# Multiple Knowledge Gaps towards Climate Stabilization: The Value of Information

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We address the problem of safeguarding climate change, given a cascade of uncertainties progressively resolved. Within a sequential decision framework, we use an optimal control model (RESPONSE) to compute the value of information regarding uncertainties on baseline scenarios, mitigation costs and technological change, carbon-cycle dynamics, climate sensitivity and "safe" climate targets. This allows us to rank different uncertainties and examine how their importance varies with the date of learning (i.e. which uncertainty is more "urgent" to resolve). Finally, we assess to what extent short term optimal paths of fossil emissions abatement and carbon sequestration are robust to these uncertainties.

**Keywords**:
Carbon sequestration, climate sensitivity, climate stabilisation, mitigation, technological change