



# Meridiam Developing Urban Resilience through Geothermal Energy

May 2023

# Key take-aways on Meridiam

## A unique investor

- Developing and delivering sustainable and resilient infrastructure that improves the quality of people's lives
- Dedicated to long term investment (25 years horizon or more)
- Focused on impact, with SDG-dedicated measurement tools and commitments to the highest ESG standards
- Extensive experience across infrastructure development (over \$80 billion invested since 2005)

## Dedicated to the Region and Innovative Low Carbon Solutions

- Active in the CEE from the early years, with investments now in Bulgaria, The Czech Republic, Poland, Romania and Slovakia
- One of the leaders in investments for the development and implementation of complex projects in the field of energy transition

## Developing bespoke solutions for cities: The Urban Resilience Fund (TURF)

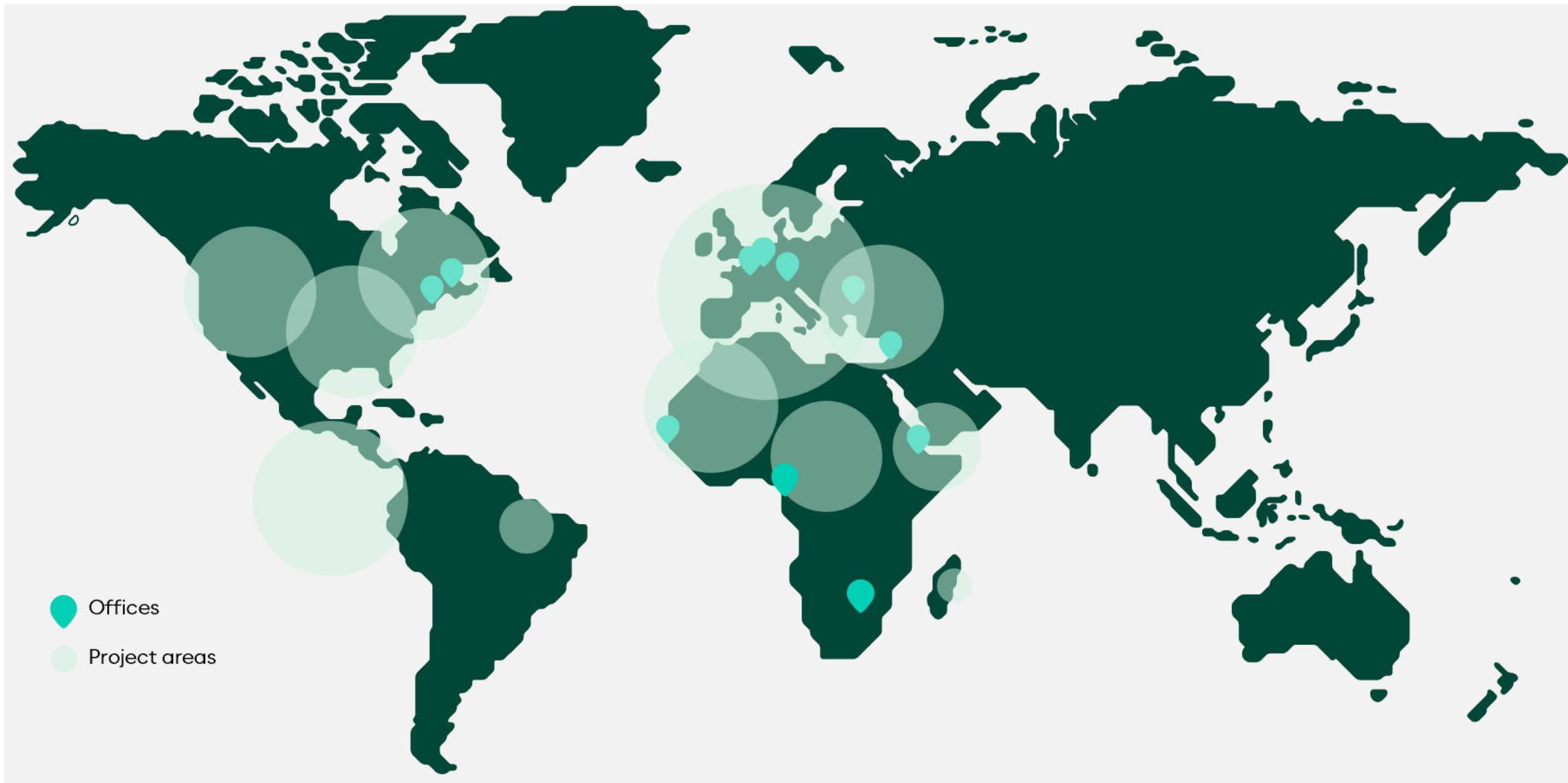
- Specific focus fund combining Meridiam expertise and platform with a tailored approach to cities
- Partnering with Cities and their associated ecosystem to deliver urban resilient infrastructure with adapted financing, legal and technical solutions

Meridiam will support geothermal energy development to improve resilience of cities

“We are in business to improve the quality of people’s lives, support communities and protect the planet for future generations. We work for people and the planet.”

**Thierry Déau,**  
Founder and CEO of Meridiam

# Meridiam overview



**\$80bn+**

of capital invested

**237,500**

Direct and indirect jobs  
created

**\$20bn+**

of assets under  
management

**120+**

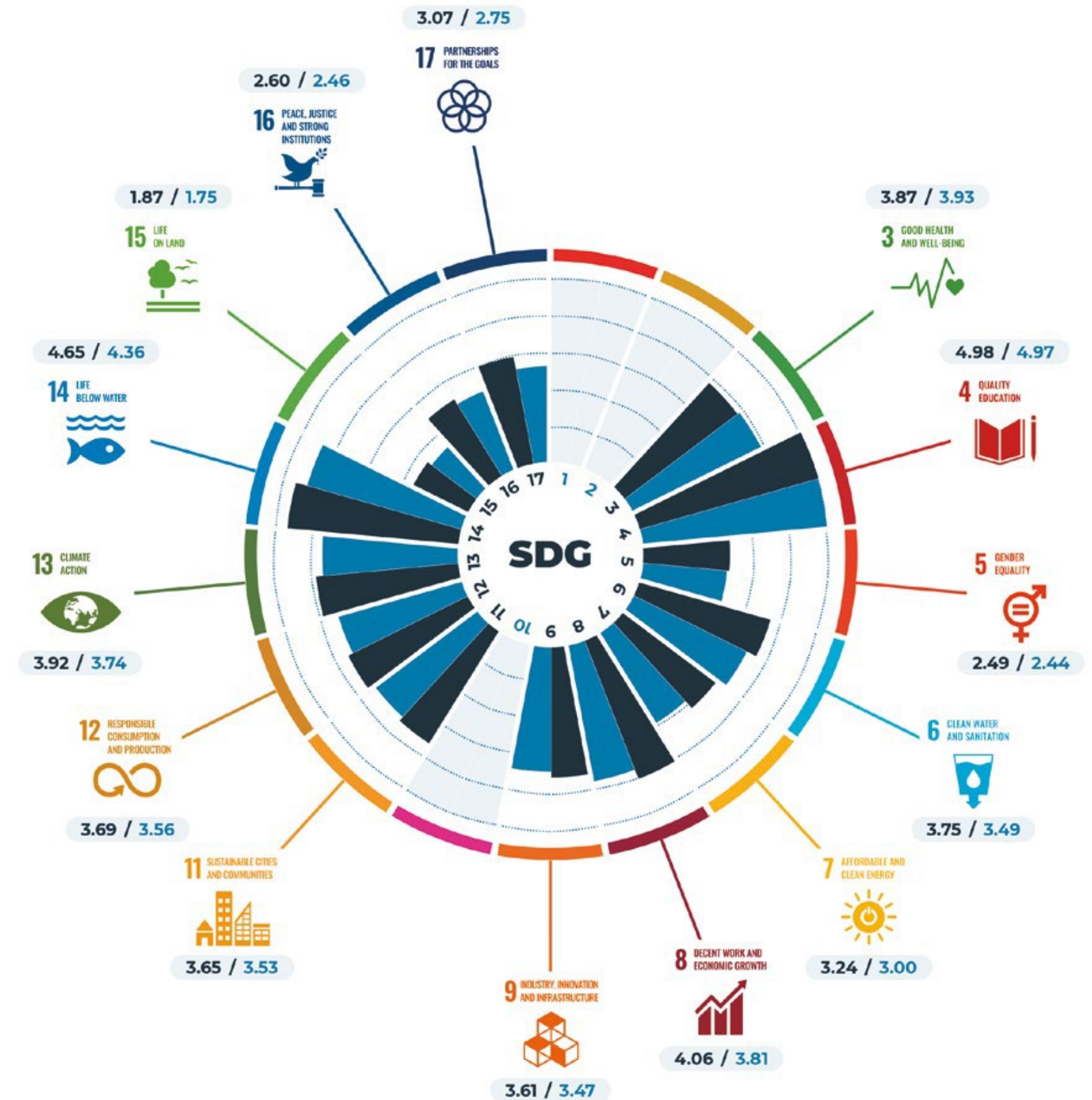
Projects around the world

# Our investment approach

We believe that infrastructure investment should be long-term, responsible, and sustainable, with clear benefits to local communities, and that the proper qualification of Environment, Social and Governance (“ESG”) and impact is essential to effective stakeholder management.

We are driven by a commitment to making the UN Sustainable Development Goals a reality and we are tracking and monitoring the impact of each project using our unique framework of assessment and Simpl.® tool.

We adhere to the most robust ESG principles including UN Principles of Responsible Investment (“UN PRI”), the Equator Principles and ESG criteria of leading Development Finance Institutions (“DFIs”). These are the core of Meridiam’s sustainable development charter and are integrated throughout our investment and portfolio management process.



# Our three impact areas



## Critical public services

Hospitals, schools and nurseries, court houses and university accommodation, and similar initiatives that improve access to essential health and education services. Always aiming to ensure that all our projects are built to maximise benefits and provide positive impacts for communities and environment.



## Sustainable mobility

Roads, rail, ports and airports, alongside trams, electric buses, tunnels and electric vehicle charging points. Modern projects that improve transport infrastructure and services for people while preserving the environment.



## Innovative low carbon solutions

Harnessing solar, hydroelectric, geothermal energy, biomass and biogas, while creating technology to minimise power use at home and work. Bringing renewable power to communities, improving countries' energy mix and helping bring down global greenhouse emissions.

# An experienced developer dedicated to the long-term



**25 year investment horizon –**  
Meridiam committed to long-term success of investments and has **never sold an asset**

**Meridiam focuses on three core areas of infrastructure development:**

- 1) Early engagement** and supporting the development of projects from early stages – this allows us to ensure a project is truly sustainable over the longer term
- 2) Efficient investment** and securing the optimal commercial and financial structure for our projects
- 3) Long-term active management** of the assets in our portfolio underpinned by our desire to hold our investments

**Thus providing a greater alignment between the public and private sectors**

# Meridiam regional and technical expertise



# Some key focus areas

## Innovative low carbon solutions

- Investing in the energy sector in Europe, Africa and America since 2015
- Initially progressed through a dedicated fund, now part of our core focus
- Meridiam's portfolio covers a wide areas of expertise.



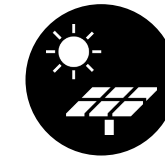
BIOGAS & BIOMASS PRODUCTION



GEOTHERMAL PRODUCTION PLANT



ENERGY EFFICIENCY OF BUILDINGS



SOLAR & ENERGY STORAGE



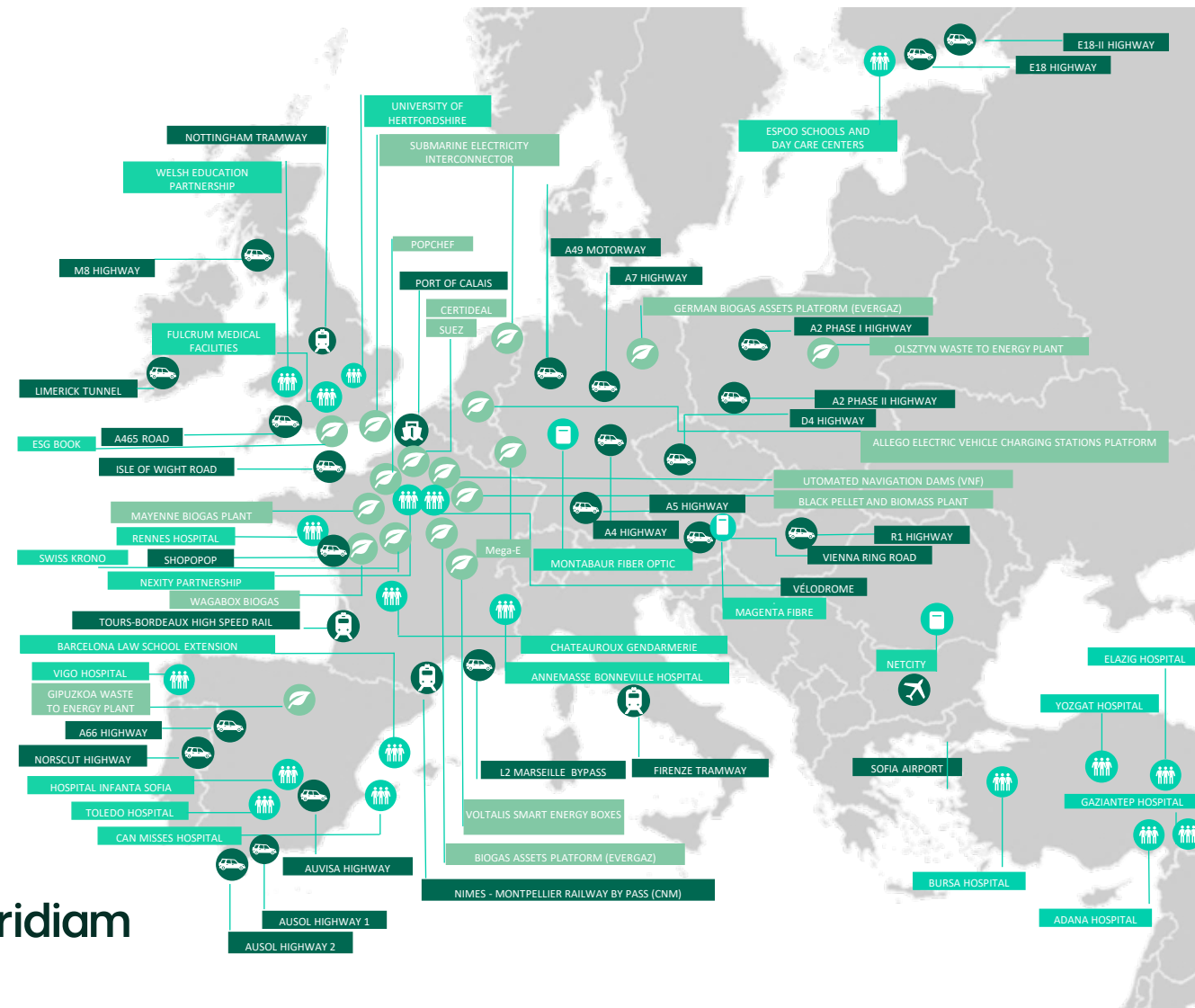
HEATING NETWORKS & COGENERATION



ELECTRIC MOBILITY & INNOVATIVE RENEWAL SMART CITIES



INNOVATIVE RENEWAL ENERGIES



## A strong presence in CEE

- Over €4.5Bn of capital invested across the area
- A strong focus on long-term impact and decarbonisation of critical sectors
- A positive track record of working together with regions and public entities

# Sofia Airport



Over 7m passengers



24 airlines



circa  
90 destinations

Location: Bulgaria  
Stage: in operation  
Duration: 35 years  
Financial Close: December 2020

Concession covers all operations and maintenance services of the Airport, including long-term development strategy.

A new terminal will be built, replacing the old existing one whilst ensuring the continued operation of the airport.

# NetCity - Bucharest



Image Source: Depositphotos\_207345772\_XL @Shutterstock



Up to 5,500 km of ducting to improve connectivity



An additional 1,725 km of fibre throughout the city



Increasing investment capacity of the Romanian Telecom industry

Location: Romania

Stage: under construction

Duration: 49 years

Financial Close: December 2021

Netcity's activities include designing, building and operating the duct network for the entire Bucharest area.

Meridiam's investment enables financial close of a project that will double coverage of underground fibre connections in Bucharest within four years, improving quality and safety for city residents.

# Olsztyn Waste-to-Energy

Location: Poland  
Stage: under construction  
Duration: 28 years  
Financial Close: August 2020

Design, construction, financing, operation and maintenance of a Waste to Energy plant and Peak Load Boiler House in Olsztyn, Poland.

The Project will guarantee the heat supply to the 170k inhabitants of the city replacing a coal-fired plant and will help the country to comply with the latest EU waste treatment regulations.



Cogeneration (electricity and heat) delivering to more than 170,000 people



Supply of 30% of local needs for heat



100,000 tons of waste diverted from landfills



# Tulu Moye Geothermal Plant

Location: Ethiopia

Stage: Drilling / Commercial Close

Duration: 25 years

Financial Close: in progress

Meridiam partnered with Reykjavik Geothermal, to co-develop a 150 MW geothermal project, located 100km south-east of Addis Ababa.

The project is split into two phases, with Phase 1 focusing on an initial 50MW Plant. Successive phases to reach 150 MW of capacity will follow in the subsequent years.

Meridiam



150 MW of geothermal capacity to be developed



First IPP in Ethiopia



Exploration and Drilling



*\* Independent Power Producer*

Image Source: Project Company

# And many other projects...



University of Iowa, Fresno state University (USA)

**ENERGY EFFICIENCY OF BUILDINGS**



Swiss Krono, Evergaz, Idaho, Dessau & Pessin...

**BIOGAS & BIOMASS PRODUCTION**

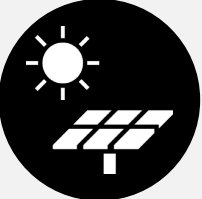


Montreal Healthcare Research Center,  
Adana, Annemasse, Bursa, Elazig, Gaziantep Hospitals

**HEALTHCARE**

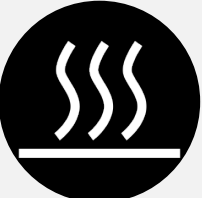


CEOG, Senergy and Ten Marina PV plants, NEEt offgrid



**SOLAR & ENERGY STORAGE**

Gipuzkoa Waste Treatment Plant



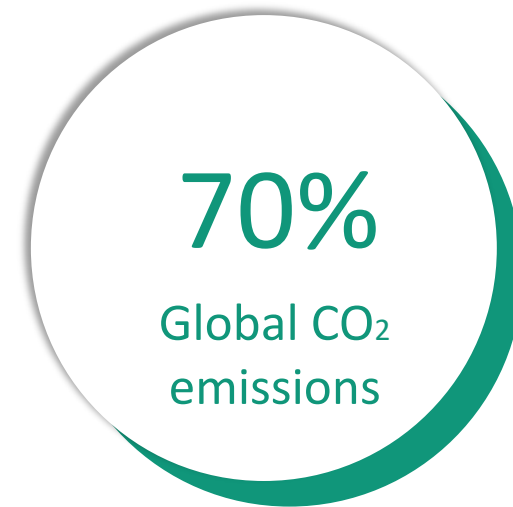
**HEATING NETWORKS & COGENERATION**

# The Urban Resilience Fund

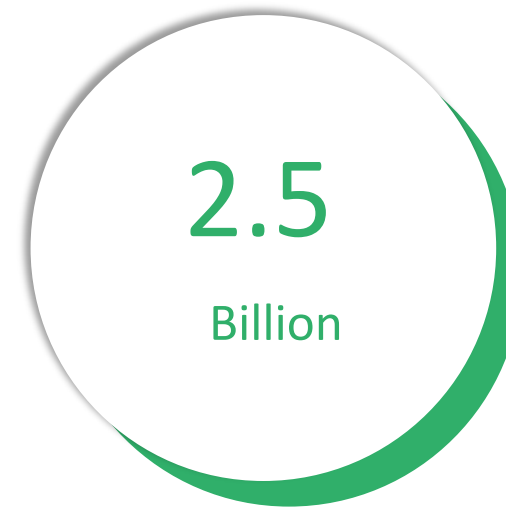
# Cities are first-in-line facing Global Warming and must deliver more resilient infrastructure



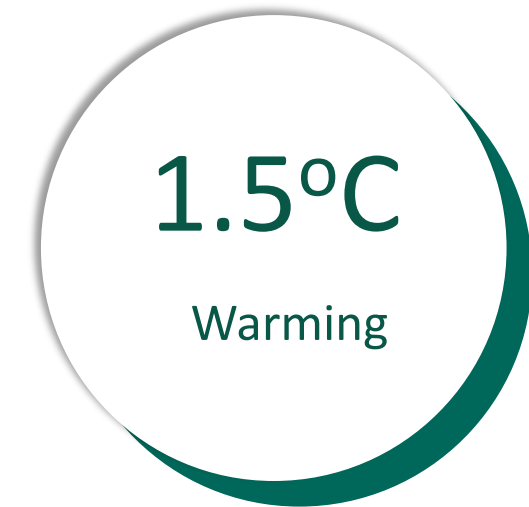
Demand for urban sustainable and resilient infrastructure p.a.



Are produced by cities across the world



More people are expected to live in cities by 2050



Urban areas are the most vulnerable to the risks associated with global warming

## Despite clear demand for resilient urban infrastructure, Cities are facing substantial headwinds

- The urban environment increases complexity – working around existing infrastructure, increased number of stakeholders...
- Individual project size is lower on average, therefore increasing resources required on a proportional basis
- Projects are growing both in complexity and number in a fast changing environment, putting a strain on dedicated teams

These challenges are widely recognised by market participants as seen by a plethora of initiatives from multinational bodies:





# TURF approach

**TURF focuses on projects across a wide range of sectors which:**

1. Have been identified as clear development priorities by the city
2. Result in high development and resilience impact
3. Target specific SDGs

**Energy is fundamental topic in addressing resilience and should be addressed at all levels of the energy chain: generation, storage and use**

1. Substitution of fossil fuel usage and development of clean technologies
2. Penetration of alternative sources
3. Adaptation and strengthening of existing distribution systems

**Meridiam has developed specific frameworks allowing collaboration from the early stage of the project in line with EU laws.**

## Urban Mobility



- Bus Rapid Transit (BRT)
- Light Rail (LRT)
- Central Stations
- Cable cars
- Mobility-as-a-Service solutions

## Smart City Solutions



- Urban renewal
- Smart street lighting
- EV Car charging
- City fibre optics

## Built Environment



- Schools
- Hospitals
- Flood protection
- Rainwater systems

## Energy Transition



- District and microgrids management
- Grid distribution and stabilization
- Waste-to-energy
- Energy efficient buildings

## Resource Management



- Water management
- Waste & wastewater treatment
- Demand-side management systems

# TURF solutions

1

## A fund dedicated to Urban Projects

Addressing the challenges of project development in cities:

- Higher complexity
- Smaller size
- Increased number of stakeholders

2

## Focused on generating clear resilience impact

Creating clear, structural gains that will intrinsically benefit the cities and communities in the long-term.

3

## Versatile across development models

Development frameworks spanning from private incentive to 3P or concessions, backed with appropriate legal frameworks and in-depth experience from Meridiam.

4

## Early-stage engagement on project preparation

Ability to support the projects and work with cities to unlock and accelerate their development from the initial stage.

# Case study : Strategic Energy Partnership



One of the top 10 cities in the UK (population over 300,000 people) selecting a Strategic Energy Partner on energy generation, energy efficiency, decarbonization of transport and building retrofit.

### Primary objectives :

Developing and implementing a plan to tackle the causes and consequences of climate change:

- Improving air quality
- Lowering carbon emissions
- Increasing active travel
- Increasing investment in zero carbon technologies

with a specific emphasis on the **wider social benefits** that projects can bring for social inclusiveness.

### Addressing critical issues

**The Strategic Energy Partner will form a Joint Venture Partnership with the City** and will be responsible for working closely with the Council to update the city’s energy strategy, identify and structure key projects in support of this strategy

### Key information

Sector	Energy
Contract Type	Concession / development partnership
Total Project Cost	£250 million
Estimated Commercial Close	August 2023



Strategic partnership with the Municipality



Developing sustainable energy and mobility solutions



Ensuring social benefit for the most vulnerable



# Case study : geothermal heating and social infrastructure in a major industrial site redevelopment



Renovation & redevelopment of a former major train depot into a new, mixed-use district in a large city of the Greater Paris area.

## Primary objectives :

- Develop a geothermal plant to supply the district with renewable heating and cooling
- Develop a mobility hub with car sharing options, EV charging, last-mile logistics solutions
- Develop social infrastructure in the district (childcare centers, health centers)

## Addressing critical issues :

- City undergoing profound social and economical transformations
- One of the poorest region in France with 39% poverty rate

The project involves multiple stakeholders, with structuring and integration requiring an experienced investor like Meridiam

## Key information

Sector	Renewable energy Mobility Social Infrastructure
Procuring authority	Municipality Site owner
Contract type	Private development
Total project cost	€25-35m



Developing sustainable energy and mobility solutions



Building critical social infrastructure in a strategic location



Contributing to inclusive development in one of the poorest cities in the Paris area



# Resilience through the development of geothermal energy

# A unique solution to address multiple challenges

Geothermal heating is a simple and efficient solution to develop resilience, thus providing significant benefits at local and national level

Meridiam can leverage its regional and technical expertise to support such development



Reduces pollution (air particles, CO2...)

Sustainable energy source



Reduces reliance fossil fuels import

Develop local resources



Safer and simpler heating



Develop local competencies



# Thank you

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