

## **The World Federation of Exchanges: Sustainability & Commodity Derivatives White Paper, Tuesday 20 August 2019**

### **Introduction**

The members of the World Federation of Exchanges (WFE) recognise their role in promoting a transition to a more sustainable financial system. At the end of 2018, the Federation published a set of sustainability principles for its members which identifies the primary ways in which exchanges can contribute to advancing the sustainable finance agenda. Many WFE members are already active across several of the Principles – encouraging or requiring their listed companies to disclose relevant Environmental, Social, and Governance (ESG) information, providing mechanisms for raising capital to finance sustainable outcomes, and educating market participants about the importance of ESG issues.

Exchanges are also potentially impacted by shifts in investment preferences and/or hedging requirements implied by greater awareness of sustainability challenges and associated responses from consumers and/or governments. Being cognisant of both the risks and opportunities that these issues present is important for exchange operators.<sup>1</sup>

This white paper builds on the WFE membership’s previous work by exploring how one might think about sustainability in the context of commodity derivatives markets. The WFE membership includes most (if not all) of the world’s formal commodity derivatives markets. In this paper we look at the potential impact of sustainability issues on commodity markets and how member exchanges might respond. The purpose of this document is not to produce a formal recommendation but rather to stimulate discussion.

### **Commodities and sustainability**

Businesses and consumers are increasingly focused on the impact commodities that they consume have on ‘people and the planet’. Examples include environmental impacts such as deforestation and water use; human rights and labour issues such as the use of forced and/or child labour; and social justice issues such as bribery/anti-corruption concerns. In addition, global initiatives such as the United Nations Sustainable Development Goals (SDGs) have prompted firms to look at what they can do to address the world’s most pressing sustainability challenges. This includes influencing company suppliers to adhere to practices that support the attainment of the SDGs.<sup>2</sup>

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<sup>1</sup> In its first progress report, the Central Banks and Supervisors Network for Greening the Financial System “acknowledge that climate-related risks are a source of financial risk” (see: <https://www.banque-france.fr/sites/default/files/media/2018/10/11/818366-ngfs-first-progress-report-20181011.pdf>)

<sup>2</sup> Business Reporting on the SDGs: An Analysis of Goals and Targets, GRI and the UN Global Compact, Sept 2017 – available at: <https://www.pwc.com/gx/en/sustainability/publications/assets/sdgs-business-reporting-analysis.pdf>

As a result, users of commodities increasingly demand, and are expected to have, greater oversight and understanding of their supply chain, and to ensure that the commodities they use accord with some definition of sustainability. For example, commodity users such as Unilever and Nestlé<sup>3</sup>, have introduced responsible sourcing programmes and set targets for ensuring core commodities in their supply chain meet relevant sustainability standards.<sup>4</sup> Commodity producers and traders have similarly begun to implement measures to enhance commodity traceability, with the aim of ensuring greater sustainability of production and control of the supply chain.<sup>5</sup>

In addition to concerns about how certain commodities are produced, changing requirements relating to environmental and other concerns about the use of those commodities (such as fossil fuels)<sup>6</sup> or their composition are likely to have an impact on both pricing and demand.<sup>7</sup>

These developments will impact not only commodity spot markets, but also potentially the corresponding derivative markets used to hedge these markets.

### **Commodity derivatives – an overview**

By some accounts, commodity derivatives date as far back as the ancient civilisations of Sumer (4500 BCE) where clay tokens sealed in a jar were used to represent the time and date to exchange a specified number of goats. The use of 'derivatives' continued in some form throughout history becoming formalised in exchanges by the 1500s in the Amsterdam Stock Exchange. Eventually, the Chicago Board of Trade (CBOT, now part of the CME Group), was established in 1848, setting the baselines for the commodity derivatives markets we think of today.

Commodity derivatives can take the form of either futures or options. A commodity future is a standardised, legally binding *obligation* to buy or sell the underlying commodity at an agreed price, at a future date. A commodity option meanwhile gives rise to a *right*, but not an obligation, to buy or sell the underlying product at the pre-determined price.

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<sup>3</sup> Nestlé notes, in its [2017 Creating Shared Value](#) report: "With consumers and stakeholders increasingly wanting to know what is in their food, where it comes from and how it is made, responsible sourcing is an essential part of ensuring the integrity and sustainability of our business."

<sup>4</sup> As we discuss later, there is as yet no single set of sustainability standards and both Unilever and Nestlé, for example, specify their own core principles. However, there is a high degree of overlap, and an attempt across users and producers to align with certain pre-existing standards, where possible. In January 2018, 41 members of the Swiss cocoa industry committed to sourcing at least 80% of cocoa volumes from sustainable sources by 2025. Sustainability will be determined by reference to existing sustainability standards.

<sup>5</sup> Cargill, for example, claims that it "leverages its size, expertise and supply chain capabilities ... to create a more sustainable, food-secure future." Olam, meanwhile, claims to have put "sustainability at the heart of its business". See: <https://www.olamgroup.com/sustainability.html>

<sup>6</sup> Some research suggests that 60 to 80 percent of publicly listed fossil fuel reserves are 'unburnable' if the climate change commitments are to be met. It is beyond the scope of this paper to take a view on the accuracy or otherwise of these assessments but they are noted as potential impacts.

<sup>7</sup> Another example is the impact of the rules by the U.N. International Maritime Organization (IMO), which will limit the sulphur content of ships' fuel oil to 0.5%, down from the current limit of 3.5% that are due to come into effect in 2020) – discussions of potential impacts can be found here: <https://gcaptain.com/shippings-2020-low-sulphur-fuel-rules-explained/> and here: <https://www.forbes.com/sites/woodmackenzie/2018/09/03/will-imo-2020-introduce-mayhem-or-opportunity-to-the-refining-and-marine-sectors/#e0b559c632da>

The long-standing use of commodity<sup>8</sup> derivatives is unsurprising when one understands the nature of the underlying product and the benefits associated with being able to determine a price today for a commodity to be exchanged at a future date. Generally, it takes time for commodities to be produced/extracted. For example, there is a long lead time between the moment when corn is planted and when a crop is ready for harvest and can be sold. During this time, the price of the commodity will move due to a range of factors that may impact available supply and demand, such as changes in weather conditions, transportation costs, or consumers' desires. This creates price risk for producers, who need to decide whether the costs of producing the commodity are justified, given the expected return. Similarly, end users are also exposed to price risk, which impacts their ability to effectively budget and finance their business activities. For example, chocolate producers are exposed to the risks of fluctuations in the price of cocoa and sugar. Commodity derivatives enable users and producers to manage price risk by locking in future prices for a relevant commodity.<sup>9</sup>

The instrument that is traded in (commodity) derivatives markets is known as a contract. Every contract, regardless of the exchange where it is traded, will specify the underlying commodity, acceptable grades or quality of the commodity, the quantity of the commodity, the delivery location, and the delivery (or settlement) date.<sup>10</sup> Virtually all successful commodity futures contracts are highly standardised, which makes it possible to easily specify the requirements necessary for a commodity to be suitable for delivery into the contract.<sup>11</sup> While the exchange will set the contract specifications, this is done in close consultation with industry participants and based on underlying market organisation. Thus, the exchange will *find* the market, rather than *creating* the market.

## **Potential market responses to sustainability impacts**

Taking all of this together, commodity derivatives exchanges may seek to address sustainability in the following ways:

- Creation of new risk mitigation tools;
- Incorporation of sustainability elements into existing contracts.

We explore these in more detail below.

### **Creating new risk mitigation / investment tools**

Creating new products to allow users to manage evolving risk is in some regards the most straightforward area for exchanges in that it aligns with what they already do. In this instance, sustainability concerns may be viewed simply as factors that have created the market demand for a new product and the contract is a response to this market demand. For example, several exchanges already have listed contracts that respond to environmental challenges, namely

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<sup>8</sup> Commodities are usually categorised into agricultural commodities, energy and metals (precious and non-precious). Energy and index commodities are additional commodity classes.

<sup>9</sup> In addition to participants who are seeking to manage price risk (referred to as 'hedgers'), there are also speculators, who aim to make a profit based on their view of the likely direction of the market. These latter entities can provide valuable liquidity to the market. In practice it may be difficult to cleanly differentiate between the two categories of market users.

<sup>10</sup> There are some commodities that are only cash-settled i.e. there is no option to take physical delivery. Nonetheless, these contracts settle to an assessment of the price at a specific delivery location or locations.

<sup>11</sup> See for example the contract specifications for the ICE White Sugar Futures contract, particularly in relation to Grades/Standards/Quality: <https://www.theice.com/products/37089080/White-Sugar-Futures>

renewable energy certificates traded at ICE; emissions allowances traded at ICE and CME; and low sulphur oil contracts traded at both ICE and CME.

### **Incorporating sustainability elements into existing contracts**

As user-demand for sustainably-produced commodities increases, exchanges may wish to adjust some contract specifications to assure that they remain effective hedging tools.<sup>12</sup> This could involve amending contracts to incorporate specific sustainability quality factors; given sufficient market demand, introducing parallel 'sustainable' versions of a contract that is already trading to provide users with greater choice;<sup>13</sup> or incorporating a premium to an existing contract to recognise a verifiably sustainable version of the existing underlying.<sup>14</sup>

Doing this effectively requires addressing several challenges.<sup>15</sup>

First, there is currently limited agreement around what constitutes a sustainably-produced commodity or even a sustainable commodity. This is true not just at the overall level of commodities, but even in relation to specific commodities. Thus, the same commodity may be said to be sustainable when it is produced in one jurisdiction (i.e. not water-scarce, subject to strong labour and human rights standards) but not in another. There are also differences of opinion as to whether certain production processes (such as the use of genetic engineering) or even the commodity itself (such as certain fossil fuels) can ever be sustainable.

Second, there are a plethora of sustainability standards (not all of which are regarded as credible)<sup>16</sup> that specify varying requirements for a commodity to be deemed sustainable. Taking just one example, the requirements of the Roundtable on Sustainable Palm Oil (RSPO) Principles and Criteria for the Production of Sustainable Palm Oil differ from the nationally-determined Malaysian and Indonesian Responsible Palm Oil Standards.

Third, different users have different expectations about the factors that the commodities they use must comply with (though, as noted earlier, there is a high degree of overlap).

Fourth, expectations and consequently standards, are not static and will evolve over time.

Fifth, not all commodities at this point lend themselves to full traceability along the entire supply chain.

Sixth, full verification in accordance with some of the international standards may be costly and could exclude certain smaller-scale or emerging market producers and consumers.

Seventh, there will be potential technical challenges for exchanges and their clearing members who may need to ensure the smooth delivery of sustainability certificates alongside delivery

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<sup>12</sup> To the extent that there is a price differential between a commodity that is regarded as being sustainably produced and one that is not, there may come a point where the contract no longer provides effective price discovery if it does not incorporate the relevant sustainability factors.

<sup>13</sup> Recognising that this latter approach may result in fragmenting liquidity, which most market operators and the ecosystem more broadly, would regard as undesirable.

<sup>14</sup> For example: assuming one identified a non-GMO product as a sustainable version of the product, instead of splitting liquidity between GMO and GMO-free varieties of the same grain commodity, the price of the GMO-free variety could be a fixed premium of the other.

<sup>15</sup> The attempt by the London Metals Exchange to introduce Responsible Sourcing Principles is illustrative in this regard. See here for the latest consultation document: <https://www.lme.com/-/media/Files/New-initiatives/Responsible-Sourcing/Responsible-Sourcing-LME-position-paper.pdf?la=en-GB> and here for some of the critique: <https://www.ft.com/content/950d4ad8-2af7-11e9-88a4-c32129756dd8>

<sup>16</sup> Feedback from Norma Tregurtha, ISEAL Alliance, at a WFE-hosted roundtable in Geneva in October 2018.

of the actual traded commodity. Ensuring simultaneous delivery and full compliance with any registry of certificates could place a significant extra burden upon delivery infrastructure.

Eighth, commodity theory suggests that any narrowing of the definition of the underlying product will have an adverse impact on traded liquidity. Reduced liquidity could lead to an increase in the cost of hedging for commercial participants.<sup>17</sup>

The relevance of these challenges is that they go to the heart of how markets operate. For example, how does one create a standardised sustainable coffee contract in the absence of any agreement as to what constitutes the circumstances under which coffee will be regarded as sustainable?

*Initial thoughts on how to address these*

There are no simple answers to these questions; however, in the interests of stimulating discussion, we set out some possible starting principles below:

**Sustainability as a quality standard:** Perhaps one way to think about sustainability in relation to commodity contracts is to view sustainability features as a quality standard. For example, in addition to the requirements that corn delivered into the Euronext-traded corn futures contract meets certain moisture, sprouted grain, and genetically modified standards, it could also include a requirement that it be produced according to certain accepted sustainability standards.

**Picking a standard:** In a world of multiple standards, exchanges should probably not attempt to create their own sustainability standards, but instead should defer to widely-recognised and accepted industry standards. It could be that more than one standard may be acceptable. Determining the most relevant standard (or standards) for a specific commodity will require consulting with relevant users of the commodity, as well as with key commodity traders, and with the relevant national and international authorities.

**Verifying that the commodity meets the standard:** Many sustainability standards make provision for verification. There are many issues to consider here. What is verified: the underlying commodity or the producer delivering the underlying commodity?<sup>18</sup> How is verification demonstrated: through self-certification; through delivery of a certificate or other confirming compliance with the relevant standard in accordance with the standard process; or an independent audit confirming compliance?<sup>19</sup> For cash-settled contracts, it may be that the underlying(s) that the contract references for purposes of price determination will have to be independently certified as meeting the relevant sustainability standard (with again, the same considerations applying as for physically-settled contracts).

Thought also needs to be given to the impact of verification on the deliverable supply in the market since diminished supply can adversely affect contract performance. Finally, additional cost related to verification and auditing should not make risk management prohibitively expensive for smaller market players.

**Different approaches to traceability:** Given that commodity traceability varies dramatically, it may be necessary to recognise this in the product design. Thus, while it may be desirable to introduce a sustainability quality requirement, it will still be necessary to consider what

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<sup>17</sup> This is not specific to sustainability standards – other specifications may also have this impact.

<sup>18</sup> For some commodities, it may be necessary to use a proxy for the sustainability of the actual commodity delivered into the contract e.g. the producer is certified as complying with certain standards such as the OECD Guidelines for Conflict-Free Minerals.

<sup>19</sup> The challenge with this market is to avoid allegations of 'greenwashing'. Assertions of compliance with the standard must therefore be credible.

traceability model the commodity can support - must the commodity comply with a product segregation model or does mass balance or book and claim suffice?

## **Conclusion**

Ultimately it is for exchanges as market operators together with market users and intermediaries to determine where and how to engage with sustainability issues. Not all commodities are necessarily subject to pressing sustainability concerns. For those commodities where the shift to more sustainable production is sufficiently widespread (or where, for example, more sustainable production becomes a regulated requirement) to warrant adjusting the contract, it will be necessary to think about how best to do this.

This paper is intended to help stimulate initial thinking on the topic.

## **Annex A: Acknowledgements**

As always, WFE member exchanges are important contributors to our work. We would specifically like to acknowledge the input of Hamish Macdonald, General Counsel and Head of Policy and Nick Morris, Head of Derivatives, at NZX Ltd; Tim Barry, Vice-President for Product Development at ICE; Shameela Soobramoney, Senior Manager: Group Strategy and Sustainability and Raphael Karuaihe, Head of Commodity Derivatives at the Johannesburg Stock Exchange. Representatives from CME Group.

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## Annex B: Sustainability Standards

The precise sustainability issues that are addressed in a specific contract will vary depending on the commodity and the relevant reference standard. However, all commodity-linked sustainability standards typically include elements of the legality, environmental responsibilities, social responsibilities, and business practices associated with the production, processing and distribution of the commodity. At a more granular level, the issues set out below are commonly referenced for different categories of commodities:

<b>COMMON SUSTAINABILITY ISSUES</b>		
<b>Agriculture</b>	<b>Mining (Metals)</b>	<b>Electricity, Oil and Gas (Energy)</b>
Deforestation & forest degradation GHG emissions Child labour / forced labour Poor working conditions / lack of rights Soil erosion / quality 'Indigenous peoples' rights Fertiliser & agro-chemical use and pollution Water use and quality Conversion of virgin land Biodiversity of rare and threatened species	GHG emissions Water use & quality Human rights abuses Child labour / forced Labour Soil erosion / quality Wildlife Land conversion, restoration & rehabilitation Conflict	Soil erosion Land conversion GHG emissions Fracking Deforestation Human rights abuses Conversion of virgin land Biodiversity of rare and threatened species Water use and quality

A credible standard is one that<sup>20</sup>:

- Addresses the types of sustainability issues set out above;
- Provides a clear process for assessing and verifying adherence to the standard;
- Was developed in consultation with relevant stakeholders;
- Is publicly available; and
- Is demonstrably accepted by a broad constituency of stakeholders. Evidence of acceptance may include incorporation in international treaty or national legislation; referenced usage by large users of the product; stated compliance by large producers, or accreditation by an appropriate body.

We set out some examples of sustainability standards in Annex C: Examples of Sustainability Standards

<sup>20</sup>The ISEAL Alliance (ISEAL) is a global membership organisation for “credible sustainability standards”. Their members are sustainability standards-setters that comply with their Codes of Good Practice. The ISEAL Alliance ‘Good Practices’ set out key criteria that represents a summary of core practices that a sustainability standards system should have in place in order to be considered credible. It is beyond the scope of this document to replicate these here, but they can usefully be viewed as a benchmark for sustainability standards.



## Annex C: Examples of Sustainability Standards

The below list of standards is not comprehensive either as regards products or relevant standards. It is, however, intended to give readers an indication of the types of standards that exist.

Commodity	Entity	Guidance / Standard(s)	Certified entity
Agriculture - general	<u>Rainforest Alliance*</u>	<u>Sustainable Agriculture Standard</u>	Farm/Producer
		<u>Rainforest Alliance Chain of Custody Standard</u>	A company that takes physical and/or legal possession of a product originating from a Rainforest Alliance Certified farm and makes promotional, sales claims regarding the certified status of these products
	<u>UTZ*</u>	<u>Core Code of Conduct – Group and Multi-Group Certification &amp; Individual and Multi-Site Certification</u>	Farm/Producer
		<u>Chain of Custody Standard</u>	Supply Chain Actor (entity in the supply chain)
	<u>Sustainable Agriculture Initiative Platform</u>	<u>Farm Sustainability Assessment Tool</u>	Farm
	<u>Fairtrade International</u>	<u>Standards for small producer organisations</u> <u>Standards for hired labour</u> <u>Standard for contract production</u>	Small-scale producers and workers
		<u>Trader Standard</u>	Traders who buy and sell Fairtrade products, and/or handle the Fairtrade price and premium
<u>SAN**</u>	<u>Sustainable Agriculture Framework</u>	Farm/Producer	
Agriculture - Sugar	<u>Bonsucro</u>	<u>Production Standard &amp; Standard for Smallholder Farmers</u>	Farmers and mills
		<u>Chain of Custody Standard</u>	Any economic operator purchasing, handling and/or trading Bonsucro-compliant or Bonsucro EU REDcompliant material
Agriculture - Palm Oil	<u>Roundtable on Sustainable Palm Oil (RSPO)</u>	<u>Principles and Criteria</u>	Producers
		<u>Supply Chain Certification</u>	All organisations in the supply chain that use RSPO certified sustainable oil products

Commodity	Entity	Guidance / Standard(s)	Certified entity
Agriculture - Palm Oil	<u>Malaysian Palm Oil Certification Council</u>	<u>Malaysian Sustainable Palm Oil Standards</u>	Independent smallholders, organised smallholders and plantations, oil palm mills
		<u>MSPO Supply Chain Certification Standard</u> (in process at date of publication)	Organisations which process, manufacture, supply and/or export palm oil products using raw materials which originate from MSPO certified oil palm planted area and/or take legal ownership and physically handle MSPO certified palm oil products throughout the supply chain
Agriculture - Dairy	<u>Dairy Sustainability Framework</u>	<u>Global Criteria</u> (Indicators in process of being finalised)	
Agriculture - Soy	Roundtable on Responsible Soy (RTRS)	<u>RTRS Standard Responsible Soy Production</u>	Producer
		<u>RTRS Chain of Custody Standard</u>	All organisations in the supply chain that use RTRS certified sustainable soy products
Metals / Minerals	OECD	<u>Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas</u>	Companies potentially sourcing minerals or metals from conflict-affected and high-risk areas
Metals / Minerals	<u>Responsible Minerals Initiative</u>	<u>Responsible Minerals Assurance Process</u>	Smelters and refiners
Metals / Minerals - Cobalt	Chinese Chamber of Commerce for Metals, Minerals & Chemicals (CCCMC)	<u>Responsible Cobalt Initiative</u>	
Metals / Minerals - Cobalt	Cobalt Institute / RCS Global	<u>Cobalt Industry Risk Assessment Framework</u>	
Energy - Renewable Energy	European Union	Guarantees of Origin as specified in the <u>EU Directive on the Promotion of the Use of Energy from Renewable Sources</u>	Energy producers

Commodity	Entity	Guidance / Standard(s)	Certified entity
Energy - Biomaterials	<u>Roundtable on Sustainable Biomaterials</u> (RSB)	<u>RSB Global Standard</u> and associated Principles and Criteria <u>RSB EU RED Standard</u>	Producers
		<u>RSB Chain of Custody Standard</u> <u>RSB EU RED Standard for Traceability</u>	All RSB Participating Operators acquiring, handling or forwarding RSB Certified Material

\*The Rainforest Alliance and UTZ have merged. A new, combined certification standard is due to be published at end 2019.

\*\* The Sustainable Agriculture Framework is not classic certification standard – rather, SAN uses the Framework as a baseline that it adapts depending on the needs of the organisation that it is working with.