provided by the vendor.

Any estimates were made using a calculation of distance travelled multiplied by an appropriate emissions factor. The emissions factors used were sourced from the UK Department for Business, Energy & Industrial Strategy (Greenhouse Gas Reporting: Conversion Factors 2022).

**Category 7 – Employee Commuting**

Emissions from employee commuting have been calculated using information provided in an employee commuting survey. This survey collected information on the average number of days travelled and journey route.

The emissions associated with these journeys were then calculated using distances and emissions factors from the UK Department for Business, Energy & Industrial Strategy (Greenhouse Gas Reporting: Conversion Factors 2022).

**Category 15 – Investments**

Emissions from investments will form the majority of Arjun's Scope 3 emissions and, as a result, the majority of Arjun's total emissions. These are the greenhouse gas emissions relating to the management of the assets in the Arjun portfolio.

As per the guidance from iCI and ERM, investments made or exited during the calendar year 2022 have been excluded from calculations.

The figures reported under this category correspond to the Scope 1 and Scope 2 emissions only. Arjun intends to include Scope 3 emissions reported by portfolio companies from 2023.

Portfolio company emissions have been attributed with the following attribution factor:

$$\text{Attribution factor}_c = \frac{\text{Value of equity and/or debt in the portfolio company}_c}{\text{Total equity+ debt}_c}$$

Source: iCI and ERM guidance (adapted from the PCAF, 2020, Global GHG Accounting and Reporting Standard)

Proxies were applied for equity investments which could not provide emissions data.

As part of the Scope 3 materiality screening, the following categories were also identified sources of emissions for Arjun, albeit of low significance.

- Category 1 – Purchased goods and services
- Category 2 – Capital goods
- Category 5 – Waste generated in operations

Although these categories do not form a material proportion of Arjun's emissions, Arjun will work to include these categories in future emissions reporting to improve data coverage.

## Emissions intensity

The assets under management (AUM) figure used to calculate emissions intensities in Table 4.1 consists only of the net asset value of investments which were made prior to the commencement of calendar year 2022. Any investments made or exited during 2022 are excluded from the AUM figure and associated emissions.

## Foreign exchange rates

The following foreign exchange rates were used to calculate the emissions intensity figures in the greenhouse gas report:

| | GBP | EUR | CAD | USD |
|---|---|---|---|---|
| **30 December 2022**[1] | 1.000 | 1.128 | 1.628 | 1.204 |

Source: CapIQ, Bank of England

1 As 31 December 2022 to 2 January 2023 were not business days, the Bank of England does not quote exchange rates on those dates. Therefore, foreign exchange rates as at 30 December 2022 have been used

# APPENDIX B

## PHYSICAL CLIMATE RISK: CERVEST RISK GRADING METHODOLOGY

The physical risk assessment ratings have adopted Cervest Ratings™ methodology (October 2022). A summary of the hazard categories, climate events and impact thresholds is provided below. For more information, please visit cervest.earth.

| Hazard category | Defined climate events | Climate event thresholds | Cervest Ratings |
|---|---|---|---|
| Heat stress | Max temperature (absolute exposure,°C) | ≥40°C. | Heat stress |
| | Max temperature (relative change in exposure[1], %) | ≥20% increase relative to 2015 baseline conditions | |
| | Heatwave length (absolute exposure, days) | ≥12 days | |
| Extreme precipitation | Max 5 day precipitation (absolute exposure, mm) | ≥150 mm | Precipitation |
| | Max 5 day precipitation (relative change in exposure*, %) | ≥50% increase relative to 2015 baseline conditions | |
| Flooding | Coastal flooding (Climate Value-at-Risk, %) | ≥1% Climate Value-at-Risk | Flooding |
| | Riverine flooding (Climate Value-at-Risk, %) | | |
| Extreme wind | Extreme wind (Climate Value-at-Risk, %) | ≥1% Climate Value-at-Risk | Extreme wind |
| Drought | Consecutive Dry Days (Absolute exposure, days) | ≥40 days | Drought |
| | Consecutive Dry Days (Relative change in exposure*, %) | ≥50 increase relative to 2015 baseline conditions | |
| Wildfire | Fire Weather Index (absolute danger) | ≥45 | Heat stress |
| | Fire Weather Index (Relative* change in danger) | ≥80% change increase in wildfire danger relative to 2015 baseline conditions | |

**Combined physical risk**

Combined physical risk combines all hazard signals in EarthScan to indicate the hazard driving the greatest risks to your asset

1 The relative rating uses a threshold relative to the 2015, at a two-year return level of that asset. 20% refers to an increase of 20% over the historical value. In that case, if the value in 2015 for that asset was 25, the relative threshold will be 30.

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Image: **Woodland**, UK

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