

# ACCOUNTING FOR UNCERTAINTY: PRECAUTIONARY PRINCIPLE AND INDIRECT LAND-USE CHANGE

As a critical concession from Council, the European Parliament secured identical legislative mandates in the Fuel Quality and Renewable Energy Directives (hereinafter FQD-RED)<sup>1</sup> requiring the Commission to publish a report on indirect land-use change (ILUC) and submit, if appropriate, a proposal “based on the best available scientific evidence, containing a concrete methodology for emissions from carbon stock changes caused by [ILUC], ensuring compliance with [FQD-RED], in particular [the GHG savings criterion].”<sup>2</sup> The entire policy framework in FQD-RED was adopted under the assumption that ILUC factors would be introduced into the GHG savings criterion, as even the Commission acknowledges,<sup>3</sup> and no dispute that ILUC factors are “the most effective option in reducing [ILUC] emissions.”<sup>4</sup> Yet the COM proposal, submitted in October 2012, did not include ILUC factors into the GHG savings criterion.

## PRECAUTIONARY PRINCIPLE IN THE EUROPEAN UNION

The precautionary principle, which originated in Europe in the 1970s, is a bedrock principle of Union law:<sup>5</sup>

### TREATY ON THE FUNCTIONING OF THE EUROPEAN UNION

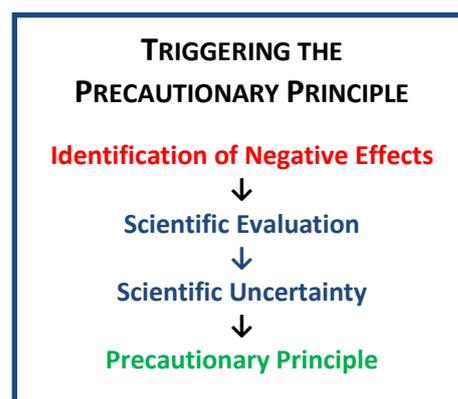
EU policy “shall be based on the precautionary principle and on the principles that preventive action should be taken,” and it “shall take as a base a high level of protection, taking account in particular of any new development based on scientific facts.”

- **The European Court of Justice (ECJ) routinely upholds environmental legislation with the precautionary principle.**<sup>6</sup> It is well-settled that “[w]here it proves to be impossible to determine with certainty the existence or extent of the alleged risk because of the insufficiency, inconclusiveness or imprecision of the results of studies conducted... the precautionary principle justifies the adoption of restrictive measures, provided they are non-discriminatory and objective.”<sup>7</sup> As one court put it, “a situation in which the precautionary principle is applied by definition coincides with a situation in which there is scientific uncertainty.”<sup>8</sup>
- **Wider use of the precautionary principle is recommended.** A recent report by the European Environmental Agency (EEA), *Late Lessons from Early Warnings: Science, Precaution, Innovation*, recommends far wider use of the precautionary principle, explaining that scientific uncertainty is not a justification for inaction when there is evidence of potentially serious harm. Its examples range from health and safety to ecosystems and climate.

## TRIGGERING THE PRECAUTIONARY PRINCIPLE

According to the Commission the “application of the precautionary principle is part of risk management” – a conclusion shared by the ECJ.<sup>9</sup>

- **The *Communication from the Commission on the Precautionary Principle* outlines how to apply the precautionary principle in the face of uncertainty:** the “precautionary principle should be considered within a structured approach to the analysis of risk” and should be applied “when scientific uncertainty precludes a full assessment of the risk and when decision-makers consider that the chosen level of environmental protection... may be in jeopardy.”<sup>10</sup> Recourse to the precautionary principle “presupposes that... effects deriving from a phenomenon... have been identified, and that scientific evaluation does not allow the risk to be determined with sufficient certainty.”<sup>11</sup> Recognition of uncertainty is a characteristic of the scientific method.



<sup>1</sup> Legislative Observatory, *Report on the proposal for a directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources (COM(2008)0019 – C6-0046/2008 – 2008/0016(COD))*, PE 405.949v02-00 (26 September 2008).

<sup>2</sup> Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, Article 19(6); Directive 98/70/EC of the European Parliament and of the Council of 13 October 2009 relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC, Article 7d(6).

<sup>3</sup> European Commission, *Impact Assessment*, p. 29.

<sup>4</sup> European Commission, *Impact Assessment*, p. 69.

<sup>5</sup> Treaty on the Functioning of the European Union, Articles 114 and 191.

<sup>6</sup> See e.g. Case C-157/96 *National Farmers' Union and Others* [1998] ECR I-2211, paragraph 64 (agricultural policy); Case C-180/96 *United Kingdom v Commission* [1998] ECR I-2265, paragraph 100; Case C-538/09 *European Kingdom v Kingdom of Belgium* (habitat protection).

<sup>7</sup> Case C-77/09 *Gowan Comércio Internacional e Serviços Lda v Ministero della Salute*, Paragraph 76

<sup>8</sup> Case T-257/07, Paragraph 75.

<sup>9</sup> European Commission, *Communication from the Commission on the Precautionary Principle*, COM(2000) 1 (2 February 2000), p. 13; see also Case C-77/09 *Gowan Comércio Internacional e Serviços Lda v Ministero della Salute*, Paragraph 68.

<sup>10</sup> European Commission, *Communication from the Commission on the Precautionary Principle*, COM(2000) 1 (2 February 2000), pp. 3 and 13.

## APPLYING THE PRECAUTIONARY PRINCIPLE TO SCIENTIFIC UNCERTAINTY AROUND ILUC

Because the precautionary principle is a part of *risk management*, it applies after the identification of negative effects, their scientific evaluation, and in the face of lingering scientific uncertainty. It justifies policymaking.

- **The Impact Assessment contains an in-depth description of the methodology used to determine the ILUC factors**, which include running both general-equilibrium and partial-equilibrium models and two Monte Carlo analyses to address scientific uncertainty to identify the 5<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> and 95<sup>th</sup> percentiles for estimated ILUC emissions and ILUC factors per feedstock, with the 50<sup>th</sup> percentile being considered a justifiable value.<sup>12</sup>

Feedstock Group	Estimated Indirect Land-Use Change Emissions (gCO <sub>2eq</sub> /MJ)
Cereals and other starch rich crops	12
Sugars	13
Oil crops	55
Other energy crops grown on land	15

- **The Commission violated its legislative mandate.** The multi-year, multi-model, multi-Monte-Carlo evaluation yielded “the best available scientific evidence” on ILUC and certainly qualifies as a “concrete methodology for emissions from carbon stock changes caused by [ILUC].” Yet when it came time to introduce ILUC factors the Commission blinked, arguing that “due to the right of initiative... [it can] consider other options”<sup>13</sup> and claiming that “the introduction of factors in the sustainability criteria would not take into account the limits of the modelling in the policy design.”<sup>14</sup> In so doing, the Commission violates its legislative mandate and dismisses the precautionary principle –in the process raising fundamental inter-institutional issues between Parliament and the Commission and the democratic deficit in the EU.

### MONTE CARLO METHOD

The Monte Carlo method is a standard approach to dealing with uncertainty in modeling. It is used when a model is complex or involves more than just a couple uncertain parameters, such as data or assumptions. It enables the parameters of the model to be varied randomly according to an expected probability function to address uncertainty in the model.

## THE PRECAUTIONARY PRINCIPLE AND THE WTO

There is no categorical exclusion of modeling or applying the precautionary principle under the WTO. Indeed, cases under both GATT and the TBT Agreement support the inclusion of an ILUC factor in FQD-RED.<sup>15</sup>

- **Inclusion of an ILUC factor is lawful under both GATT and the TBT Agreement.** Under GATT, measures to preserve the conservation of exhaustible natural resources—when made effective in conjunction with restrictions on domestic production or consumption, as here—are allowable so long as justifiable and not arbitrary.<sup>16</sup> Under the TBT Agreement, technical regulations must not be more trade-restrictive than necessary to fulfil a legitimate environmental objective, taking into account the risks of non-fulfilment using “available scientific and technical information... or intended end-uses of products.”<sup>17</sup> Moreover, to date, no WTO challenge has been brought against the other factors in FQD-RED, nor does any legal analysis articulate how the inclusion of an ILUC factor would be unlawful under the WTO. The argument is a paper tiger.
- **But the inclusion of an ILUC factor will become unlawful if politics get involved.** Proposals that depart from including an ILUC factor in a principle manner—such as exemptions to protect European farmers or their subsidies that are not justifiable from an environmental and scientific perspective—will contravene the legitimate environmental objective of the measure and be found unlawful under the WTO. The question is not if the European Union can include ILUC factors, it can, but how it does so.

How the Commission proposal is amended to conform to its original intent—to factor in ILUC emissions when determining compliance with the GHG savings criterion—will reveal the extent the precautionary principle is truly a bedrock principle of Union law and compliant with the WTO. This burden, for better or worse, is on Parliament.

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<sup>11</sup> European Commission, *Communication from the Commission on the Precautionary Principle*, COM(2000) 1 (2 February 2000), p. 4.

<sup>12</sup> European Commission, *Impact Assessment*, Annexes XI and XV (the Commission performed two Monte Carlo analyses performed, one on ILUC emissions estimates and another on ILUC factors).

<sup>13</sup> European Commission, *Impact Assessment*, p. 29.

<sup>14</sup> European Commission, *Impact Assessment*, p. 69.

<sup>15</sup> See Appellate Body Report, *United States – Measures Concerning the Importation Marketing and Sale of Tuna and Tuna Products*, WT/DS381/AB/R (16 May 2012); Appellate Body Report, *United States – Measures Affecting the Production and Sale of Clove Cigarettes*, WT/DS406/AB/R (4 April 2012); Appellate Body Report, *Brazil – Measures Affecting Imports of Retreaded Tyres*, WT/DS332/AB/R (3 December 2007); Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R (12 March 2001); Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R (6 November 1998); Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 of the DSU by Malaysia*, WT/DS58/AB/RW (21 November 2001); Appellate Body Report, *United States – Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R (20 May 1996).

<sup>16</sup> GATT 1994, Article XX; see also *ibid*.

<sup>17</sup> TBT Agreement, Article 2.2; see also *ibid*.