

BRIEFING

All-Party Parliamentary Group on Limits to Growth

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Understanding, Safeguarding and Strengthening the Precautionary Principle, in the context of the Brexit negotiations

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EXECUTIVE SUMMARY

There is more to the Precautionary Principle (PP) than is generally understood. It is a guide for coping with a world that we will never fully understand, let alone 'control'.

The PP reminds us that we can never be certain of the consequences of what we are doing, no matter how sophisticated our scientific understanding or our models. Precaution is about overcoming our undue faith in our own 'omniscience' or 'omnipotence'. This perspective is more important than ever as we create new synthetic products, including even synthetic life, and as we meddle, at our existential risk, with our climate.

Yet the future of the Precautionary Principle is threatened.

The Precautionary Principle tends to be out of favour with those who are focused on promoting growth, trade and investment, for it is often mistakenly regarded merely as an impediment. But when treated responsibly precaution is a liberating influence on sustainable development. As well as reinforcing decency, fairness and compassion, the PP can also stimulate research and innovation of its own. If some existing practice is shown to be potentially risky, then corporate business-as-usual will search for excuses to avoid changing it; whereas the Precautionary Principle demands that we seek out a route that avoids ecocidal hazards, often through an innovative new route. As noted in the *1990 Bergen Declaration on Sustainable Development*, which directly connected the importance of taking caution pro-actively into account in innovation with the achievement of sustainable development:

In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The PP provides one of the key guidelines for EU environmental policy. It appears in the Maastricht Treaty by requiring the EU to commit to a "high level of protection" alongside the preventative, removal at source, proportionality, and polluter pays principles of EU environmental policy and decision making. The principle of proportionality is particularly salient here, for this seeks to ensure that a precautionary action (such as banning a product) must take into account the judgmental balance over benefits and costs and to whom, including future generations.

Precaution also contains a directive for all humanity to be stewards for all future generations of / the foundations of life. The central purpose of this briefing is to address the real danger that precaution may be reconstrued, or even lost altogether, in the repatriation process associated with Brexit.

Precaution does not fit in well with the trading and intellectual framework of the US, where 'science-led' rather than risk-led approaches are more customary. This is a (related) reason why it is at risk of being stifled or jettisoned, in post-Brexit trade deals. It is also likely that any diminution of the precautionary principle could take place via the use of statutory instruments. This routing might restrict the scope of full Parliamentary scrutiny, yet offer a means for narrowing the scope for judicial review.

RECOMMENDATIONS

What can Parliament do to safeguard and enhance the Precautionary Principle?

- Stand up for it in the accounting role for Parliament over the Brexit repatriation process.
- Ensure its legal history and appropriate legal interpretations are brought into a common framework within UK policy making and connected law.
- Champion it for the tough regulation of all novel products, and for exploring at the ill-understood margins of anthropogenic climate change and other major ecological threats.
- Help place it in the forthcoming paradigms of the emerging economics of sustainability and wellbeing, including limiting and redirecting patterns of growth.
- Work to establish it securely on all learning curricula in schools, colleges, universities and professional accreditation programmes.
- Battle for it in creating procedures to safeguard the interests of all future generations.
- Place it centrally in any future White Paper preceding any eventual Environment Act.

Introduction

In international law the Precautionary Principle's most widespread accepted form is that found in the Rio Declaration: *Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.*

Exactly this form of the Precautionary Principle was then adopted by the UNFCCC and the Biodiversity Convention. Prior to these statements was the Bergen Declaration which placed the precautionary principle firmly within the emerging framework of sustainable development: *In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent, and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation*

The Maastricht Treaty also adopted the Principle in Article 130r(2). This states that: *Community policy on the environment... shall be based on the precautionary principle and on the principle that preventative action should be taken....*

The Precautionary Principle works for us in this country simultaneously at three levels:

1 | In international, in EU, and in UK law.

The PP is most palpably part of UK law by being part of EU law. The PP will be re-absorbed into UK legislation as part of the 'EU Withdrawal Bill'. After re-absorption, the PP will be vulnerable to elimination on a simple Parliamentary vote. Our view, along with the mainstream of relevant organisations working on this, is that there must be no weakening of existing EU environmental protections in UK policy framing and connected law.

Macrory and Thornton (2017) summarise all of the relevant EU environmentally related principles: Eleven principles were included in the Council Resolution, and the subsequent Action Programme, many of which are familiar today: prevention, taking into account the environment at the earliest stages of planning, avoiding ecological damage, improving scientific knowledge, polluters pay, no damage to another state, take into account developing countries, improve regional and global cooperation, improve information, intervene at the appropriate level, and coordinate policies with the European Community.

Unlike other principles such as 'polluter pays', the precautionary principle does not have a formal legal standing on its own feet, making it particularly vulnerable to amendment or removal. But its appearance

in the Maastricht Treaty gives it, crucially, a degree of legal standing in EU law. Macrory and Thornton (2017) cover the relevant interpretations. The application of the precautionary principle must take account of the overarching principle of proportionality, as otherwise it is unworkable. Also there has to be sufficient scientific evidence, supported where appropriate by informed opinion, that an identifiable risk must be taken into account and proportionately remedied by the perpetrator of the risk.

This interpretation offers a lower threshold than full evidence-base, or proof. But it does mean that potentially hazardous actions or products require systematic appraisal even when the full risks are not fully scientifically proven. This is crucial, for reasons we elaborate on below.

2 | In public discourse and moral framing

Here, Parliamentarians can play a crucial leadership role by challenging the dangerous prejudice which assumes that, without strong evidence, one has nothing reliable with which to question advocates of some new technology, or deniers of a possible new threat. The burden of proof needs to be upon those doing something risky to provide evidence that this something will not be seriously or irreversibly harmful.

3 | In scrutiny of UK policy

The Secretary of State for DEFRA, in his 'Green Brexit' speech, lays down a challenge to which we should hold the government. Its future willingness to endorse the precautionary principle should be made a test of the seriousness of the Secretary of State's challenge: *When we speak as a Government of Global Britain it is not just as a leader in security or an advocate for trade that we should conceive of our global role but also a champion of sustainable development, an advocate for social justice, a leader in environmental science, a setter of gold standards in protecting and growing natural capital, an innovator in clean, green, growth and an upholder of the moral imperative to hand over our planet to the next generation in a better condition than we inherited it.* (Michael Gove in a speech to WWF 21st July 2017)

The Secretary of State's speech was full of warm words and good intentions, some of them quite specific and encouraging for safeguarding environmental policy (though, in the context of this APPG, naturally the siren call of "clean, green growth" (sic) should sound a warning-bell). In the course of his defence of science and sustainability, however, he did not include a commitment to retaining the PP. Rather, this is what he said: *But it is only by adherence to scientific method, through recognising the vital importance of testing and re-testing hypotheses in the face of new evidence, through scrupulous adherence to empirical reasoning, that we can be certain our policies are the best contemporary answer to the eternal questions of how we live well and honour the world we have inherited and must pass on to our children.*

This sounds like the standard evocation of "evidence-basedness" that we question in this briefing. Our contention is that this shows clearly that more needs to be done through moral and political discourse so that the PP is not legally lost to us. Our worry is that, in the midst of the Secretary of State's warm words, there is no warmth toward precaution. Nor is there any indication that precaution would appear in any formal policy document.

The PP and science

The PP takes us beyond the fashionable obsession with being 'evidence-based'. Having a solid evidence-base that points firmly in the direction of one particular policy-solution is not always possible. It is dangerously inappropriate to continue to insist that, without such an evidence-base, no action should be taken.

Standard scientific methodology works well for establishing with reasonable confidence how reality appears to work, over time. Standard scientific methodology shoots down rash claims, and demands evidence. But this approach is not appropriate for situations where, *by the time all the evidence is in, it will/would be too late to stop grave harm.*

Risks of ruin—of disaster such as ecocide—should be considered far weightier than benefits. This is because any potential benefits of a technology, such as GMO or synthetic biology, cannot outweigh the potential for a truly disastrous outcome, even if the chances of that outcome occurring are relatively small. Such risks are of necessity rare: i.e. they nearly always haven't happened (yet). But it is reckless to allow any conceivable risk of them happening, precisely because they are potentially ruinous. This is one of the great features of the precautionary principle. It is where the fashion for being 'evidence-based' runs into the sand.

Why are scientists often reluctant to accept this? One reason is that there can be a connection between normal scientific methodology and a scepticism about the task of socially assessing technologies, manifested in precautionary reasoning.

Let us explain. Scientists are typically concerned to avoid false positives, or 'false alarms'. This bias explains why many scientists are relatively cautious in claiming connections between extreme weather events and anthropogenic climate change. If one is willing to take the risk of acting upon what may turn out to be 'false positives', then one might be shown to having been more pessimistic than the circumstances warrant.

Yet the risk of operating on the basis of false negatives is arguably far worse. Here we have in mind the avoidance, or ignorance, of a (potentially) serious unanticipated outcome. If one sticks too tightly to the normal scientific habit of awaiting the evidence and avoiding false alarms, one may be complicit in a situation where something genuinely and massively alarming and dreadful occurs—without anyone having adequately warned against it.

Before the introduction of the precautionary principle, the international order did not have a secure way of facilitating an appropriate methodology for scientific and social deliberations of this nature, concerning wide spreads of risk and uncertainty. There was little political currency for careful examination and assessment of the downsides of possible and plausible longer term outcomes from potentially-dangerous actions. Hence precaution was established for ensuring a more reflective and weighted approach to preparing for uncertain and potentially destabilising global and local futures for people and nature. In order not to give a false sense of reassurance that could then 'legitimate' actions that turned out to be harmful, the PP seeks to ensure that such harms do not knowingly occur; it does so by reversing the normal burden of proof.

The opponents of the PP want any infringement on corporate freedom to depend upon an expert-led cast-iron evidence base. They want the population at large meanwhile to shoulder the burden of a silent risk. They want to be able to profit now from technologies that may end up proving catastrophic.

Nigel Haigh, a noted scholar on EU environmental law and policy, notes the inherent strength of the PP in the minds of EU legislators, referencing the European Commission's document on the subject: *Whether or not to invoke the Precautionary Principle is a decision exercised where scientific information is insufficient, inconclusive, or uncertain and where there are indications that the possible effects on the environment, or human, animal or plant health may be potentially dangerous, and inconsistent with the chosen level of protection* (CEC Communication COM (2000)1)

Haigh contrasts this with the more 'pragmatic' American approach to precaution: *These reservations are probably culturally conditioned, with Anglo-Saxon countries, who pride themselves on their pragmatism, shying away from the idea of elevating the common-sense notion of taking precaution into a principle that might involve unpredictable legal constraints.*

The American approach, which could be pushed for hard in a trade deal with the Trump White House, would create exactly the kinds of silent risks that we just outlined.

The Royal Commission on Environmental Pollution (1998), in its profound report on setting environmental standards, adjudged that precaution has a key legitimate role in the shaping of policy, and in the needful drive to extend proportion to wider and longer social and moral judgements over avoidable, but not provable, dangers. In so doing, it not only canvassed the huge social science dispute over social framing of risk; it also raised the crucial value-laden issues of possible future harm where the outcomes to be avoided or desired have to be based on social/democratic participation and not only either scientific or political-governmental analysis. In the way, the

Commission sought to defuse the long running concern that precaution was being used as a Trojan horse for strong-willed environmentalists.

But that (we would argue) illegitimate concern is still being stoked by some in public life. They are looking for opportunities to ditch the PP. And thus we offer this warning: If the UK wishes to enter into a full-blooded trade deal with the US and other countries, then it may 'have to' reinterpret the precautionary principle towards the prevailing transatlantic mode. This might restrict, or even preclude, the scope for a UK home-made legal interpretation of the precautionary principle.

Hence our encouragement of the APPG and of Parliamentarians more generally to address the scope for a more secure policy and legal basis for post-Brexit Britain when it comes to applying/entrenching the precautionary principle.

Precaution as an expression of sensitivity to limits-to-growth

The mantra of "clean" or "green" growth is very attractive, but misleading. There is a responsibility upon politicians to reconsider the limits to growth debate, initiated by this APPG—limits2growth.org.uk/revisited.

Often, the argument is made against advocates of limits to growth that we are not *certain* that we have accurately identified these limits, and that there *may* be more space for economic growth remaining than the limits to growth discourse suggests. But that attitude eschews precaution. Precaution lowers the 'threshold' for serious concern. In a criminal court, one needs to prove something beyond reasonable doubt. But the spirit of precaution suggests that it is highly imprudent to require such a high threshold of evidence, when the costs of inaction in the meantime may be high. If and where we are uncertain about where the limits to growth are, then we should be more cautious, not less.

The precautionary thing to do, is not to gamble on the limits to growth thesis/discourse being wrong. Precaution provides a powerful argument for taking the limits to growth thesis very seriously indeed, even if it be accepted that it is unproven. This is the stewardship role for humanity: one which underpins cautious consumption, and questions whether more growth is necessary—or reckless.

The example of precaution and climate

Take the most pressing known global limit to growth at present: the limited capacity of the Earth system to absorb further greenhouse gas emissions, and the increasing evidence of dangerous anthropogenic climate change resulting from that capacity being already being breached.

In this case, evidence-based (climate-)science already provides a sufficient basis for radical action to contain the threat. However, the PP is relevant everywhere where the climate science is less than certain. That includes many factors: such as feedbacks and tipping points. In these connections, the PP is a vital counsel for strong precautionary action now. Here are key examples:

I 'Climate-sceptics' emphasise the uncertainties in many aspects/frontiers of climate science. They are right. What they haven't understood is that uncertainty makes the argument for climate-action stronger, not weaker. Uncertainties cut both ways. If we are uncertain where tipping points are, or what the climate-sensitivity lies, then we should be more precautionous, not less. Because the outcome is harder to control, and could be even worse than we had feared. It is cherry-picking to assume that uncertainty always points in the direction of climate science being 'alarmist'. The reverse may well be true.

II The PP offers an independent argument for strong action on climate, even to those unconvinced by climate-science. It has the capacity to persuade, on the basis that even a low probability of the climate science being right demands that we act strongly and cautiously. Because if it is right, we are risking catastrophe.

III Looking back over the last generation, and especially over the last few years, there has been a persistent tendency for various outcomes and indicators to exceed the 'likely worst-case scenarios' of climate modellers. Consider the unprecedented Arctic temperatures and diminishing sea ice recorded in the last few years. This would not have been such a problem, were we already taking strong precautionary action.

IV

Consider too, 'geo-engineering', aka 'climate-engineering'. This idea, of accepting raised levels of CO₂ emissions, and of seeking to engineer the workings of the planet (e.g. via 'solar radiation management' (e.g. mirrors in space), etc.) to avoid the harmful consequences of those raised will become increasingly popular in the next few years, as it becomes clear how we have failed to listen to climate science, failed to act cautiously, and are moving inexorably closer to the dangerous 1.5 degree temperature-rise threshold. But geo-engineering is a highly reckless response to this situation, not a cautious one at all. By definition, there can be little that would constitute good evidence that geo-engineering is a bad idea, before it takes place. Here is where we can apply the Precautionary Principle. We ought to seek a route to climate-safety, if one exists, that does not rely on an untried and hazardous experiment with the whole Earth. That route is something like an emergency brake on emissions.

V

We do not know exactly how much by way of greenhouse-gas emissions it will take to (say) set the Amazon rainforest on fire, and turn it from a carbon sink to a carbon source, turning it eventually into savannah. The science is inexact, the evidence imponderable, the future uncertain. But we know that, if we wait until we know for sure, it will be too late: by the time this tipping point is reached, if it is, then a new profound climate chaos and (probably) runaway climate change will be upon us. The cautious thing to do is to act now so that we can be *confident* that this tipping point will never be reached. In short: no matter how good our modeling of tipping points and feedbacks such as this one get, we shouldn't be so reckless as to test them, nor as to wait until we know for sure before acting. The PP demands that we act now, as if the rainforest were at risk of complete destruction on a business-as-usual path (as it probably, but not certainly, is).

New frontiers for precaution

The deep need to rein in 'silent risks' is, we are now realizing, wider-spread than ever. For in fields such as endocrine-disruption and radiation, it is now clear that "the dose does not always make the poison". Lower doses can be more harmful than higher doses. This sounds paradoxical. In order to see that it is possible, consider as an exemplar what a high dose of radiation may do to a cell: kill it. That is harmful, but potentially less harmful than what a lower dose may do to a cell: turn it cancerous.

It is increasingly unclear whether there is any safest low dose of some forms of toxic substances. This yields a revolutionary new argument favouring the strengthening and wider deployment of the Precautionary Principle. Until we are presented with strong empirical grounds for believing otherwise, we need to consider (and act on) the possibility in any new field or novel technology that lower doses might be more harmful than higher doses. Until one has reliable epidemiological good reason to believe that a low dose actually is safe, one should cautiously assume that it is not. Thus, in contrast to what is widely assumed, there is good reason to believe that there may be no safe dose of any novel product or process which is not yet fully tested.

Brexit and Precaution

For all the reasons outlined above, it is vitally important at this time to consider the impact there would be if the PP were dropped in formal UK documents. It is desirable for the PP to be enshrined in UK law that carries over existing EU legislation that refers to the PP *in order to ensure that decisions made under such legislation cannot be challenged in a UK court on the grounds that the hazard has not been scientifically established beyond doubt*. The PP also needs to be enshrined in some way so that new UK legislation can (also) be based on the PP without challenge.

Unless the Precautionary principle is specifically incorporated into any new UK law, or appears as part of formal UK policy in the form of being incorporated into a White Paper (a formal guide to policy setting) and eventually a new act, then (with Brexit) its current role may end. Furthermore its role in guiding any judicial review process will also attenuate. This is why we advocate that the principle needs to be placed on a combination of a policy and legal footing (to ensure its basis for adjudication in any judicial review) through the auspices of a fully comprehensive Environment Act.

Macrory and Thornton (2017) note that modern environmental law has to grapple with a wide range of interpretations of science, evidence, public and private spheres, and changing social and political cultures and values. They note that any transfer of environmental laws and regulations will prove to be extremely treacherous. They observe:

The model of town and country planning legislation can provide a useful pointer where national government guidance and policy is contained in non-legal documents but given some explicit legal connection to the planning system. If environmental principles are to play a legal role, future environment legislation could adopt a similar model by incorporating them in government policy documents rather than the legislation itself but then making a link to decision-making under the relevant legislation.

This could be a model for how to plan the future of the PP.

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CONCLUSION

The Precautionary Principle reminds us of our responsibilities as stewards for our bequeathed wondrous nature, to which we give no voice and towards which too often we turn a deaf ear.

It jolts us into giving proper attention to the lifeworlds of all future generations, both human and natural, for whom at present there is no reliable political representation.

It forces us to devise new ways of communicating and listening so that all creators of possible harm must show that all reasonable means of reducing any such harm are fully considered, factored into all life cycles of decisions, processes and products, and widely understood.

It makes science a conversation about sharing knowledge, feelings, aspirations and trust, thus essentially becoming an integral part of democratic politics. In this context managing growth and consumption for satisfaction rather than satiation is very much part of precaution.

It raises the sights of the law above what we are certain of, to take care of us in contexts—notably many environmental contexts—where we are not certain, but where waiting for certainty would be waiting dangerously long; *too long*.

The PP challenges the growthist paradigm of mainstream economics because it gives ascendancy to leaving room for nature to breathe. This is the vital idea of 'ecological space': the PP prevents us from pushing right up against (and over!) the limits to growth.

Precaution has implications for the scale and purpose of business and of trade in the crucial context of limits to growth. We need to remain within planetary boundaries and always to bear in mind our collective responsibilities to social fairness and (more basically) to habitability.

A vital facet of this responsibility at the present time is: retaining the PP in UK law, and placing it centrally in the framing of any Environment Act, as outlined above.

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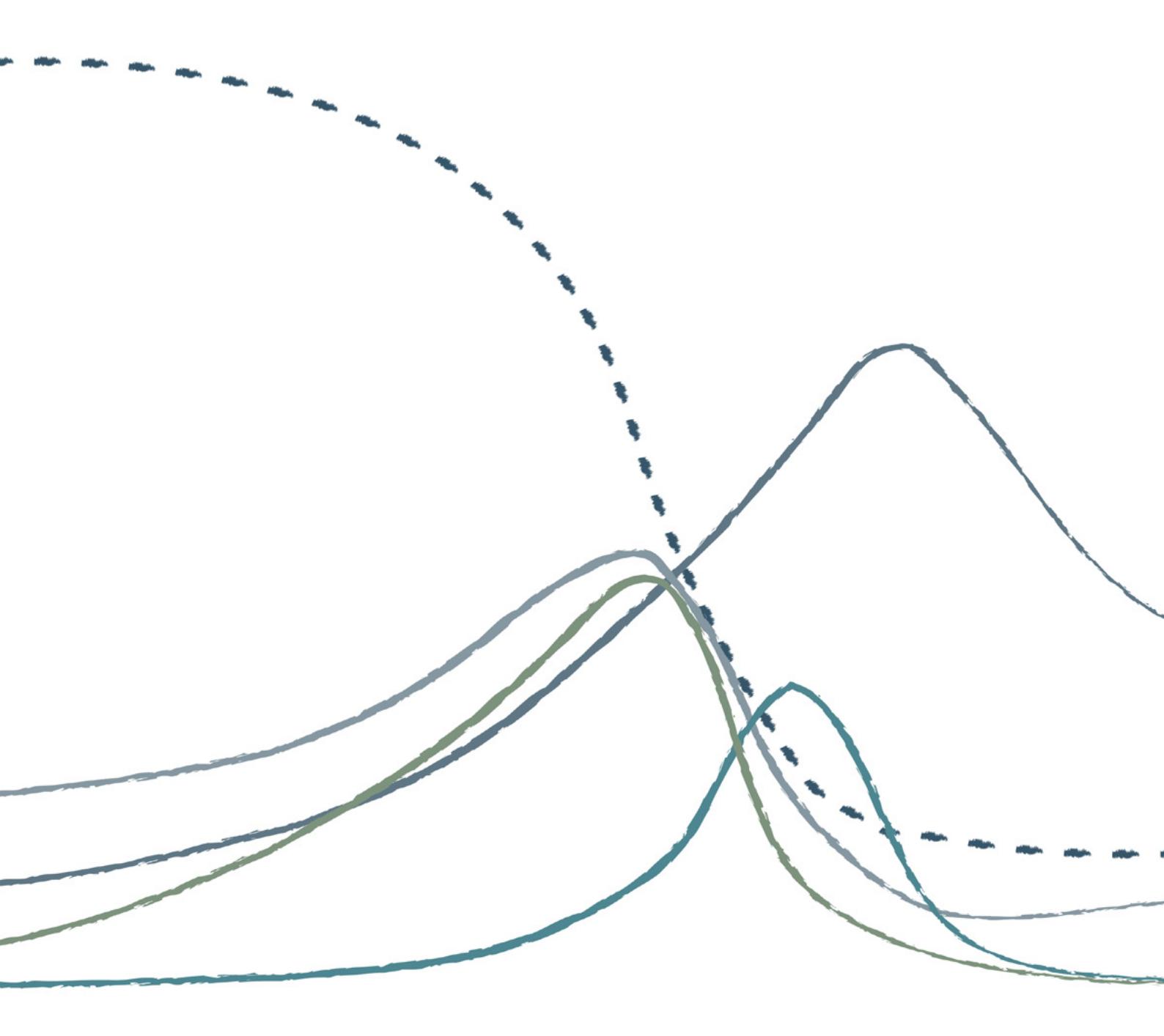
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The aim of the All-Party Parliamentary Group (APPG) on Limits to Growth is to provide a new platform for cross-party dialogue on economic prosperity in a time of environmental and social transition. The APPG is chaired by Caroline Lucas MP. Its principal aims are:

- to create the space for cross-party dialogue on specific economic risks related to environmental and social limits;
- to assess the evidence for such limits, identify the risks and build support for appropriate responses; and
- to contribute to the international debate on redefining prosperity and measures of growth.

The Secretariat for the APPG on Limits to Growth is provided by the **Centre for the Understanding of Sustainable Prosperity** (CUSP) at the University of Surrey, under the direction of Prof Tim Jackson, former Economics Commissioner of the UK Sustainable Development Commission.

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