



# Projects Working Group

Renewable Thermal Collaborative

April 20, 2021



# TODAY'S SPEAKERS



Blaine Collison  
DGA/RTC



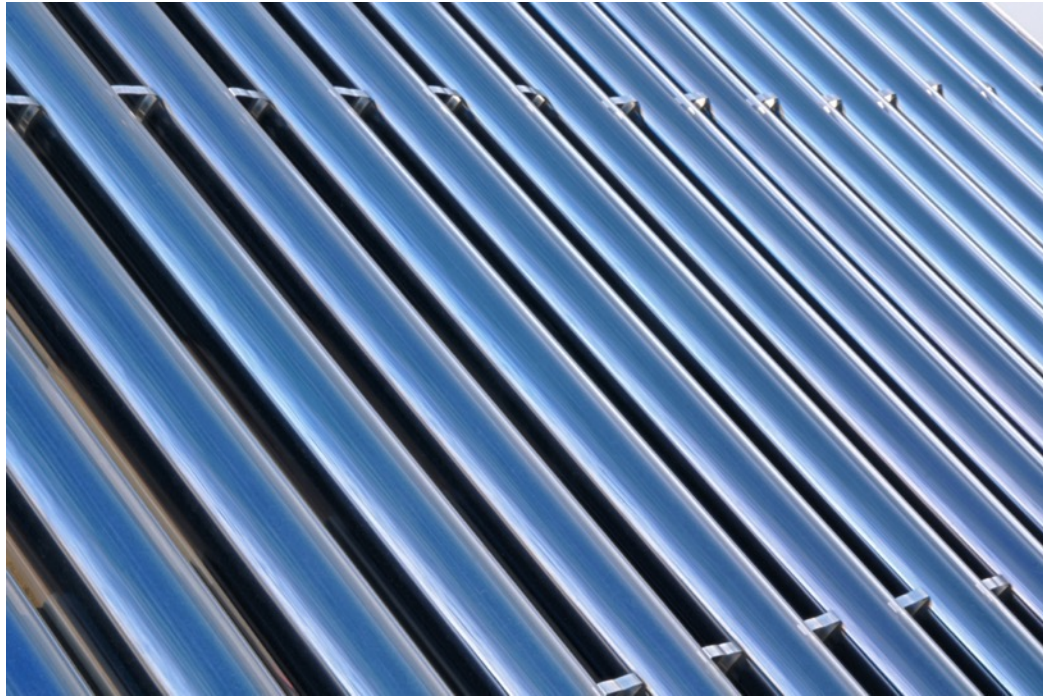
Oliver Hurrey  
Galvanised



Andy Todd  
Verco



# THE RTC IS LAUNCHING A NEW PROJECTS WORKING GROUP



This new RTC Working Group will be supported by Verco and Galvanised, and will be focused on developing collaborative project ideas aimed at accelerating progress in the area of renewable thermal energy.

**verco**



# PURPOSE OF THE PROJECTS WORKING GROUP

To support companies' efforts to address shared renewable thermal challenges collaboratively

To provide members with the information to enable them to gain internal support for collaborative projects

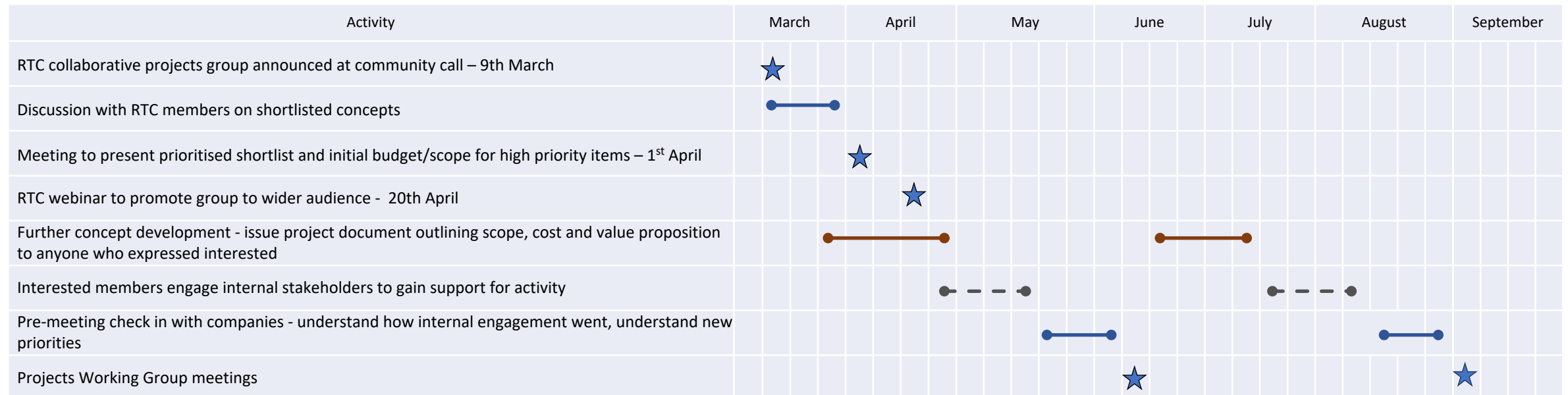
To accelerate thermal decarbonization by sharing project findings with the wider renewable thermal community



# BASIC FRAMEWORK OF THE WORKING GROUP

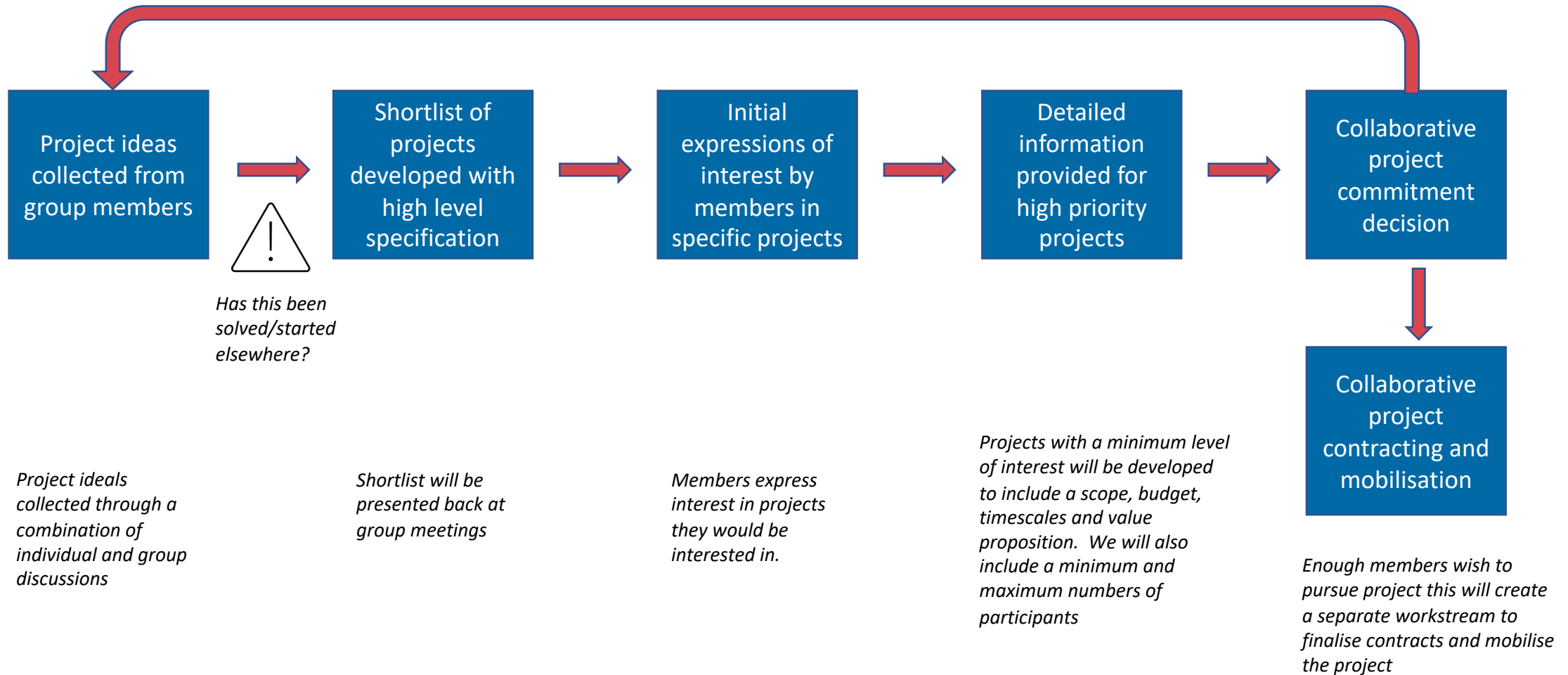
1. The group is aimed at thermal energy users interested in joining and funding collaborative projects.
2. Participation in the group will be open to RTC members and non-member thermal energy users.
3. Challenges and collaboration ideas will be collected from the group, worked up into potential collaborative projects, and presented back to the group with supporting documentation.
4. Group participants will have the opportunity to go back to their businesses to confirm whether they wish to participate in a project, sharing the cost with the other participants.
5. Insights findings from the progressed projects will be shared back with the RTC community in due course.

# PILOT TIMELINE



# PROJECT DEVELOPMENT PROCESS

*We continuously review the pipeline of projects and ideas*



# INITIAL AREAS OF INTEREST FROM THE GROUP



From conversations with group members over the past 6 months a shortlist of challenge areas was developed.

Whilst not an exhaustive list this is a good reflection of the key issues the brands are facing.

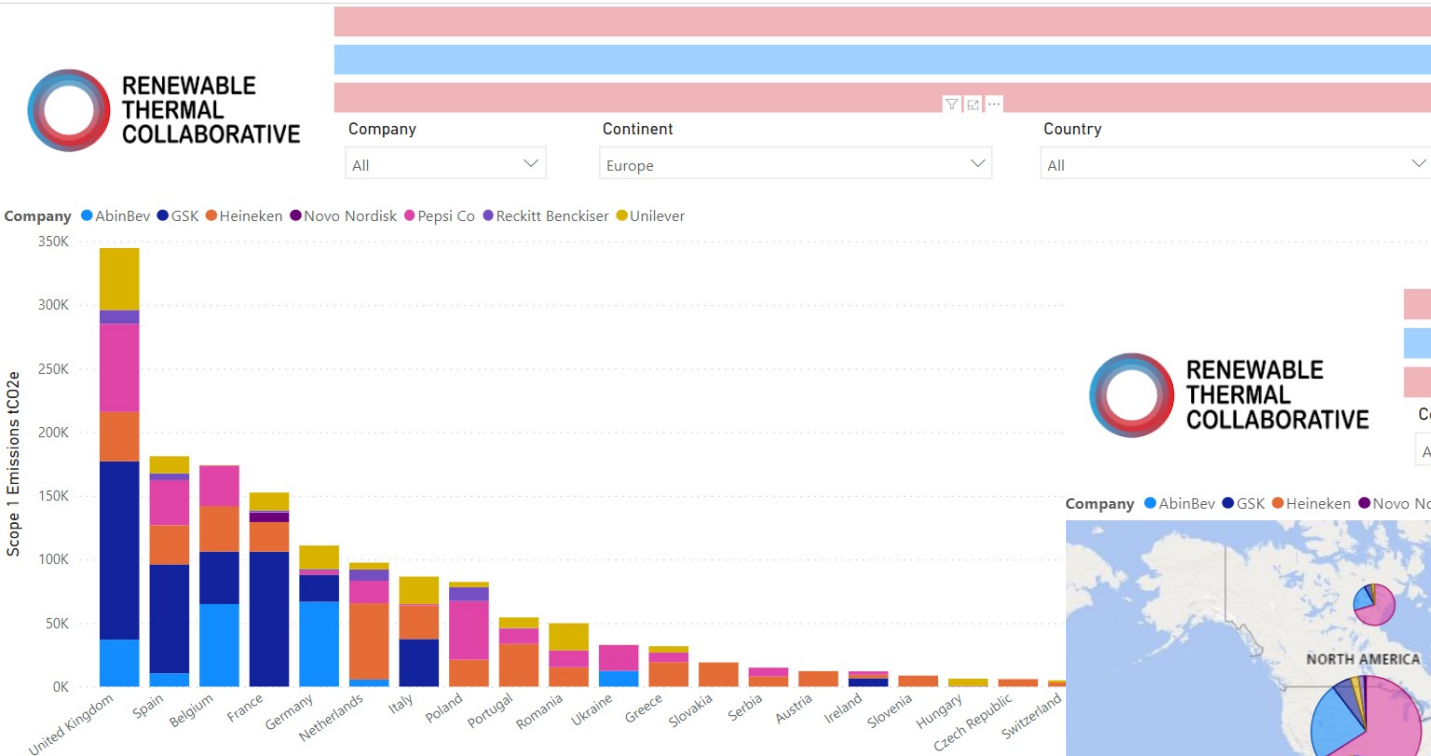


# CHALLENGES WERE CONSOLIDATED INTO AN INITIAL SHORTLIST

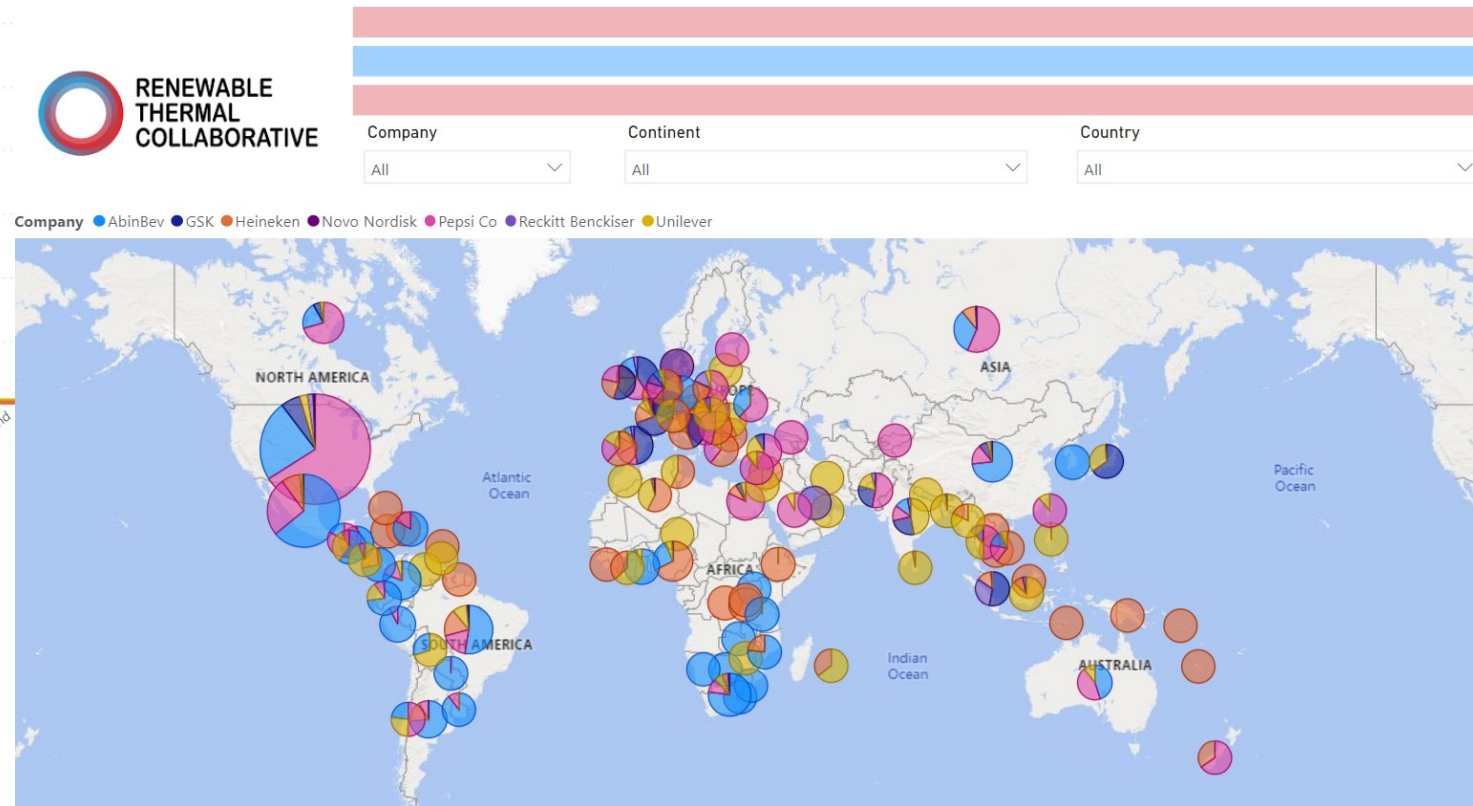
Item	Topic	Key questions / challenge areas	Potential peer group activities		Potential benefits to members					
1	Use of CHP in decarb journey	•Are they bad and should we move away from them or are they still part of the solution? •Should our view change in different geographies? •If natural gas price remains low could they be used with other technologies (e.g. Carbon Capture) to mitigate carbon impact?	Development of <b>decision framework</b> / playbook for the optimal application of CHP. Likely to include some basic calculation tools to help assess local conditions		Confidence in decision making around CHP assets.  Peer reviewed resource to use to build internal cases for or against CHP.					
2	Waste to Energy (combustion)	•Is this an Interim •Are Biomass CHP •Should we be using municipal markets •What is the carbon footprint of this a positive area for burning?	4	Waste to energy (AD – Biogas)	•There are several challenges to overcome in this industry such as the use of sewage, manure and agricultural waste •Investment is needed so companies need to get together to prove the market is there to buy biogas directly or via certifications.		Potential peer group activities		Potential benefits to members	
3	Green gas, Renewable gas certification	•Status of green gas in different markets •What is the likely future for biomethane •How can these be changed need to have guidance)			Key questions / challenge areas		Potential peer group activities		Potential benefits to members	
					7	Hydrogen Expansion	•Blue + Green (hydrogen is becoming available but costs are very high •There are lots of projects going on around world (ERM hydrogen study on this) •Likely to be some pilot opportunities with companies coming together with larger demand to have more examples like the UK Hynet project. •Need the infrastructure in place, government subsidies etc or alternative ideas mix hydrogen with nat gas at 20% to low c in interim solution.	Mapping of hydrogen projects in different regions. •Identification of project developers •Identification of potential collaborative pilots	Overview of current development of hydrogen projects Potential to develop collaborative pilots	
			5	Mainstreaming carbon capture	•CO2 reuse (or not). •New technology application, mainstreaming •SBT/GHG P renewable s	8	Thermal demand mapper for Peer Group	•The applicable solutions for renewable thermal have technical and geographical consideration. •The heating application and grade of heat required is an important consideration when looking for opportunities to collaborate or develop regional clusters	A database and visualisation tool which companies upload details of their thermal requirements. This could include: Current fuel consumption By region Breakout of heating demands (by temperature range/ application)	This could be used to help identify suitable areas for collaborative pilots, provide guidance on focus areas for the group as well as providing some quantitative demand data when looking to engage with project developers for Hydrogen/AD/green gas
			6	Electrification, heat pumps etc for thermal use	•What technology available •How are we and initial b •Where is the should we b •Who can pr	9	RT regional incentives / maturity map	•The attractiveness of different technologies will vary significantly by different region and it can be difficult to keep local information up to date.	A renewable thermal attractiveness mapping tool that identifies the local drivers / market instruments and incentives in different regions and suggests the most favourable technology by region. Could be overlaid on the Thermal demand map to inform focus areas for the group, inform strategy of members. Members from different regions could provide insight around local drivers/ incentives to help keep tool up to date.	Members would be able to quickly assess which technologies are likely to be most favourable in each region. When used in conjunction with the Thermal demand map this could be used to support the development of strategies

# MEMBERS OF THE GROUP HAVE EMISSIONS ALL OVER THE WORLD

Members of this group have emissions in more than 100 countries around the world.



Data compiled from CDP responses 7 of participating companies.



## Central development of location specific strategies

### Challenges / Questions:

- The feasibility of technologies is influenced by a number of local factors (availability of fuel, local incentives, commercial drivers and availability of solution providers). Does this market intelligence exist in a useable format?
- The grade of heat required is an important consideration when looking at technologies, are there any tools to help map this at a site level?
- We need a Renewable Thermal as a Service solution – who could provide this?

### Potential for collaboration

- Data collection and visualisation out the thermal demand of each country by region/facility
- Development of tool to support the development and consolidation of heat demand profiles at a facility level
- Development of technology attractiveness indication for different renewable thermal solutions for each region/facility
- Pool demand and engage potential renewable thermal energy as a service providers.

### Likely benefits to members

- A basis to identify suitable areas for collaborative pilots, provide guidance on focus areas for the group as well as providing some quantitative demand data when looking to engage with project developers for Hydrogen/AD/green gas
- Members would be able to quickly assess which technologies are likely to be most favourable in each region. When used in conjunction with the Thermal demand map this could be used to support the development of strategies

# MOST POPULAR AREAS OF CHALLENGE

## Electrification - heat pumps

### Challenges / Questions:

- What technologies are mature and currently available - What are the best solutions <90oC and 90oC-150oC?
- How are we able to complete an initial feasibility and initial business case?
- Are there particular process applications / technology pairings that improve the business case.
- Who can provide solutions on a global scale?

### Potential for collaboration

- Technology and market overview study focussing on both the established and emerging technologies.
- Feasibility assessment tool – taking into account the complex and integrated nature of most industrial heat pumps.
- Identification of particular situations where barriers to heat pumps might be lower.

### Likely benefits to members

- Information to support identification of technology applications in member's business
- Opportunity to identify opportunities for collaborative pilots



## CHP/ Cogeneration

### Challenges / Questions:

- Should we completely divest or are they still part of the solution?
- What site specific conditions make moving away from CHP difficult?
- Should our view change in different geographies?
- If natural gas price remains low could they be used with other technologies to mitigate carbon impact?
- How is the technology developing to utilise other lower carbon fuels?

### Potential for collaboration

- Development of **decision framework / playbook** for the optimal application of CHP. Likely to include some basic calculation tools to help assess local conditions and whether considering an existing or a new asset.

### Likely benefits to members

- Confidence in decision making for CHP in different situations
- Peer reviewed resource to use to build internal cases for or against CHP.

# OUR FOCUS IN THE SHORT TERM

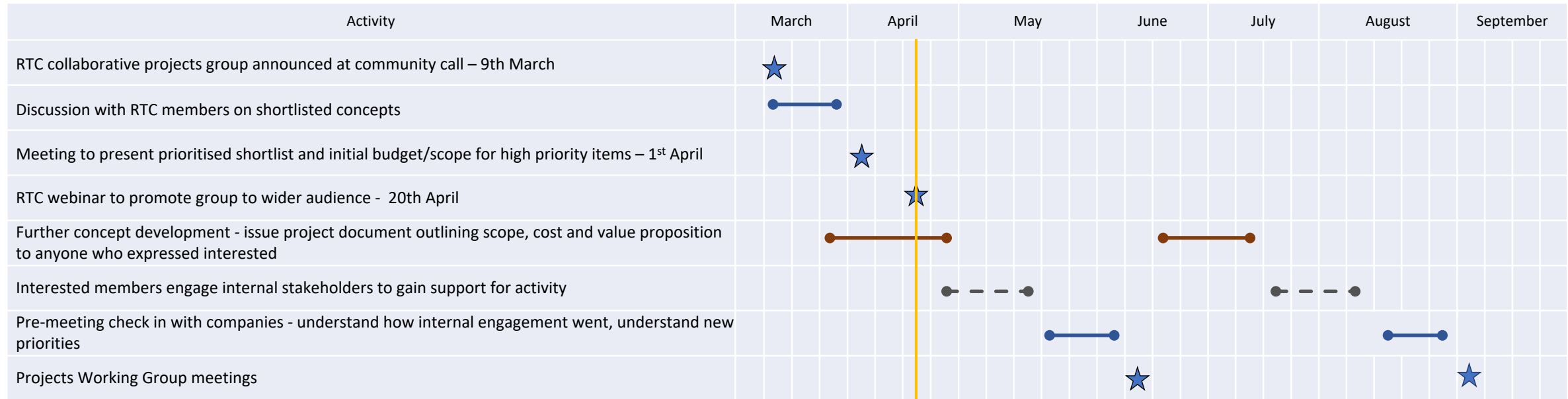
The focus between now and the next group meeting is to develop the initial project specifications for:

- Heat pump technology review and calculation tools
- CHP decision framework.

We aim to get the first drafts circulated to those who have expressed an initial interest in early May.

In parallel we will also be scoping the shared data tool but more user requirements are needed for this.

# PILOT TIMELINE AND NEXT STEPS



## Next steps:

- 1. April-May** – Calls with those interested to establish the support required and discuss specification
- 2. Early May** – issue draft specification for first two project briefs
- 3. 8th June** – Meet again to announce first project(s) and evaluate revised shortlist

If interested in getting involved, please contact Blaine Collison ([blaine@dgardiner.com](mailto:blaine@dgardiner.com)) or Oliver Hurrey ([ohurrey@getgalvanised.com](mailto:ohurrey@getgalvanised.com))



QUESTIONS?