

CTD Indices

SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE 18 MAY 2021

SAFRAS/CTD Indices (SAFRAS/CTDI) is a 50/50 joint venture between CMA Consultoria, Métodos, Assessoria e Mercantil S/A of Brazil the supplier of data for the indices and Taiwan based 'Dojo Technologies' which acts as the 1. Creator of indices, 2. Calculator of Indices 3. A distributor of a specialist range of indices to third parties, and 4. The Index Administrator. SAFRAS CTDI was launched in 2021 as an End of Day suite of indices. CTDI's independent directors have reviewed the organisational and operational framework used to administer and maintain these indices and determined that they are in compliance with the Principles for Financial Benchmarks ('the Principles') published by the International Organisation of Commissions (IOSCO).

The purpose of this statement is to provide stakeholders with the necessary transparency describing the administration and function of the SAFRAS CTDI indices, and that they are consistent with the Principles, including the four core governing requirements:

- 1. Governance:** CTDI has responsibility for all aspects of the calculation of the indices with established ethics and conflicts of interest policies in place, as well as additional policies for staff involved in the production of indices. The internal Oversight Committee is comprised of the independent directors who periodically review and provide challenge on the index production process
- 2. Quality of the Benchmark:** CTDI indices are intended to be accurate and reliable representations of activity in the markets they are produced for, and are calculated **exclusively using 'Firm Bids' as observable market data from active competitive markets as determined by the Index administrator, per IOSCO Principles Report on Financial Markets, point 21 page 10.** A data exclusions policy has been implemented that permits the removal of erroneous transaction data from the Benchmark calculations.
- 3. Quality of the Methodology:** The indices are calculated using standard market based, volume-weightings. All data collected and used in the production of the Benchmarks are subject to internal controls. Any material change to the methodology of, or decision to terminate, an index is communicated to stakeholders, and the public with feedback provided to a reasonable extent
- 4. Accountability:** CTDI has developed a process for receiving and addressing complaints, utilising the internal Oversight Committee to review the quality of the index production process, and maintains an audit trail of all actions taken in the production of the indices

The following tables provides additional detail regarding the compliance of CTDI with each of the IOSCO Principles, where these are applicable

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Principles	Requirement	SAFRAS CTDI Compliance
1. Overall Responsibility of the Administrator	The Administrator should retain primary responsibility for all aspects of the Benchmark determination process. For example, this includes:	SAFRAS CTDI Indices (CTDI Indices) is the administrator of all SAFRAS CTDI Indices with responsibility for all aspects of the index creation process, including the development, distribution, operation, and governance of the indices
	a) Development: The definition of the Benchmark and Benchmark Methodology;	SAFRAS CTDI Indices are governed by rules based processes. Methodologies, descriptions, and definitions of CTD Indices are available on the CTDI website at www.ctdindices.com
	b) Determination and Dissemination: Accurate and timely compilation and publication and distribution of the Benchmark;	Each SAFRAS CTDI index is calculated on an internal application and disseminated directly from this application and distributed once the end of day prices have been received Hong Kong local time. The process is automated from the creation of the End of Day (i.e. Closing) 'firm bids' to the compilation of each index and is not reliant upon subjective determinations
	c) Operation: Ensuring appropriate transparency over significant decisions affecting the compilation of the Benchmark and any related determination process, including contingency measures in the event of absence of or insufficient inputs, market stress or disruption, failure of critical infrastructure, or other relevant factors; and	The CTDI Indices website provides details of contingency processes in place in the event of issues with the normal production process
	d) Governance: Establishing credible and transparent governance, oversight and accountability procedures for the Benchmark determination process, including an identifiable oversight function accountable for the development, issuance and operation of the Benchmark.	CTDI Indices has established an internal oversight committee which reviews on a quarterly basis governance and index production processes

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Principle	Requirement	SAFRAS CTDI Compliance
2. Oversight of Third Parties	Where activities relating to the Benchmark determination process are undertaken by third parties - for example collection of inputs, publication or where a third party acts as Calculation Agent - the Administrator should maintain appropriate oversight of such third parties. The Administrator (and its oversight function) should consider adopting policies and procedures that:	Not Applicable. CTDI Indices are fully responsible for all aspects of the benchmark production process without any involvement by a third party
	a) Clearly define and substantiate through appropriate written arrangements the roles and obligations of third parties who participate in the Benchmark determination process, as well as the standards the Administrator expects these third parties to comply with;	
	b) Monitor third parties' compliance with the standards set out by the Administrator;	
	c) Make Available to Stakeholders and any relevant Regulatory Authority the identity and roles of third parties who participate in the Benchmark determination process; and	
	d) Take reasonable steps, including contingency plans, to avoid undue operational risk related to the participation of third parties in the Benchmark determination process.	
	This Principle does not apply in relation to a third party from whom an Administrator sources data if that third party is a Regulated Market or Exchange.	

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Principle	Requirement	SAFRAS CTDI Compliance
3. Conflicts of Interest for Administrators	To protect the integrity and independence of Benchmark determinations, Administrators should document, implement and enforce policies and procedures for the identification, disclosure, management, mitigation or avoidance of conflicts of interest. Administrators should review and update their policies and procedures as appropriate.	CTD Indices policies to avoid conflicts of interest prohibits members of staff from participation in the markets for which they are responsible for the production and calculation of indices
	Administrators should disclose any material conflicts of interest to their users and any relevant Regulatory Authority, if any.	
	The framework should be appropriately tailored to the level of existing or potential conflicts of interest identified and the risks that the Benchmark poses and should seek to ensure:	CTD Indices staff and administrators maintain a register of interests comprised of interests where there is potential for overlap and conflict of interest between their duties and the integrity of the CTD Indices
	a) Existing or potential conflicts of interest do not inappropriately influence Benchmark determinations;	
	b) Personal interests and connections or business connections do not compromise the Administrator's performance of its functions;	
c) Segregation of reporting lines within the Administrator, where appropriate, to clearly define responsibilities and prevent unnecessary or undisclosed conflicts of interest or the perception of such conflicts;		

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Principle	Requirement	SAFRAS CTDI Compliance
3. Conflicts of Interest for Administrators	d) Adequate supervision and sign-off by authorised or qualified employees prior to releasing Benchmark determinations;	Any change to index creation or changes to an index caused by extraneous events must be approved and signed off independently by the administrator.
	e) The confidentiality of data, information and other inputs submitted to, received by or produced by the Administrator, subject to the disclosure obligations of the Administrator;	
	f) Effective procedures to control the exchange of information between staff engaged in activities involving a risk of conflicts of interest or between staff and third parties, where that information may reasonably affect any Benchmark determinations; and	
	g) Adequate remuneration policies that ensure all staff who participate in the Benchmark determination are not directly or indirectly rewarded or incentivised by the levels of the Benchmark.	
	An Administrator's conflict of interest framework should seek to mitigate existing or potential conflicts created by its ownership structure or control, or due to other interests the Administrator's staff or wider group may have in relation to Benchmark determinations. To this end, the framework should:	CTDI Indices administration and operations are conducted independently of third parties, nor is there participation by the business in the markets benchmarked by the indices.
	a) Include measures to avoid, mitigate or disclose conflicts of interest that may exist between its Benchmark determination business (including all staff who perform or otherwise participate in Benchmark production responsibilities), and any other business of the Administrator or any of its affiliates; and	
b) Provide that an Administrator discloses conflicts of interest arising from the ownership structure or the control of the Administrator to its Stakeholders and any relevant Regulatory Authority in a timely manner		

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Principle	Requirement	SAFRAS CTDI Compliance
4. Control Framework for Administrators	An Administrator should implement an appropriate control framework for the process of determining and distributing the Benchmark. The control framework should be appropriately tailored to the materiality of the potential or existing conflicts of interest identified, the extent of the use of discretion in the Benchmark setting process and to the nature of Benchmark inputs and outputs. The control framework should be documented and available to relevant Regulatory Authorities, if any. A summary of its main features should be Published or Made Available to Stakeholders.	CTDI Indices has implemented a control framework defining the roles and responsibilities of the Administrator in the production of the indices. The framework is reviewed by the internal Oversight Committee on a regular basis.
	This control framework should be reviewed periodically and updated as appropriate. The framework should address the following areas:	
	a) Conflicts of interest in line with Principle 3 on conflicts of interests;	Please see CTDI Indices guide to Principle 3
	b) Integrity and quality of Benchmark determination:	CTDI Indices oversight committee reviews data and sources based on the 3 principles of 1. Data accuracy 2. Data consistency 3. Data timeliness
	i. Arrangements to ensure that the quality and integrity of Benchmarks is maintained, in line with principles 6 to 15 on the quality of the Benchmark and Methodology;	
	ii. Arrangements to promote the integrity of Benchmark inputs, including adequate due diligence on input sources;	
	iii. Arrangements to ensure accountability and complaints mechanisms are effective, in line with principles 16 to 19; and	Please see CTDI Indices guides to Principles 16 to 19
	iv. Providing robust infrastructure, policies and procedures for the management of risk, including operational risk.	
c) Whistleblowing mechanism:	The internal oversight committee is responsible for the mitigation of misconduct and staff are permitted to approach the relevant regulators	
Administrators should establish an effective whistleblowing mechanism to facilitate early awareness of any potential misconduct or irregularities that may arise. This mechanism should allow for external reporting of such cases where appropriate.		

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Principle	Requirement	SAFRAS CTDI Compliance
4. Control Framework for Administrators	d) Expertise:	Staff expertise: All roles involved in the calculation of SAFRAS CTDI Indices are performed by staff with knowledge of the underlying markets and experienced in the index calculation process.
	i. Ensuring Benchmark determinations are made by personnel who possess the relevant levels of expertise, with a process for periodic review of their competence; and	
	ii. Staff training, including ethics and conflicts of interest training, and continuity and succession planning for personnel.	
	Where a Benchmark is based on Submissions: Administrators should promote the integrity of inputs by:	The data used to create the SAFRAS CTDI Indices is sourced from SAFRAS & Mercado, a subsidiary of CMA Consultoria, Métodos, Assessoria e Mercantil S/A of Brazil which in turn sources data from primary markets transactions and market activity using algorithms to calculate an evaluated end of day price for each market covered on an individual basis. The SAFRAS prices themselves are regarded as local benchmarks which are then distributed to CTDI for index calculation
	a) Ensuring as far as possible that the Submitters comprise an appropriately representative group of participants taking into consideration the underlying Interest measured by the Benchmark;	
	b) Employing a system of appropriate measures so that, to the extent possible, Submitters comply with the Submission guidelines, as defined in the Submitter Code of Conduct and the Administrators' applicable quality and integrity standards for Submission;	
	c) Specifying how frequently Submissions should be made and specifying that inputs or Submissions should be made for every Benchmark determination; and	
d) Establishing and employing measures to effectively monitor and scrutinise inputs or Submissions. This should include pre-compilation or pre-publication monitoring to identify and avoid errors in inputs or Submissions, as well as ex-post analysis of trends and outliers	a) SAFRAS ensures the underlying prices are representative of their markets b) Employs a thorough and tested process to produce the EOD price c) This is for End of Day calculation only so not applicable d) Data is monitored at all stages from input to distribution to CTDI for index calculation	

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Principle	Requirement	SAFRAS CTDI Compliance
5. Internal Oversight	Administrators should establish an oversight function to review and provide challenge on all aspects of the Benchmark determination process. This should include consideration of the features and intended, expected or known usage of the Benchmark and the materiality of existing or potential conflicts of interest identified.	CTDI Indices maintains an internal oversight committee that is independent of the operational calculation and production of indices. As the indices are based upon observable transactions generated directly from regulated venues the likelihood of extraneous inputs are low
	The oversight function should be carried out either by a separate committee, or other appropriate governance arrangements. The oversight function and its composition should be appropriate to provide effective scrutiny of the Administrator. Such oversight function could consider groups of Benchmarks by type or asset class, provided that it otherwise complies with this Principle.	
	An Administrator should develop and maintain robust procedures regarding its oversight function, which should be documented and available to relevant Regulatory Authorities, if any. The main features of the procedures should be Made Available to Stakeholders. These procedures should include:	The internal oversight committee's duties include:
	a) The terms of reference of the oversight function;	
	b) Criteria to select members of the oversight function;	
	c) The summary details of membership of any committee or arrangement charged with the oversight function, along with any declarations of conflicts of interest and processes for election, nomination or removal and replacement of committee members.	The internal oversight committee's duties include:
	The responsibilities of the oversight function include:	
	a) Oversight of the Benchmark design:	
	i. Periodic review of the definition of the Benchmark and its Methodology;	Index design: <ul style="list-style-type: none"> • Performing periodic review of the definition and methodology of the Benchmarks; • Taking measures to remain informed regarding issues and risks to the Benchmarks; and • Periodically reviewing the calculation methodology of the Benchmarks, and overseeing any proposed changes to a methodology.
	ii. Taking measures to remain informed about issues and risks to the Benchmark, as well as commissioning external reviews of the Benchmark (as appropriate);	
iii. Overseeing any changes to the Benchmark Methodology, including assessing whether the Methodology continues to appropriately measure the underlying Interest, reviewing proposed and implemented changes to the Methodology, and authorizing or requesting the Administrator to undertake a consultation with Stakeholders where known or its Subscribers on such changes as per Principle 12; and		
iv. Reviewing and approving procedures for termination of the Benchmark, including guidelines that set out how the Administrator should consult with Stakeholders about such cessation.		

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Principle	Requirement	SAFRAS CTDI Compliance
5. Internal Oversight	<p>b) Oversight of the integrity of Benchmark determination and control framework:</p> <p>i. Overseeing the management and operation of the Benchmark, including activities related to Benchmark determination undertaken by a third party;</p> <p>ii. Considering the results of internal and external audits, and following up on the implementation of remedial actions highlighted in the results of these audits; and</p> <p>Overseeing any exercise of Expert Judgment by the Administrator and ensuring Published Methodologies have been followed.</p>	<p>Integrity of the Index determination and control framework:</p> <ul style="list-style-type: none"> • Internal or external audit findings related to the index production process; • Any use of non-standard procedures in the production of the indices, including the use of staff expert judgment or contingency data sources; • Existing and potential conflicts of interest and related policies imposed on staff; and • Complaints or inquiries received by CTDI Indices relating to the indices.
	<p>Where conflicts of interests may arise in the Administrator due to its ownership structures or controlling interests, or due to other activities conducted by any entity owning or controlling the Administrator or by the Administrator or any of its affiliates: the Administrator should establish an independent oversight function which includes a balanced representation of a range of Stakeholders where known, Subscribers and Submitters, which is chosen to counterbalance the relevant conflict of interest.</p>	
5. Internal Oversight	<p>Where a Benchmark is based on Submissions: the oversight function should provide suitable oversight and challenge of the Submissions by:</p>	<p>Not applicable as SAFRAS ensures all price data has been checked via algorithms and processes before distribution to CTDI for index calculation.</p> <p>In the event spurious data is transmitted there is a mechanism for SAFRAS to inform CTDI so remedial action can be taken</p>
	<p>a) Overseeing and challenging the scrutiny and monitoring of inputs or Submissions by the Administrator. This could include regular discussions of inputs or Submission patterns, defining parameters against which inputs or Submissions can be analyzed, or querying the role of the Administrator in challenging or sampling unusual inputs or Submissions;</p>	
	<p>b) Overseeing the Code of Conduct for Submitters;</p>	
	<p>c) Establishing effective arrangements to address breaches of the Code of Conduct for Submitters; and</p> <p>d) Establishing measures to detect potential anomalous or suspicious Submissions and in case of suspicious activities, to report them, as well as any misconduct by Submitters of which it becomes aware to the relevant Regulatory Authorities, if any.</p>	

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SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION TWO BENCHMARK QUALITY

Principle	Requirement	SAFRAS CTDI Compliance
6. Benchmark Design	The design of the Benchmark should seek to achieve, and result in an accurate and reliable representation of the economic realities of the Interest it seeks to measure, and eliminate factors that might result in a distortion of the price, rate, index or value of the Benchmark.	SAFRAS CTDI Indices is fully compliant with Principle 7
	Benchmark design should take into account the following generic non-exclusive features, and other factors should be considered, as appropriate to the particular Interest:	SAFRAS CTDI Indices are designed to take into account all factors related to the markets they represent, and these are continuously monitored to ensure extraordinary events are accounted for
	a) Adequacy of the sample used to represent the Interest;	For each market SAFRAS CTDI creates indices there is sufficient liquidity and trading to provide transparent pricing covering the majority of market activity.
	b) Size and liquidity of the relevant market (for example whether there is sufficient trading to provide observable, transparent pricing);	
	c) Relative size of the underlying market in relation to the volume of trading in the market that references the Benchmark;	The indices are based using standard market volume-weighting calculations
	d) The distribution of trading among Market Participants (market concentration);	The design of the indices and their underlying data are assessed on a regular basis, and, can be modified according to changes in the markets they represent to continuously and accurately reflect market interest
e) Market dynamics (e.g. to ensure that the Benchmark reflects changes to the assets underpinning a Benchmark).		

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Principle	Requirement	SAFRAS CTDI Compliance
7. Data Sufficiency	<p>The data used to construct a Benchmark determination should be sufficient to accurately and reliably represent the Interest measured by the Benchmark and should:</p> <p>a) Be based on prices, rates, indices or values that have been formed by the competitive forces of supply and demand in order to provide confidence that the price discovery system is reliable; and</p>	<p>SAFRAS CTDI Indices only based upon the following:</p> <p>a) SAFRAS CTDI Indices are compliant</p> <p>b) Trading activity from the markets the indices seek to represent</p> <p>c) All data represents trading and tradable i.e. firm bid data for the markets the indices seek to represent, with no extrapolations of previous trading. The data then is used to calculate an evaluated end of day price for the calculation of the indices</p>
	<p>b) Be anchored by observable transactions entered into at arm's length between buyers and sellers in the market for the Interest the Benchmark measures in order for it to function as a credible indicator of prices, rates, indices or values.</p> <p>This Principle requires that a Benchmark be based upon (i.e., anchored in) an active market having observable Bona Fide, Arms-Length Transactions. This does not mean that every individual Benchmark determination must be constructed solely of transaction data. Provided that an active market exists, conditions in the market on any given day might require the Administrator to rely on different forms of data tied to observable market data as an adjunct or supplement to transactions. Depending upon the Administrator's Methodology, this could result in an individual Benchmark determination being based predominantly, or exclusively, on bids and offers or extrapolations from prior transactions. This is further clarified in Principle 8.</p>	
	<p>Provided that subparagraphs (a) and (b) above are met, Principle 7 does not preclude Benchmark Administrators from using executable bids or offers as a means to construct Benchmarks where anchored in an observable market consisting of Bona Fide, Arms-Length transactions.</p> <p>This Principle also recognises that various indices may be designed to measure or reflect the performance of a rule-based investment strategy, the volatility or behaviour of an index or market or other aspects of an active market. Principle 7 does not preclude the use of non-transactional data for such indices that are not designed to represent transactions and where the nature of the index is such that non-transactional data is used to reflect what the index is designed to measure. For example, certain volatility indices, which are designed to measure the expected volatility of an index of securities transactions, rely on non-transactional data, but the data is derived from and thus 'anchored' in an actual functioning securities or options market.</p>	

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SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION TWO BENCHMARK QUALITY

Principle	Requirement	SAFRAS CTDI Compliance
8. Hierarchy of Data Inputs	An Administrator should establish and Publish or Make Available clear guidelines regarding the hierarchy of data inputs and exercise of Expert Judgment used for the determination of Benchmarks. In general, the hierarchy of data inputs should include:	SAFRAS CTDI Indices is fully compliant with Principle 8
	a) Where a Benchmark is dependent upon Submissions, the Submitters' own concluded arms-length transactions in the underlying interest or related markets;	
	b) Reported or observed concluded Arm's-length Transactions in the underlying interest;	
	c) Reported or observed concluded Arm's-length Transactions in related markets;	
	d) Firm (executable) bids and offers; and	
	e) Other market information or Expert Judgments.	
Provided that the Data Sufficiency Principle is met (i.e., an active market exists), this Principle is not intended to restrict an Administrator's flexibility to use inputs consistent with the Administrator's approach to ensuring the quality, integrity, continuity and reliability of its Benchmark determinations, as set out in the Administrator's Methodology. The Administrator should retain flexibility to use the inputs it believes are appropriate under its Methodology to ensure the quality and integrity of its Benchmark. For example, certain Administrators may decide to rely upon Expert Judgment in an active albeit low liquidity market, when transactions may not be consistently available each day. IOSCO also recognises that there might be circumstances (e.g., a low liquidity market) when a confirmed bid or offer might carry more meaning than an outlier transaction. Under these circumstances, non-transactional data such as bids and offers and extrapolations from prior transactions might predominate in a given Benchmark determination	All SAFRAS CTDI Indices are based only upon the published end of day evaluated price sourced from SAFRAS & Mercado of Brazil which in turn is based upon the 'observable, i.e. firm bids' of each market the indices seek to represent. In the unlikely event of any use of other data this will be full disclosed on the CTDI Indices website	

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Principle	Requirement	SAFRAS CTDI Compliance
9 Transparency of Benchmark Determinations	The Administrator should describe and publish with each Benchmark determination, to the extent reasonable without delaying an Administrator publication deadline:	SAFRAS CTDI Indices is fully compliant with Principle 9
	a) A concise explanation, sufficient to facilitate a Stakeholder's or Market Authority's ability to understand how the determination was developed, including, at a minimum, the size and liquidity of the market being assessed (meaning the number and volume of transactions submitted), the range and average volume and range and average of price, and indicative percentages of each type of market data that have been considered in a Benchmark determination; terms referring to the pricing Methodology should be included (i.e., transaction- based, spread-based or interpolated/extrapolated);	<p>Market statistics underlying the Benchmarks are published on a monthly basis. Each quarter summary statistics related to the data are published which are calculated using any additional submissions received subsequent to the publication of the daily Benchmarks.</p> <p>Staff involved in the index production process review the exchange data in advance of publication of the indices to ensure there are no extraordinary events which might impact the value of each index and for which the reporting exchange can provide no adequate explanation.</p>
	b) A concise explanation of the extent to which and the basis upon which Expert Judgment if any, was used in establishing a Benchmark determination.	Any use of staff judgment is subject to dual approval between two staff members and is subsequently reviewed by an internal Oversight Committee.

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SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION THREE BENCHMARK METHODOLOGY

Principle	Requirement	SAFRAS CTDI Compliance
10. Periodic Review	The Administrator should periodically review the conditions in the underlying Interest that the Benchmark measures to determine whether the Interest has undergone structural changes that might require changes to the design of the Methodology. The Administrator also should periodically review whether the Interest has diminished or is non-functioning such that it can no longer function as the basis for a credible Benchmark.	SAFRAS CTDI Indices are full compliant with Principle 10
	The Administrator should Publish or Make Available a summary of such reviews where material revisions have been made to a Benchmark, including the rationale for the revisions.	Index Methodology is reviewed on a periodic basis to ensure each index accurately reflects changes in the underlying assets as a credible benchmark. When changes occur these are published on the CTDI Index website

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Principle	Requirement	SAFRAS CTDI Compliance
11. Content of the Methodology	The Administrator should document and Publish or Make Available the Methodology used to make Benchmark determinations. The Administrator should provide the rationale for adopting a particular Methodology. The Published Methodology should provide sufficient detail to allow Stakeholders to understand how the Benchmark is derived and to assess its representativeness, its relevance to particular Stakeholders, and its appropriateness as a reference for financial instruments.	SAFRAS CTDI Indices are full compliant with Principle 11
	At a minimum, the Methodology should contain:	
	a) Definitions of key terms;	SAFRAS CTDI Indices provides definitions on the CTD Index website
	b) All criteria and procedures used to develop the Benchmark, including input selection, the mix of inputs used to derive the Benchmark, the guidelines that control the exercise of Expert Judgment by the Administrator, priority given to certain data types, minimum data needed to determine a Benchmark, and any models or extrapolation methods;	CTDI Indices provides descriptions of the composition of indices on the CTDI website
	c) Procedures and practices designed to promote consistency in the exercise of Expert Judgment between Benchmark determinations;	CTDI Indices provides documentation relating to extra-ordinary events and the process undertaken when these occur
	d) The procedures which govern Benchmark determination in periods of market stress or disruption, or periods where data sources may be absent (e.g., theoretical estimation models);	
	e) The procedures for dealing with error reports, including when a revision of a Benchmark would be applicable;	
f) Information regarding the frequency for internal reviews and approvals of the Methodology. Where applicable, the Published Methodologies should also include information regarding the procedures and frequency for external review of the Methodology;		

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Principle	Requirement	SAFRAS CTDI Compliance
11. Content of the Methodology	g) The circumstances and procedures under which the Administrator will consult with Stakeholders, as appropriate; and	CTDI Indices has a mechanism for stakeholder communication which allows for the administrator to directly communicate with the stakeholders
	h) The identification of potential limitations of a Benchmark, including its operation in illiquid or fragmented markets and the possible concentration of inputs.	Not applicable as the CTDI Indices only source data based upon 'observable i.e. firm bids' that are generated in multiple active liquid markets
	Where a Benchmark is based on Submissions, the additional Principle also applies:	Not applicable as the SAFRAS CTDI Indices only source data based upon 'observable i.e. firm bids' which is then used to create an end of day evaluated price used for the index calculation. There are no data inputs based upon either submissions or estimates supplied by any third parties
	The Administrator should clearly establish criteria for including and excluding Submitters. The criteria should consider any issues arising from the location of the Submitter, if in a different jurisdiction to the Administrator. These criteria should be available to any relevant Regulatory Authorities, if any, and Published or Made Available to Stakeholders. Any provisions related to changes in composition, including notice periods should be made clear.	

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SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION THREE BENCHMARK METHODOLOGY

Principle	Requirement	SAFRAS CTDI Compliance
12. Changes to the Methodology	An Administrator should Publish or Make Available the rationale of any proposed material change in its Methodology, and procedures for making such changes. These procedures should clearly define what constitutes a material change, and the method and timing for consulting or notifying Subscribers (and other Stakeholders where appropriate, taking into account the breadth and depth of the Benchmark's use) of changes.	SAFRAS CTDI Indices may seek to revise the composition or calculation methodology for one or more indices. The internal Oversight Committee, periodically reviews the calculation methodology of the indices to ensure they continuously reflect their underlying interests, and will review and approve any changes
	Those procedures should be consistent with the overriding objective that an Administrator must ensure the continued integrity of its Benchmark determinations. When changes are proposed, the Administrator should specify exactly what these changes entail and when they are intended to apply.	If proposed changes are approved by the internal oversight committee these changes shall be communicated to the stakeholders via publication on the CTD Indices website and include the reasons why the changes are being initiated and the potential impacts
	The Administrator should specify how changes to the Methodology will be scrutinised, by the oversight function.	In the event of change to SAFRAS CTDI Index methodologies then stakeholders are advised in advance of the changes, the necessity for changes, and are given a period to provide feedback on the changes. Stakeholder confidentiality is assured and any responses many public only with the permission of the submitter
	The Administrator should develop Stakeholder consultation procedures in relation to changes to the Methodology that are deemed material by the oversight function, and that are appropriate and proportionate to the breadth and depth of the Benchmark's use and the nature of the Stakeholders.	
	Procedures should:	
	a) Provide advance notice and a clear timeframe that gives Stakeholders sufficient opportunity to analyse and comment on the impact of such proposed material changes, having regard to the Administrator's assessment of the overall circumstances; and	
b) Provide for Stakeholders' summary comments, and the Administrator's summary response to those comments, to be made accessible to all Stakeholders after any given consultation period, except where the commenter has requested confidentiality.		

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SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION THREE BENCHMARK METHODOLOGY

Principle	Requirement	SAFRAS CTDI Compliance
13. Transition	<p>Administrators should have clear written policies and procedures, to address the need for possible cessation of a Benchmark, due to market structure change, product definition change, or any other condition which makes the Benchmark no longer representative of its intended Interest. These policies and procedures should be proportionate to the estimated breadth and depth of contracts and financial instruments that reference a Benchmark and the economic and financial stability impact that might result from the cessation of the Benchmark. The Administrator should take into account the views of Stakeholders and any relevant Regulatory and National Authorities in determining what policies and procedures are appropriate for a particular Benchmark.</p>	<p>SAFRAS CTDI Indices may terminate an index in certain extraordinary circumstances, including, but not limited to, if an index no longer represented, and could not be modified to represent, its underlying interest, if market liquidity in the underlying interest declined to the extent that the underlying interest no longer functioned as an active market, access to underlying data becomes limited or made unavailable.</p> <p>Any termination or discontinuation of an index will be evaluated by an internal Oversight Committee, and the administrator, before consultation and notification to the stakeholders. Notifications to the stakeholders will include the reasons why, and timeframes to termination.</p>
	<p>These written policies and procedures should be Published or Made Available to all Stakeholders.</p>	
	<p>Administrators should encourage Subscribers and other Stakeholders who have financial instruments that reference a Benchmark to take steps to make sure that:</p>	
	<p>a) Contracts or other financial instruments that reference a Benchmark, have robust fallback provisions in the event of material changes to, or cessation of, the referenced Benchmark; and</p>	
	<p>b) Stakeholders are aware of the possibility that various factors, including external factors beyond the control of the Administrator, might necessitate material changes to a Benchmark.</p>	
	<p>Administrators' written policies and procedures to address the possibility of Benchmark cessation could include the following factors, if determined to be reasonable and appropriate by the Administrator:</p>	
	<p>a) Criteria to guide the selection of a credible, alternative Benchmark such as, but not limited to, criteria that seek to match to the extent practicable the existing Benchmark's characteristics (e.g., credit quality, maturities and liquidity of the alternative market), differentials between Benchmarks, the extent to which an alternative Benchmark meets the asset/liability needs of Stakeholders, whether the revised Benchmark is investable, the availability of transparent transaction data, the impact on Stakeholders and impact of existing legislation;</p>	
	<p>b) The practicality of maintaining parallel Benchmarks (e.g., where feasible, maintain the existing Benchmark for a defined period of time to permit existing contracts and financial instruments to mature and publish a new Benchmark) in order to accommodate an orderly transition to a new Benchmark;</p>	
	<p>c) The procedures that the Administrator would follow in the event that a suitable alternative cannot be identified;</p>	
	<p>d) In the case of a Benchmark or a tenor of a Benchmark that will be discontinued completely, the policy defining the period of time in which the Benchmark will continue to be produced in order to permit existing contracts to migrate to an alternative Benchmark if necessary; and</p>	
<p>e) The process by which the Administrator will engage Stakeholders and relevant Market and National Authorities, as appropriate, in the process for selecting and moving towards an alternative Benchmark, including the timeframe for any such action commensurate with the tenors of the financial instruments referencing the Benchmarks and the adequacy of notice that will be provided to Stakeholders.</p>		

CTD Indices

SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION THREE BENCHMARK METHODOLOGY

Principle	Requirement	SAFRAS CTDI Compliance
14. Submitter Code of Conduct	Where a Benchmark is based on Submissions, the following additional Principle also applies:	<p>The SAFRAS CTDI Indices only source data from the evaluated end of day price which is calculated from Firm Bids collected by SAFRAS in active markets.</p> <p>These bids are supplied from multiple sources that actively participate in the underlying markets from which a standard algorithm is used by SAFRAS analysts to calculate the evaluated end of day price</p> <p>There are no data inputs based upon either direct submissions to CTDI or estimates supplied by any third parties</p>
	The Administrator should develop guidelines for Submitters ("Submitter Code of Conduct"), which should be available to any relevant Regulatory Authorities, if any and Published or Made Available to Stakeholders.	
	The Administrator should only use inputs or Submissions from entities which adhere to the Submitter Code of Conduct and the Administrator should appropriately monitor and record adherence from Submitters. The Administrator should require Submitters to confirm adherence to the Submitter Code of Conduct annually and whenever a change to the Submitter Code of Conduct has occurred.	
	The Administrator's oversight function should be responsible for the continuing review and oversight of the Submitter Code of Conduct.	
	The Submitter Code of Conduct should address:	
	a) The selection of inputs;	
	b) Who may submit data and information to the Administrator;	
	c) Quality control procedures to verify the identity of a Submitter and any employee(s) of a Submitter who report(s) data or information and the authorization of such person(s) to report market data on behalf of a Submitter;	
	d) Criteria applied to employees of a Submitter who are permitted to submit data or information to an Administrator on behalf of a Submitter;	
	e) Policies to discourage the interim withdrawal of Submitters from surveys or Panels;	
	f) Policies to encourage Submitters to submit all relevant data; and	
	g) The Submitters' internal systems and controls, which should include:	
	i. Procedures for submitting inputs, including Methodologies to determine the type of eligible inputs, in line with the Administrator's Methodologies;	
	ii. Procedures to detect and evaluate suspicious inputs or transactions, including inter-group transactions, and to ensure the Bona Fide nature of such inputs, where appropriate;	
	iii. Policies guiding and detailing the use of Expert Judgment, including documentation requirements;	
iv. Record keeping policies;		
v. Pre-Submission validation of inputs, and procedures for multiple reviews by senior staff to check inputs;		
vi. Training, including training with respect to any relevant regulation (covering Benchmark regulation or any market abuse regime);		
vii. Suspicious Submission reporting;		
Roles and responsibilities of key personnel and accountability lines;		
ix. Internal sign off procedures by management for submitting inputs;		
x. Whistle blowing policies (in line with Principle 4); and		
xi. Conflicts of interest procedures and policies, including prohibitions on the Submission of data from Front Office Functions unless the Administrator is satisfied that there are adequate internal oversight and verification procedures for Front Office Function Submissions of data to an Administrator (including safeguards and supervision to address possible conflicts of interests as per paragraphs (v) and (ix) above), the physical separation of employees and reporting lines where appropriate, the consideration of how to identify, disclose, manage, mitigate and avoid existing or potential incentives to manipulate or otherwise influence data inputs (whether or not in order to influence the Benchmark levels), including, without limitation, through appropriate remuneration policies and by effectively addressing conflicts of interest which may exist between the Submitter's Submission activities (including all staff who perform or otherwise participate in Benchmark Submission responsibilities), and any other business of the Submitter or of any of its affiliates or any of their respective clients or customers.		

CTD Indices

SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION FOUR ACCOUNTABILITY

Principle	Requirement	SAFRAS CTDI Compliance
15. Internal Controls over Data Collection	When an Administrator collects data from any external source the Administrator should ensure that there are appropriate internal controls over its data collection and transmission processes. These controls should address the process for selecting the source, collecting the data and protecting the integrity and confidentiality of the data. Where Administrators receive data from employees of the Front Office Function, the Administrator should seek corroborating data from other sources.	The data collected for the creation of SAFRA CTDI Indices is submitted electronically via a secure network data collection mechanism direct from the aggregator and source of the data, SAFRAS & Mercado of Brazil

CTD Indices

SAFRAS CTDI INDICES INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION FOUR ACCOUNTABILITY

Principle	Requirement	SAFRAS CTDI Compliance
16. Complaints Procedures	<p>The Administrator should establish and Publish or Make Available a written complaints procedures policy, by which Stakeholders may submit complaints including concerning whether a specific Benchmark determination is representative of the underlying Interest it seeks to measure, applications of the Methodology in relation to a specific Benchmark determination(s) and other Administrator decisions in relation to a Benchmark determination.</p>	<p>Stakeholders may provide feedback and complaints regarding SAFRAS CTDI Indices direct via email (info@ctdindices.com) or submission on the CTDI Index website. In addition, CTDI Indices can be called direct, though an electronic audit trail is preferred</p>
	<p>The complaints procedures policy should:</p> <p>a) Permit complaints to be submitted through a user- friendly complaints process such as an electronic Submission process;</p>	
	<p>b) Contain procedures for receiving and investigating a complaint made about the Administrator’s Benchmark determination process on a timely and fair basis by personnel who are independent of any personnel who may be or may have been involved in the subject of the complaint, advising the complainant and other relevant parties of the outcome of its investigation within a reasonable period and retaining all records concerning complaints;</p>	<p>All complaints are dealt with on an expedited basis subject to rigorous examination and review of documentation by a person not connected with the individual complaint</p>
	<p>c) Contain a process for escalating complaints, as appropriate, to the Administrator’s governance body; and</p>	
	<p>d) Require all documents relating to a complaint, including those submitted by the complainant as well as the Administrator’s own record, to be retained for a minimum of five years, subject to applicable national legal or regulatory requirements.</p>	<p>All documents relating to stakeholder feedback have been held since the inception of SAFRAS CTDI Indices</p>
<p>Disputes about a Benchmarking determination, which are not formal complaints, should be resolved by the Administrator by reference to its standard appropriate procedures. If a complaint results in a change in a Benchmark determination, that should be Published or Made Available to Subscribers and Published or Made Available to Stakeholders as soon as possible as set out in the Methodology.</p>	<p>SAFRAS CTDI Indices is compliant with this requirement</p>	

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SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION FOUR ACCOUNTABILITY

Principle	Requirement	SAFRAS CTDI Compliance
17. Audits	<p>The Administrator should appoint an independent internal or external auditor with appropriate experience and capability to periodically review and report on the Administrator’s adherence to its stated criteria and with the Principles. The frequency of audits should be proportionate to the size and complexity of the Administrator’s operations.</p>	<p>SAFRAS CTDI Indices Administrator has appointed an internal auditor to review on an annual basis CTDI Indices' compliance with IOSCO Principles and good conduct of the processes and mechanisms required to maintain compliance</p>
	<p>Where appropriate to the level of existing or potential conflicts of interest identified by the Administrator (except for Benchmarks that are otherwise regulated or supervised by a National Authority other than a relevant Regulatory Authority), an Administrator should appoint an independent external auditor with appropriate experience and capability to periodically review and report on the Administrator’s adherence to its stated Methodology. The frequency of audits should be proportionate to the size and complexity of the Administrator’s Benchmark operations and the breadth and depth of Benchmark use by Stakeholders.</p>	

CTD Indices

SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION FOUR ACCOUNTABILITY

Principle	Requirement	SAFRAS CTDI Compliance
18. Audit Trail	Written records should be retained by the Administrator for five years, subject to applicable national legal or regulatory requirements on:	<p>All records are maintained since inception of SAFRAS CTDI Indices which includes:</p> <ol style="list-style-type: none"> 1. All data used in the index compilation 2. All records ascertaining to the input by all stakeholders including identification of the person making each interaction 3. Full audit trail of communications received and relating to the management, administration and good governance of the indices 4. Full audit trail of changes made to the indices, the reasons for the change and actions and progress when taking remedial action 5. Full records of all internal and external audits relating to CTD Indices
	a) All market data, Submissions and any other data and information sources relied upon for Benchmark determination;	
	b) The exercise of Expert Judgment made by the Administrator in reaching a Benchmark determination;	
	c) Other changes in or deviations from standard procedures and Methodologies, including those made during periods of market stress or disruption;	
	d) The identity of each person involved in producing a Benchmark determination; and	
	e) Any queries and responses relating to data inputs.	
	f) If these records are held by a Regulated Market or Exchange the Administrator may rely on these records for compliance with this Principle, subject to appropriate written record sharing agreements.	
	When a Benchmark is based on Submissions, the following additional Principle also applies:	
	Submitters should retain records for five years subject to applicable national legal or regulatory requirements on:	
	a) The procedures and Methodologies governing the Submission of inputs;	
	b) The identity of any other person who submitted or otherwise generated any of the data or information provided to the Administrator;	
	c) Names and roles of individuals responsible for Submission and Submission oversight;	
	d) Relevant communications between submitting parties;	
	e) Any interaction with the Administrator;	
	f) Any queries received regarding data or information provided to the Administrator;	
g) Declaration of any conflicts of interests and aggregate exposures to Benchmark related instruments;		
h) Exposures of individual traders/desks to Benchmark related instruments in order to facilitate audits and investigations; and		
i) Findings of external/internal audits, when available, related to Benchmark Submission remedial actions and progress in implementing them.		

CTD Indices

SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : SECTION FOUR ACCOUNTABILITY

Principle	Requirement	SAFRAS CTDI Compliance
19 Cooperation with Regulatory Authorities	Relevant documents, Audit Trails and other documents subject to these Principles shall be made readily available by the relevant parties to the relevant Regulatory Authorities in carrying out their regulatory or supervisory duties and handed over promptly upon request.	SAFRAS CTDI Indices maintains all records with processes in place for sharing information with other authorities, including regulations, memorandums of understanding and information sharing agreements. A request for information related to the Benchmarks by any applicable regulatory authorities will be addressed through our processes.

CTD Indices

SAFRAS CTDI INDICES STATEMENT OF IOSCO PRINCIPLES COMPLIANCE : FURTHER INFORMATION

For further information on CTD Indices please:

Visit the CTD Indices website at www.ctdindices.com

Contact us at info@ctdindices.com

Summarised handbooks are available for each regulatory section