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Building India's Legal Architecture for Sustainable Aviation Fuel

The legal and regulatory framework India needs to move SAF from stated ambition towards a credible, investable and functioning market.



Preface



The development of a new market is shaped not only by technology and capital, but by the legal architecture within which those technologies and investments operate. Where that architecture is still evolving, questions of how obligations are created, risks are allocated, rights are recognised and compliance is enforced become foundational to the market itself.

Sustainable Aviation Fuel presents precisely such a moment for India. The development of SAF is at a formative stage. While the Government has articulated an indicative direction for SAF blending, India does not yet have a comprehensive, standalone legal and regulatory framework governing the SAF market. The framework that will determine how SAF is produced, supplied, procured, accounted for, financed and regulated therefore remains to be developed. It is this gap between policy intent and legal architecture that provides the starting point for this Report.

At Shardul Amarchand Mangaldas & Co., we have undertaken this examination from the perspective that emerging climate and energy markets require legal questions to be considered alongside commercial and technological questions, and not only after markets have developed. SAF brings together aviation and petroleum regulation, environmental law, projects and infrastructure, energy, taxation, financing, capital markets, competition, carbon markets and disputes, all of which will need to operate in concert.

The significance of this convergence is that the legal treatment of one part of the SAF value chain can have consequences across the rest of it. Blending obligations raise questions of responsibility, verification and enforcement; environmental

attributes raise questions of ownership, transfer and double counting; production capacity raises questions of feedstock, infrastructure, financing and offtake; and international market participation raises questions of standards, traceability and recognition of environmental claims. These are not merely questions that arise once a market is mature. They can determine how that market is structured in the first place.

This Report therefore examines the legal architecture that may be required for an Indian SAF market to develop with greater clarity and certainty. It does not seek to prescribe a particular commercial model or substitute legal analysis for policy choice. Rather, it brings together the principal legal and regulatory questions that will arise as India moves from stated ambition towards implementation.

For SAM, the Report reflects the Firm's broader approach to emerging areas of regulation and investment, where legal certainty, commercial viability, and institutional design are closely connected. SAF provides a particularly important case study because its development will require coordination across multiple regulatory domains and among participants with materially different roles, interests and risk profiles.

The opportunity before India is therefore not simply to implement SAF commitments, but to consider, at an early stage, the legal foundations upon which the market will be built. This Report seeks to contribute to that exercise by examining the legal and regulatory architecture that India may need to move SAF from stated ambition towards a credible, investable and functioning market.

Dr. Shardul S. Shroff, Executive Chairman, SAM

Foreword



India's Sustainable Aviation Fuel (SAF) journey is moving steadily from policy ambition towards implementation. As the country works towards its indicative SAF blending pathway of 1% in 2027, 2% in 2028 and 5% by 2030 for international flights, the next phase will require more than targets. It will require a clear and coherent legal and regulatory framework that can translate policy objectives into defined obligations, enable investment, provide regulatory certainty and support the development of a functioning SAF market.

This report, "Building India's Legal Architecture for Sustainable Aviation Fuel," prepared by Shardul Amarchand Mangaldas & Co., one of India's leading law firms, provides an independent and in-depth examination of the legal and regulatory questions that will shape India's SAF ecosystem. It considers key issues across the SAF value chain — from the design and implementation of a mandate to financing, contracting, institutional frameworks, compliance and dispute resolution.

Importantly, the report does not seek to prescribe particular policy outcomes. Instead, it identifies the legal and regulatory

questions that policymakers, industry participants, investors and other stakeholders will need to consider as India moves from policy intent towards large-scale SAF deployment.

The SAF Association (SAFA) was established to facilitate meaningful engagement across the SAF ecosystem, bringing together policymakers, producers, refiners, airlines, technology providers, feedstock stakeholders, investors and other participants. We are therefore pleased to see this report being launched at the India SAF Conclave 2026. We believe it will serve as a valuable reference for informed discussion and constructive engagement as India develops the legal architecture necessary to support its SAF ambitions.

SAFA remains committed to fostering constructive, inclusive and continuous dialogue among all stakeholders and to supporting informed policy development, collaboration and collective action as India advances its Sustainable Aviation Fuel journey.

Rohit Kumar, Secretary General, SAF Association

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Disclaimer:

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The legal, regulatory and policy references in this Report are provided for informational purposes only and do not constitute legal, regulatory, financial, technical or other professional advice, or a definitive interpretation of applicable law. While reasonable efforts have been made to ensure the accuracy of the information presented, the legal and policy landscape may evolve following publication.

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Introduction

Aviation poses a decarbonisation problem that looks quite different from most other sectors. Aircraft need to carry enormous amounts of energy across very long distances, and every extra kilogram of weight comes at a real cost to efficiency and range. Battery technology, at least as it stands today, simply doesn't offer the energy density needed for long-haul commercial flight at scale. Hydrogen brings its own set of problems: storage, aircraft redesign, airport infrastructure, fuel distribution, none of which are close to being solved. Meanwhile, commercial aircraft stay in service for twenty years or more. So aviation can't afford to wait for a new generation of planes before it starts cutting emissions. It has to work with the aircraft, engines and infrastructure already out there.

That's what makes the fuel itself so important.

Sustainable Aviation Fuel, or SAF, has become one of the main near-to-medium-term routes for cutting aviation's lifecycle emissions without waiting on a wholesale replacement of the existing fleet. SAF isn't one fuel or one production process. It covers a range of pathways built on renewable and waste-derived feedstocks: used cooking oil, agricultural residue, municipal waste, alcohol based feedstocks, and newer approaches that combine renewable electricity with captured CO₂. Within the applicable technical standards and blending limits, SAF works as a drop-in fuel, meaning it can be used in existing aircraft, engines and airport fuelling systems without modification.

But the climate benefit doesn't come from simply burning a different fuel. SAF still produces carbon dioxide when it's combusted. Its real advantage sits in the lifecycle emissions

Sustainable Aviation Fuel, in Numbers

Where the SAF market stands on emissions, volume and cost.

Up to 80%

Lower lifecycle carbon emissions than conventional jet fuel, for the best performing production pathways.

1.9 Mt

SAF produced globally in 2025, close to 0.6% of total jet fuel use.

2.4 Mt

Forecast SAF production for 2026, close to 0.8% of total jet fuel use.

2 to 5 times

The price of SAF compared with conventional jet fuel in mandated markets, through 2026.

\$4.5 bn

Added to global airline fuel bills in 2026 from SAF purchases, on IATA estimates.

Up to 65%

Of the emissions cuts aviation needs for net zero by 2050 could come from SAF.

tied to how it's produced and used. Depending on the feedstock, the production process, the energy inputs and the supply chain, SAF can have a meaningfully lower lifecycle emissions profile than conventional jet fuel, though how much lower depends entirely on production choices and how those choices are measured and certified. So SAF is not the same thing as zero carbon aviation. It reduces the carbon intensity of flying, and proving that reduction requires evidence, accounting and traceability.

That distinction matters more when placed against the trajectory of climate policy, both globally and in India.

The Paris Agreement sets the broader international frame within which states are expected to keep raising their climate ambition. India has committed to net zero by 2070, alongside its other national climate targets, and aviation is a genuinely hard test of that commitment. India's aviation sector is expected to grow substantially as the economy expands and travel (tourism, business, general connectivity) increases along with it. The task isn't just to decarbonise aviation; it's to do that while the sector keeps growing.

Aviation simply has fewer ready alternatives to fossil fuel than most other industries. Better aircraft design, more efficient operations, improved air traffic management and new propulsion technologies will all help over the long run, but none of them offer a zero-emission substitute that can be rolled out across long-haul commercial aviation today. SAF fills that gap for now. It lowers the lifecycle carbon intensity of flying while largely keeping the existing aircraft and fuel infrastructure intact. It isn't a full answer to aviation's climate impact, but for the fleet already in the air, it's about as close to an immediate option as exists.

The international regulatory picture has been moving in step with this.

The International Civil Aviation Organization (ICAO) has set a long-term goal of net-zero emissions from international aviation by 2050, built on a mix of measures: sustainable aviation fuels, technology improvements, operational changes and market-based mechanisms. Within that framework, the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) is the global market mechanism addressing growth in international aviation emissions above a set baseline, with its mandatory phase beginning in 2027. Where SAF is used, it can reduce the emissions attributed to international flights and, depending on the applicable rules, reduce the offsetting obligation that follows.

India has started shifting from treating SAF as a future technology to actually preparing for it. Indicative SAF blending targets for international flights of 1% from 2027, 2% from 2028, rising to 5% by 2030, have been cited, along with an amendment to the regulatory framework governing aviation turbine fuel marketing to accommodate SAF blends.

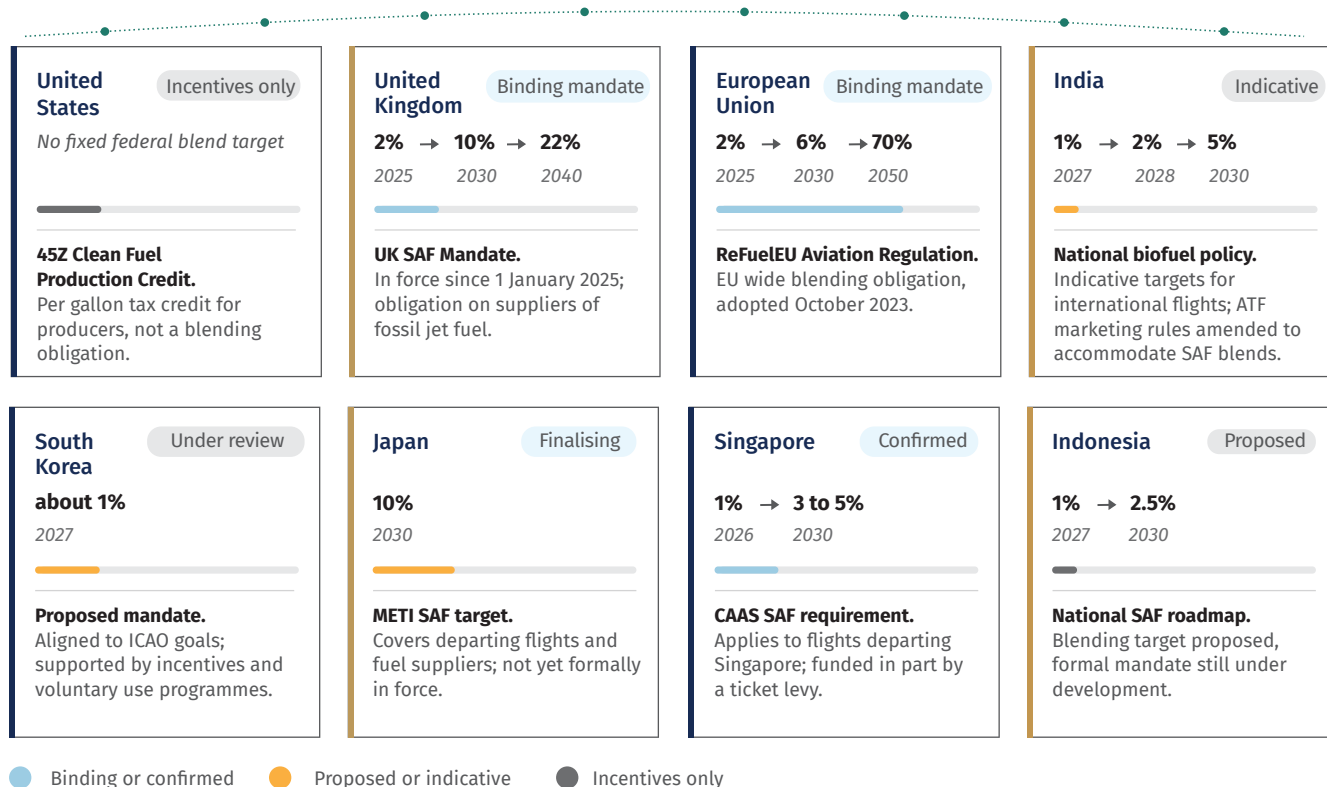
But SAF's significance doesn't stop at the physical fuel.

A SAF transaction really involves two connected forms of value. There's the physical fuel itself, which has to meet technical, quality and safety standards and move through the existing aviation fuel supply chain. And there's the environmental attribute attached to its lifecycle emissions performance, which, depending on the regulatory framework in play, might carry compliance value, support an environmental claim, or be transferred separately from the fuel itself through a book-and-claim or similar chain-of-custody arrangement.



Global SAF Blending Mandates

How eight aviation markets are setting sustainable aviation fuel targets, arranged roughly west to east (snapshot September 2026).



That split raises questions that are legal, commercial and environmental all at once. Who owns the environmental attribute? Who can transfer it? Who gets to claim the emissions reduction, and what evidence backs that up? Can the attribute be separated from the fuel at all? How is it tracked through the supply chain? And how do you stop the same emissions reduction being counted twice across different regulatory or voluntary systems?

These aren't abstract questions. They feed directly into investment decisions.

SAF typically costs more than conventional jet fuel, and scaling up production means significant investment in feedstock aggregation, conversion facilities, logistics, certification and supporting infrastructure. So the economics of a SAF project often depend not just on selling the fuel, but on the regulatory and commercial value attached to its environmental characteristics. How that value is treated legally can shape offtake arrangements, pricing, risk allocation, financing terms, and ultimately whether a project is bankable at all.

For India, there's an added layer of complexity because aviation is inherently international.

An Indian producer might manufacture SAF domestically, an oil marketing company might blend and supply it, and an Indian airline might use it on a flight that falls under ICAO requirements and potentially other jurisdictions' rules too. So the fuel's sustainability characteristics, its certification, and its environmental attributes can end up mattering across several regulatory systems at once. The EU and the UK, among others, have built their own approaches to aviation decarbonisation and SAF, which means Indian producers, suppliers and airlines operating internationally need to think not just about Indian compliance, but about whether their fuel's certification and environmental claims are recognised in the markets where they actually carry value.

SAF's strategic relevance is also showing up outside aviation-specific regulation.

In July 2026, Nagpur hosted the third BRICS Transport Ministers' Meeting, where sustainable aviation fuels formed part of the discussions on cooperation in transport decarbonisation. The BRICS New Delhi Declaration subsequently welcomed the establishment of a BRICS Forum on Sustainable Aviation Fuels and cooperation on sustainable and low-carbon aviation fuels.

India has real building blocks to work with here: a large agricultural residue base, an established ethanol industry, growing renewable energy capacity, existing refining infrastructure, and oil marketing companies with the scale to participate across the aviation fuel value chain. The regulatory and institutional mechanisms needed to produce, certify and supply SAF are also starting to take shape.

What's less clear is how all of these pieces connect.

A blending target on its own doesn't say who bears the compliance obligation, who absorbs the extra cost, how compliance gets verified, or what happens when a target is missed. Production capacity doesn't automatically mean a fuel qualifies as sustainable. Certification doesn't settle who owns the environmental attribute that comes with it. And an environmental claim isn't worth much if the underlying emissions reduction can't be traced, verified, and kept distinct from benefits already claimed somewhere else.

The market that's emerging has to work across a full chain: feedstock to production, production to certification, certification to physical delivery, and delivery to whatever environmental claim a market participant eventually makes. What happens legally at each stage shapes what's possible at the next. Feedstock arrangements affect project economics and sustainability claims, certification affects market access, offtake contracts affect financing, traceability affects how credible and transferable the environmental attributes are, and international recognition determines whether those attributes hold value beyond India. This matters particularly at this stage of India's SAF development. The market appears mature enough that policy commitments are starting to turn

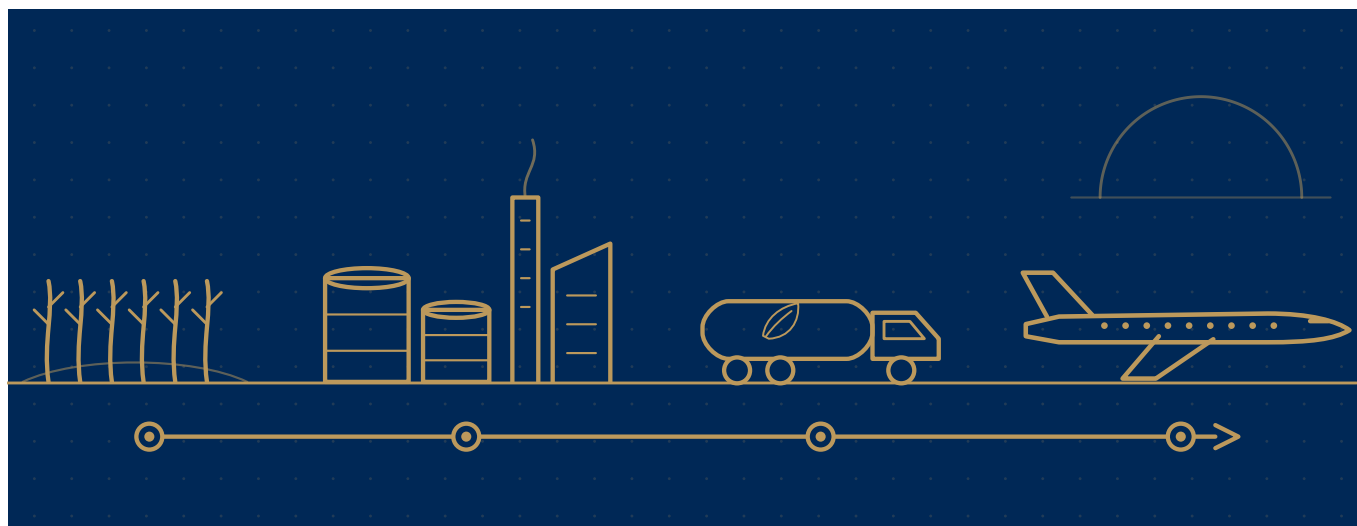
into real commercial decisions, but still early enough that the rules governing those decisions remain very much in flux. The choices being made now will shape how risk and value get distributed among producers, oil marketing companies, airlines and financiers as the market grows.

So SAF isn't really just about swapping one fuel for another. It's the creation of a new value chain, where a physical commodity and an environmental attribute have to move, together or apart, through a system that can establish where they came from, who owns them, what they're worth, and how they can be used.

The chapters that follow look at that system from an Indian angle: the legal and regulatory framework for SAF production and certification, blending and supply, sustainability and lifecycle emissions, environmental attributes and traceability, book-and-claim mechanisms, how SAF interacts with carbon markets, commercial contracting and offtake, financing and taxation, infrastructure and value chain access, international regulatory interfaces, and finally, disputes and enforcement.

The real question isn't whether India can produce SAF. It's already taking steps to do that. What matters more is whether the legal, regulatory and commercial framework around the fuel can offer enough clarity for SAF to be financed, supplied, recognised, transferred and claimed with confidence as the market develops.

An industry that can't wait for a different aircraft to show up before it starts transitioning doesn't get to treat the fuel as the finish line. The fuel is just the start. The harder work is building everything around it.



Setting the Legal Context

Why Law Is the Binding Constraint

The Question

Can India decarbonise its skies through policy aspiration alone, or does the rule of law require a more durable architecture capable of carrying obligation, capital and constitutional responsibility?

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India's transition to SAF sits at the intersection of climate ambition, aviation regulation, petroleum regulation and project finance. The Government has identified SAF as an important pathway for reducing the emissions intensity of aviation and has announced a blending trajectory for international departures. Yet the existence of a target is not synonymous with the existence of a legal obligation. The distinction matters because the development of a SAF market requires more than technological feasibility. It requires predictable demand, identifiable counterparties, enforceable contracts and sufficient regulatory certainty for capital to be committed over the life of an infrastructure project.

This chapter therefore examines the legal character of India's SAF target, the constitutional allocation of legislative competence relevant to its implementation, the statutory and regulatory framework that presently governs aviation fuel, and the legal architecture still required to convert policy intent into bankable demand.

1.1 The Indicative Target and Its Legal Character

The Government's SAF blending trajectory of 1% by 2027, 2% by 2028 and 5% by 2030¹, initially applicable to international departures, was approved by the National Biofuels Coordination Committee and announced by the Ministry of Petroleum and Natural Gas on 25 November 2023. The trajectory has subsequently been reiterated in ministerial statements and sectoral discussions.

Its legal character, however, remains distinct from that of a statutory mandate. The target does not presently take the form of an obligation created by an Act of Parliament, a rule carrying a defined consequence for non-compliance, or a regulatory instrument that allocates a quantified duty among airlines, fuel suppliers and oil marketing companies.

This distinction is fundamental. An executive policy commitment may guide administrative action, influence investment decisions and communicate the Government's intended direction of travel. It does not, without an operative source of law, create a freestanding cause of action, a defined liability or an enforceable procurement obligation. Nor does repetition alone transform a policy objective into a statutory duty.

The issue is therefore not whether the target is meaningful. It is whether its present legal form can bear the scale of commercial obligation and investment certainty necessary for a domestic SAF market.

1.2 From Climate Commitment to Sectoral Obligation

The legal context extends beyond the target itself. India's commitment to achieve net-zero emissions by 2070 and its broader climate commitments create the policy imperative for decarbonisation across hard-to-abate sectors. Aviation presents a particular challenge because direct electrification of long-haul commercial aviation remains technologically

¹ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2163273®=48&lang=2>

constrained. SAF therefore occupies an important position in the available pathway for reducing lifecycle emissions from aviation while existing aircraft and airport infrastructure remain in operation.

International aviation also operates within the International Civil Aviation Organization framework, including the Carbon Offsetting and Reduction Scheme for International Aviation (“**CORSIA**”).

CORSIA and a domestic SAF mandate, however, perform different legal functions. CORSIA concerns the accounting and management of emissions from international aviation within an international framework. A domestic SAF regime would regulate the production, supply, procurement or use of fuel within India. The two frameworks may interact, but neither substitutes for the other.

The legal question is consequently more precise: what domestic instrument is required to translate India’s climate and aviation objectives into an obligation capable of generating sustained demand for SAF?

1.3 The Constitutional Architecture and the Federal Fault Line

The implementation of a national SAF regime engages several fields of legislative competence. Aviation falls within the Union List, including matters concerning airways, aircraft, air navigation and aerodromes. Petroleum and petroleum products similarly engage Union legislative competence under the Seventh Schedule.

The position becomes more complex further upstream. Agriculture and land are principally matters within State legislative competence, while electricity falls within the Concurrent List. The production and aggregation of SAF feedstock, the availability of suitable industrial land, electricity access and several aspects of local infrastructure therefore involve State institutions and State linked regulatory processes.

This should not, however, be characterised as a simple division in which the Union controls aviation while States control the feedstock. The constitutional scheme is more nuanced. Union, State and Concurrent legislative fields overlap in practical implementation, and the competence of a particular authority depends upon the precise subject matter and legal character of the measure being adopted.

That distinction is important for SAF. A national mandate may be created through Union legislation within the appropriate field of competence, while its implementation will inevitably depend upon regulatory and administrative action across different levels of government. The challenge is therefore one of constitutional design and institutional coordination rather than merely administrative sequencing.

Taxation adds another layer. Article 246A and the GST framework do not bring petroleum products such as Aviation Turbine Fuel (“**ATF**”) wholly within GST. Article 279A also permits the GST Council to recommend the date on which ATF may be brought within GST. The existing tax treatment therefore has direct implications for the economics of blended aviation fuel and for the ability to construct a transparent price signal for SAF. The detailed fiscal consequences are examined in Chapter 3.



1.4 The Existing Statutory and Regulatory Hierarchy

The principal aviation statute is the Bharatiya Vayuyan Adhiniyam, 2024. It provides the statutory foundation for the regulation of civil aviation and enables subordinate legislation and regulatory directions within the scope of the powers conferred by Parliament.

Alongside the aviation framework sits the regulatory architecture governing aviation fuel. The Ministry of Petroleum and Natural Gas, the Bureau of Indian Standards and other relevant authorities determine the technical and quality parameters within which aviation fuel may be produced, blended and supplied. International standards, including ASTM specifications, are also relevant to the technical qualification of SAF pathways.

Recent regulatory developments are significant because India has begun to address the technical admissibility of SAF within the ATF framework. The recognition of specified SAF pathways and standards is an important enabling step. It answers one question: whether a particular fuel can be technically and lawfully incorporated within the aviation fuel system.

It does not, however, answer the next and more consequential questions. Who must procure the fuel? Who must supply it? At what point is the obligation measured? Which flights and airports are covered? How is compliance verified? Can compliance certificates be transferred? What happens where eligible SAF is unavailable? What consequence follows from a shortfall?

Technical recognition and market obligation are therefore distinct legal functions. The former permits the market to exist. The latter creates the demand required for the market to develop at scale.

1.5 The Missing Legal Duty

The central gap is consequently not the absence of all SAF regulation. It is the absence of a comprehensive legal mechanism connecting technical eligibility with enforceable demand.

A future regime must determine where the primary obligation resides. A fuel supplier model would place responsibility upon suppliers to ensure that a prescribed proportion of aviation fuel supplied at designated airports consists of eligible SAF.

An aircraft operator model would require airlines to procure or uplift a prescribed proportion of SAF. A hybrid model could place the principal supply obligation upon fuel suppliers while imposing reporting, record keeping and verification obligations upon aircraft operators.

Each model has different consequences for enforcement, contracting, market concentration and administrative feasibility. The choice cannot be left implicit.

The legislation or subordinate framework must also establish the unit of compliance, the relevant calculation period, eligible SAF pathways and feedstocks, verification requirements, treatment of imported SAF, exemptions or impossibility provisions, and the consequences of non-compliance. A credible regime may require some combination of monetary penalties, shortfall obligations, buy out payments or tradable compliance instruments.

The legal architecture must therefore extend beyond the statement of a percentage. It must establish a complete chain from obligation to verification and from verification to consequence.

1.6 Why an Indicative Target Cannot Produce Bankable Supply

The commercial consequence of this legal gap is immediate.

A SAF facility requires substantial capital expenditure and depends upon long-term assumptions concerning feedstock availability, technology performance, offtake and price. Lenders and investors must be able to assess whether a future market will exist and whether the project will generate sufficient predictable cash flow to service debt and provide an acceptable return on equity.

An indicative target provides a policy signal but does not, by itself, create that cash flow. It does not compel procurement, guarantee offtake or establish the price at which SAF will be purchased. The resulting uncertainty travels through the entire contractual chain, affecting feedstock agreements, technology procurement, offtake arrangements and ultimately project finance.

Comparative experience demonstrates that a statutory mandate can provide greater demand certainty, but also that demand

certainty and revenue certainty are not synonymous. The European Union's ReFuelEU Aviation framework² establishes binding SAF obligations and progressively increases the minimum SAF share. The United Kingdom's SAF Mandate similarly creates binding obligations and provides a buy out mechanism. The UK has nevertheless subsequently developed a Revenue Certainty Mechanism to address the additional financing risks faced by early SAF projects.

The lesson for India is important. A mandate can create a market without necessarily making every project financeable. The legal architecture must therefore address two connected but distinct questions: whether sufficient demand will exist and whether the resulting revenue stream will be sufficiently predictable to support investment.

1.7 From Policy Ambition to Bankable Obligation

India has moved beyond pure policy aspiration. The technical and regulatory architecture is beginning to recognise SAF as a permissible component of the aviation fuel system. The more consequential question is whether this developing architecture can create sufficiently durable demand to support investment at scale. From a legal and commercial perspective, four elements must operate together: a clearly identified obligated entity, a defined and verifiable compliance obligation, a credible consequence for non-compliance, and a mechanism capable of converting regulatory demand into predictable project revenue.

The distinction between demand certainty and revenue certainty is particularly important. A statutory mandate

may create a market for SAF, but it does not necessarily make individual projects financeable. Feedstock security, long-term offtake, price formation and appropriate revenue support may still be required before lenders and investors can underwrite projects over their financing horizon.

The legal design question is therefore not simply whether India should mandate SAF. It is where the obligation should reside, how it should be measured and enforced, and what supporting architecture is required to make the resulting demand investable. The subsequent chapters examine these questions across the regulatory, fiscal, institutional and dispute dimensions.

² Regulation (EU) 2023/2405

The Mandate

Designing a Binding Legal Framework That Prevents Arbitrage

The Question

Can India translate its SAF ambition into a binding and enforceable mandate without creating regulatory arbitrage across airlines, fuel suppliers and producers, or must the mandate itself be designed to allocate obligation, compliance and environmental attributes with greater legal precision?

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A binding SAF mandate is only as effective as the legal architecture that supports it. A percentage prescribed in law does not, by itself, determine who must comply, where compliance is measured, what fuel qualifies, how compliance is verified or what follows from a shortfall. Each of these choices can create an opportunity for regulatory arbitrage if it is left uncertain or internally inconsistent.

This chapter examines the principal legal design questions that India would need to address in moving from an indicative target to an enforceable SAF mandate. It considers the appropriate legal instrument, the identity of the obligated entity and point of obligation, the scope of the mandate, the treatment of non-compliance and genuine supply constraints, feedstock and sustainability criteria, and the ownership and accounting of SAF’s environmental attributes.

2.1 Choosing the Legal Instrument

The threshold question is where the binding obligation should be created. One route would be to use the existing statutory framework, including the Bharatiya Vayuyan Adhiniyam, 2024 and subordinate legislation. Another would be to develop a standalone legislative framework specifically addressing SAF.

The Bharatiya Vayuyan Adhiniyam provides the statutory foundation for the regulation of civil aviation. Its regulatory architecture is therefore relevant to matters concerning aircraft operations, aviation safety and associated technical

requirements. A fuel blending obligation, however, may extend beyond aviation safety and into the regulation of petroleum products and fuel suppliers. The legal basis for imposing such an obligation therefore requires careful consideration of the parent statute under which subordinate legislation is proposed.

The 2026 amendment to the Aviation Turbine Fuel (Regulation of Marketing) Order is significant in this regard because it recognises specified SAF blends conforming to applicable Indian standards within the ATF framework. That development addresses the regulatory recognition of SAF as an aviation fuel component. It does not, by itself, establish a quantified blending obligation.

A standalone SAF legislation would provide greater scope to address the entire regulatory chain in one instrument, including the mandate, obligated entities, sustainability requirements, verification, registry, enforcement and environmental attributes. It would also reduce the risk of attempting to derive a complex market mechanism from legislation designed principally for another purpose.

The immediate and long-term approaches need not be mutually exclusive. Existing statutory powers may provide the basis for near-term implementation where legally available, while a dedicated legislative framework could provide the more comprehensive architecture required as the market develops.

2.2 Identifying the Obligated Entity and Point of Obligation

The first substantive design question is who should bear the legal obligation.

A supplier based model would require the entity supplying aviation fuel at designated airports to ensure that a prescribed proportion consists of eligible SAF. An operator based model would instead require airlines to procure or uplift the prescribed proportion. A hybrid model could place the principal supply obligation on fuel suppliers while imposing reporting and verification obligations on aircraft operators.

The choice should reflect the physical structure of the Indian aviation fuel system. Airlines generally obtain fuel through airport fuelling arrangements rather than operating the blending infrastructure themselves. Placing the primary physical blending obligation on an entity that controls the relevant fuel supply infrastructure may therefore offer greater administrative clarity. It would not, however, eliminate the need for corresponding obligations on airlines concerning reporting, record keeping and verification.

The point at which compliance is measured is equally important. The law should specify whether the percentage is calculated at production, blending, airport supply or aircraft uplift. It should also determine whether compliance is assessed separately at each designated airport or against an aggregate national volume.

This distinction directly affects arbitrage. A national averaging mechanism may allow greater flexibility during the early years of market development, while airport specific obligations may provide greater certainty that SAF is physically available where required. The choice should therefore be deliberate rather than incidental.

2.3 Defining Scope and Preventing Operational Arbitrage

The mandate must clearly define its geographical and operational scope. India's present target concerns international departures, but legislation would need to specify the airports, flights, operators and fuel volumes to which the obligation applies.

The framework should also address tankering. If an aircraft can avoid a SAF requirement by taking additional

conventional fuel at an airport outside the mandate, the regulatory objective may be undermined. The legal framework should therefore consider the quantity of fuel uplifted, the destination of the aircraft and the circumstances in which additional conventional fuel may be carried.

These provisions must be balanced against operational realities. Aviation fuel requirements are affected by aircraft type, route, weather, airport infrastructure and operational contingencies. A rigid anti-tankering rule without appropriate exceptions could create operational difficulties, while an excessively broad exception could undermine the mandate.

The legislation should consequently define the principle clearly while leaving appropriate technical parameters to subordinate regulation.

2.4 Compliance Arbitrage: Penalties, Buy Out and Supply Constraints

A compliance mechanism must ensure that non-compliance is not economically preferable to compliance. At the same time, the law should distinguish between deliberate non-compliance and a genuine inability to obtain qualifying SAF.

The United Kingdom's SAF Mandate provides a useful comparative example. It establishes a buy out mechanism for shortfalls and permits the use of SAF certificates within its compliance architecture. The European Union's ReFuelEU Aviation framework similarly establishes enforcement obligations while requiring penalties to be effective, proportionate and dissuasive.

India will need to determine whether a shortfall should result in a monetary penalty, a buy out payment, an obligation to make good the shortfall, or a combination of these mechanisms. The economic level must be calibrated carefully. If the cost of non-compliance is materially lower than the incremental cost of procuring SAF, the mandate may become, in practice, a priced option to avoid compliance.

The framework should also contain a narrowly defined supply shortage mechanism. A supplier should not automatically incur a penalty where qualifying SAF is genuinely unavailable despite reasonable procurement efforts. Equally, an unrestricted exemption would create an obvious route around the mandate.

A credible framework should therefore establish objective conditions for relief, documentary requirements, time limits and appropriate regulatory oversight.

The Carbon Credit Trading Scheme may offer useful conceptual precedents concerning market-based compliance and environmental accounting. However, aviation and aviation fuel suppliers are not presently a designated compliance sector under the CCTS. Any future linkage would therefore require a separate legal and accounting framework capable of preventing double compliance or double counting.

2.5 Sustainability Arbitrage: Defining Eligible Feedstocks and Pathways

Technical eligibility and environmental eligibility must remain separate legal gateways.

The first gateway is technical. The SAF must satisfy the applicable Indian fuel specification and any requirements governing its incorporation into ATF. The recognition of relevant Indian standards within the ATF framework addresses this aspect.

The second gateway is sustainability. A fuel may satisfy a technical specification while still raising questions concerning its feedstock, lifecycle emissions or wider environmental impacts. A binding mandate should therefore specify the sustainability criteria that a qualifying SAF must satisfy.

CORSIA provides an established international reference point through its sustainability criteria and approved certification

framework. India may use internationally recognised sustainability standards while retaining the ability to address domestic circumstances and feedstock availability.

The legal framework should specify the relevant lifecycle emissions threshold, land use requirements, treatment of wastes and residues, and safeguards relating to environmental impacts. It should also establish a process for adding or removing eligible pathways as technology and scientific understanding develop.

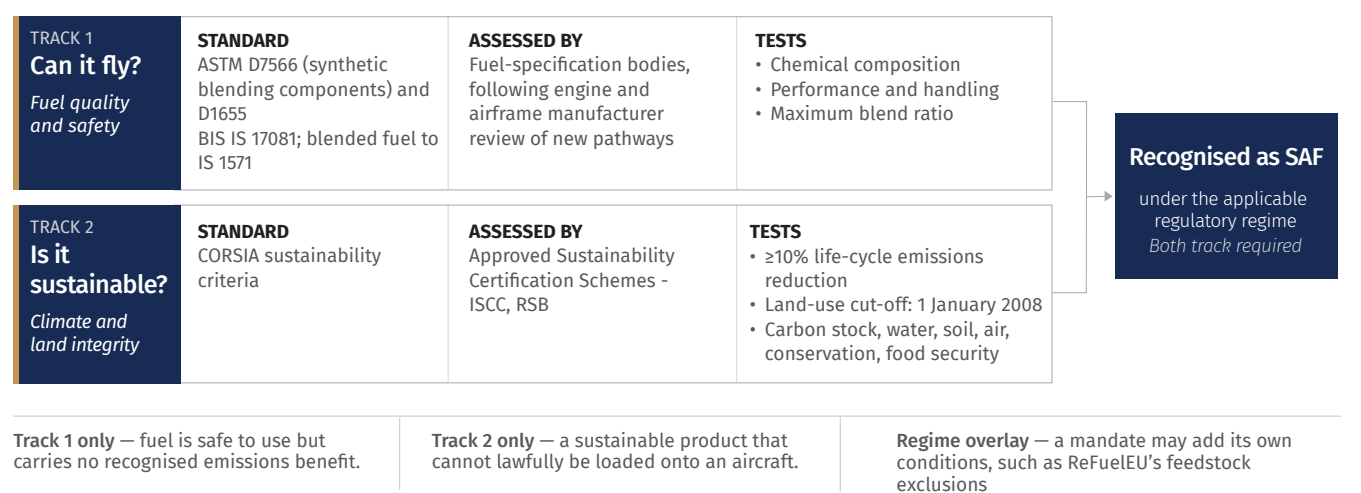
A positive list of qualifying feedstocks and pathways, supported by periodic review, could provide greater certainty than leaving eligibility entirely to case-by-case administrative decisions. The list should nevertheless be sufficiently adaptable to avoid excluding emerging pathways that satisfy the underlying sustainability principles.

2.6 Environmental Attributes: Chain of Custody and Book and Claim

The physical movement of SAF and the environmental attribute associated with its use need not always follow the same path. The legal framework must therefore determine how the attribute is created, transferred, recorded and ultimately retired.

Physical segregation provides the strongest physical connection between the fuel and its environmental attribute but may constrain market development where production and demand are geographically separated.

Two Separate Questions: Technical Certification and Sustainability Certification



Mass balance permits greater logistical flexibility while maintaining accounting controls. Book and claim separates the environmental attribute from the physical fuel and permits an eligible purchaser to acquire the attribute without receiving the corresponding physical SAF.

The appropriate model for India should be considered in light of the early stage of domestic SAF production, airport infrastructure and international accounting requirements. A transition towards greater flexibility may be appropriate, but only if the underlying accounting system is sufficiently robust.

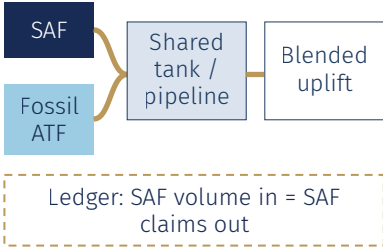
The framework should establish rules concerning issuance, transfer and retirement of certificates and should prevent double issuance, double counting and double claiming. It

should also determine whether the same environmental attribute can be used for compliance under an Indian mandate and separately claimed under CORSIA or another regulatory system.

Ownership is another important contractual question. The producer, fuel supplier and airline may each participate in different stages of the transaction. The law should clarify the default treatment of the environmental attribute while allowing parties to allocate contractual rights expressly in offtake and supply agreements.

A central registry, supported by independent verification and clear rules for certificate retirement, would provide the foundation for such a system.

Physical Fuel vs Environmental Attribute: Three Chain-of-Custody Models

PANEL 1 Physical Segregation SAF kept physically separate from production to aircraft. 	PANEL 2 Mass Balance SAF physically blended; attributes tracked by accounting. 	PANEL 3 Book-and-Claim Attribute decoupled from the fuel and sold as a certificate. 
PHYSICAL LINK Claimant receives the identified SAF batch	PHYSICAL LINK SAF present in the shared blend, not in an identified batch	PHYSICAL LINK None between claimant and fuel
ATTRIBUTE TRACKING Inherent in the physical fuel	ATTRIBUTE TRACKING Allocated by reconciled accounting over a defined period	ATTRIBUTE TRACKING Certificate issued, transferred and retired on a registry
CONSEQUENCE Highest traceability; dedicated infrastructure and highest logistics cost	CONSEQUENCE Uses existing infrastructure; the standard model under ISCC and RSB	CONSEQUENCE Widest access; integrity depends on registry controls against double counting
Regulatory treatment of book-and-claim	CORSIA - accepted without geographic limitation	ReFuelEU Aviation - not integrated; obligations are met by physical supply at EU airports



2.7 Designing a Mandate That Can Operate in Practice

A binding SAF mandate will succeed or fail not by the ambition of its percentage alone, but by the precision of the architecture surrounding it.

The framework should identify the obligated entity and the point at which compliance crystallises. It should define the geographical and operational scope of the obligation, establish a clear distinction between technical qualification and sustainability eligibility, and provide a credible response to both deliberate non-compliance and genuine supply constraints.

The market instruments must also remain legally distinct. A SAF compliance certificate, a carbon credit and an environmental attribute are capable of performing different functions and should not be

treated as interchangeable merely because each has an environmental dimension. Finally, flexibility must operate within clear legal boundaries. Book and claim, national averaging, shortfall mechanisms and certificate trading may each improve market liquidity, but each can also create opportunities for arbitrage if verification, ownership and retirement rules are not precise.

The objective should therefore be a mandate that is sufficiently rigorous to create genuine demand, sufficiently flexible to accommodate the realities of an emerging market, and sufficiently certain to support long-term investment. The legal architecture must convert the policy target into a compliance obligation without creating a parallel market in regulatory avoidance.

The Fiscal and Financial Architecture

Taxonomy, Green Finance, and Tax Reform

The Question

Can India’s fiscal and financial architecture channel patient capital into SAF at the speed of the transition, or will tax, taxonomy and disclosure gaps leave a strategic fuel trapped between ambition and bankability?

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This chapter examines the absence of a notified green taxonomy in India and its consequences for SAF financing, the case for an interim notification by the Securities and Exchange Board of India (“SEBI”) to bridge the gap, the complex GST and VAT treatment of Aviation Turbine Fuel and the proposed split-taxation reform, the scope for priority-sector lending to support upstream feedstock infrastructure, the role of SEBI’s Business Responsibility and Sustainability Reporting (“BRSR”) framework as a disclosure lever, and the interface between SAF and India’s Carbon Credit Trading Scheme.

3.1 The Taxonomy Gap

Unlike the European Union, whose Taxonomy Regulation (EU) 2020/852 has provided a binding classification framework

since 2020, India has no notified green or climate-finance taxonomy. The Department of Economic Affairs, Ministry of Finance, published a draft India Climate Finance Taxonomy for public consultation in May 2025, with comments invited until 25 June 2025; no notified framework had emerged on the official material reviewed for this report. The draft is organised around sectoral technical committees covering power, mobility, buildings, agriculture and hard-to-abate industry, and does not contain a dedicated aviation-fuel category. The consequence for SAF financing is specific rather than merely presentational. A lender or bond arranger in the Indian market has no authoritative domestic basis on which to label SAF-linked debt or equity as green, assess its alignment consistently or explain that classification to investors. That uncertainty can increase scrutiny and transaction costs



even where the underlying project has credible climate benefits. SAF would qualify as a transition activity under comparable frameworks operating in the EU and Singapore, whose Monetary Authority has operated its Singapore-Asia Taxonomy since 2023. In the absence of an Indian equivalent, however, that comparative treatment does not itself provide a domestic legal or market label.

3.2 An Interim Hybrid: A SEBI Notification Pending the Taxonomy

Waiting for the taxonomy to be finalised is not compatible with the financing timelines of refineries scheduled to commission SAF capacity by 2027 and 2028. The report therefore proposes an interim hybrid mechanism: a SEBI circular, issued under SEBI's existing powers over green debt securities and sustainability disclosures, recognising SAF production, blending infrastructure and feedstock aggregation as eligible green activities for the limited purpose of green bond and green debt security issuance, pending notification of the Climate Finance Taxonomy. This would not displace the taxonomy or create a parallel classification system. It would provide issuers and underwriters with a domestic labelling basis within a single budget cycle, while leaving the wider and more durable classification exercise to the notified taxonomy. SEBI's sovereign green bond framework and green debt securities regulations already operate by reference to defined eligible project categories independently of a comprehensive taxonomy. The proposed circular would use that existing regulatory vocabulary rather than inventing a new one. When the taxonomy is notified, SAF should be absorbed into it by cross-reference to the interim category, avoiding a hiatus in eligible-activity status for instruments already in issue. The

approach is accordingly transitional by design: it supplies immediate clarity without allowing an interim label to harden into a competing taxonomy.

3.3 The GST and VAT Treatment of SAF

Aviation Turbine Fuel is among the petroleum products kept outside GST under the transitional architecture introduced in July 2017. Section 9(2) of the Central Goods and Services Tax Act, 2017 specifically provides that central tax on the supply of petroleum crude, high-speed diesel, motor spirit, natural gas and Aviation Turbine Fuel will be levied only from such date as the Government may notify on the recommendation of the GST Council. ATF is consequently taxed through central excise duty (stated in the framework considered here at 11%, with a reduced 2% rate for routes under the Regional Connectivity Scheme) and State VAT at rates that vary materially across States. The result is a tax treatment that is both commercially significant and difficult to apply selectively to a blended product whose fossil and non-fossil components are physically combined.

In a Lok Sabha reply reported on 6–7 August 2026, the Civil Aviation Ministry stated that the proposal to bring ATF within GST, considered at the 55th GST Council meeting in December 2024, did not secure the consensus contemplated by Article 279A and that the existing structure therefore continues. The report proceeds on that legal and fiscal position rather than assuming that a general migration of ATF into GST is imminent. This report does not propose reopening ATF taxation generally. The States' revenue concerns, including the substantial VAT receipts derived from petrol, diesel and ATF, are legitimate and have been well ventilated. It proposes a narrower and more



achievable reform: a GST Council recommendation under Article 279A(5) treating the SAF component of a blended fuel as a distinct taxable supply from the fossil-ATF component with which it is physically blended. The SAF component would be taxed within the ordinary GST framework at the prevailing rate applicable to biofuels, while the existing excise-and-VAT treatment would continue to apply only to the fossil-derived proportion by volume.

This split-taxation approach would not require States to surrender their Entry 54 taxing power over ATF as such. It would, however, remove the cascading VAT-on-excise effect on the SAF proportion and allow SAF producers to claim input tax credit on their own inputs. This is the principal industry grievance ventilated, without resolution, in successive GST Council discussions of ATF since at least 2018. For the reform to be credible, the legal distinction would also need to be reflected in the accounting, metering and audit trail for the blend. Its virtue is that it targets the fiscal friction affecting SAF without asking the States to abandon the broader revenue architecture that presently applies to fossil ATF.

3.4 RBI Priority Sector Lending

The Reserve Bank of India's Master Directions (Priority Sector Lending Targets and Classification Directions, 2025), dated 24 March 2025 and effective from 1 April 2025, supersede the earlier 2020 Directions. Paragraph 15 makes bank loans up to ₹35 crore eligible for priority-sector classification where made to borrowers for renewable energy-based power generators and renewable energy based public utilities, including street-lighting systems and remote village electrification.

SAF production is not a named category under this head. Given that a commercially relevant HEFA or alcohol-to-jet unit requires financing well in excess of ₹35 crore, priority-sector status at the present ceiling would not materially affect project-scale SAF financing. It should not therefore be presented as a substitute for project finance, a blending mandate or revenue certainty. Its practical value lies instead in feedstock aggregation, biomass collection and used-cooking-oil consolidation infrastructure upstream of a refinery, which typically operates at a scale where the ceiling is meaningful. This report recommends that the next revision of the Master Directions expressly include SAF feedstock aggregation and pre-processing infrastructure within the renewable-energy head, without proposing any change to the ceiling itself. The recommendation is deliberately targeted: it would bring smaller, enabling parts of the SAF value chain

within an existing lending classification without distorting the treatment of the capital-intensive refinery.

3.5 SEBI's Business Responsibility and Sustainability Reporting Framework as a Disclosure Lever

SEBI's BRSR framework, and in particular the BRSR Core sub-set introduced by circular dated 12 July 2023, originally established a glide path for reasonable assurance of specified environmental and other ESG indicators, reaching the top 250 listed entities by market capitalisation in FY 2024–25 and the top 1,000 by FY 2026–27, with intermediate stages. SEBI's circular dated 28 March 2025 subsequently revised that framework to permit either assessment or assurance for BRSR Core. It also deferred value-chain reporting: disclosures by the top 250 listed entities are voluntary from FY 2025–26, and assessment or assurance of those disclosures is voluntary from FY 2026–27. The value chain now encompasses upstream and downstream partners individually accounting for 2% or more of the listed entity's purchases or sales by value, with an option to cap coverage at 75% of purchases and sales. Every major Indian airline and oil marketing company either is, or will shortly become, subject to the wider BRSR regime.

This report recommends that SAF blending percentage, book-and-claim credit purchases and SAF-linked capital expenditure be added as express line items within the existing BRSR Core energy and emissions disclosures, rather than left to voluntary narrative reporting. Clear line items would make it easier to compare performance, trace the relationship between reported emissions and purchased credits, and identify whether capital expenditure is actually directed towards the claimed transition. That would turn an existing disclosure regime into a practical SAF implementation monitor without further primary legislation, while reducing the greenwashing exposure considered in Chapter 6. It would also give investors and regulators a more intelligible account of SAF activity without converting BRSR into a separate SAF licensing system.

3.6 The Carbon Credit Trading Scheme Interface

India's Carbon Credit Trading Scheme ("CCTS") was notified by the Ministry of Power on 28 June 2023 under the Energy Conservation Act, 2001, as amended, and is administered by the Bureau of Energy Efficiency. Section 14AA of that Act, inserted by the Energy Conservation (Amendment) Act, 2022 (Act 19 of 2022) with effect from 1 January 2023, provides for the issuance of carbon credit certificates. The CCTS compliance

mechanism presently identifies refining and petrochemicals among the obligated sectors, with compliance years beginning in 2025-26. Aviation is not presently an obligated sector, and no bridging rule permits verified SAF-linked emission reductions to generate Carbon Credit Certificates under the CCTS offset mechanism, which was designed to allow non-obligated entities to register eligible mitigation projects.

The Green Credit Rules, 2023 expressly distinguish the Green Credit Programme from the CCTS; the two instruments should therefore not be treated as interchangeable. A defined methodology for SAF lifecycle emission reduction, cross-referenced to the CORSIA Default Life Cycle Emissions Values already used internationally, would allow SAF producers to

monetise a second domestic revenue stream, additive to any future international book-and-claim registry discussed in Chapter 2. The methodology would also provide a common basis for measuring the reduction across different feedstocks and pathways, while requiring a clear verification trail so that the same reduction is not counted twice.

This report recommends that the Ministry of Power and the Bureau of Energy Efficiency be tasked with notifying a SAF methodology under the CCTS offset mechanism ahead of the 2027 first blending milestone. The objective is not to collapse the CCTS and the Green Credit Programme into one instrument, but to place SAF within the carbon-market architecture through a defined and legally recognisable route.

The Implementation Chain

Clearing Legal Chokepoints from Feedstock to Flight

The Question

Can India build a SAF supply chain in which feedstock, production, infrastructure, blending and environmental attributes move through a legally coherent chain, or will gaps in access, traceability and accountability become chokepoints to market development?

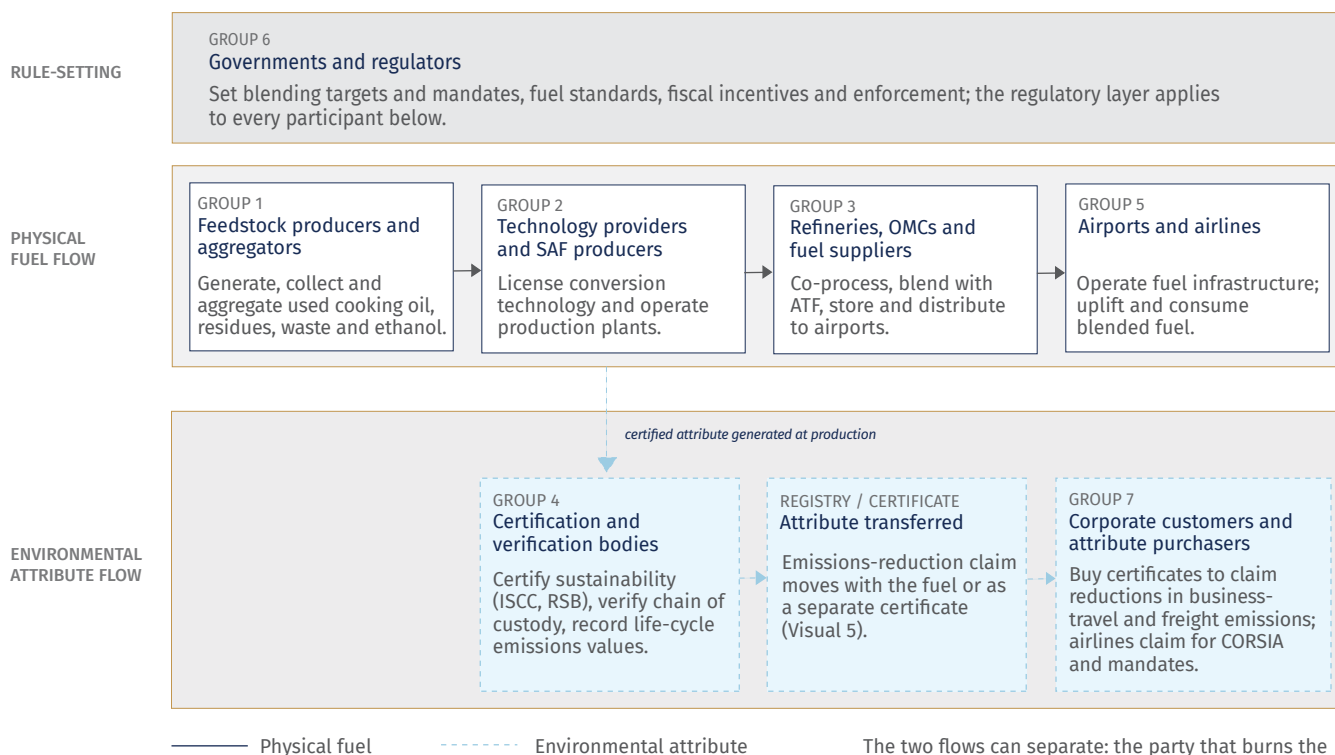
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This chapter maps the SAF value chain from feedstock sourcing through production, storage and blending, and environmental claims recorded through a registry. It identifies the legal chokepoints at each stage and considers the

regulatory, competition law, and data protection questions that practitioners must navigate when structuring SAF projects in India.

The SAF Ecosystem: Who Does What



The two flows can separate: the party that burns the fuel need not be the party that claims its benefit.

4.1 The SAF Value Chain and Its Participants

The production, certification, and deployment of sustainable aviation fuel in India involve a value chain that is, at every stage, subject to a distinct body of law and a distinct set of regulatory gatekeepers. Following that chain from the field where a feedstock is harvested to the wingtip where the blended fuel is combusted exposes an interlocking series of legal chokepoints, each of which, if left unresolved, is capable of stalling SAF deployment at commercial scale irrespective of progress at every other stage. This chapter traces that chain.

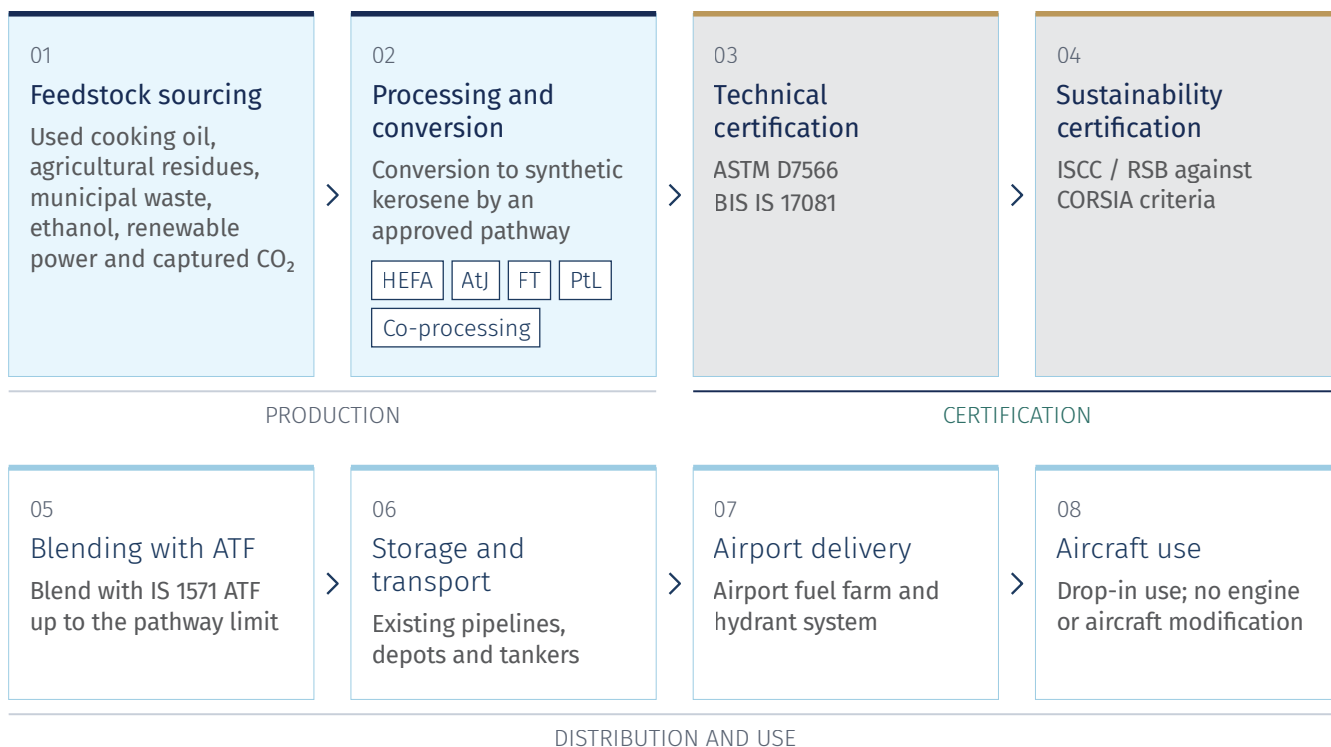
The chain may be described in eight broad stages: feedstock sourcing and aggregation; conversion or processing into a synthetic paraffinic kerosene or equivalent hydrocarbon stream; technical qualification of the finished fuel against an approved international specification; sustainability certification against one or more recognised schemes; blending of the neat SAF component with conventional Jet A-1; storage and logistics within the airport fuel supply infrastructure; delivery into the aircraft; and, ultimately, combustion in the aircraft engine.

At the level of technical pathways, five routes to SAF are presently relevant to the Indian context. The Hydroprocessed Esters and Fatty Acids pathway (HEFA), covered by ASTM D7566 Annex A2 and approved in 2011, converts lipid feedstocks,

including used cooking oil, animal fats, jatropha, and pongamia oils, into a synthetic kerosene eligible for blending at up to fifty per cent with conventional jet fuel. The Alcohol-to-Jet pathway (AtJ), approved under ASTM D7566 Annex A5 in two stages, first based on isobutanol in 2016 and then on ethanol in 2018, is of particular strategic significance for India given the country's rapidly expanding ethanol production infrastructure. The Fischer-Tropsch pathway (FT), the oldest of the approved routes (Annex A1, approved 2009), gasifies carbonaceous feedstocks and converts the resulting syngas into liquid hydrocarbons, also at a fifty per cent blend ceiling. Power-to-Liquid or e-SAF, still at an early stage of commercialisation globally, depends on the coupling of renewable electricity, green hydrogen, and captured carbon dioxide. Finally, coprocessing of lipid or other intermediates derived from biological feedstocks within existing petroleum refineries, governed by ASTM D1655 Annex A1 and subject to a more restrictive five per cent blend limit, has already been demonstrated in India at Indian Oil Corporation's Panipat refinery and Bharat Petroleum Corporation Limited's Mumbai refinery.

The ecosystem of participants spans multiple industries and contractual networks. Feedstock producers and aggregators, ranging from municipal authorities collecting used cooking oil to farmer producer organisations supplying agricultural

The SAF Value Chain: From Feedstock to Flight



Principal Production Pathways

Pathway	ASTM Annex	Approved	Feedstock	Max. blend	India relevance
HEFA-SPK	D7566 A2	2011	Used cooking oil, animal fats, vegetable oils	50%	Used cooking oil base; the principal near-term commercial route
AtJ-SPK	D7566 A5	2016; ethanol 2018	Ethanol, isobutanol from sugars and residues	50%	Builds on the existing ethanol-blending industry
FT-SPK	D7566 A1	2009	Municipal solid waste, agricultural and forestry residues	50%	Large agricultural residue base
PtL (e-SAF)	Via FT route (A1)	—	Renewable hydrogen and captured CO ₂	50%	Depends on renewable power; electricity is a Concurrent List subject
Co-processing	D1655 A1	2018	Lipids co-fed with crude at existing refineries	5% of refinery feed	Current OMC production at existing refineries

residues, sit at the upstream end. Technology licensors, many of them foreign, provide the proprietary process technology that underpins HEFA, AtJ, and FT conversion. SAF producers, whether standalone greenfield plants or existing refineries coprocessing biological feedstocks, occupy the manufacturing node. Oil marketing companies (OMCs), principally Indian Oil Corporation, Bharat Petroleum, and Hindustan Petroleum, control blending, storage, and airport delivery infrastructure. Certification and verification bodies, including the International Sustainability and Carbon Certification (ISCC) scheme, the Roundtable on Sustainable Biomaterials (RSB),

and potentially the Bureau of Indian Standards, provide the sustainability and quality assurance layer. Airlines are the offtakers. And, in an emerging market for environmental attributes, corporate purchasers seeking Scope 3 emissions reductions may acquire SAF credits through book-and-claim mechanisms without taking physical delivery of the fuel.

For each of these participant classes, the contractual and regulatory relationships demand careful legal structuring: feedstock supply agreements with traceability covenants; technology licences with performance guarantees and clauses





for sharing improvements; offtake agreements between SAF producers and OMCs or airlines; blending and storage access arrangements at airports; and transfers of environmental attributes mediated through a registry. The chokepoints that follow are the points at which these arrangements encounter regulatory friction: the law may create an obstacle, leave a gap, or impose a cost that the market has not yet learned to price.

4.2 Feedstock Stage: APMC Restrictions and Ethanol Allocation Conflicts

India's theoretical feedstock base for SAF production is substantial: the country generates an estimated 500 million tonnes of crop residue annually, possesses a large and growing collection network for used cooking oil, and has embarked on an ambitious expansion of ethanol distillation capacity based on both first and second generation feedstocks. The gap between theoretical availability and sustainably traceable, contractually aggregable supply is, however, the first and arguably the most structurally embedded chokepoint in the chain.

Agricultural residues, including rice straw, wheat straw, sugarcane bagasse, and cotton stalks, are subject to a regulatory architecture that was designed for an entirely different purpose. The marketing of agricultural produce is governed principally by State legislation, including APMC legislation, drawing upon the States' legislative competence over agriculture and markets and falls under the Seventh Schedule to the Constitution. Although the scope of APMC regulation varies across states, and although recent central reforms have sought to liberalise intrastate and interstate

trade, the practical effect at the aggregation stage is a patchwork of licensing requirements, mandi cess obligations, and restrictions on direct procurement from farmers that complicate the assembly of large supply chains across multiple districts. A SAF producer requiring, for instance, fifty thousand tonnes of rice straw per annum from across three districts in Punjab will need to navigate not only the Punjab Agricultural Produce Markets Act, 1961, as amended, but also the operational rules of each APMC yard through which the residue is notionally transacted. The transaction costs, both legal and logistical, are substantial.

The ethanol allocation conflict presents a second, and in some respects more acute, chokepoint at the feedstock stage. India's Ethanol Blended Petrol Programme (EBP), administered by the Ministry of Petroleum and Natural Gas and implemented through OMC procurement, has achieved considerable success in raising ethanol blending in petrol. The AtJ pathway for SAF competes directly with the EBP for the same feedstock, including sugarcane juice, molasses, damaged food grains, and, increasingly, cellulosic ethanol from agricultural residues, and for the same distillation capacity. The EBP benefits from an established administered pricing mechanism and guaranteed OMC offtake; the AtJ pathway, by contrast, currently has neither.

The legal question is whether a dedicated ethanol allocation or pricing mechanism is required for the AtJ pathway used to produce SAF, analogous to the existing ethanol procurement framework for the EBP but reserved for the aviation pathway. Without such a mechanism, the rational distiller will channel ethanol into the EBP, where the offtake is assured and the price administered, rather than into the higher risk, lower

volume SAF market. Practitioners structuring feedstock supply agreements for AtJ projects must also address traceability and chain of custody documentation with particular rigour, given the multiple points at which ethanol intended for the aviation pathway might be diverted into the petrol blending stream or vice versa. The ISCC CORSIA and RSB certification schemes impose mass balance or segregation requirements at the feedstock level, and the contractual architecture must mirror these obligations.

4.3 Production Stage: Environmental Clearance and Technology Licensing

Assuming feedstock can be secured and traced, the next chokepoint arises at the production stage, where environmental clearance timelines, technology licensing risk, and the structural limitations of coprocessing converge.

A standalone HEFA plant, an AtJ conversion facility, or a Fischer-Tropsch gasification unit will, depending on its capacity and location, require environmental clearance under the Environment Impact Assessment Notification, 2006 (as amended), issued under the Environment (Protection) Act, 1986. The categorisation of the project, whether Category A (requiring central appraisal by the Expert Appraisal Committee of the Ministry of Environment, Forest and Climate Change) or Category B (appraised at the state level by the State Environment Impact Assessment Authority), will turn on the specific industry classification applicable to the plant. Biofuel production facilities have at times been classified by analogy with petroleum refineries, attracting more onerous Category A scrutiny; at other times, they have been treated as chemical manufacturing units with different thresholds. The absence

of a dedicated EIA classification for SAF production creates regulatory uncertainty at the project development stage and, critically, affects the sequencing of environmental clearance relative to project financing. Lenders and equity investors in infrastructure projects routinely require environmental clearance as a condition precedent to financial close; if the clearance process is protracted or its categorisation uncertain, the financing timeline slips correspondingly.

Technology licensing risk is the second production stage concern. The principal HEFA, AtJ, and FT process technologies are, at present, overwhelmingly controlled by a small number of foreign licensors, including Honeywell UOP, Gevo, LanzaTech, Velocys, and others. Indian SAF producers entering technology licence agreements must negotiate not only the licence fee and royalty structure but also performance guarantees (minimum yield and product quality specifications aligned with ASTM D7566), clauses governing entitlement to process improvements developed during the licence term, and, critically, the allocation of risk in respect of feedstock variability. Indian feedstock profiles, including used cooking oil with varying free fatty acid content and ethanol derived from damaged food grains, may differ materially from the feedstock specifications on which the licensor's performance guarantee is based. The technology licence agreement must address this gap explicitly, failing which the SAF producer bears the risk of output that does not meet specifications.

Coprocessing within existing refinery infrastructure, as demonstrated by IOC at Panipat and BPCL at Mumbai, offers a less disruptive route to SAF production, avoiding the need for a greenfield environmental clearance and leveraging the refinery's existing utilities, hydrogen supply,



and product handling infrastructure. The legal structuring is correspondingly simpler: the principal instruments are a feedstock supply agreement and an amendment to the refinery's existing operating procedures and environmental consent conditions, rather than a standalone project finance package. However, coprocessing is constrained by the five per cent blend ceiling under ASTM D1655 Annex A1. As India's SAF blending mandate rises, with the indicative trajectory of 1% in 2027, 2% in 2028 and 5% in 2030 for international flights, the five per cent coprocessing limit may prove insufficient to meet aggregate demand, particularly at airports with high throughput. Coprocessing is therefore best understood as a bridging strategy: useful for building operational experience, demonstrating supply chain logistics, and generating initial SAF volumes, but structurally incapable of serving as the primary production route at scale.

4.4 Storage and Blending Stage: OMC Control and Competition Law Exposure

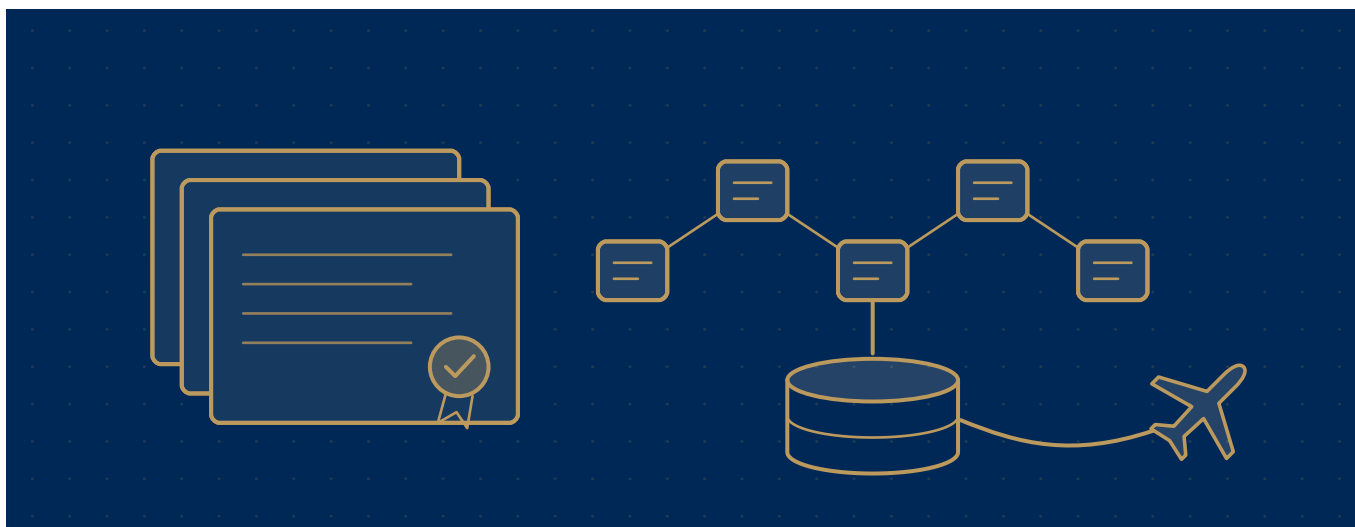
Once produced and certified, SAF must be blended with conventional Jet A-1 and delivered into aircraft through the airport fuel supply infrastructure. In India, this infrastructure is overwhelmingly controlled by a small number of public sector oil marketing companies. Indian Oil Corporation's subsidiary, Indian Oil Skytanking Limited, and the consortium arrangements involving BPCL and HPCL at various airports, together control the fuel farms, hydrant systems, and aircraft fuelling operations at virtually every commercial airport in the country.

This concentration of control creates a potential chokepoint that engages both regulatory and competition law

considerations. Where a SAF producer or an independent fuel supplier seeks to blend and deliver SAF at an airport at which a single OMC controls the only blending and storage infrastructure, the question arises whether the OMC's refusal to grant access, or its imposition of unreasonable terms for access, constitutes an abuse of dominant position under Sections 4(2) (a) and 4(2)(c) of the Competition Act, 2002. The relevant market definition, likely the market for aviation fuel storage and blending services at a specific airport or cluster of airports, would need to be established, and the OMC's dominance within that market demonstrated. Given the physical infrastructure constraints (a fuel farm cannot readily be duplicated), the conditions for a finding of dominance may well be met at airports served by a single entity supplying fuel.

The more constructive question is whether a mandated framework for third party access or a common carriage obligation should be imposed on airport fuel blending infrastructure, analogous to the common carrier obligations that apply to petroleum pipelines under the Petroleum and Natural Gas Regulatory Board Act, 2006. Such an obligation would require the operator of an airport fuel farm to provide nondiscriminatory access to any SAF producer or supplier meeting specified technical and safety standards, on published tariff terms. The interaction of any such obligation with existing airport fuel supply concession agreements, which are typically long-term arrangements between the airport operator and the incumbent OMC, would need careful structuring. Concession agreements that grant exclusive fuel supply rights may require amendment or regulatory override, and the compensation implications of such intervention would need to be addressed.





For transactional lawyers advising SAF producers, the practical consequence is that offtake and blending arrangements must, at present, be negotiated bilaterally with the incumbent OMC at each airport. The OMC's willingness to accommodate third party SAF, and the commercial terms on which it does so, is a critical project variable that cannot be assumed. Until a regulatory framework for third party access is established, SAF producers face a concentration risk on the counterparty side that is, in effect, a function of airport infrastructure monopoly.

4.5 The SAF Registry: Statutory Status, Data Protection, and Interoperability

The final chokepoint in the value chain is not physical but informational: the absence, at present, of a statutory SAF registry capable of recording production, tracking chain of custody, enabling book-and-claim transactions, and interfacing with international carbon and fuel credit systems.

A book-and-claim system decouples the physical delivery of SAF from the environmental attribute it generates. A SAF producer in Gujarat may inject certified SAF into the fuel supply at Ahmedabad airport; an airline operating from Delhi, or a corporate purchaser headquartered in Mumbai, may "claim" the emissions reduction attribute of that fuel through a transfer mediated by a registry, without the fuel itself being physically transported to Delhi or Mumbai. The integrity of such a system depends entirely on the reliability of the registry: each litre of SAF must be recorded once and only once, each environmental attribute must be retired upon claim, and the chain of custody from production through certification to claim must be auditable.

The case for establishing this registry on a statutory footing, rather than as a voluntary, industry operated platform, rests on three considerations. First, a statutory registry carries the evidentiary weight of a public record, reducing disputes over the validity of claimed attributes. Second, a statutory mandate can compel participation by all SAF producers and fuel suppliers, eliminating the free rider problem inherent in voluntary systems. Third, statutory backing enables the registry operator to impose data quality and reporting standards with the force of law.

The Bureau of Energy Efficiency's existing Carbon Credit Trading Scheme (CCTS) registry infrastructure, established under the Energy Conservation (Amendment) Act, 2022, represents a natural institutional home for a SAF registry. The CCTS registry already handles the issuance, tracking, and retirement of carbon credit certificates in a regulated environment; extending its architecture to accommodate SAF environmental attributes would leverage existing technical capacity and institutional credibility.

Data protection compliance introduces a further layer of complexity. To the extent that the registry records information attributable to individual feedstock suppliers, processing facility operators, or corporate purchasers, it may process personal data or commercially sensitive information within the scope of the Digital Personal Data Protection Act, 2023. The registry's design must incorporate purpose limitation, data minimisation, and consent management mechanisms consistent with that Act, while preserving the transparency and auditability that are essential to the registry's function. The tension between transparency (which favours broad data access) and data protection (which favours restriction) must be resolved at the architectural level, not ad hoc.

International interoperability is perhaps the most consequential design question. The International Civil Aviation Organization's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) requires eligible fuels to be tracked through approved sustainability certification schemes and recorded in a manner that prevents double counting. The European Union's ReFuelEU Aviation Regulation and the United Kingdom's emerging SAF mandate framework are each developing their own tracking and verification systems. If an Indian SAF registry is not designed from the outset to interoperate with CORSIA's eligible fuel tracking mechanism, and prospectively with EU and UK book-and-claim platforms, Indian SAF credits risk being stranded from international recognition. An Indian airline purchasing SAF credits through a domestic registry that is not recognised under CORSIA would be unable to use those credits to meet its CORSIA obligations on international routes, and a corporate purchaser seeking to make Scope 3 claims under international reporting frameworks would face challenges to the credibility of domestically registered attributes. The cross-border data transfer implications are equally significant: registry interoperability requires the exchange of transaction level data with foreign registry operators, engaging the cross-border transfer restrictions under the Digital Personal Data Protection Act, 2023, and any sectoral data localisation requirements that may apply to energy or aviation data.

The choice of registry architecture is therefore not merely a technical decision but a legal and strategic one. It will determine whether Indian SAF production is integrated into or isolated from the global market for sustainable aviation attributes and, with it, whether India's SAF industry can access the international demand signal that will be essential to justifying the capital investment the sector requires.

4.6 Recommendations

- India should address the SAF value chain through a coordinated set of legal and institutional reforms. At the feedstock stage, state APMC laws should be reformed, or a targeted exemption provided, to permit SAF producers and approved aggregators to contract directly with farmers and consolidate residues across mandi boundaries, subject to traceability safeguards.
- For the AtJ pathway, the Union government should create a dedicated ethanol allocation and pricing mechanism, reserved for SAF and supported by assured offtake and chain of custody controls. SAF production should receive a streamlined or dedicated classification under the EIA framework, with clear thresholds and a predictable appraisal pathway for standalone facilities.
- Airport fuel farms and blending systems should be subject to a mandated third party access framework, with transparent tariffs, nondiscriminatory technical standards, and rules addressing existing concessions.
- Finally, the Bureau of Energy Efficiency should establish a statutory SAF registry on the BEE/ CCTS platform, designed from inception for CORSIA, EU, and UK interoperability, while incorporating data minimisation, consent, audit, and cross-border transfer controls. Taken together, these measures would reduce project risk, facilitate competition, and give SAF attributes credible domestic and international value.

Institutional Design and Accountability

The Case for a National SAF Authority

The Question

Can India’s institutional machinery deliver sustainable aviation fuel at national scale while respecting the distribution of constitutional power, or must coordination itself become an instrument of climate governance?

In This Chapter

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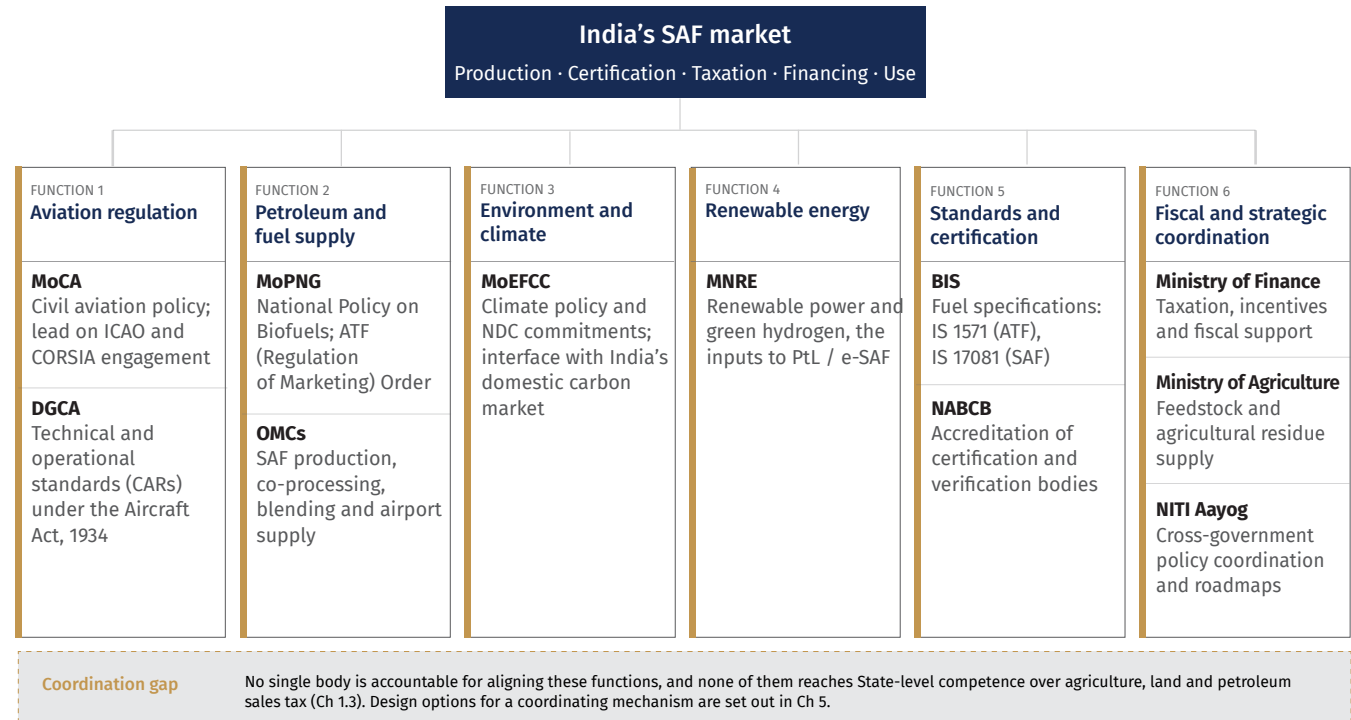
This chapter examines the coordination problem arising from the dispersal of SAF-related competences across at least six Union ministries, evaluates three institutional models for addressing that fragmentation, draws lessons from the GST implementation precedent while distinguishing it from the inter-ministerial challenge at hand, and sets out the case for an Empowered Inter-Ministerial Committee with defined

accountability and dispute-resolution mechanisms.

5.1 The Coordination Problem

No single ministry can deliver SAF effectively in India. The Ministry of Civil Aviation and the DGCA hold the aviation-safety and blending-mandate levers; the Ministry of Petroleum and

India’s SAF Institutional Landscape: Six Functions, One Market



Natural Gas and the public-sector oil marketing companies hold fuel-specification and distribution infrastructure; the Ministry of New and Renewable Energy and the Ministry of Agriculture hold feedstock and land-use policy; the Ministry of Finance and SEBI hold the fiscal and capital-market instruments considered in Chapter 3; the Ministry of Power and the Bureau of Energy Efficiency hold the CCTS interface; and the Ministry of Environment, Forest and Climate Change holds India's Nationally Determined Contributions reporting obligations, into which SAF-linked abatement must ultimately be counted. Each institution sees a necessary part of the programme, but none has the whole delivery chain within its legal remit.

This is not merely an administrative inconvenience. A programme with at least six ministerial stakeholders and no single accountable coordinator is exposed to sequencing failure: a refinery may be commissioned before its offtake mandate exists in law, or a mandate may be enacted before the fiscal instruments needed to finance compliance are in place. The risk is cumulative. A delay in one jurisdiction or instrument can leave the other parts of the programme formally complete but commercially unusable, making coordination a condition of legal effectiveness rather than a matter of bureaucratic tidiness.

5.2 Three Institutional Models, Compared

Three models are available. The first is a dedicated statutory authority, created by its own Act of Parliament with independent regulatory, supervisory and enforcement powers, on the model of the Central Electricity Regulatory Commission or the Petroleum and Natural Gas Regulatory Board. This model offers the greatest institutional independence and the clearest basis for rule-making, compliance supervision and sanctions. It would also permit the regulatory function to develop specialist capacity and a stable body of precedent. Its weakness is timing: it is the slowest path to operation. It requires primary legislation, subordinate rule-making and the accumulation of institutional capacity, a process that ordinarily takes several years and is difficult to reconcile with a first blending milestone in 2027. The model therefore has substantial long-term merits, but those merits do not answer the immediate question of how the first legally credible mandate is to be coordinated and delivered while legislation is prepared.

The second is a lighter, non-statutory executive mission, on the model used by the United Kingdom for its SAF programme.

The Jet Zero Taskforce succeeded the earlier Jet Zero Council in November 2024 as a ministerially convened coordination body without independent statutory enforcement power. Its function is to align industry and government around the SAF Mandate and the associated Revenue Certainty Mechanism, both of which derive their binding force from separate statutory instruments made under the Energy Act 2023. This model can be constituted quickly and is useful for political coordination, especially where several departments must move to a common timetable. Its legal limitation is equally important: it cannot compel a ministry that declines to cooperate and cannot, by itself, operate the penalty and certificate-redemption architecture proposed in Chapter 2. The United Kingdom example therefore demonstrates the usefulness of a coordinating mission, but also shows that coordination works because binding duties and financial consequences are located elsewhere in the statutory framework.

The third model is an Empowered Inter-Ministerial Committee: a Cabinet-sanctioned, time-bound executive body with a defined Terms of Reference, chaired at Secretary or Minister level and supported by a dedicated secretariat. It would not be a regulator and could not enlarge the statutory jurisdiction of any member ministry. Its value would lie in securing and sequencing time-bound action within each ministry's existing competence, and in approving the interdependent milestones of the SAF programme, namely mandate commencement, fiscal-instrument notification and registry go-live, as one cross-ministerial timeline rather than six independent ones. The Committee would make responsibility visible without pretending that executive coordination can amend the Constitution or create powers that Parliament has not conferred. Its Terms of Reference should therefore translate the shared timetable into named deliverables, responsible institutions and escalation routes. Properly constituted, it would provide an executable bridge to a future statutory authority without delaying the first blending milestone while primary legislation is prepared. The design is deliberately transitional but not merely provisional: it is intended to make the existing legal competences operate as one programme.

5.3 On the GST Precedent, Stated Precisely

The concept note for this report compares the proposed committee with the precedents used for GST implementation. The comparison is sound in spirit but requires precision. The Empowered Committee of State Finance Ministers, constituted in July 2000 and reconstituted in August 2004,

was a Centre–State coordination body: its members were the Finance Ministers of the States and Union Territories, not the Union ministries with a stake in the reform. Its value as a precedent lies in demonstrating that a non-statutory, executively constituted committee can carry sufficient political weight, sustained over more than a decade, to produce a binding constitutional amendment, the Constitution (One Hundred and First Amendment) Act, 2016, and a permanent constitutional body, the GST Council under Article 279A. An Empowered Committee can therefore operate credibly as a bridge between executive coordination and an eventual statutory or constitutional destination. The lesson is not that every future committee should copy the GST structure, but that a body without independent legislative power can nevertheless organise political commitment, technical work and institutional continuity until a more permanent legal settlement is possible.

What the SAF programme requires, however, is a body that coordinates Union ministries with one another, not a body that mediates between the Union and the States. The State-facing dimension of SAF delivery (namely, feedstock, land and State VAT) is comparatively narrow and is better addressed, in this report’s view, through the GST Council mechanism proposed in Chapter 3 than through a second Centre–State body. The closer domestic precedent for the specific coordination function SAF requires is the Group of Ministers mechanism, used repeatedly by the Union Cabinet for time-bound national missions. The report therefore recommends that the Empowered Inter-Ministerial Committee for SAF be constituted on the GoM model and formally serviced by a dedicated secretariat housed in the Ministry of Civil Aviation, rather than styled as a literal analogue of the Empowered Committee of State Finance Ministers, whose institutional

design answers a different constitutional problem. This distinction keeps the proposed body aligned with the work it must perform: synchronising Union decisions while using the appropriate constitutional forum for the State-linked issues that remain outside its remit.

5.4 Dispute Resolution and Political Accountability

The Committee’s Terms of Reference should expressly allocate responsibility for each category of dispute considered in Chapter 6 (including feedstock quality, offtake agreements and registry entries) so that a jurisdictional vacuum does not open between contractual arbitration, sectoral regulators and the Competition Commission of India as the SAF market scales. The Terms of Reference should identify the relevant forum without displacing contractual arbitration or any statutory appellate route. That allocation need not turn the Committee into an adjudicator; it should instead make clear which institution receives a complaint, which process applies and how an unresolved issue is escalated. For political accountability, this report endorses the concept note’s proposal of an annual SAF Implementation Scorecard tabled in Parliament, on the model of annual reports already laid before Parliament by regulatory bodies such as the Petroleum and Natural Gas Regulatory Board. The Scorecard obligation should, however, be placed on the face of the mandate legislation proposed in Chapter 2, rather than left as a voluntary practice of the Committee, so that its continuation survives any future restructuring of the coordinating body. A reporting duty framed in that way would preserve institutional memory, allow Parliament to test delivery against the stated milestones and make responsibility visible beyond the life of any one executive arrangement.

Disputes and Enforcement

The Question

Can India's existing legal and regulatory remedies adequately address the disputes that may arise across the SAF value chain, or will the convergence of contractual, competition, environmental, consumer and securities risks require a more coherent enforcement architecture?

In This Chapter

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India's developing sustainable aviation fuel ("SAF") market presents a myriad of legal risks which, although familiar individually, converge unusually in this sector. A single instance of market conduct, such as denying infrastructure access to an independent SAF producer or disseminating unsubstantiated environmental claims about SAF, can trigger exposure under contract or arbitration law, the Competition Act, 2002;¹ consumer protection legislation, and securities disclosure regulation. Thus, these overlapping dimensions of the same underlying commercial and regulatory reality are not being analysed in silos.

Consider a scenario in which a SAF producer overstates the lifecycle greenhouse gas ("GHG") reduction attributable to its product. This singular factual matrix may give rise to: (i) a contractual misrepresentation claim by an airline that purchased SAF credits based on the overstated figure; (ii) action by the Central Consumer Protection Authority ("CCPA") or a consumer for a misleading advertisement under the Consumer Protection Act, 2019;² (iii) SEBI enforcement proceeding for material misstatement in BRSR filings; and (iv) the Competition Commission of India ("CCI") complaint if the misrepresentation forms part of a broader strategy to foreclose competitors.

The nascent character of the Indian SAF market amplifies these risks. Infrastructure is concentrated among a small number of Oil Marketing Companies ("OMCs"); feedstock supply

chains are immature and contested; regulatory frameworks, including blending mandates, certification requirements, and sustainability disclosure obligations continue to remain under development; and participants are facing pressure to make ambitious environmental claims to attract investment and secure offtake commitments. These conditions not only increase the likelihood of disputes but also of dominance abuses, coordination crossing into cartelisation, and inadequately substantiated environmental marketing.

6.1 Dispute Forum and Enforceability Architecture

The Indian SAF market is expected to generate diverse disputes as it matures. They will arise across the value chain, from feedstock procurement through production, blending, distribution, end-use, and trading environmental attributes. The choice of forum and enforceability of the resulting award or judgment will be critical to the commercial viability of SAF transactions and international participants' willingness to invest in or contract with Indian counterparties.

6.1.1 Categories of Dispute in the SAF Market

Four broad dispute categories are likely to predominate as the Indian SAF market develops with each having its distinct characteristics and a direct bearing on choice of forum and drafting of dispute resolution provisions.

¹ Competition Act, 2002 (Act No. 12 of 2003).

² Consumer Protection Act, 2019 (Act No. 35 of 2019).

Feedstock quality and supply-contract disputes. Feedstock quality is fundamental to the certification and commercial value of SAF. UCO, ethanol, and agricultural residues must meet specifications for the resulting fuel to qualify under applicable sustainability schemes, such as the International Sustainability and Carbon Certification (“ISCC”) or the Roundtable on Sustainable Biomaterials (“RSB”). Disputes may concern UCO purity, ethanol grade, contaminated consignments, or short delivery. They will often turn on laboratory results, technical specifications incorporated into supply contracts, and allocation of risk for non-compliant feedstock. Given their technical nature, well-drafted feedstock-supply agreements should include expert-determination clauses and independent laboratories for testing.

Offtake and long-term purchase agreement disputes. The capital-intensive nature of SAF facilities requires long-term offtake commitments from airlines and other purchasers. These agreements typically contain complex price-adjustment mechanisms linked to feedstock costs, government incentives, and international SAF benchmarks, as well as volume commitments and take-or-pay provisions. Disputes may arise when an offtaker seeks to avoid its volume commitment after a downturn in air traffic or change in blending requirements, when price-adjustment mechanisms produce commercially untenable outcomes, or when force majeure disrupts supply. Because these contracts often run ten to fifteen years, changed circumstances are likely to generate disputes.

Book-and-claim registry entry disputes. The book-and-claim model, which decouples SAF’s environmental attributes from physical fuel for separate trading, creates another dispute category. Ownership disputes may arise when parties make competing claims over the same batch or challenge a

registry entry. Double counting, where more than one party claims the same GHG reduction, is a particular risk without robust registry infrastructure. Registry-operator liability for erroneous entries, registration delays, or system failures is another concern. These disputes engage contract law (registry participation terms), property law (the nature of rights conferred by a registry entry), and potentially tort law (the duty of care owed by the operator).

CORSIA-linked cross-border transaction disputes. India’s participation in the Carbon Offsetting and Reduction Scheme for International Aviation (“CORSIA”), administered by the International Civil Aviation Organization (“ICAO”), adds a cross-border dimension to SAF disputes. Eligibility disputes may arise when a foreign regulator challenges an Indian SAF batch for failing CORSIA sustainability criteria. Whether credits issued under an Indian certification scheme are recognised for CORSIA compliance in another jurisdiction is another potential dispute. These matters may engage bilateral aviation agreements and require analysis of Indian domestic law alongside the CORSIA framework.

6.1.2 Choice of Forum

The choice between arbitration and litigation before statutory tribunals or courts is a threshold question for SAF disputes. Several considerations favour arbitration as the primary mechanism, particularly for cross-border transactions.

Domestic arbitration. The Arbitration and Conciliation Act, 1996 (“Arbitration Act”) provides an established framework for domestic arbitration. For disputes between Indian parties, such as a domestic SAF producer and an Indian OMC, institutional arbitration under Mumbai Centre for



³ Arbitration and Conciliation Act, 1996 (Act No. 26 of 1996), as amended by the Arbitration and Conciliation (Amendment) Act, 2015 (Act No. 3 of 2016) and the Arbitration and Conciliation (Amendment) Act, 2019 (Act No. 33 of 2019).

International Arbitration (“**MCIA**”) or Delhi International Arbitration Centre (“**DIAC**”) rules offers confidentiality, technical or energy-sector expertise, and greater speed than regular courts. The 2015 and 2019 amendments strengthened the framework by introducing award time limits (Section 29A), narrowing grounds for setting aside awards (Section 34), and streamlining enforcement.

International arbitration. For cross-border SAF transactions, including feedstock imports, international offtake agreements, and CORSIA-linked credit transactions, arbitration under International Chamber of Commerce (“**ICC**”), Singapore International Arbitration Centre (“**SIAC**”), or London Court of International Arbitration (“**LCIA**”) rules is likely to be preferred. The New York Convention, as implemented through Part II of the Arbitration Act, supports enforcement of foreign awards in India, although Indian courts’ approach to the “public policy” ground for resisting enforcement (Section 48(2)(b)) remains a negotiating point.

Interaction with sectoral regulators. A significant complication in SAF is the interaction between arbitral jurisdiction and the exclusive or concurrent jurisdiction of sectoral regulators. The Directorate General of Civil Aviation (“**DGCA**”) regulates aviation fuel specifications and blending mandates; the Petroleum and Explosives Safety Organisation (“**PESO**”) regulates storage and handling of petroleum products, including aviation fuel; the Bureau of Indian Standards (“**BIS**”) sets product-quality standards; and the Central Pollution Control Board (“**CPCB**”) administers environmental compliance. As discussed in the preceding chapters, these regulators have enforcement powers that may overlap with contractual dispute-resolution mechanisms. Where a dispute engages a regulator, such as whether a SAF product meets BIS standards, the issue is whether it is arbitrable or falls within the exclusive jurisdiction of the regulator or a statutory tribunal.

Arbitrability. The Supreme Court of India’s decision in *Vidya Drolia v. Durga Trading Corporation*⁴ established a four-fold test: whether the dispute concerns rights *in rem* or *in personam*; is reserved exclusively for a public forum; is expressly or impliedly non-arbitrable under the governing statute; or is non-arbitrable on public-policy grounds. Most commercial SAF disputes, including feedstock quality, price adjustment, and volume commitments, will likely be arbitrable. Disputes

concerning regulatory compliance, such as whether a facility holds valid BIS certification or a PESO licence, may not be. Drafting should carve regulatory-compliance disputes out of the arbitration clause while preserving arbitral jurisdiction over their commercial consequences.

Institutional versus ad hoc arbitration. Institutional arbitration is generally preferable in India’s SAF context. Institutions can more readily appoint arbitrators with expertise in aviation fuel chemistry, lifecycle analysis, or carbon-credit markets; their rules support efficient case management for complex, multi-party disputes; and the 2015 Arbitration Act amendments have narrowed judicial interference, reinforcing award finality.

6.1.3 Key Issue: Drafting Considerations for SAF Offtake and Feedstock-Supply Agreements

SAF’s distinctive features create drafting considerations that are novel or more important than in conventional fuel-supply agreements. The following sub-sections address the principal areas.

Governing law selection. Indian law is the natural choice for purely domestic SAF transactions. For cross-border transactions, the choice is more nuanced. A foreign SAF producer supplying feedstock or finished SAF to an Indian offtaker may prefer its own law or a neutral system, such as English or Singapore law. The Indian counterparty may insist on Indian law to ensure consistency with domestic requirements, including blending mandates, BIS specifications, and DGCA requirements. A compromise may apply Indian law to regulatory-compliance issues and foreign law to commercial terms, but split governing laws create their own difficulties and are generally disfavoured.

Seat of arbitration. The choice of seat affects the curial law and scope of judicial review. The Supreme Court’s distinction between “seat” and “venue”, clarified in *BGS SGS Soma JV v. NHPC Ltd.*⁵ and subsequent decisions, establishes that a designated seat confers exclusive supervisory jurisdiction on its courts. An Indian seat, typically Mumbai or New Delhi, is standard for domestic SAF transactions. For cross-border transactions, an Indian or offshore seat, commonly Singapore or London, will depend on bargaining power and the parties’ assessment of Indian courts’ approach to setting-aside applications.

⁴ *Vidya Drolia v. Durga Trading Corporation* (2021) 2 SCC 1.

⁵ *BGS SGS Soma JV v. NHPC Ltd.* (2020) 4 SCC 234.

Expert-determination clauses for quality and quantity disputes. Given the technical nature of feedstock-quality and SAF-specification disputes, agreements should include expert determination as the first tier of dispute resolution. They should specify: (i) the appointing authority, typically an independent laboratory accredited by the National Accreditation Board for Testing and Calibration Laboratories (“NABL”); (ii) testing protocols, referencing relevant BIS or ASTM standards; (iii) sampling and chain-of-custody requirements; (iv) whether the determination is binding or non-binding, with the latter preserving a right to arbitrate; and (v) cost allocation. The process should operate within a compressed timeframe so commercial operations are not delayed.

Force majeure and supply-disruption provisions. The SAF market faces supply-disruption risks that warrant careful force majeure drafting. In addition to conventional events, such as natural disasters, war, and pandemics, SAF-specific events may include: regulatory changes to blending mandates, where a lower mandate could eliminate the commercial rationale for a long-term offtake agreement; feedstock export restrictions, including a government ban on UCO or ethanol exports; infrastructure failures at airport fuel farms or blending facilities; and withdrawal or suspension of sustainability certification by ISCC, RSB, or another approved body. Clauses should address notice, mitigation, the period before termination rights arise, and risk allocation during force majeure, including whether take-or-pay obligations are suspended.

Hardship and price-reopener clauses. Feedstock price volatility is a significant SAF-market risk. Indian UCO prices have fluctuated substantially, driven by biodiesel competition, export demand, and supply-chain disruptions. Long-term offtake agreements should include hardship or price-reopener clauses allowing either party to request renegotiation if feedstock costs move beyond a specified range. The ICC Hardship Clause or UNIDROIT Principles-style formulations may provide useful precedents, adapted to the SAF market. The drafting challenge is to define the trigger precisely enough to deter frivolous invocation while protecting against commercially devastating cost movements.

Overblending, Underblending, and Rolling Account Adjustments. Where SAF is blended above or below the mandated percentage, the resulting deviation raises distinct but overlapping exposures. Underblending may constitute non-compliance with the blending mandate and, if marketed as compliant, a misleading environmental claim engaging

the greenwashing framework discussed in Section 6.3.1. Overblending, conversely, may generate an unsubstantiated price premium if the additional cost is passed on without corresponding environmental substantiation. In either case, the blend variance will affect feedstock consumption, certification volumes, and the environmental attribute recorded in any book and claim registry. Given that SAF and conventional ATF are physically co-mingled and priced differently, offtake and supply agreements should provide for a rolling account mechanism under which bimonthly accounts are settled on balance of account, with price adjustments reflecting the actual blend ratio delivered, verified against metered or laboratory confirmed blending records. This mechanism would prevent cumulative pricing mismatches from crystallising as disputes and would provide an auditable trail linking the price charged to the environmental claim made.

Termination triggers linked to certification withdrawal or regulatory non-compliance. SAF offtake agreements should address certification withdrawal or suspension. If a producer’s ISCC or RSB certification is withdrawn, its SAF may no longer qualify for CORSIA or blending-mandate obligations, making the agreement commercially purposeless for the buyer. The agreement should state whether withdrawal is an automatic termination event, a termination-for-cause event requiring notice and a cure period, or a suspension event. Similar provisions should address regulatory non-compliance, such as loss of a PESO licence by a blending facility or revocation of a DGCA approval.

6.1.4 Recommendations for Dispute Resolution and Contract Drafting

Use institutional arbitration for domestic transactions. Adopt institutional arbitration with an Indian seat, typically Mumbai or New Delhi, for domestic SAF agreements. Select rules that support specialist arbitrators, efficient case management, and enforceable interim relief.

Use tiered dispute resolution. Require expert determination by an accredited laboratory for feedstock quality and quantity disputes, followed by arbitration for unresolved commercial issues, with short deadlines to avoid operational delays.

Draft SAF-specific force majeure and hardship clauses. Address mandate changes, feedstock export restrictions, infrastructure failures, certification events, and defined price-reopener triggers, with notice, mitigation, suspension, and

termination mechanics.

Link termination rights to certification. Treat withdrawal or suspension of ISCC, RSB, or other required certification as a defined termination, suspension, or cure event, and specify its effects on delivery, payment, volume, and indemnity obligations.

Carve out regulatory-compliance disputes. Exclude questions reserved to DGCA, PESO, BIS, CPCB, or statutory tribunals from arbitration, while preserving arbitral jurisdiction over contractual and financial consequences.

6.2 Competition Law Risk in a Nascent, Infrastructure-Constrained Market

The Indian SAF market's high entry barriers, concentrated infrastructure ownership, scarce feedstock, and small number of vertically integrated incumbents create fertile ground for competition-law concerns. This section examines three principal risks: OMC abuse of dominance over critical infrastructure, cartelisation in joint feedstock procurement, and CCI treatment of sustainability collaborations.

6.2.1 Abuse of Dominance

OMC control of airport fuel infrastructure. In India, ATF supply at airports is dominated by a small number of OMCs, principally Indian Oil Corporation Limited ("IOCL"), Bharat Petroleum Corporation Limited ("BPCL"), and Hindustan Petroleum Corporation Limited ("HPCL"). They own and

operate fuel storage, blending, and hydrant infrastructure at most major airports. This infrastructure is not readily replicable: airport fuel farms and hydrant systems require substantial capital, airport-authority approvals, and PESO compliance, while physical constraints limit the number of facilities at any airport.

An independent SAF producer seeking to supply airlines at a major Indian airport must generally obtain access to OMC-controlled blending, storage, and into-plane infrastructure. Denial, discriminatory terms, or prohibitive charges create an effective barrier to entry. This is the type of conduct Sections 4 and 19 of the Competition Act, 2002⁶ are designed to address.

Sections 4 and 19 of the Competition Act, 2002. Section 4 prohibits abuse of a dominant position, including unfair or discriminatory service conditions (Section 4(2)(a)), denial of market access (Section 4(2)(c)), and using dominance in one relevant market to protect or enter another (Section 4(2)(e)). Section 19 empowers the CCI to inquire into alleged Section 4 contraventions on its own motion, on a government reference, or on information from any person. An independent SAF producer denied airport fuel infrastructure could file information under Section 19(1)(a), alleging that the OMC's refusal abuses its dominance in infrastructure services at the relevant airport.

Relevant market definition. Defining the relevant market is critical to abuse-of-dominance analysis. The CCI must define the relevant product and geographic markets.⁷ In SAF, the product market is likely "aviation fuel storage, blending, and



⁶ Competition Act, 2002, Sections 4 and 19.

⁷ Competition Act, 2002, Section 2(r) (relevant product market) and Section 2(s) (relevant geographic market); see also the Competition Commission of India (General) Regulations, 2009.

hydrant services at airports”, rather than petroleum storage generally. Airport infrastructure is purpose-built and subject to aviation-specific PESO, BIS, and DGCA requirements. The geographic market is likely an individual airport or, at most, a cluster serving the same metropolitan area. This reflects that an airline operating from one airport cannot practically obtain fuel from another airport’s infrastructure.

Analogous CCI decisions. CCI decisions in other sectors offer guidance. In ports, the CCI has examined complaints by vessel agents and stevedores alleging unfair access conditions by port trusts.⁸ In telecom, it has considered denial of access to passive infrastructure, including towers, ducts, and fibre.⁹ In pipelines, discriminatory access to petroleum product pipelines has been investigated. These cases recognise that an essential-infrastructure owner may abuse dominance by denying competitors non-discriminatory access to a downstream or adjacent market. The airport fuel-infrastructure scenario is analogous, and a substantiated complaint by an independent SAF producer would, in the authors’ view, engage CCI jurisdiction.

Interaction with the third-party access framework. As discussed in Chapter 4.4, whether to mandate third-party access to airport fuel infrastructure is central to a competitive SAF market. Without such a regime, OMCs face greater scope for abuse, while individual SAF producers bear the cost and delay of CCI complaints. A clear regulatory access framework would reduce anticompetitive conduct and provide certainty, complementing the CCI’s *ex post* enforcement with *ex ante* obligations.

6.2.2 Cartelisation Risk in Joint Feedstock Procurement

The scarcity of suitable feedstock is a major constraint on India’s SAF market. UCO, the most available feedstock for the HEFA pathway, is collected through fragmented, largely informal supply chains. Ethanol faces competing demand from the road-transport blending programme. Agricultural residues require collection, aggregation, and pre-processing infrastructure that remains nascent. These conditions create strong incentives for SAF producers to cooperate in procurement through joint purchasing, shared collection networks, or aggregation platforms.

The line between legitimate aggregation and coordinated conduct. Section 3 of the Competition Act, 2002 prohibits anti-competitive agreements.¹⁰ Section 3(3) provides that horizontal agreements between enterprises in identical or similar trade, including agreements to fix purchase prices, limit production, or allocate markets, are presumed to have an appreciable adverse effect on competition.

The key question is whether joint procurement falls within Section 3(3) or can be justified as an efficiency-enhancing collaboration.

A joint purchasing arrangement could be characterised as price-fixing if producers agree on a common price for feedstock, market allocation if they divide geographic areas or sources, or output limitation if it restricts feedstock available to non-participants. Each characterisation triggers the Section 3(3) presumption. The arrangement may nevertheless generate efficiencies by reducing transaction costs, aggregating small supplies that would otherwise be commercially unviable, and developing quality-assurance and traceability systems. The CCI would weigh these efficiencies against anti-competitive effects under Section 19(3).

Horizontal agreements versus vertical restraints. Not all SAF-producer procurement arrangements are horizontal. A producer entering an exclusive supply agreement with a feedstock collector, under which the collector supplies only that producer, creates a vertical restraint under Section 3(4), not Section 3(3). Vertical restraints lack the presumption of appreciable adverse effect and are assessed under a rule-of-reason analysis. However, a network of exclusive agreements that forecloses competitors from a significant share of feedstock may still have an appreciable adverse effect. The distinction is therefore critical to assessing procurement risk.

Information exchange in feedstock procurement. Even without a formal joint purchasing arrangement, exchanging commercially sensitive information during procurement may raise competition concerns. Information on prices paid, volumes, supplier identities, and strategies may facilitate tacit coordination and reduce uncertainty. The CCI has recognised that information exchange can evidence a “concerted practice” under Section 3 even without a formal agreement. SAF producers should implement information barriers so legitimate cooperation does not enable coordination on

⁸ See, e.g., CCI orders in respect of major port trusts under Section 4 of the Competition Act, 2002.

⁹ See CCI decisions concerning access to telecom tower infrastructure under Section 4 of the Competition Act, 2002.

¹⁰ Competition Act, 2002, Section 3.

downstream pricing or output.

6.2.3 CCI Treatment of Sustainability Collaborations

SAF requires industry collaboration that may sit uneasily with competition law. Shared traceability platforms, joint offtake consortia, common sustainability standards, and coordinated certification can support a functioning ecosystem, but each involves competitor interaction that may resemble coordinated conduct.

Shared platforms and joint initiatives. A shared digital traceability platform tracking SAF's chain of custody from feedstock origin to end-use is necessary for credible sustainability claims and CORSIA compliance. It also requires competitors to share information about production volumes, feedstock sources, and supply-chain partners that would ordinarily be sensitive. A joint offtake consortium, in which airlines aggregate demand to support investment in a new SAF facility, similarly coordinates procurement volumes and potentially pricing.

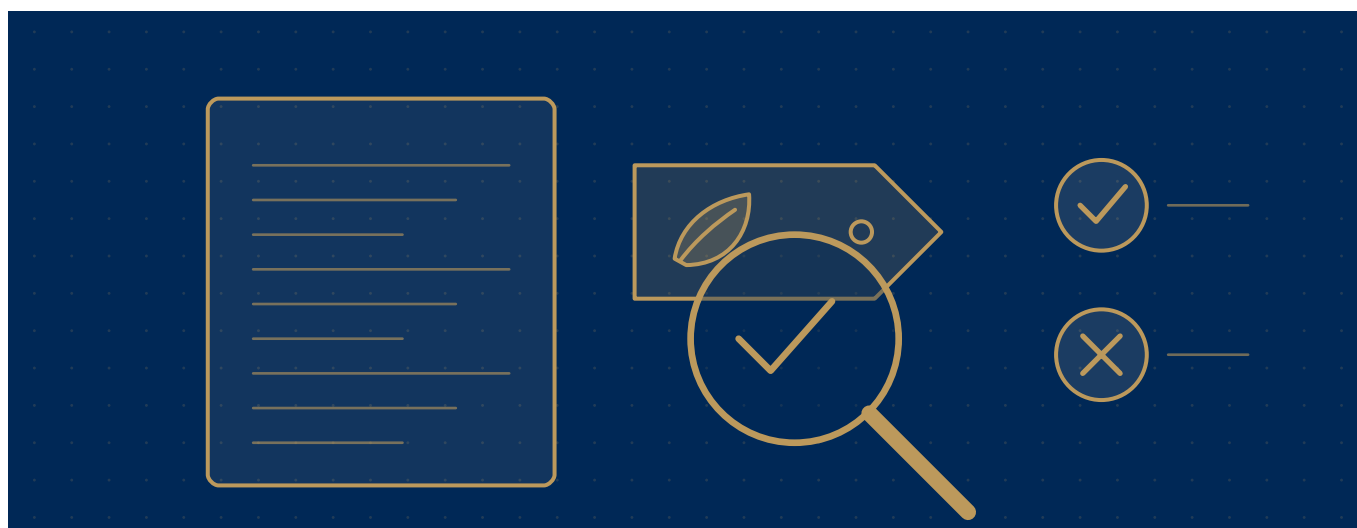
Recognising this tension, several jurisdictions have developed guidance or safe harbours for sustainability agreements. The European Commission's 2023 revised Horizontal Guidelines¹¹ include a chapter on sustainability agreements. They provide that agreements contributing to sustainability objectives, without restricting competition by object, may qualify for an exemption under Article 101(3) of the Treaty on the Functioning of the European Union ("TFEU")

if they generate quantifiable efficiencies, a fair share of which reaches consumers. The Guidelines also introduce a "soft safe harbour" for sustainability standardisation agreements meeting conditions including open participation, transparency, and no obligation to comply with the standard.

The United Kingdom's Competition and Markets Authority ("CMA") has published green-agreements guidance¹² on when environmental sustainability agreements between competitors are unlikely to infringe competition law. It identifies generally unproblematic agreements, such as sharing environmental information or adopting common standards that do not affect price, output, or other competitive parameters, and categories requiring closer assessment.

The need for CCI guidance. The CCI has not issued specific guidance on sustainability collaborations. SAF participants therefore face uncertainty when designing collaborative initiatives. The CCI should issue guidance, or the Central Government should consider a Section 54 block-exemption-style carve-out, clarifying when SAF sustainability collaborations will not attract enforcement. At a minimum, guidance should address:

- the information competitors may share through a common traceability platform without presuming coordinated conduct;
- the conditions under which joint airline offtake or SAF-producer feedstock procurement will be treated as efficiency-enhancing rather than anti-competitive;



¹¹ European Commission, Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements (2023/C 259/01), Chapter 9 (Sustainability Agreements).

¹² Competition and Markets Authority, Guidance on Environmental Sustainability Agreements between Competitors (2023).

- the treatment of common sustainability standards and certification requirements developed by industry consortia; and
- the interaction with the third-party access framework in Chapter 4.4, so collaborative infrastructure initiatives are not inadvertently chilled by competition-law uncertainty.

Until then, participants should assume that the CCI will apply Sections 3 and 4 and design collaborations with safeguards, including information barriers, independent governance of shared platforms, open participation, and no binding obligations on competitive parameters such as price or output.

6.2.4 Recommendations for Competition Law Compliance

Issue SAF-specific sustainability guidance. The CCI should publish guidance identifying permissible information sharing, joint offtake, feedstock procurement, traceability platforms, and common certification standards.

Consider a Section 54 block exemption. The Central Government should consider a targeted block exemption for sustainability collaborations that are open, transparent, independently governed, and do not bind price, output, or market allocation. **Implement information barriers.** SAF producers should separate procurement collaboration from competitively sensitive data, limit access to need-to-know personnel, and document permitted information flows.

Establish third-party infrastructure access. Regulators should create transparent, non-discriminatory rules for access to airport fuel storage, blending, and hydrant facilities, including pricing, capacity allocation, and dispute escalation.

Use open, independent industry platforms. Industry associations should design collaborative platforms with open participation, independent governance, transparent standards, and no obligations on pricing, output, or supplier allocation.

6.3 Greenwashing Exposure

Greenwashing, meaning misleading or unsubstantiated environmental claims, is an acute SAF-market risk. SAF's

premise is its environmental benefit: lower lifecycle GHG emissions than conventional jet fuel. If that benefit is overstated, unsubstantiated, or presented misleadingly, consequences extend beyond reputational damage. As this section shows, SAF greenwashing can create simultaneous liability under consumer protection, securities disclosure, and contract law, producing overlapping enforcement risk.

6.3.1 The Regulatory Framework for Environmental Claims

CCPA guidelines on misleading environmental claims.

The Central Consumer Protection Authority ("CCPA") has issued the Guidelines for Prevention and Regulation of Greenwashing, 2024¹³ ("**Greenwashing Guidelines**"), which establish a framework for substantiating environmental claims in advertising and marketing. They require claims to be truthful, specific, and supported by credible evidence; to disclose material information affecting consumer understanding; and to be presented without deceiving or misleading consumers. The Guidelines apply to all advertising, including digital marketing, product labels, and corporate communications. In the SAF context, the Greenwashing Guidelines directly govern claims such as "carbon-neutral flight," "sustainable fuel," and "net-zero aviation." Without adequate qualification and substantiation, each may mislead. "Carbon-neutral flight" implies no net GHG emissions, which SAF alone cannot establish because even 100% SAF does not eliminate all lifecycle emissions. "Sustainable fuel", without specifying the criteria satisfied, is vague and may imply no adverse environmental impact. The Guidelines require clear, accessible disclosure of the claimed benefit, calculation methodology, and claim limitations.

ASCI Code and its application to SAF marketing.

The Advertising Standards Council of India ("ASCI") Code for Self-Regulation in Advertising¹⁴ supplements the CCPA framework. It requires truthful, substantiated advertisements and evidence-based environmental claims. ASCI's Consumer Complaints Council ("CCC") adjudicates complaints, and although its decisions are not legally binding like CCPA orders, they carry reputational weight and may prompt CCPA action. SAF producers and airlines should comply with both the Greenwashing Guidelines and ASCI Code.

Consumer Protection Act, 2019.

The Consumer Protection

¹³ Central Consumer Protection Authority, Guidelines for Prevention and Regulation of Greenwashing, 2024.

¹⁴ Advertising Standards Council of India, The Code for Self-Regulation in Advertising.

Act, 2019¹⁵ provides the statutory framework for misleading advertisements and unfair trade practices. Section 2(28) defines “misleading advertisement” to include an advertisement that falsely describes a product, gives a false guarantee, or conveys a representation constituting an unfair trade practice. Section 2(47) includes false or misleading representations about the characteristics, suitability, or quality of goods or services. Under Section 18, the CCPA may investigate and act against misleading advertisements by ordering discontinuance, imposing penalties, and requiring corrective advertising. These provisions encompass SAF environmental claims and complement the Greenwashing Guidelines.

International comparators. India’s framework may draw on international experience. The EU’s proposed Green Claims Directive¹⁶ would require claims to be substantiated by recognised scientific evidence, based on lifecycle assessment, and independently verified before communication to consumers. The United States Federal Trade Commission’s (“FTC”) Green Guides¹⁷ provide detailed substantiation guidance, including for carbon offsets and renewable energy. The United Kingdom’s Competition and Markets Authority (“CMA”) Green Claims Code¹⁸ requires claims to be truthful and accurate, clear, substantiated, complete, fair and meaningful, and consistent with the product lifecycle. These frameworks offer useful precedents for India’s SAF regime.

Excess Pricing, Non-Passage of Savings, and the Wrong of Profiteering. The SAF market also faces exposure to the wrong of profiteering through excess pricing and non-passage of fiscal savings. Section 171(1) of the Central Goods and Services Tax Act, 2017 requires that any reduction in the rate of tax, or the benefit of input tax credit, be passed on to recipients by way of commensurate reduction in prices. This obligation is now enforced by the Competition Commission of India, which assumed the functions of the erstwhile National Anti-Profiteering Authority with effect from 1 December 2022. If the split taxation reform proposed in Chapter 3 is implemented and the SAF component enters the GST framework, the resulting removal of cascading VAT on excise and availability of input tax credit would oblige every supplier in the chain to pass on the cost reduction. Failure to do so would attract

anti-profiteering proceedings, penalties of up to 10% of the profited amount under Rule 133 of the CGST Rules, 2017, and an order to return the excess to recipients or to the Consumer Welfare Fund. Given the concentrated OMC control of airport fuel infrastructure discussed in Section 6.2.1, the conduct may simultaneously engage abuse of dominance proceedings under Section 4(2)(a)(ii) of the Competition Act, 2002, unfair trade practice liability under the Consumer Protection Act, 2019, and securities disclosure exposure under the SEBI framework where BRSR filings do not reflect the fiscal benefit actually received. Practitioners should include express contractual mechanisms for transparent benefit pass through, with audit rights and price adjustment triggers, in SAF offtake and supply agreements.

6.3.2 Interaction with SEBI’s BRSR Disclosure Regime

BRSR requirements for listed companies. SEBI requires listed companies to make Business Responsibility and Sustainability Reporting (“BRSR”) disclosures in their annual reports.¹⁹ The BRSR framework covers environmental performance, including energy use, Scope 1 and 2 GHG emissions, Scope 3 for BRSR Core reporters, water and waste management, and biodiversity impacts. Listed airlines and OMCs involved in SAF production or distribution must disclose claimed SAF benefits, including quantified GHG reductions.

Risk of divergence between BRSR disclosures and marketing claims. Greenwashing risk increases when marketing claims diverge from BRSR figures. An airline might market a route as “powered by sustainable aviation fuel” and claim a percentage GHG reduction while reporting a materially lower reduction from SAF in its BRSR filing. Different methodologies or reporting boundaries may explain the divergence, but it still creates liability. The marketing claim may be misleading under the Greenwashing Guidelines and Consumer Protection Act, while the BRSR disclosure may be challenged under SEBI’s enforcement framework.

BRSR Core framework and assurance requirements. SEBI’s BRSR Core framework applies to certain listed companies based on market capitalisation and requires reasonable assurance, rather than limited assurance, of specified

¹⁵ Consumer Protection Act, 2019 (Act No. 35 of 2019), Sections 2(28), 2(47), and 18.

¹⁶ Proposal for a Directive of the European Parliament and of the Council on Substantiation and Communication of Explicit Environmental Claims (Green Claims Directive), COM(2023) 166 final.

¹⁷ United States Federal Trade Commission, Guides for the Use of Environmental Marketing Claims (Green Guides), 16 CFR Part 260.

¹⁸ Competition and Markets Authority, Green Claims Code: Making Environmental Claims (2021).

¹⁹ SEBI Circular SEBI/HO/CFD/CMD-2/P/CIR/2021/562 dated 10 May 2021 (BRSR framework); see also SEBI Circular SEBI/HO/CFD/CFD-SEC-2/P/CIR/2023/122 dated 12 July 2023 (BRSR Core).

sustainability metrics. This increases verification rigour and liability if assured figures prove incorrect. Where a SAF-related GHG figure falls within reasonable assurance, the assurance provider, an auditor or sustainability assurance practitioner, acts as a gatekeeper. Material misstatement may expose both the company and provider to SEBI action.

Liability from inconsistent sustainability disclosures.

Multiple reporting and communication channels compound inconsistency risk. A listed airline may report SAF-related reductions in its BRSR filing, annual report, sustainability report, investor presentations, advertising, and website. Each is subject to a different regime, including SEBI regulations, the Companies Act, CCPA and ASCI rules, and contract law for commercial representations. Consistency requires a centralised process for calculating, verifying, and approving SAF claims.

6.3.3 Parallel Liability from a Single Instance of Non-Compliant Conduct

As noted in this chapter's introduction, a single overstated or misleading SAF claim can trigger liability under several legal regimes. This section examines each head of liability using the example of a producer that overstates its product's lifecycle GHG reduction.

Contract law: misrepresentation to a corporate SAF purchaser.

Where an airline purchases SAF or book-and-claim credits based on a producer's representation about lifecycle GHG reduction that proves materially overstated, the airline may claim misrepresentation under the Indian Contract Act, 1872.²⁰ If fraudulent, the contract is voidable at the airline's option and damages are recoverable. If not, it is voidable but damages are not recoverable as of right. In either case, the airline may seek rescission and restitution. If it relied on the representation to make downstream environmental claims to passengers or corporate clients, its own greenwashing exposure compounds the loss attributable to the producer.

Competition and consumer protection law: misleading advertisement action. If disseminated through advertising or marketing, the overstated claim may prompt CCPA action or a consumer complaint under the Consumer Protection Act, 2019. The CCPA may order discontinuance, impose a penalty of up to ten lakh rupees for a first contravention and up to

fifty lakh rupees for subsequent contraventions, and require corrective advertising.²¹ A misled consumer may complain to the relevant Consumer Disputes Redressal Commission and seek compensation. The overlap between contractual remedies for commercial counterparties and consumer remedies available to individuals or the CCPA creates multi-front exposure from the same conduct.

Securities disclosure law: SEBI enforcement for material misstatement in BRSR filings.

If a listed SAF producer includes the overstated figure in its BRSR filings, SEBI may act against material misstatement in periodic disclosures. The SEBI Act, 1992²² and SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015²³ ("LODR Regulations") require accurate, non-misleading disclosures. A material misstatement may violate the LODR Regulations and attract SEBI Act penalties. If it materially affects share price, investors may also claim under the SEBI Act's securities-fraud provisions and the SEBI (Prohibition of Fraudulent and Unfair Trade Practices relating to Securities Market) Regulations, 2003.

Convergence of liability. The simultaneous engagement of contract, consumer protection, and securities disclosure law by a single overstated SAF claim illustrates greenwashing's convergent risk. A producer may face contractual claims, CCPA or consumer complaints, and SEBI proceedings arising from the same conduct. Financial and reputational consequences can be severe, as can the cost of defending proceedings before arbitral tribunals, consumer commissions, and SEBI adjudicating officers.

6.3.4 Key Issue: Standardised, Legally Defensible SAF Environmental-Claim Language

Greenwashing risk can be materially reduced through standardised, technically rigorous, and legally defensible claim language. This sub-section addresses the principal elements of such a framework for India's SAF market.

Industry-standard claim terminology. India's SAF industry would benefit from approved claim formulations reviewed by legal, technical, and sustainability experts. Instead of vague or absolute claims such as "green fuel," "sustainable aviation," or "carbon-neutral flight," claims should be specific, quantified,

²⁰ Indian Contract Act, 1872 (Act No. 9 of 1872), Sections 17 (fraud) and 18 (misrepresentation).

²¹ Consumer Protection Act, 2019, Section 21.

²² Securities and Exchange Board of India Act, 1992 (Act No. 15 of 1992).

²³ SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015.

and qualified. For example: “This SAF product achieves a [X]% lifecycle GHG reduction compared to conventional jet fuel, as calculated under [specified methodology] and verified by [specified certification body].” This identifies the benefit, quantifies it, and states the methodology and certifying body, providing a verifiable basis. Industry bodies, in consultation with CCPA and DGCA, should develop approved formulations and a “red list” of inherently misleading or unsubstantiable claims.

The role of technical and sustainability certification.

Certification by recognised bodies, such as ISCC, RSB, or CORSIA-approved schemes, provides the strongest evidentiary basis for SAF environmental claims. It attests compliance with sustainability criteria, including feedstock eligibility, land-use requirements, and lifecycle GHG calculations. Valid certification can substantiate claims and reduce greenwashing risk. It is not a complete defence: a claim exceeding the certification’s scope, such as “zero-emission fuel” when it attests only a percentage reduction, may remain misleading.

Consequences of certification withdrawal or suspension.

Withdrawal or suspension of sustainability certification can affect more than compliance status. Under an offtake agreement, certification may be a continuing condition precedent or repeating warranty; withdrawal may trigger termination, volume adjustments, or indemnity obligations. It may also trigger notice obligations under product-liability or errors-and-omissions policies, and an insurer may seek to avoid coverage if it constitutes a known circumstance. A listed company must assess whether withdrawal is material information requiring disclosure under the LODR Regulations and promptly correct or withdraw marketing claims relying on the certification.

Recommendations for claim-verification protocols. SAF participants should implement internal protocols to verify environmental claims before publication. They should include:

- **Centralised claim approval:** All SAF-related environmental claims, whether for use in advertising, investor presentations, corporate reports, or commercial negotiations, should be subject to approval by a designated function (typically the legal, compliance, or sustainability team) to ensure consistency across all communication channels.

- **Methodological transparency:** Each claim should be accompanied by a documented record of the methodology used to calculate the claimed environmental benefit, including the lifecycle analysis methodology (e.g. CORSIA methodology, ISCC methodology, ISO 14040/14044), the system boundary, the allocation method, and the data sources.
- **Third-party verification:** Wherever practicable, quantified environmental claims should be subject to independent verification by a qualified third party (such as a sustainability assurance provider accredited under ISO 14064-3 or a certification body approved under a recognised sustainability certification scheme).
- **Periodic review:** Environmental claims should be reviewed at regular intervals (at least annually, or more frequently if there are material changes in the underlying data or methodology) to ensure that they remain accurate and substantiated. Claims that are no longer supported by current data should be promptly withdrawn or corrected.
- **Record retention:** Documentary evidence supporting each published environmental claim should be retained for a period sufficient to cover the applicable limitation periods under the Consumer Protection Act, 2019, the SEBI Act, 1992, and the Indian Contract Act, 1872, as well as any contractual claim periods under relevant offtake agreements.

These protocols do not guarantee immunity from greenwashing liability, but materially strengthen a participant’s defence if a claim is challenged. A systematic, documented, independently verified substantiation process is the most effective mitigation of the convergent risks identified in this chapter.

6.3.5 Recommendations for Greenwashing Risk Mitigation

Develop approved SAF claim formulations. Industry bodies should publish legally and technically reviewed formulations that quantify lifecycle GHG reductions, identify the methodology and certification, and avoid absolute claims.

Maintain recognised certification. SAF producers should maintain valid ISCC, RSB, or other recognised certification and treat it as the primary evidentiary basis for environmental claims, without exceeding its scope.

Centralise claim approval. Listed companies should use

one approval process across BRSR, marketing, investor communications, corporate reports, and commercial materials, supported by consistent data and methodology.

Protect offtake agreements. Agreements should include certification-withdrawal remedies, prompt disclosure obligations, claim-correction duties, and consequences for delivery, payment, volume, indemnity, and termination.

Issue CCPA guidance on claim language. The CCPA should publish SAF-specific examples of acceptable environmental claims, required qualifications, substantiation records, and claims that are inherently misleading.

This chapter has shown that disputes, competition law, and greenwashing risks in India's SAF market are interconnected, not isolated. The market structure that enables abuse of dominance also creates conditions for infrastructure-access disputes and greenwashing through unsubstantiated claims. The lack of standardised claim language likewise exposes producers to greenwashing liability, creates uncertainty for offtake counterparties, and increases contractual disputes. A holistic approach, combining sound dispute-resolution provisions, proactive competition-law compliance, and rigorous claim verification, is essential for participants navigating the Indian SAF market.

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