* Analysis paper sent to Spyros - contains paper mill sludge details, but this may vary from plant to plant
* Making a board document - that is the approach they are using but constituents are different -> so we need to look at only the **procedure** in this document
* Spyros - we need cost estimates for boards
  + Gareth - 2m x 1m board -> £4.50-£5 per board
* Formulation still being trialled -> they are still looking at what needs to be met/exceeded -> no data available from Cambond
  + It would be helpful for us to provide them with what’s the industry best standard - weight, screw holding, flexibility, chemical composition, concerns about fireproof materials
  + Data that is missing -> what would people who use these boards actually like?
* We need to understand where the product has a competitive advantage -> SWOT analysis -> without this, it would be difficult to conduct interviews (Peter)
* Gareth -> no SWOT analysis has been conducted, area looked attractive because of the premium pricing; the analysis we conduct will inform the formulation process. They have the flexibility to make a particle board or even a concrete-type board -> they are looking at where the easiest point of entry would be. Confident that they can be competitive on price since they use waste materials.
* Elena -> any properties you can share?
* Gareth -> should meet fire resistant standards -> any idea what the most popular version is? Where is the largest market share - A class, B class (**this could be something we can find out**)
* Peter -> consider value added vs market volume -> one market might be more profitable over the other
* Gareth -> product might not be as good as a concrete board -> property closer to a ceramic -> more fragile or heavier than a wooden board but not as heavy as a concrete board
* Peter -> plasterboards - heavy when unit area is considered -> weight and thickness would be where Camboard could compete
* Gareth -> systematising the current offerings by fire resistance and comparing it to Cambond’s product would be helpful
* Spyros -> insulation is critical when marketing a sustainable material - would this board work?
* Gareth -> people use less dense air-filled material for insulation -> composite panels used which can be flammable (Grenfell). The insulation material is separate from the flame-retardant board and this is not what the board’s focus is. Insulation probably comparable to wood.
  + Cambond material has inherent flame retardant properties -> no need to add another chemical
* Bioresin - made from DDG (dry distilled grains?) sludge -> used as a fertiliser/animal feed -> activated by heat and pressure
  + Isocyanate - only for wooden boards - but not needed for flame retardant boards since they have changed the process
  + Sustainability -> resin from biomass, paper sludge from waste material (seems like there is a lot of raw material available in the UK, but can be sourced from other countries)
  + Adding ash - increases flame resistance, improves aesthetic appearance
* We need to do an analysis of the market, what sells well, regulatory requirements and disadvantages of current offerings -> this would inform where to enter (Gareth)
  + More denser -> more paper mill sludge; more biomass -> looks like MDF
* Peter - the product needs to conform to British standards + some cost competitiveness -> building boards are utilitarian products; some idea of manufacturing costs would be useful data
* Gareth - standards, materials and characteristics more important right now since they don’t have a feel of this -> SWOT/gap analysis -> **technical aspects more important**
* Look at whether these specs would result in environmental/sustainability issues as well
* Elena -> potential business models?
* Gareth -> manufacturer who is interested in this technology, have tried licensing in the past but that was complicated -> prefer partnerships -> joint venture -> ok for initial setup -> would consider scale-up with other partners in the future; **they are not looking for partners at the moment so we don’t speak with the manufacturers**
* **Innovate UK project known, formulation not known but ok to talk about ingredients and ok to mention Cambond**
* Fly ash sourced from Drax (biomass-based)-> existing supply chain exists; coal ash from landfills also possible to source. Biomass-based (timber) ash is what they would use since coal has heavy metal contamination.