

## WRITING A RESEARCH PROPOSAL: some brief notes

The aim of requesting a research proposal (**2,000 words**) as part of the pre-application process is to show that you can plan a research study. This should be considered as just a first attempt. Most research plans evolve as you get farther into the subject, and you may even shift topics entirely in light of the first year spent doing the MRes Energy Demand Studies.

A PhD is an original contribution to knowledge (though it may also in some circumstances be an original synthesis of existing knowledge). The purpose of the research proposal is to make a brief but convincing case that such a research project is needed in a specific area and that by implication you are the right person to undertake it. It is understood that you are likely to need further knowledge of the topic, new skills, and research training, and this is the main purpose of the first year of the MRes Energy demand Studies. It does mean that you are aware of what an appropriate research question or questions can be proposed in the area of energy demand studies, that you know about the literature in an area to be fairly sure that this is likely to be an interesting and open question, and that you have thought about how you would go about trying to answer your research question, i.e. what methods would be appropriate, what evidence would be relevant, what data you would need to gather, and so on. In other words a convincing case for undertaking some research, such that you would gain some support.

In preparing your application, then, by far the most important thing is to remember that research begins with a question, and not simply the identification of a topic. It is the precise research question, and how you hope to set about answering it, that structures the rest of the proposal. So your first task is to define the research question and explain why it is an interesting and open question, and why the answers are not already known. Once you have done this, it will be clear that what you must next do is to explain how you would go about answering the question, what methods you would use, what evidence you would review, what data you would gather and so on. Learning to think by setting up well-defined questions and trying to work out how to answer them is one of the key disciplines you acquire during a PhD. So, setting up your application in this way will get you off on the right foot.

Your research proposal should comprise the following:

Begin by defining the **research question(s)** and say why it is a research question i.e. what the current state of knowledge is, and why it is relevant. Remember that most research is about a narrow question (e.g. why can there be such a large difference between the modelled and the actual energy consumption of new school buildings in the UK) that relates to a broader question in the background (such as the lack of predictability of energy demand, evaluating the effectiveness of measures such as building regulations in reducing energy demand). The idea is that by answering the narrow question we will be a little closer to understanding the broad question. One of the most common mistakes is for a proposal to be far too broad and ambitious, and not to focus sufficiently on a specific research question.

Say what your **idea or conjecture** (or even **hypothesis**) is about the question – for example based on existing evidence you may suspect that key stages in the construction process are responsible for the differences in predicted and actual energy demand, and that by understanding the process for schools will throw light on the design and construction process in general and the way findings can be introduced as part of an energy demand reduction strategy for the built environment.

Say how you will go about trying to answer your questions, i.e. what **methodologies** you will use (building simulation, monitoring, post-occupancy surveys etc.) and what your **data sources** will be. Remember it is no use setting up studies if you can't get hold of the data you need.

Briefly outline a research **programme** i.e. a schedule of what you expect to be doing at each stage to show you've thought about the practicalities of carrying out the research. You don't have to stick to it, but it is useful experience to think this through.

Say what the main **deliverables** will be: studied cases, better understanding of principles, design guidance, new theory etc.

Finally say what the **potential contribution** of the PhD will be – to broad as well as to narrow questions.

**GOOD LUCK**