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Fuel for the Fire: Biofuels and the Problem of Translation at the Tenth Conference of the Parties to the Convention on Biological Diversity

Deborah Scott, Sarah Hitchner, Edward M. Maclin, and
Juan Luis Dammert B. *

Since their emergence as a major global concern in the early 2000s, biofuels have proven to be complex, multifaceted, and problematic objects to govern.¹ The Convention on Biological Diversity's (CBD) decision on "Biofuels and Biodiversity," negotiated at the Tenth Conference of the Parties (COP10), represents an instance of failed *translation*, using Callon's concept of a mechanism that guides the coproduction of science and society.² In international environmental governance forums such as the CBD, various actors aim to collectively translate diverse networks of entities, human and non-human, into governable objects. Drawing from ethnographic data collected at CBD COP10, we identify three debates that characterize the struggle to translate the multiplicity of feedstocks, production processes, and stakeholders that collectively comprise "biofuels" into a singular, governable object: setting the scope of the decision, addressing the positive impacts of biofuels on biodiversity, and balancing the authority of claims around synthetic biology. Through these debates, we trace strategies of rendering political issues "technical," relying on formal text to

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1. There is great variety in bioenergy products, including fuelwood, charcoal, pellets, biodiesel, sugar-based and cellulosic ethanol, cellulosic gasoline and biocrude, and biohydrogen (IPCC 2011). The CBD and most global forums, however, have primarily focused on liquid biofuels for use by the transportation sector (Bastos Lima and Gupta 2013; CBD SBSITA 2007).
2. Callon 1986.

stabilize contested identities, and restricting the sources of knowledge drawn upon. We suggest that the CBD parties experiment with new strategies, taking advantage of the COP's legal flexibility and the CBD's institutional history of engaging with the political nature of scientific knowledge.

The CBD is widely recognized as a framework agreement in that it gives parties considerable freedom to determine how to implement its provisions and explicitly allows the COP to negotiate legally binding protocols.³ Outside of a protocol, outcomes of a CBD COP do not bind any party, individual, or organization to specific actions. Instead, COP decisions have the status of soft law—formal but not legally binding.⁴ They indicate agreement among the 193 CBD parties on the boundaries of a given problem, desirable steps towards solutions, and principles to guide collaboration. The negotiations for a COP decision are usually based on recommendations developed at meetings of the Subsidiary Body on Scientific, Technical, and Technological Advice (SBSTTA). Although not legally binding, CBD decisions do have impacts. They can act as official interpretations of the CBD text, help to develop international legal principles, and mobilize and guide a vast infrastructure of scientists, funding agencies, NGOs, and businesses.⁵

The CBD is a unique treaty for examining emerging technologies such as biofuels. During negotiations for the CBD text in the early 1990s, developing countries⁶ demanded that its scope go beyond conservation and the natural sciences to recognize the political role of scientific knowledge in international environmental governance.⁷ Ultimately, the CBD's official objectives included not only conservation but also sustainable use, fair and equitable access, and benefit sharing—all political responses to biodiversity loss.⁸ In the negotiations, developing countries also strategically deployed the scientific uncertainties around ecological complexity and the unknown commercial value of biodiversity in their countries to bolster their position vis-à-vis the less biodiverse northern countries.⁹ Since then, the work of the CBD COP has continued to address the politics of knowledge, and its culture of broad participation has greatly influenced its approaches to knowledge and authority. Compared to other treaties, the CBD provides greater access to observers (particularly indigenous and local communities and NGO groups), and developing countries take a particularly strong and active role.¹⁰

3. Glowka et al. 1994.

4. Dupuy 1991.

5. Dupuy 1991.

6. In this paper we use the terms "developing countries" and "Northern" and "Southern" countries. These terms are part of the CBD's vocabulary, but we recognize they are problematic, inadequately reflecting the nuanced and multiple positions of states.

7. McGraw 2002.

8. Article 1, CBD; McGraw 2002.

9. Guay 2002; McGraw 2002.

10. Morgera and Tsioumani 2011.

Conceptual Background: Translating Biofuels

As outlined in the introduction to this special issue, our Collaborative Event Ethnography (CEE) research team approached the CBD as one node in a network of global environmental governance, and COP10 as a moment within ongoing policy-making processes (Campbell, Corson, et al., this issue). Translation is one of the mechanisms that builds a network of governance. Sociologist Michel Callon is credited with developing the concept of translation to describe the process by which an actor network is assembled, as science, technology, and society are brought into relation with one another and enacted through those relationships.¹¹

Translation is a helpful concept in studying the formation of governance, as scientific (and other types of knowledge) claims are translated into mechanisms of governance. Since the twentieth century, the formulation and legitimation of public policy has increasingly drawn on the expertise of science claimed as objective and universal.¹² Yet, as STS scholars have shown, it is never a simple matter of translating scientific knowledge into policy. Rather, science and governance are continually coproduced.¹³ A common strategy in developing governance mechanisms is to translate highly complex issues into governable ones by framing them as less complex, externalizing uncontrolled factors. Similarly, indeterminate uncertainties are often framed as “controllable uncertainties.”¹⁴ Documents (legal, scientific, political, etc.) are key components in constructing and lengthening chains of translation.¹⁵

Callon identified four “moments of translation”: problematization, *interesement*, enrolment, and mobilization. These moments can be understood as phases, sometimes sequential, at other times overlapping and feeding back into one another.¹⁶ In the context of the CBD, the SBSITA and COP negotiations are stages for the translation of contextualized knowledges, practices, and concerns into official decisions that describe global problems and suggest solutions. Here we briefly describe how each moment of translation played out at COP10 in the development of the Aichi Biodiversity Targets—twenty specific (albeit non-binding) global targets for biodiversity to be reached by 2020 (see Campbell, Hagerman, and Gray, this issue). Unlike the Aichi Targets, which we consider a successful translation, we argue that the biofuels negotiations failed to achieve problematization.

In problematization, actors—both human and non-human—are defined in relation to each other, along with the obstacles that prevent them from attaining their goals. Often, the process of problematization involves some actors being established as “obligatory passage points,” indispensable for others in the

11. Callon 1986.

12. Jasanoff and Wynne 1998.

13. Jasanoff 2004.

14. Wynne 2005.

15. Callon 1995.

16. Callon 1986.

network to get what they want.¹⁷ The Aichi Targets are hybrid scientific-political objects, but during the negotiations, it was the scientific expertise of conservation scientists and economists that was framed as obligatory in order to correctly identify effective targets (see Campbell, Hagerman, and Gray, this issue).

Interessement generally follows problematization, as actors attempt to lock into place the newly defined identities. Devices of interessement make it possible for certain kinds of identities to be expressed and other associations to be disrupted. Not only were specific kinds of scientific knowledge invoked in negotiating the Aichi Targets, but “a number of targets create the need for further scientific work: to determine baselines, develop indicators, and measure progress” (Campbell, Hagerman, and Gray, this issue). By institutionalizing the need for such information, these practices become fixed as ways that biodiversity will be known.

Enrolment occurs as the roles of these stabilized and interconnected identities are coordinated around the central identified problem, for example, as a wide variety of actors, from national governments to environmental NGOs, incorporate the targets in their work plans and strategies. Mobilization occurs as increasing numbers of allies are mobilized, while the number of “spokespersons” is reduced to fewer and fewer scientists, individuals, and technologies. Campbell, Hagerman, and Gray (this issue) describe how the format of the targets mask the political debates behind them, appearing as independent objects that communicate natural goals for conservation.

A successful translation is achieved and closure reached when what was once controversial seems natural, a highly contingent process has a single dominant narrative, and the spokespersons for that process are “deemed to be beyond question.”¹⁸ Translations are common, but they are not permanent. Issues overflow their framings, entities refuse their given identities, and the entrance of new actors shifts a temporarily stabilized definition of the problem.¹⁹ Actors form new strategies, devices of interessement are adapted, and new actor networks develop. Though temporary, a successful translation, while it exists, provides the framework for action by its network. The process of setting targets was hotly contested, and the final Aichi Targets are not universally celebrated.²⁰ Nonetheless, the Aichi Targets establish a widely agreed upon framework that will structure the relationships, identities, and work of thousands of actors over the next decade and thus, for now, can be considered a successful translation.

Unlike the Aichi Targets, the COP10 biofuel negotiations did not result in the crystallization of an actor network through a successful translation. Instead,

17. Along with translation, a key tenet of Actor Network Theory is the symmetrical treatment of human and non-human actors, rejecting an object/subject dichotomy. Thus, what is “problematized” may be human identities, such as CBD biofuel negotiators, or the identities and roles of non-humans, such as specific kinds of biofuels (Callon 1986).

18. Callon 1986, 223.

19. Callon 2009.

20. Harrop and Pritchard 2011.

Table 1

Biofuel Events at the CBD COP10 Attended by Authors

<i>Negotiations</i>	Working Group I—October 21 & 28 Contact Group—October 21, 22, 25, & 26 Friends of the Chair—October 27
<i>Side events</i>	ETC Group: Synthetic Biology: Extreme Genetic Engineering—October 18 Global Forest Coalition, Econexus, Friends of the Earth Brazil: Biodiversity and Climate—October 21 ETC Group: Terminator Technology—October 25

we witnessed continual disruption and unsettling as negotiators struggled to establish a single description of the problem at hand. In this article, we argue that parties failed to achieve problematization for biofuels and therefore did not reach an outcome of similar substance or impact as the Aichi Targets.

Methods

Our case study of the COP10 biofuels negotiations employed the emerging methodology of collaborative event ethnography (CEE), which treats large international events as field sites and relies on the cooperation of researchers from diverse disciplines and fields of practice. Our numbers made it possible to observe more of the spectacle of COP10 and to alert one another to events of interest that may otherwise have been missed. The diversity of our team's academic backgrounds, professional experiences, and personal perspectives allowed us to collectively find deeper connections between events, policies, and scales of governance than we could have done alone. Our collaborative ethnographic study of a pivotal moment in the history of global environmental governance complements localized case studies of the ecological, social, and economic effects of biofuel development in particular places (see Campbell, Corson, et al., this issue).

CBD COP10 was held in Nagoya, Japan from October 18–29, 2010. The coauthors of this article coordinated attendance at almost all biofuels related events: working groups, contact groups, side events, and roundtable discussions (see Table 1). We also held informal conversations with key actors, reviewed materials disseminated during the COP and official CBD documents produced for this and earlier COPs, and met frequently among ourselves and with other CEE members to compare notes and identify emergent themes. After the COP, we shared notes and photographs from the sessions and transcribed recordings. We used inductive coding to analyze these texts. We also draw upon semi-structured interviews with secretariat staff and delegates from CBD parties and observer organizations, conducted by co-author Scott for related research.

Biofuels at the CBD: Moments of Failed Problematization

In 2006, the COP introduced a new mechanism, “New & Emerging Issues” (NEI), to allow issues of particular novelty and urgency to be added to the CBD’s agenda.²¹ This was not expected to trigger controversy; NEI was seen as formalizing an existing practice.²² In September 2006, the SBSTTA Bureau identified “the impact on biodiversity of the production and use of liquid biofuels” as an issue for consideration, and in July 2007 SBSTTA12 proposed biofuels as the first NEI.²³ Negotiations on biofuels at SBSTTA12 and 13 and COP9 were fierce. The EU pushed for the CBD to produce guidelines specific to biodiversity and criteria for sustainable biofuel production. Led by Brazil, biofuel-promoting countries pushed back, questioning whether the CBD had authority to address biofuels (as opposed to trade and climate change treaties), whether it was appropriate to invoke “precaution,” and whether biofuels should be discussed in the context of forest biodiversity.²⁴ Ultimately, COP9 agreed to add biofuels to the CBD’s agenda, but the primary action was tasking the secretariat to gather information from parties on ways and means to produce sustainable biofuels.²⁵ The COP9 decision on biofuels was thus seen as setting the stage for *substantive* decision-making at COP10. The SBSTTA recommendation that was the basis for the COP10 biofuel negotiations was extensively bracketed, indicating lack of agreement among parties on appropriate text.²⁶

At COP10, the agenda item “Biofuels and Biodiversity” was introduced in Working Group I (WGI). The majority of the negotiations occurred in the biofuels contact group, chaired by delegates from Canada and Colombia and attended by forty to fifty individuals per session. In this section, we explore three areas of the negotiations in which characterizations of biofuels clashed, largely without resolution.

Setting the Scope of the Biofuels Decision

Building on previous debates, the COP10 negotiations questioned whether the biofuels decision’s scope should be narrowed to agriculturally based feedstocks or broadened to include forest resources and other sources of biomass. Although “current generation” biofuels primarily rely on agricultural crops, such as corn and sugarcane for ethanol and soybean and oil palm for biodiesel, “next generation” biofuels are anticipated to use improved feedstocks, such as genetically transformed algae. Another anticipated next-generation advancement is

21. COP Decision VIII/10, CBD 2006.

22. Scott’s interviews with secretariat staff, Montreal QC, Feb. and March 2013.

23. CBD SBSTTA 2007.

24. For overviews of the negotiations at SBSTTA12 and 13 and COP9, see the *Earth Negotiations Bulletin*, available at: <http://www.iisd.ca/biodiv/sbstta12/>; <http://www.iisd.ca/biodiv/sbstta13/>; and <http://www.iisd.ca/biodiv/cop9/>, accessed Dec. 12, 2013.

25. COP Decision IX/2, CBD 2008.

26. Recommendation XIV/10, CBD SBSTTA 2010.

improved processing technologies that will allow the use of plants and plant parts not currently commercially viable, such as cellulose—thus potentially utilizing sources of biomass beyond agricultural crops.²⁷ As of 2011, 99.85 percent of biofuels produced and consumed were current generation, but next-generation biofuels are highly anticipated.²⁸ The scaling-up of next-generation biofuels could represent a significant future use of woody biomass from forests or plantations.

In Brazil's lengthy opening statement in WGI, they called for the decision title (and emphasis within the text) to directly refer to *agricultural* biodiversity. During that same session, the EU called for expanding the decision's scope to include biomass from forests and to reference Decision IX/5 on forest biodiversity in the CBD's work on biofuels.²⁹

Throughout the biofuel negotiations, Brazil presented its arguments for a narrow scope as being based on technical, rather than political logic. First, it argued that the mandate for negotiations came from the COP9 decision "Agriculture and Biodiversity—Biofuels and Biodiversity," which specifically situated the issue within agriculture.³⁰ The EU,³¹ the Africa Group,³² Norway,³³ and NGOs such as the Federation of German Scientists³⁴ countered this argument with concern that "agriculture" left out forests, plantations, and biomass more generally. They argued that ignoring the consequences of increased biofuel production on both natural and planted forests would skew calculations of the environmental effects of biofuels, such as decreased forest biodiversity or increased water use and pollution. Although the previous COP decision explicitly situated biofuels within agriculture, Norway argued that the COP was politically entitled to change this framing.³⁵

Brazil's second line of argument was that the COP10 negotiations on biofuels should only address aspects *unique* to biofuels.³⁶ Brazil used the example of the risk of introduction of invasive alien species, which it did not want referenced in the biofuels decision. Like most current-generation biofuel feedstocks, oil palm is a "flex crop," with multiple potential uses as food, feed, fuel, and industrial material.³⁷ Brazil acknowledged that oil palm could be an invasive alien species in certain instances, but argued that oil palm should not be regulated differently just because it was intended for biofuels as opposed to cosmetics or food. The biofuels decision should not send a message to national governments that crops for biofuels required a different assessment of risks than

27. IPCC 2011.

28. HLPE 2013.

29. October 21, 2010 Working Group 1 (WGI).

30. October 21, 2010 WGI; October 22, 2010 Biofuel Contact Group (BCG).

31. October 21, 2010 WGI; October 22, 2010 BCG.

32. October 27, 2010 Friends of the Chair (FtC).

33. October 22, 2010 BCG.

34. October 21, 2010 BCG.

35. October 28, 2010 WGI.

36. October 26, 27, 2010 BCG and FtC.

37. Borrás et al. 2012.

if the same crops were grown for other end uses—and, therefore, the decision should not address *any* challenges not unique to biofuel feedstock production.³⁸ This argument was countered by one party politely offering that, as the risk of invasive biofuel feedstocks was not unique to biofuels, it should perhaps be mentioned not only in the biofuels decision but also in the decision on invasive alien species and all other relevant COP decisions.³⁹

In the final decision, the potential of biofuel feedstocks to become invasive is relegated to a brief mention in a preambular paragraph.⁴⁰ Brazil's technical approach could have shifted discussion of *most* impacts of biofuel feedstock production entirely out of the biofuels decision on the basis that they are not unique to biofuels alone. Instead, indirect land use change, food and energy security, land tenure, and resource rights remained within the operative text as issues demanding political responses. Other parties simply refused to respond to the technical logic of Brazil's argument, referencing their political mandates to address these issues at the COP in the context of biofuel production.⁴¹

The final title of Decision X/37 is "Biofuels and Biodiversity." Thus, Brazil failed in its goal to clearly define biofuels as objects of *only* agricultural biodiversity, which would have practically excluded forests and non-agricultural spaces. On the other hand, the actual text contains only one oblique reference to forests (that the Executive Secretary should take Decision IX/5 2(b) (on the use of forests for biomass) into account when working with relevant partner organizations).⁴² The agriculture versus forest debate was reopened to allow for the possibility of considering forests, but it was left open, without clear resolution.

Any negotiation involves defining the subject at hand and thus the scope. Brazil's strategy of focusing on agriculture and end uses attempted to establish narrow obligatory passage points, structured as neutral technicalities. Other parties resisted this narrowing, claiming their ability to change previous COP decisions and including some issues regardless of Brazil's "end use" argument. While there was sufficient political will to resist Brazil's strategy of reducing the issue through technicalities, there was not enough to set a clear scope. Although the purely technical approach to scope setting was rebuffed, the question of how to set the scope was unanswered and problematization remained unsettled.

"Promoting the Positive" Impacts on Biofuels

If the COP10 biofuel negotiations had a mantra, it was to "promote the positive and minimize or avoid the negative impacts of the production and use of biofuels on biodiversity." First introduced at the 2008 CBD COP9, the phrase

38. October 27, 2010 FtC.

39. Switzerland, October 27, 2010 BCG.

40. COP Decision X/37 preambular para. 4, CBD 2011.

41. October 26, 27, 2010 BCG & FtC.

42. COP Decision X/37 para. 13, CBD 2011.

has been used in all subsequent CBD work on biofuels. In the final COP Decision X/37, the phrase is used nine times in less than four pages.⁴³ During the negotiations, the phrase was taken as a given, with negotiators regularly not completing the phrase and gesturing to the secretariat staff to include the “usual” language.⁴⁴

The phrase illustrates a dual identity to biofuels: as protectors and perhaps even enhancers of biodiversity, but also as threats to and destroyers of it. This reflects the range of narratives on biofuels in the recent past. In the 1990s and early 2000s, many state decision-makers and agencies saw biofuels as a panacea: increasing domestic supplies of energy; enhancing social justice by increasing access to energy; providing clean and renewable alternatives to dirty and finite fossil fuels; reducing greenhouse gas (GHG) emissions; and boosting local and national economies by providing new jobs and opportunities for investment and entrepreneurship.⁴⁵ Since the mid 2000s, however, the “multiple win” narrative has become complicated and challenged. Many criticisms relate to the impacts of production of current-generation biofuel feedstocks on biodiversity, including deforestation and land fragmentation through direct and indirect land use change; high water needs for irrigated feedstocks; loss of agrobiodiversity and soil fertility; soil erosion; and the potential invasiveness of next-generation biofuel feedstocks.⁴⁶ Many of these concerns echo longstanding critiques of modern industrial agriculture and global land use.⁴⁷ Similarly, the complex social and economic interactions between areas that supply raw materials for biofuels and areas that import them follow in the footsteps of other exported commodities, with similar challenges of inequitable distribution of the costs and benefits on indigenous and local communities.⁴⁸ A particular concern is the impact of biofuels on food security, as biofuel crops impact global food prices, compete with food crops for land and other resources, and impact access to food in other ways.⁴⁹ Nonetheless, the “multiple win” narrative remains predominant among many national and local leaders, government agencies, investors, and entrepreneurs, who often rely on the promises of next-generation biofuels to eventually avoid the problems created by current-generation biofuels.⁵⁰

This shift in global discourses was reflected in the COP10 negotiations, where the “positive” aspects of biofuels played only a minor role. Of the twenty-

43. CBD 2011.

44. There were numerous examples of this at the October 26, 2010 BCG.

45. Bastos Lima and Gupta 2013

46. Barney and di Tomaso 2011; Evans and Cohen 2009; Fargione et al. 2010; Graham et al. 2007; Searchinger et al. 2008.

47. Fortin 2013; Webb and Coates 2012.

48. HLPE 2013.

49. Hill et al. 2006; HLPE 2013; Mitchell 2008.

50. This “multiple win” rhetoric continues to be perpetuated, although some biofuel proponents are more measured in their promises these days (e.g., Dorminey 2013). Borrás et al. (2010) and Fortin (2013) discuss the persistence of this narrative in the face of financial and normative challenges.

six opening statements on biofuels made in WGI, only three parties directly mentioned benefits from biofuels. Brazil and South Africa (on behalf of the Africa Group) referenced the potential contribution of biofuels to rural areas; Brazil pointed to modern bioenergy's ability to prevent deforestation by replacing "unsustainable traditional biomass"; and Canada broadly claimed that it "believes biofuels can be produced in ways to protect environment and economy."⁵¹ Some parties did not identify specific positive benefits, but criticized the SBSTTA recommendations as being too negative.⁵² Most parties, however, dwelt on biofuels' negative impacts, from their invasive potential⁵³ and increased risk of desertification,⁵⁴ to negative impacts on socioeconomic conditions such as reduced water,⁵⁵ land,⁵⁶ and food security.⁵⁷

The few positive opening statements in WGI were the only times within the formal negotiations that our team heard explicit mention of positive impacts of biofuels on biodiversity. The final text displays a relative balance acknowledging beneficial and negative impacts,⁵⁸ but the tens of hours of negotiations at COP10 were focused on debating biofuels' negative impacts. We left COP10 unenlightened as to what specifically was meant by the "positive impacts" of biofuels on biodiversity.

The answer is in the texts. COP Decision X/37 starts by "recalling . . . Decision IX/2."⁵⁹ Decision IX/2 claims that sustainable production and use of biofuels "could contribute" to the 2010 CBD biodiversity targets, the promotion of sustainable development, the improvement of rural livelihoods, and the achievement of the Millennium Development Goals.⁶⁰ *How* they contribute to these targets is unspecified, but Decision IX/2 does "tak(e) into account" the SBSTTA discussions from 2007 reflected in Recommendation XII/7.

The potential positive impacts listed in Recommendation XII/7 include reduction of fossil fuel consumption; decreased land use for agriculture because of increased energy outputs; decreased land abandonment and conversion of agricultural land to other uses; and increase of income base for farmers and forest owners and rural areas.⁶¹ Also included are potential impacts that do not seem unique to biofuels but would be a positive direction for agriculture, such

51. October 21, 2010 WGI.

52. In WGI opening statements of: Argentina, Japan, and Paraguay.

53. In WGI opening statements of: Fiji (on behalf of the Pacific Island States), Jamaica, Algeria, the EU, Norway, and three civil society interventions.

54. In Algeria's WGI opening statement.

55. In the WGI opening statements of: the Bolivarian Alliance for the Americas (ALBA—Cuba, Venezuela, Ecuador and Bolivia) and Norway.

56. In the WGI opening statements of: Tanzania, Ghana, Jamaica, the ALBA group, and Papua New Guinea.

57. In WGI opening statements of: Dominican Republic, Ghana, Algeria, the ALBA group, Papua New Guinea, and Botswana.

58. See COP Decision X/37 preambular paragraphs 4, 5, and 6, CBD 2011.

59. CBD 2011.

60. CBD 2008.

61. Recommendation XIV/10, part B, para. 3(b(i,ii, iv, & v)), CBD SBSTTA 2007.

as reduced management inputs, increased crop diversity, the restoration of degraded lands, and reduced pesticide, fertilizer, and water use.⁶²

Perhaps with the exception of Brazil, parties at COP10 did not argue that biofuel production had *yet* resulted in those potential positives. Indeed, since the 2007 SBSTTA Recommendation, the challenge of indirect land use change and “land grabbing” had arisen. Indirect land use change can occur when land converted to biofuel feedstock production pushes the former landusers, such as pastoralists, onto other, potentially undisturbed, land.⁶³ Indirect land use change potentially links large-scale biofuel production to biodiversity loss and increased GHG emissions. One of the anticipated positive impacts of biofuels—increased value of agricultural land—was criticized for driving land grabs, i.e., foreign, large-scale investments in agricultural land that violate the rights of indigenous and local communities.⁶⁴ These potential impacts are extremely contentious and inherently difficult to reliably track or measure.

The invocation of the phrase “to promote the positive . . . impacts” without unpacking its specific meanings in the COP10 negotiations demonstrates the power and the limits of text. International law and the UN system rely on the repetition of phrases and concepts to build customary legal principles and norms, and an important tool for achieving stabilization is formal text. This can be seen as a strategy of interestement, by which an actor “attempts to impose and stabilize the identity of the other actors it defines through its problematization.”⁶⁵ Even if a text does not create new legal commitments, as with most CBD decisions, it can be used to interpret the treaty text, advance legal concepts, and solidify relationships among parties. Also, through the process of self-reference, formulaic language can seem to develop a certain stability and naturalness that helps to “black box” the processes by which it was formed.⁶⁶ This appears to have happened with the phrase “promote the positive . . . ,” having become the go-to phrase—and thus framework—for the relationship of biofuels and biodiversity.

Nonetheless, the power of formal text only goes so far, particularly when the problematization of its issue remains open. Almost all parties went along with the strategy of relying on the phrase, allowing them to sidestep a contentious debate on politically sensitive and scientifically uncertain issues such as indirect land use change. But it also led to a decision built around a mantra that actually indicates very little. Although it is common within the UN system to build on negotiated language, in this case relying on the formal text did not help to stabilize relationships or move actors toward a common understanding of the problem. Without sufficient shared agreement of its meaning, the formal text was limited in its power to stabilize and thus failed as a device of

62. Recommendation XIV/10, part B, para. 3(b(iii)), CBD SBSTTA 2007.

63. Searchinger et al. 2008.

64. HLPE 2013.

65. Callon 1986, 207–208.

66. Callon 1995.

interessement in the COP10 negotiations. While translation is less a matter of stages operating in a logical sequence and more of a series of moments, this instance demonstrates that interessement can fail without the properly defined network of actors resulting from successful problematization.

Addressing Synthetic Biology

We witnessed varying interpretations of the potential risks and benefits of using synthetic biology in the production of biofuels. A common definition of synthetic biology is: "A) the design and construction of new biological parts, devices, and systems, and B) the redesign of existing, natural biological systems for useful purposes."⁶⁷ Some civil society groups at COP10 referred to synthetic biology as "extreme genetic engineering."⁶⁸ Synthetic biology is anticipated to eventually play a significant role in next-generation biofuels, as new microbes and enzymes bioengineered from genetic "scratch" will process feedstock into fuel. The potential for next-generation biofuels to eliminate the current generation's negative ecological impacts plays an important role in global narratives on biofuels.⁶⁹ It is hoped that feedstock improvements will improve both the economic feasibility and the ecological sustainability of large-scale bioenergy feedstock production on lands currently unused or underutilized.⁷⁰ There is concern, however, that the biosafety risks posed by synthetic biology are not sufficiently understood.⁷¹

SBSTTA Recommendation XIV/10 included two bracketed paragraphs addressing synthetic biology: 1) to convene an *ad hoc* technical expert group on synthetic biology and other next-generation biofuel technologies, and 2) urging that "living organisms produced by synthetic biology are not released into the environment until there is an adequate scientific basis on which to justify such activities and due consideration of the associated risks."⁷² These paragraphs were seen by negotiators as skeptical and cautious, focused more on avoiding negative impacts than promoting positive impacts. The second paragraph, broadly understood as a "moratorium" on the environmental release of organisms produced by synthetic biology, was championed by the Philippines and supported by civil society groups such as Friends of the Earth US and the ETC Group.

Brazil did not want to include synthetic biology in the biofuels decision for another "technical" reason: synthetic biology is not restricted to producing biofuels, and thus should be considered by the CBD in another forum.⁷³ The EU

67. See <http://syntheticbiology.org>, accessed March 20, 2014.

68. Side event of the ETC Group, October 18, 2010.

69. HLPE 2013.

70. Fargione et al. 2010.

71. Dana et al. 2012.

72. Para. 14 and 16, CBD SBSTTA 2010.

73. October 26 and 27, 2010 BCG & FtC.

and New Zealand agreed that it should not be in the biofuels decision, but primarily because their “experts” insisted synthetic biology was *not yet* being used to produce biofuels.⁷⁴ The Philippines responded that *their* “technical experts” reported that synthetic biology companies were present and active in their country.⁷⁵ Bolivia’s response to this disagreement was that, whether or not synthetic biology was yet in use, the CBD COP should adopt a stance of precaution.⁷⁶ Throughout the open negotiations, delegates refused to engage with the claims of opposing experts. Instead, they reasserted the claims of those supporting their own positions.

Ultimately, the language around biofuels and synthetic biology was settled in a closed “front of the room” friends group convened by the chair of WGI. Rather than a moratorium, the final language urges parties to apply the precautionary approach, and “acknowledg(es) the entitlement of Parties, in accordance with domestic legislation, to suspend the release of synthetic life, cell, or genome into the environment.”⁷⁷

Although developing countries in the CBD have pushed for consideration of the politics of knowledge, historically this has meant claiming a legitimate role for their experiential knowledge in the context of international decision-making. Expert (scientific, economic, and legal) knowledge, on the other hand, has been claimed by developed countries at the CBD; developing countries strategically highlighted uncertainties and gaps in expert knowledge, but did not generate it.⁷⁸ Today, the politics of knowledge in many international forums are shifting, as Scoones highlighted in his study on the development of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD).⁷⁹ Assumptions of who can speak for “nature,” science, and their roles in the actor network are being disrupted. The CBD biofuel negotiations demonstrated this in the back and forth between parties on their experts’ reports on synthetic biology and biofuels. Southern countries are countering Northern expertise not just with their own experiences, but with claims of their own experts. As we saw in the contact group sessions, these claims were often received with skepticism by Northern negotiators, rarely openly contested but not necessarily incorporated as text. Northern negotiators kept invoking their experts, as if to assert that, really, *their* knowledge claims were the ones that ought to count. Similar to the IAASTD process, tensions between diverse knowledges were diverted and suppressed instead of directly acknowledged.⁸⁰

A key component of problematization is the establishment of networks of relations. In international environmental law, formal science has often been the

74. October 26, 2010 BCG.

75. October 27, 2010 FtC.

76. October 26, 2010 BCG.

77. Decision X/37 para.16, CBD 2011.

78. McGraw 2002.

79. Scoones 2009.

80. Scoones 2009.

assumed obligatory passage point, with predictable spokespersons—Northern scientists and politicians.⁸¹ The historic network of relations in the CBD was based in part on developing countries' supposed lack of scientific knowledge.⁸² As Southern claims of expertise broaden to include not only experiential but also scientific, technical, and legal knowledges, networks of relation at the CBD are unsettled. But while old patterns of relying on Northern expert knowledge have been disrupted, new functional strategies that deal with multiple, sometimes conflicting, claims of authoritative knowledge are not yet in place. The formation and structure of networks of relation under this emerging paradigm are not yet determined. Without resolution to clashing claims of authority, it is unsurprising that negotiations stalled at problematization.

Conclusions

Biofuels are almost entirely governed by national and regional mechanisms, rather than global regulatory schemes. International forums exist, such as the Global Bioenergy Partnership launched by the G8+5 and the Roundtable on Sustainable Biomaterials, but their guidelines and market standards are strictly voluntary and broadly critiqued in terms of effectiveness and legitimacy.⁸³ Even among these forums, the CBD is rarely recognized as key to biofuel governance.⁸⁴ Within the CBD, however, biofuels have played an important role as the first official “new and emerging issue.” We focus on the CBD's engagement with biofuels at COP10 because it is a compelling case study of the challenges that such varied emerging technologies pose to global governance institutions.

Unlike the Aichi Targets, which have become a framework for action by actors at multiple levels, “Decision X/37: Biofuels and Biodiversity” has had minimal impact or uptake. It does not coordinate actors, provide a clear plan of action, or demonstrate agreement on how to understand biofuels, let alone govern them. Decision X/37 has not been taken up by states or other international bodies working to shape biofuel governance.⁸⁵ Previous negotiations set up COP10 to provide guidance on the “ways and means” to produce sustainable biofuels, possibly through biodiversity specific criteria or by establishing processes for producing such criteria. Decision X/37 fails to do either. Although high profile within the CBD, the COP10 biofuel negotiations arguably failed to translate into effective governance.

At CBD COP10, negotiators sought to translate biofuels from a diverse and shifting set of individuals, plants, technologies, and communities to a

81. Jasanoff 1996; Jasanoff and Wynne 1998.

82. McGraw 2002.

83. Bastos Lima and Gupta 2013; Fortin 2013.

84. For example, the CBD is not included in the overview of biofuel governance schemes by Bastos Lima and Gupta (2013).

85. According to Scott's interviews (2012, 2013) with secretariat staff and state and observer CBD delegates, the CBD's early engagement with biofuels may have influenced the FAO, but no one referenced the 2010 decision as having meaningful results.

stable object for which policy recommendations and pronouncements could be made. But biofuels are significantly context-dependent, producing dramatically different impacts depending on the scale of their production, who grows the feedstock, where and under what political system of policies and mandates, and many other factors. In the biofuel negotiations, we noted that the use of the blanket term “biofuels” to indicate this multiplicity seemed to enflame disagreement and block action. Thus, we see biofuels as a “fire object,” enacted in multiple ways depending on different sets of relations and contexts.⁸⁶

Fire objects often exist where there is a “high level of controversy such that no single set of actors has the power to impose epistemic closure.”⁸⁷ In the biofuel negotiations, CBD parties attempted to limit this controversy by deploying strategies common in international environmental institutions: rendering political issues technical; relying on formal text to stabilize contested identities; and restricting sources of legitimate knowledge. These strategies, on the whole, failed. Brazil’s attempt to fix the identity of biofuels with technical parameters was resisted by other parties, but no other path to problematization was found. Parties united in their reliance on formal text to provide stability, but because the understandings behind it had shifted and splintered, the text failed to provide a strong enough framework for building mechanisms of governance. Although Northern parties’ claims of authoritative knowledge were contested, negotiators could not seem to find another strategy in the absence of a new consensus on who could claim expertise.

These failed strategies led to a failure of translation of biofuels into a governable object. Clearly, this is only a partial explanation to why biofuels failed, as opposed to the successful translation of the Aichi Targets into governance mechanisms; broader political and economic interests played significant roles in both sets of negotiations. We had access to all of the formal negotiations, but only some of the underlying geopolitical struggles are exposed in such forums. Rather, we can speak to the strategies on display in the negotiations. These strategies clearly were not adequate responses to the novelty, complexity, and associated uncertainties of biofuels; in fact, for the most part the strategies were rejected by the majority of parties. There was no agreement, however, on what should replace those rejected strategies.

Biofuels will never be tidy, easily defined objects for *any* international forum; as a fire object, biofuels are unlikely to take on a singular, unified problematization. Rather, biofuels call for new strategies in global governance—new approaches to defining challenges to the global environment, experiments in text that recognizes contingency and uncertainty, diverse sources of knowledge recognized and drawn upon. The CBD COP has the institutional background and legal flexibility to be a testbed for developing such novel strategies. The CBD has a history of engagement with diverse knowledges and a culture of

86. Law and Singleton 2005, 342.

87. Blok 2011, 73.

greater inclusiveness in COP negotiations than is customary in other global environmental governance forums.⁸⁸ The COP could utilize the soft status of its decisions, providing guidance that is more explicitly contingent on political and economic contexts and changing scientific understandings. At COP10 parties also negotiated a decision that addressed “climate-related geoengineering” activities, calling on parties to ensure that such activities not occur until appropriate scientific assessments and global oversight mechanisms were in place.⁸⁹ This decision has been widely referred to as a “de facto moratorium.”⁹⁰ While such an outcome is highly unlikely for biofuels, aspects of the CBD’s engagement on geoengineering demonstrate the possibilities of alternative approaches to governance. The legal force of the geoengineering “moratorium” is unclear,⁹¹ but the text demonstrates international concern and describes the broad range of concerns that must be considered and the type of oversight that should be developed. It is not a direct translation from unruly and dangerous activities to ones that are understood and governable. Rather, the COP translated geoengineering projects into activities of international importance that require certain kinds of global accountability. Though the path for biofuels will be different, CBD actors might want to similarly consider identifying a different kind of goal for the translation of biofuels, which have thus far resisted translation into one discrete, globally governable entity.

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88. McGraw 2002; Morgera and Tsioumani 2011.
89. Decision X/33, CBD 2011. The decision does not define geoengineering, but understands it to include any technologies that deliberately reduce solar insolation or increase carbon sequestration from the atmosphere on a large scale that may affect biodiversity, excluding carbon capture and storage from fossil fuels.
90. Morgera and Tsioumani 2011; Scott’s interviews with secretariat staff and observers (2013).
91. Morgera and Tsioumani 2011.

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