



Delft University of Technology

The road to risky research in a safe environment

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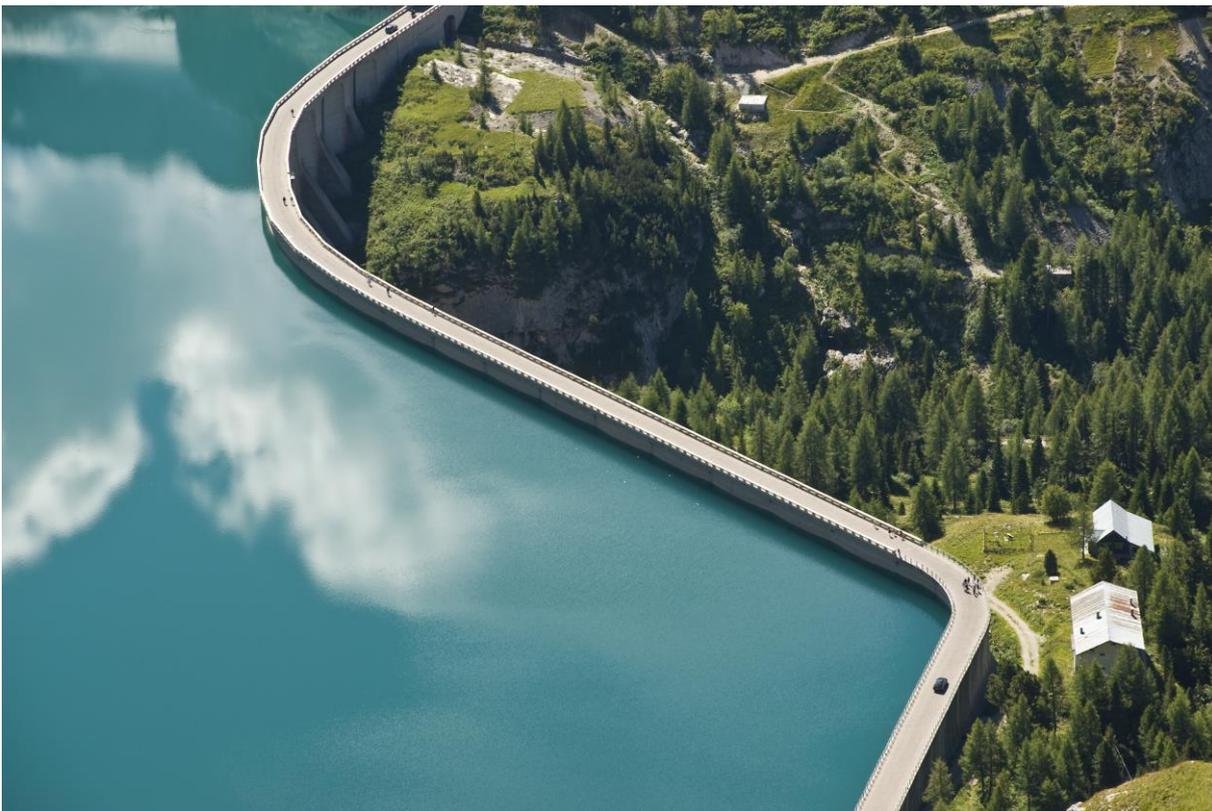
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The road to risky research in a safe environment

- By [Gerdien de Vries](#)
- 03/09/2021
- <https://energytransitionlab.weblog.tudelft.nl/2021/09/03/the-road-to-risky-research-in-a-safe-environment/>

“You have to color outside the lines once in a while if you want to make your lab a masterpiece.”
Inspired by Albert Einstein



Dam at end of Fassa Valley in Dolomites.

In April 2020, we founded the TPM Energy Transition Lab at Delft University of Technology. At the start, the dean of our faculty (Technology, Policy, and Management) challenged us to color outside the lines and to not be too afraid of failure. We translated this into a motto for the ET Lab: “Risky research in a safe environment”.

Objective

The objective of the TPM Energy Transition Lab is to facilitate, design, and execute boundary-crossing research that can speed up energy transitions. More specifically, we aim to provide researchers in our faculty with a safe environment for risky research related to two important themes: behavior in and design of energy transitions. To reach this objective, we signaled two conditions: (1) an interdisciplinary research perspective and (2) sufficient resources (time, money, and tools). In our strategic plan, we explained as follows why these conditions are important but hardly ever met.

Interdisciplinary perspective

Energy transition is a widely investigated topic in several domains. However, research is typically descriptive, model-based, or rooted in a singular theory paradigm. Simultaneously, research is often limited to discipline-specific silos, focusing either on social, technical, economic, and institutional aspects, but hardly ever altogether. An integrated interdisciplinary perspective, that looks into the interplay and co-evolution of these aspects can pave the way for novel theories and research methods. Furthermore, it can open up innovative tools for supporting decision-making in energy transitions. This interdisciplinary research perspective aligns well with the concept of team science. Team science is when scientists from various fields and with various skills work collaboratively toward the resolution of major societal issues, such as sustainable transitions. This could lead to a deeper understanding of the topic at hand and efficiently produced scientific discoveries that are more readily applicable. Furthermore, team science improves motivation because team members execute tasks that suit their expertise and talents (e.g., [Allen, Smith, Thoman, and Walters, 2018](#)).

“Team science improves motivation”

Team science comes with a challenge though. Research projects are temporary and there is often no time for proper introduction or team building. How to handle that? Business school professor Amy Edmondson shares the elements needed to turn a group of strangers into a quick-thinking team that can adequately respond to grand challenges in this TED talk.



https://embed.ted.com/talks/amy_edmondson_how_to_turn_a_group_of_strangers_into_a_team

Resources

The fast-changing dynamics of energy transitions call for rapid – and sometimes risky – research. Stated differently, to contribute to society with valuable insights, energy transition researchers must act quickly and adequately. An internal survey learned us that many researchers – like myself – are lacking the resources needed for this: time, money, and research tools. We cannot free up our busy schedules in which we are juggling teaching, research, management, and other services on short notice. Moreover, current funding structures provide virtually no opportunities to apply for “quick” research grants. This lack of resources, unfortunately, results too often in abandoning our boundary-crossing research ideas that could speed up the energy transition.

Seeding money

In our lab, we provide seeding grants to support a broad set of high-risk “quick” activities – in a safe environment of course – to facilitate action on rapid developments and opportunities. We have built a research playground to which we invite faculty researchers and students to submit proposals for any type of activity that fits the lab’s mission. See for an overview of funded research:

<https://www.tudelft.nl/en/tpm/energy-transition-lab/themes/open-exploration-of-the-energy-transition>

One-stop-research-shop

Another way to supply support and resources is the one-stop-research-shop we are developing (i.e. an online platform). We aim to facilitate our research by arranging – in a centralized way – all aspects of research. This includes ethical protection, data management, and participant recruitment, -consent, and –payment. Furthermore, the lab lays the foundations for a lending service of technical research equipment (“technotheek”). This development is in progress, we hope to give you more information soon!

Our road

This blog tells you in short about our road to a safe environment for risky research on energy transitions. Let’s conclude with the quote on top of this blog, inspired by Albert Einstein: “*You have to color outside the lines once in a while if you want to make your lab a masterpiece.*”

[energy transition](#), [lab](#), [management](#), [research](#), [team science](#)