

Hvordan kan uddannelsesinstitutionerne understøtte omstillingen til cirkulær økonomi?

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1. Uddannelsesinstitutioner skal sikre, at deres studerende forstår, hvorfor cirkularitet er en nødvendighed!!



PROFESSIONAL JOBS EVENTS RANKINGS STUDENT

Why universities need to declare an ecological and climate emergency

Universities have a responsibility to prepare students for an uncertain future, 11 scholars from around the world argue

September 27, 2019

By [Jean S. Renouf](#), [Michael E. Mann](#), [John Cook](#), [Christopher Wright](#), [Will Steffen](#), [Patrick Nunn](#), [Pauline Dube](#), [Jean Jouzel](#), [Stephan Lewandowsky](#), [Anne Poelina](#) and [Katherine Richardson](#)

Twitter: [@Drjsrenouf](#), [@MichaelEMann](#), [@johnfocook](#), [@ChristopherWr11](#), [@PatrickNunn3](#), [@STWorg](#) and [@KRichardsonC](#)

- *We have “research freedom”*
- *We already have a sustainability masters program; We have always had a focus on economic (alt. environmental or social) sustainability*
- *Universities are “non-political”*

2. Nedbrydning af disciplin“siloer” er en nødvendighed, hvis uddannelsesinstitutioner skal bidrage til cirkularitet!



Fra “silo-” til “systemtækning!”



En vision for, hvordan vi gerne vil dele Jordens begrænsede ressourcer blandt 9-10 mia.

Business-as-usual approaches

| GOAL | WITHIN 5% | 5-10% | >10% | NEGATIVE LONG-TERM TREND |
|---------|---|--|---|--|
| Goal 1 | | 1.1. Eradicating extreme poverty | 1.3. Social protection for all | |
| Goal 2 | | 2.1. Ending hunger (undernourishment) | 2.2. Ending malnutrition (stunting) 2.5. Maintaining genetic diversity 2.a. Investment in agriculture* | 2.2. Ending malnutrition (overweight) |
| Goal 3 | 3.2. Under-5 mortality 3.2. Neonatal mortality | | 3.1. Maternal mortality 3.4. Premature deaths from non-communicable diseases | |
| Goal 4 | 4.1 Enrolment in primary education | 4.6 Literacy among youth and adults | 4.2. Early childhood development 4.1 Enrolment in secondary education 4.3 Enrolment in tertiary education | |
| Goal 5 | | | 5.5. Women political participation | |
| Goal 6 | | 6.2. Access to safe sanitation (open defecation practices) | 6.1. Access to safely managed drinking water 6.2. Access to safely managed sanitation services | |
| Goal 7 | | 7.1. Access to electricity | 7.2. Share of renewable energy* 7.3. Energy intensity | |
| Goal 8 | | | 8.7. Use of child labour | |
| Goal 9 | | 9.5. Enhancing scientific research (R&D expenditure) | 9.5. Enhancing scientific research (number of researchers) | |
| Goal 10 | | | 10.c. Remittance costs | Inequality in income** |
| Goal 11 | | | 11.1. Urban population living in slums* | |
| Goal 12 | | | | 12.2. Absolute material footprint, and DMC* |
| Goal 13 | | | | Global GHG emissions relative to Paris targets** |
| Goal 14 | | | | 14.1. Continued deterioration of coastal waters* 14.4. Overfishing* |
| Goal 15 | | | | 15.5. Biodiversity loss* 15.7. Wildlife poaching and trafficking |
| Goal 16 | | | 16.9 universal birth registration * | |

* target not specified ** based on most recently available data



Interactions between the SDGs

Og alle discipliner skal i spil for at udvikle et cirkulært forbrug af ressourcer!



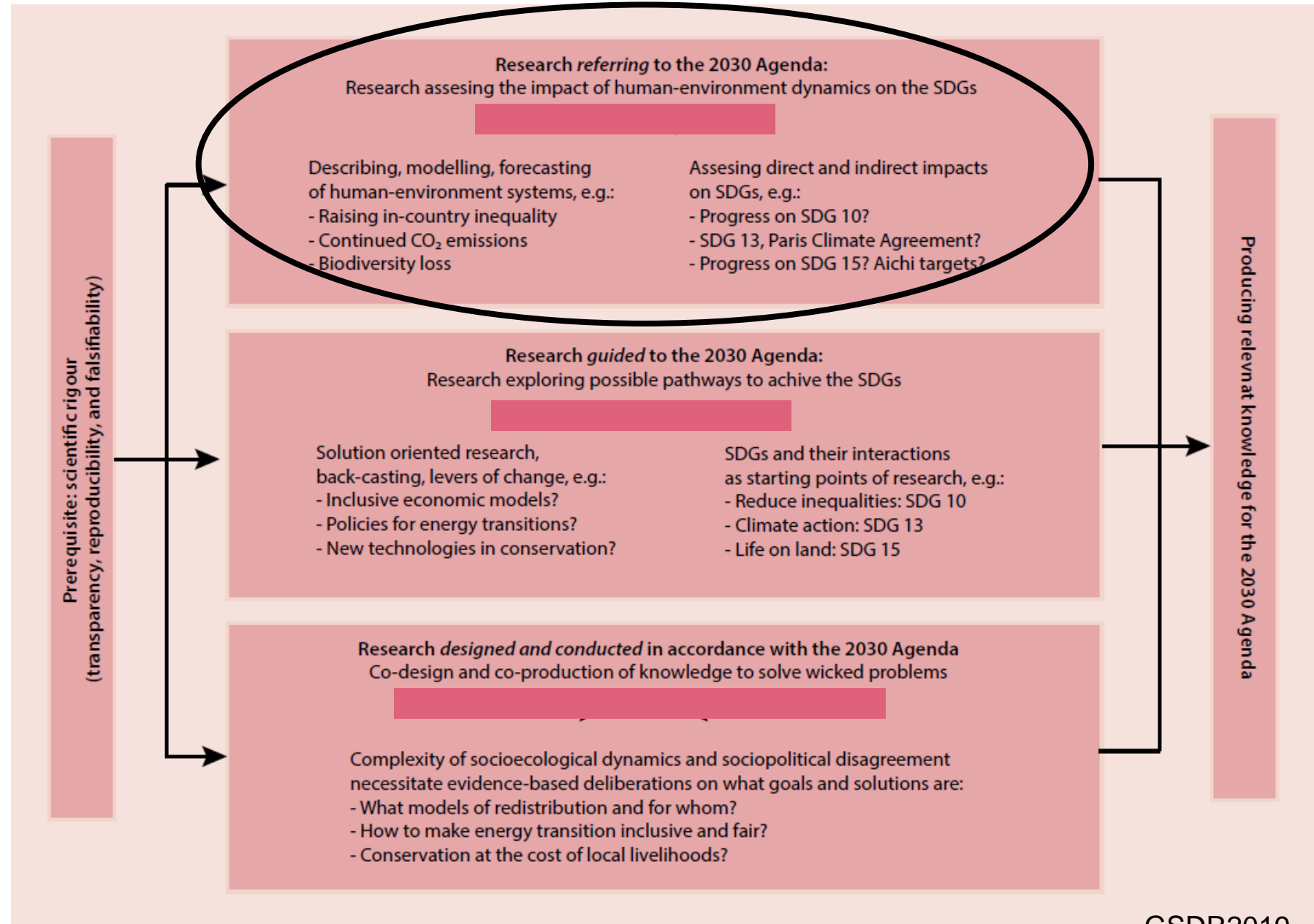
Model developed by Katherine Richardson, Professor, University of Copenhagen, 2019. Design by KØSCH

Cirkularitet er nødvendigt for at reducere “trykket” på Jordens ressourcer!

3. Forskning skal sadle om for at kunne bidrage til en transformation, der stiler mod bæredygtighed og cirkularitet

Modes of research engagement with the SDGs

Little (if any) Danish research goes beyond stage 1!!



Kræver samarbejde mellem uddannelsesinstitutioner:

KATHERINE RICHARDSON

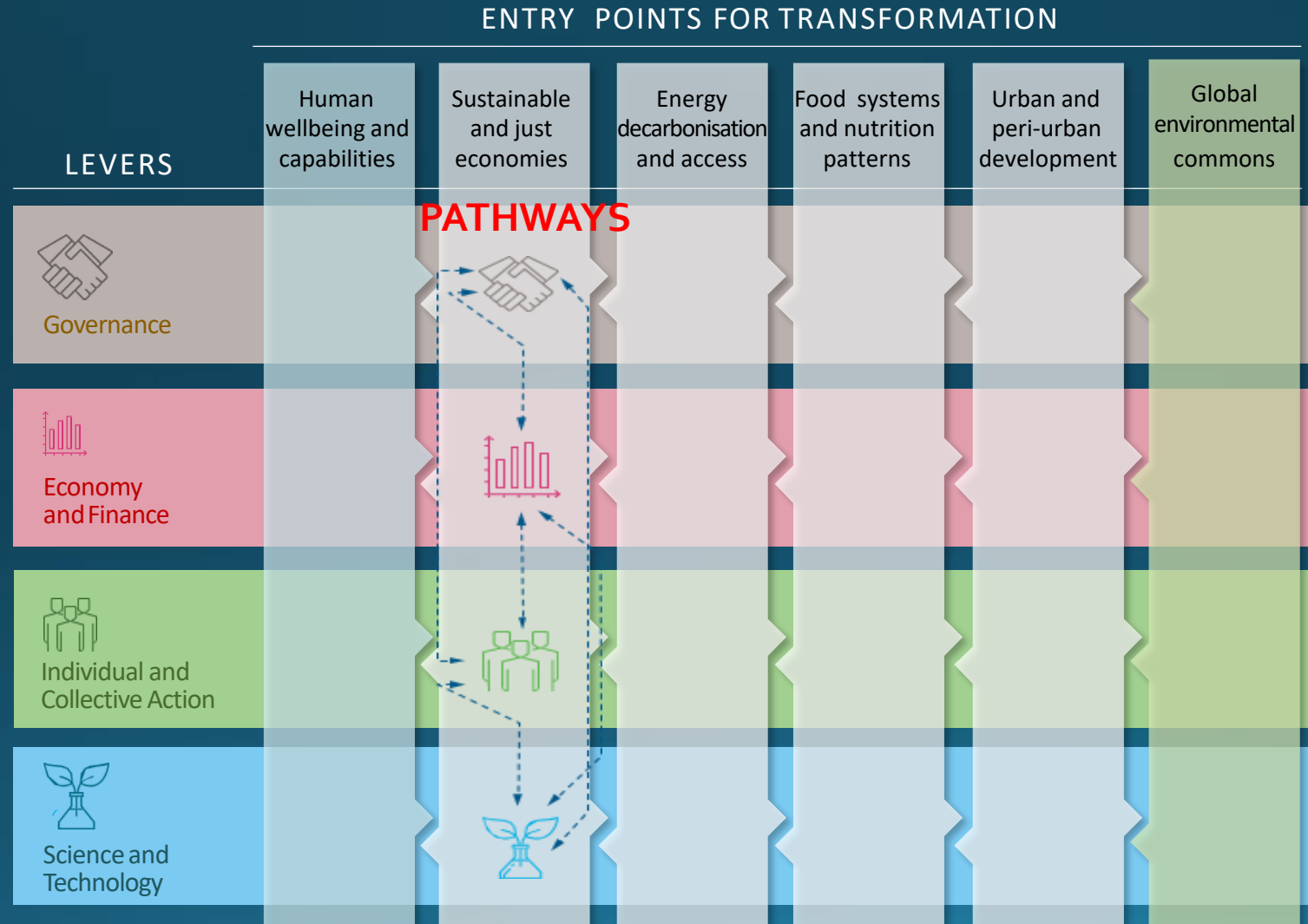
No Danish university alone is equipped to train sustainability professionals

Posted on 19. oktober 2017

The logo for CSR Forum, consisting of the text "CSR FORUM" in white, bold, uppercase letters on a dark blue rectangular background.

Knowledge-based transformations

Innovation through combined levers and new partnerships

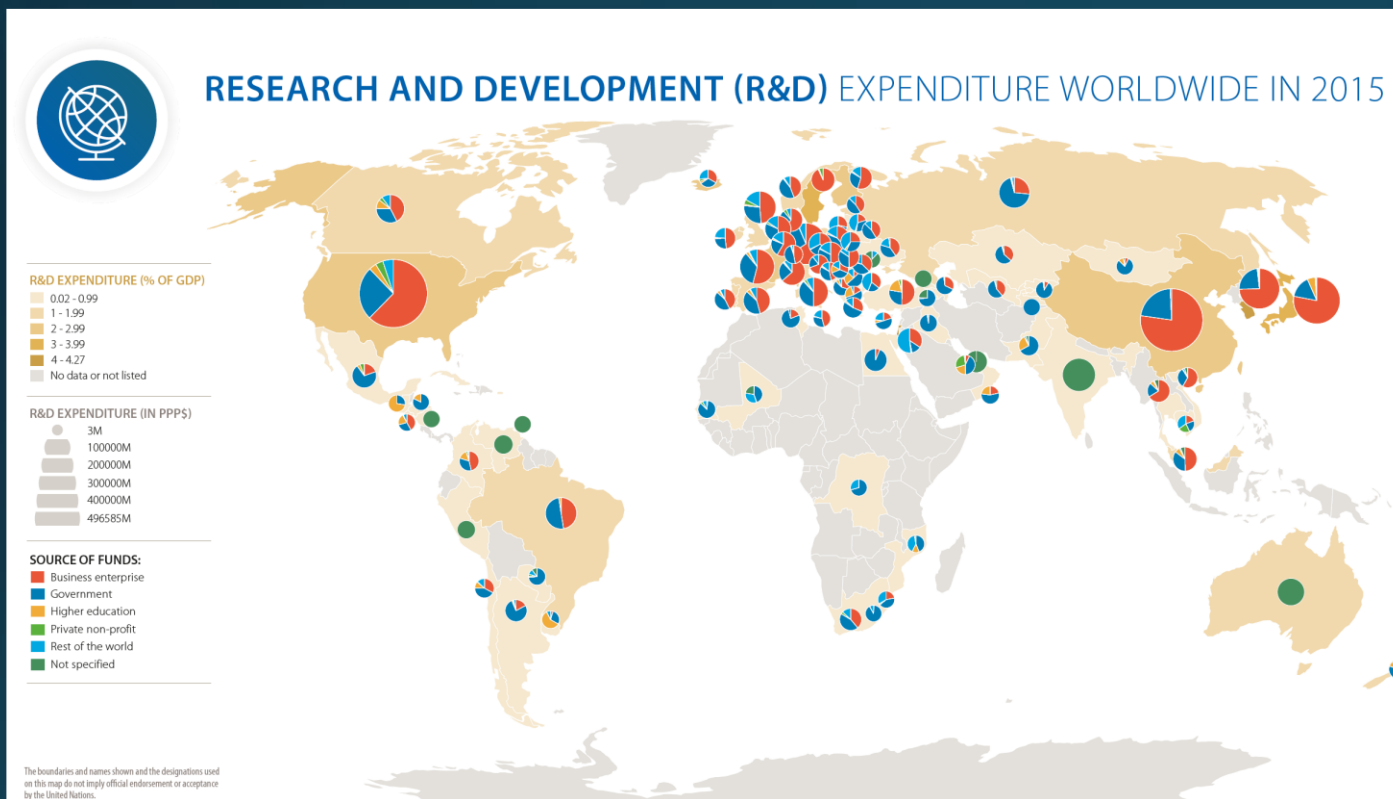


- Forskere skal kunne redegøre for, hvor og hvordan deres forskning kan bidrage til transformation!
- Forskning der bringer de forskellige redskaber (levers) sammen, skal fremmes!



GSDR Call to Action:

A 'moon-shot' mission for Sustainability Science



Der er masser af forskningsmidler rettet mod "(tekniske)løsninger", men næsten ingen, der fokuserer på interaktioner og transformationen af samfundspraksis.

Forskningsfinansiering skal laves om, for at fremme cirkularitet

Hvordan bidrager uddannelsesinstitutioner til omstilling?

1. De skal sikre, at deres studerende forstår, hvorfor cirkularitet er en nødvendighed!!
2. De skal nedbryde disciplin“siloe”!!
3. Forskning skal sadle om for at kunne bidrage til en transformation, der stiler mod bæredygtighed og cirkularitet
 - Gælder både forskning og forskningsfinansiering!!

comment

Expansion of sustainability science needed for the SDGs

Dominant research modes are not enough to guide the societal transformations necessary to achieve the 2030 Agenda. Researchers, practitioners, decision makers, funders and civil society should work together to achieve universally accessible and mutually beneficial sustainability science.

Peter Messerli, Eun Mee Kim, Wolfgang Lutz, Jean-Paul Moatti, Katherine Richardson, Muhammad Saidam, David Smith, Parfait Eloundou-Enyegue, Ernest Foli, Amanda Glassman, Gonzalo Hernandez Licona, Endah Murniningtyas, Jurgis Kazimieras Staniškis, Jean-Pascal van Ypersele and Eva Furman

This is a decisive year for the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). Convening this week, the United Nations High-level Political Forum on Sustainable Development (HLPF) includes a quadrennial SDG summit under the auspices of the General Assembly. Here, the Global Sustainable Development Report (GSDR), prepared by an independent group of scientists, will be officially presented. It reviews progress and strives to chart ways ahead.

Adopted in 2015, a remarkable year for multilateralism, the 2030 Agenda has successfully raised awareness of the kinds of transformations needed — in policy, civil society, business, science and technology — to put countries on a sustainable development path.

But recent scientific assessments¹⁻³ paint a sobering picture of progress towards the SDGs. There is a growing gap between what needs to happen and what is actually being done. Just a handful of the 169 sub-targets are on track to fulfil the 17 higher-level SDGs. Many are off track and some display even negative trends including those related to tackling climate change, inequalities and biodiversity loss¹. Massively expanded concerted actions are urgently needed to enable sustainable development in the next decade. In particular, we must quickly make available the best policy-relevant knowledge to guide these actions.

GSDR framework
The GSDR 2019 proposes a framework for knowledge-based transformations to sustainable development that reconciles evidence and socio-political deliberations for accelerated action. It emphasizes the following three key complementary areas of knowledge production⁴:

Understanding systemic interactions. Guided by the 2030 Agenda, we must improve understanding of how complex human–environment system dynamics can produce trade-offs that hinder individual targets, on the one hand, or produce synergies, on the other. For example, scaling up dominant food systems to meet growing demand can harm targets related to ending poverty, halting climate change and preserving life on land. Conversely, sustainable intensification of food production (for example, agroecology) and adapting people's diets can have positive spillover effects for many social and environmental targets.

Understanding competing development agendas. Governance, business and finance, individual and collective action, as well as science, technology and innovation all provide crucial levers for transforming vicious systemic circles into virtuous circles¹. However, we must clearly identify how the values and interests of powerful actors help or hinder the 2030 Agenda, and how rules and incentives can be changed to enable collaboration towards common goals. For instance, there is a pressing need for evidence-based guidance on how to regulate the financial sector, markets, trade, taxation, and so on, to support — not harm — ecological sustainability and social cohesion⁴.

Understanding transformations in concrete contexts. Individual countries and regions face unique challenges and have different development priorities. The specific design of transformation pathways depends on each context — few solutions will work the same way everywhere. Instead, we must strive to combine different sets of transformation levers based on the needs

and conditions of each setting. At the same time, harmonized high-level efforts are needed to steer the interactions between pathways and their aggregate outcomes to deliver universal progress towards the 2030 Agenda. For example, poor nutrition is a global challenge demanding international cooperation, but it also requires customized local pathways based on cultural preferences, educational attainment, prevalent food systems, available technologies and other local factors.

Achieving the 2030 Agenda
Science has played a central role in building the still fragile international consensus on the SDGs. Researchers have made major advancements in understanding coupled human–environment systems, especially thanks to increasing use of interdisciplinary approaches⁵. Various international scientific assessments have successfully synthesized fragmented evidence, enabling policy breakthroughs such as the 2015 Paris Climate Agreement.

Nevertheless, there are fundamental limits to our ability to design sustainable transformation pathways based on evidence⁶. Human–environment systems remain highly complex and difficult — or impossible — to map fully. Causes and effects are often hard to distinguish and context dependent. Stakeholders frequently disagree about problems and solutions⁴. In such cases, decision makers must navigate ways forward based on careful consideration of risks, uncertainty and issues of social justice. Precautionary measures or interventions may be advisable even if cause-and-effect relationships are not fully established.

In response to such challenges, the growing field of sustainability science has adopted a variety of useful approaches —