



Cooling as a Service
Refresh the planet

Market Transformation: Servitisation of Cooling Industry





About BASE

Basel Agency for Sustainable Energy



*Driving investment in
sustainable energy*

BASE is a Swiss not for profit foundation and a Specialised Partner of UN Environment.

BASE develops innovative, actionable financial strategies and market-driven solutions to unlock investment in sustainable energy and to tackle climate change.



The Challenge

Cooling demand is rising dramatically

Cooling demand will **triple by 2050, from 10 to 30% of global electricity consumption** (= China's electricity use today) *



*IEA, The Future of Cooling, 2018



Opportunity

Significant investments in cooling systems upcoming

Market of **6.9 trillion USD** over next 30 years (**230 billion USD/year**) that could be invested in clean efficient cooling



*IEA, The Future of Cooling, 2018



Opportunity

Life cycle cost (12 years)



- Cost of Water
- Cost of Equipment
- Cost of Maintenance
- Cost of Electricity

Energy-efficient systems are cheaper over the long term

- 90%+ of costs related to operation and maintenance
- Large savings potential with short payback periods

BUT:

- Business and building owners are not investing in more efficient systems!

* BASE calculations with inputs from technology providers



The Challenge

Investment decision is sensitive to purchase price



Key barriers:

- Higher upfront cost of efficient technology (competing against cheap and inefficient tech)
- Lack of trust in performance
- Prioritisation of investment in core business
- Maintenance overlooked and/or spare parts not available



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The Solution

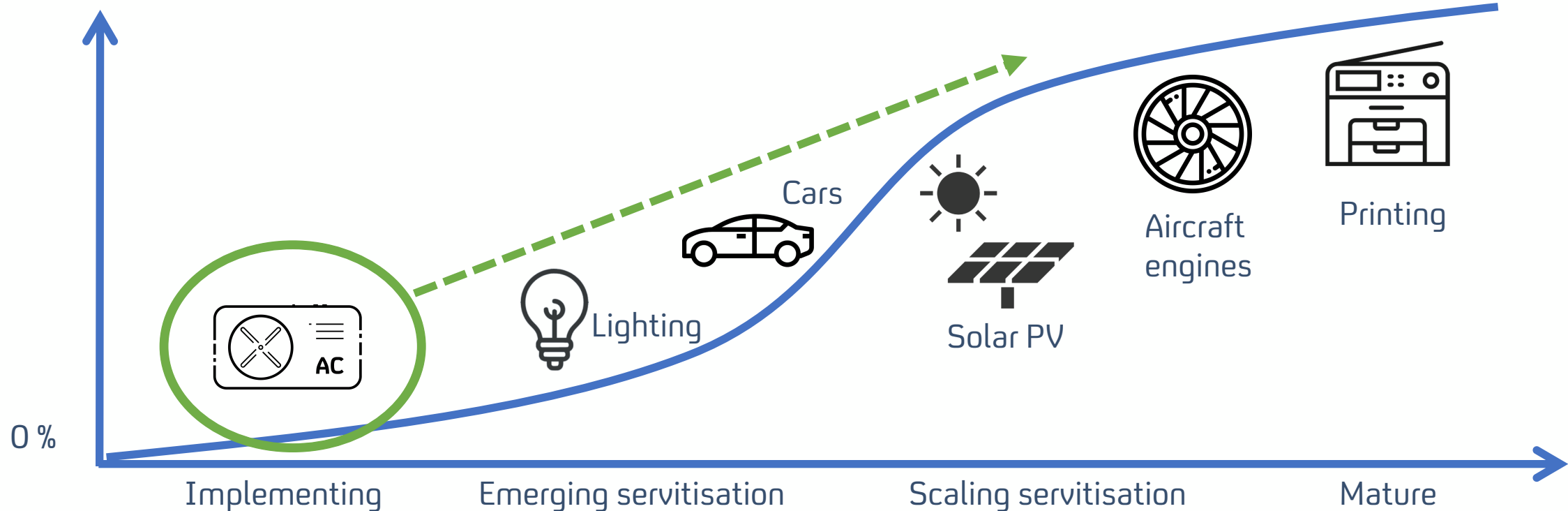
Cooling as a Service (CaaS)



Servitisation

Mega-trend growing rapidly across equipment industries

Penetration





CaaS Solution



Endorsed by the Global Innovation Lab for Climate Finance as one of 2019's most innovative financial instruments among 250+ applicants

- Pay-per-use model
- Providers own equipment
- CAPEX to OPEX
- Aligns incentives for efficient production and efficient consumption
- Makes lower life-cycle cost of efficient cooling tangible
- Includes capitalisation mechanism of CaaS providers (SPV, sale-leaseback)



Differentiation from similar models

Instrument	Differentiation from CaaS
Energy Service Company (ESCO) : Shared savings and guaranteed savings Energy Performance Contracting	Payments dependent on energy savings. Instead a CaaS payment is agreed in advance as a function of actual usage.
District cooling	District cooling aggregates demand in large-scale systems. Instead CaaS can be applied to single buildings.

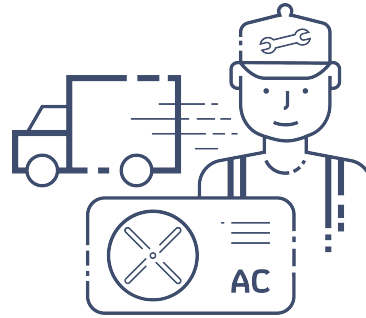


CaaS Solution

Key actors involved



Cooling users



Technology Providers



Banks / Investors



CaaS Solution

Advantages for users



- No capital expenditure
- Reduced operating expenses
- Service is off-balance
- No more performance risks
- Full out-sourcing of cooling service
- User can focus and invest in core business



CaaS Solution

Advantages for technology providers



- Deploy full potential of technology
- Increase demand for energy efficient solutions
- Predictable and continuous revenue streams
- Bring additional value by selling outcome instead of selling equipment and parts



CaaS Solution

Advantages for banks and investors



- Opportunity to place green funding
- Become front-runner to finance servitisation models (new trend)
- Investing in assets generating cashflows

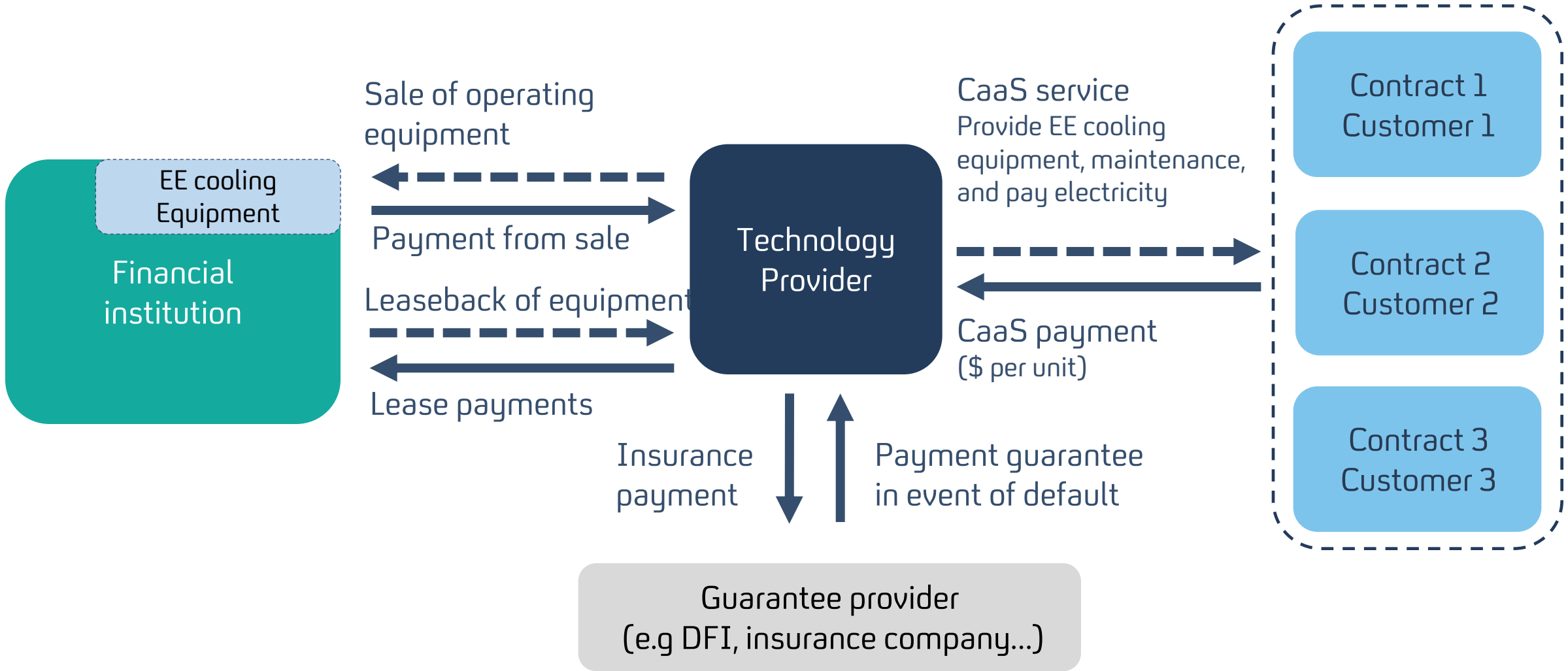


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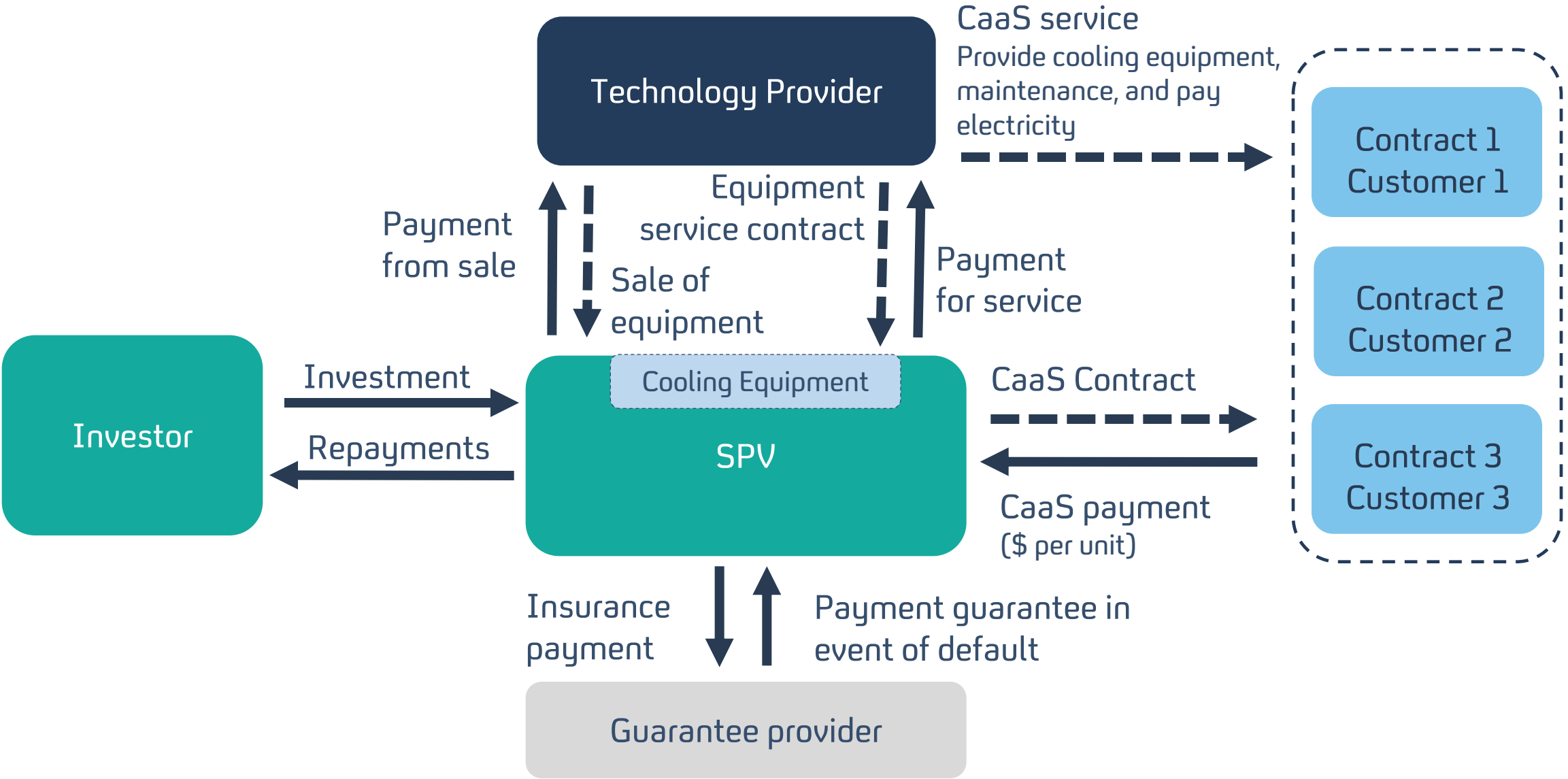
Funding structures

Possible financial structure 1

Sale and leaseback

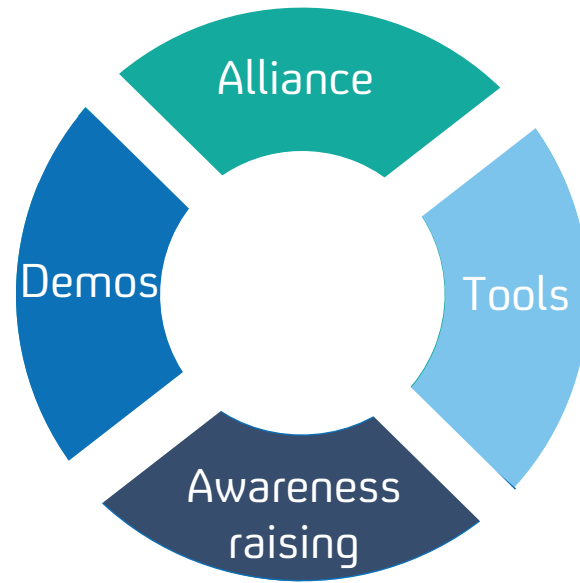


Possible financial structure 2 Special Purpose Vehicle (SPV)





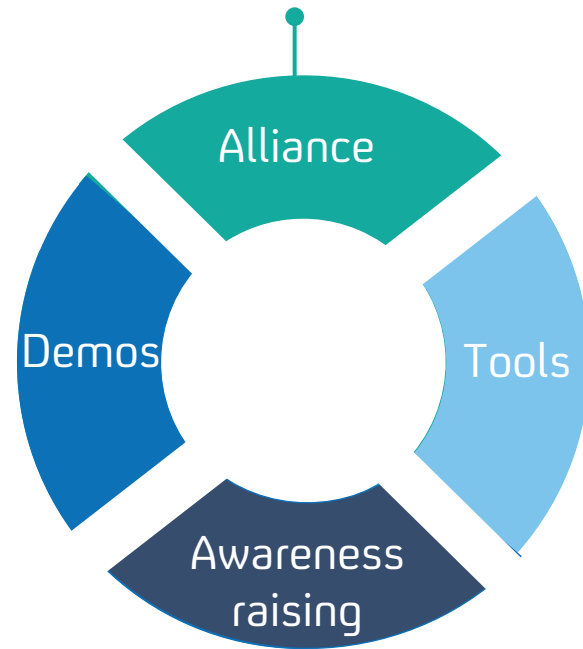
Caas Initiative





Caas Initiative - Alliance

Partnerships with technology providers, clients, investors, associations, networks

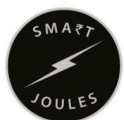




CaaS Initiative – Alliance July 2020



Supporting Partners





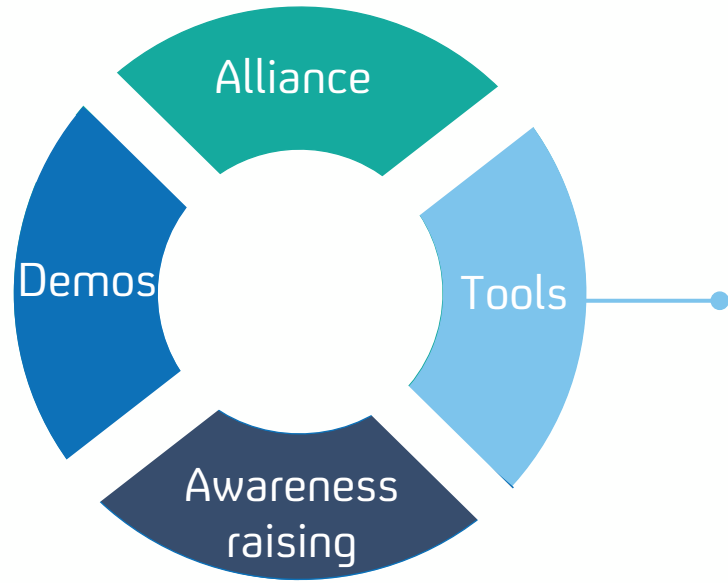
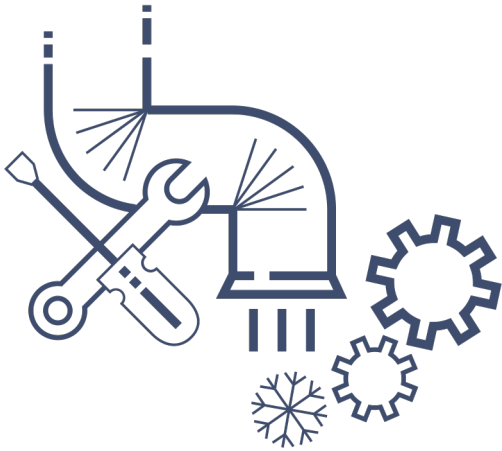
CaaS Initiative – Alliance July 2020

Outreach Partners





Caas Initiative - Tools

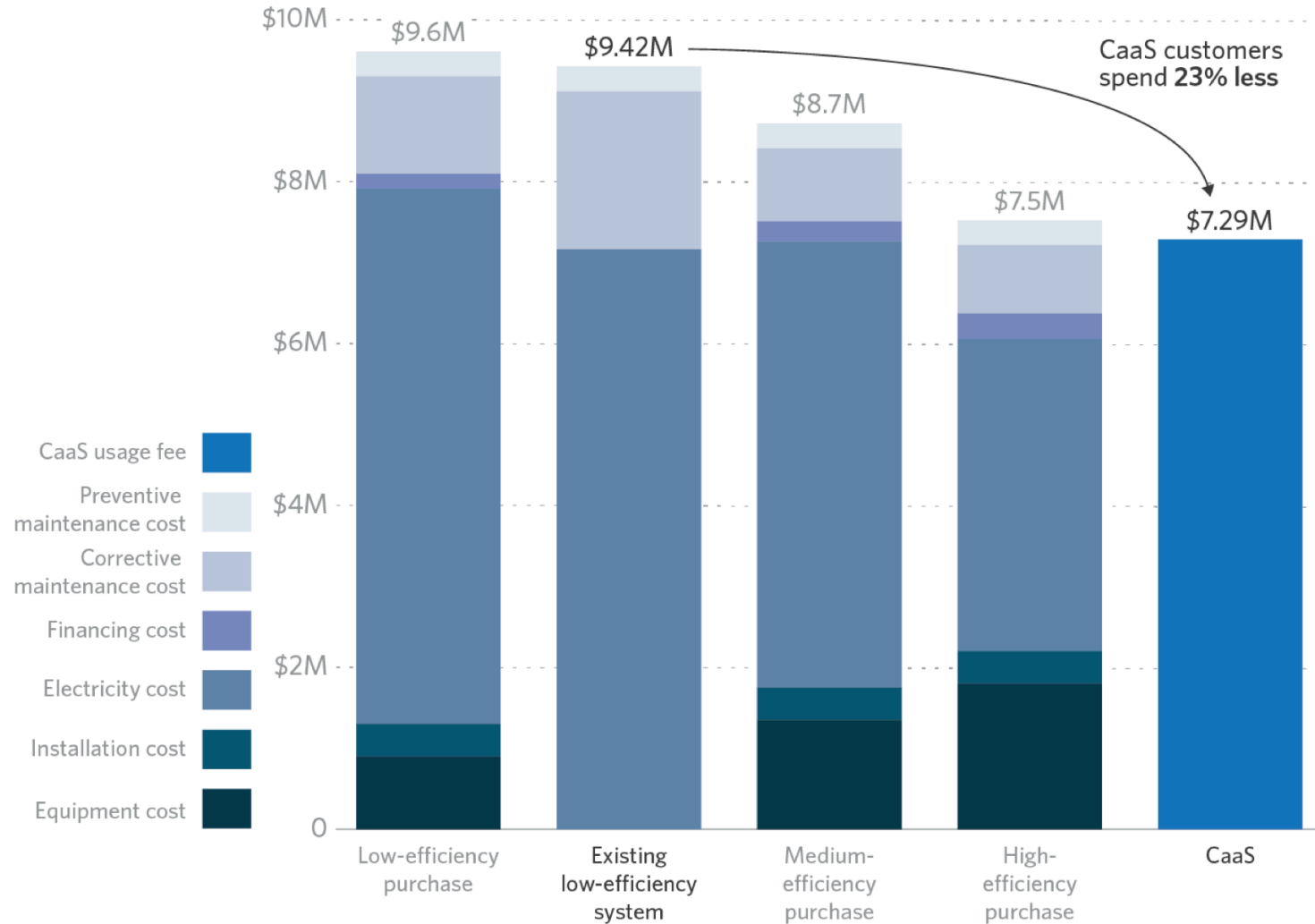


CaaS contracts,
Pricing models, financial
structures



Caas Initiative - Tools

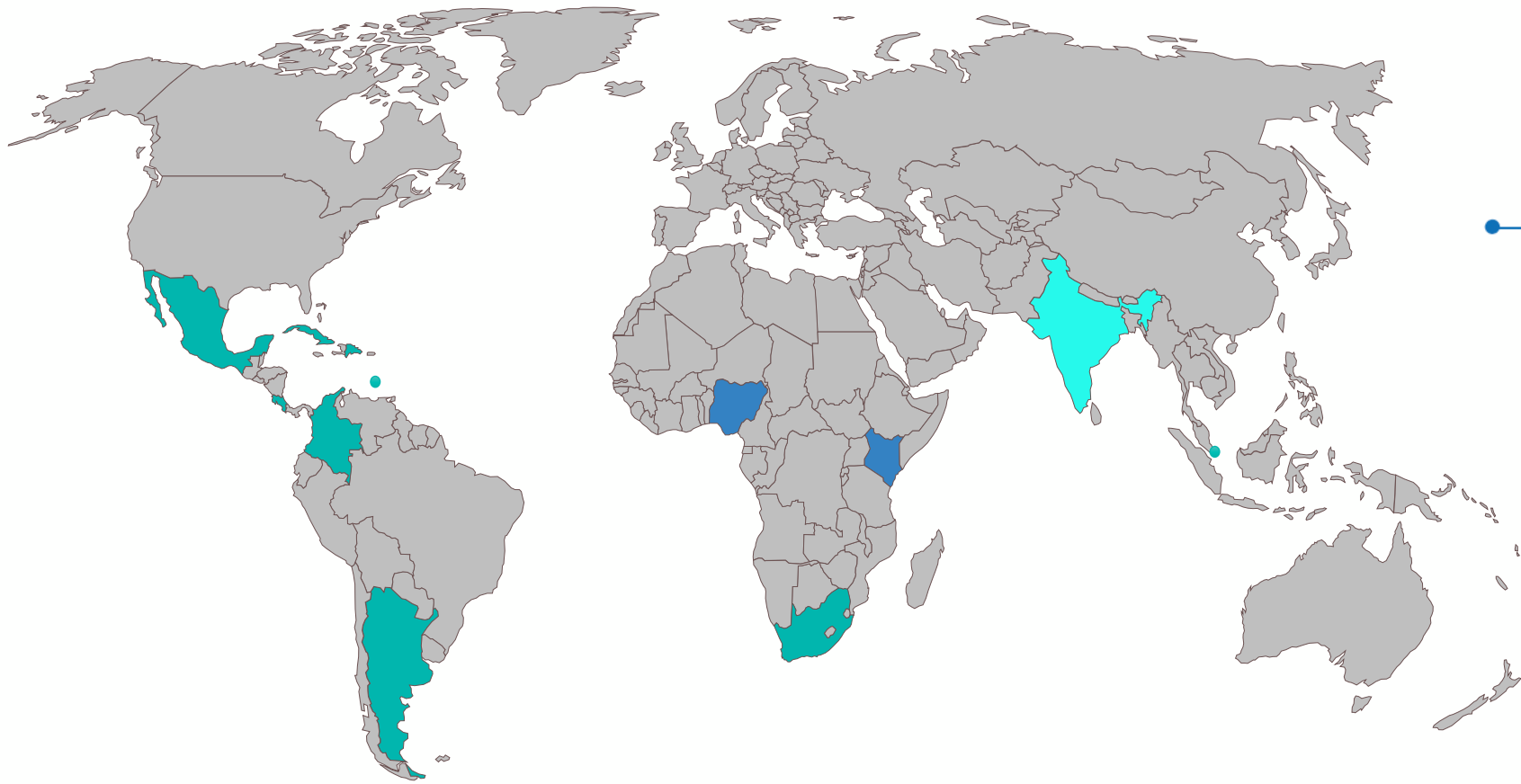
Figure 3. Cumulative discounted customer spending for a 1200 TR chiller system



Cooling as a Service (CaaS),
Lab Instrument Analysis,
September 2019



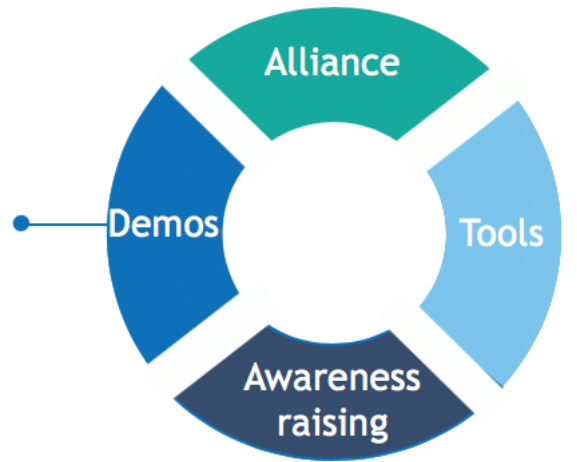
CaaS Initiative - Demos



● Industrial/commercial

● Cold Storage

● Industrial/commercial & cold storage





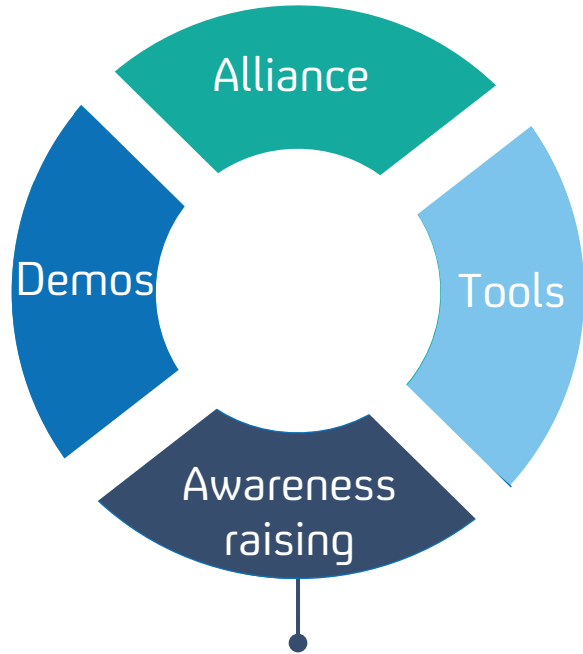
Caas Initiative – Awareness raising

WEBINAR

CaaS BASE Iea SEAD

How Cooling as a Service is set to revolutionise the cooling industry

Wednesday, 22 April - 10am CEST



WEBINAR

CaaS WORLD GREEN BUILDING COUNCIL

How Cooling as a Service can accelerate a transition to zero carbon buildings

Wednesday, 15 April - 10am GMT-5

Matchmaking events, workshops, webinars, articles, podcasts.



CaaS initiative – Awareness raising



The Cooling Imperative

The Cooling-as-a-service (CaaS) business model



**UK LEADERSHIP ON SUSTAINABLE COOLING:
FROM COVID-19 TO COP26**



Cooling as a Service model gaining momentum globally



Cooling as a Service: A disruptive business model for sustainable cooling





CaaS Initiative – Awareness raising



Cooling as a Service (CaaS) Global E-Summit

1 December, 2020
08:30 - 19:00 CET
Free-to-Attend

[Register now](#)



Case Studies

CaaS implemented in commercial building Q Office in Colombia by MGM Innova Group and fruit packaging firm Afrupro in South Africa by Energy Partners





Get involved!

Join the alliance, subscribe to the CaaS Newsletter, join the E-Summit

Gathers investors, banks, technology providers, networks and international organisations to:

- Implement the model in different sectors and regions.
- Spread the word about the model
- Build capacity
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- Register to the [E-Summit](#)





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