

Farmers' Guide to Carbon Market Contracts



Farmers' Guide to Carbon Markets

February 27, 2025

Written and edited by Stephen Carpenter and Lindsay Kuehn

Copiedited by Wendy Reid

This Guide, and any update to it, is available at: www.flaginc.org

To help FLAG keep family farmers on the land and to support farmers' guides like this one, please consider making a tax-deductible donation by clicking [here](#).

Farmer Legal Assistance Hotline: 877-860-4349

Farmers' Legal Action Group
6 West Fifth Street, Suite 650
St. Paul, Minnesota 55102
(651) 223-5400
lawyers@flaginc.org
www.flaginc.org



Scott W. Carlson
Executive Director | Attorney

Stephen Carpenter
Deputy Director | Senior Staff Attorney

Lindsay R. Kuehn
Senior Staff Attorney

Ben Apple
Staff Attorney

Lynn A. Hayes
Founding Attorney Emerita

Wendy Reid
Office & Grants Administrator

Dave Glenn
Financial Manager | Accountant



This guide was produced in partnership with the National Agricultural Law Center at the University of Arkansas System Division of Agriculture, which serves as the nation's leading source of agricultural and food law research and information. It is based on work supported by the National Agricultural Library, Agricultural Research Service, U.S. Department of Agriculture.

These materials are not attorney-client legal advice and are intended to only provide general legal information. Farmers and others with specific questions should consult an attorney for advice regarding their particular situation. With respect to any opinions, findings, conclusions, or recommendations expressed herein, Farmers' Legal Action Group, Inc., makes no warranty, express or implied, nor assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Users bear the sole responsibility for decisions affecting program participation and may want to consult other resources. This Guide may be reprinted for educational purposes as long as Farmers' Legal Action Group is credited when reprinting.

TABLE OF CONTENTS

	Page
Chapter One: Introduction	1
I. The Goal: An Informed Farmer Decision.....	1
II. Contracts, Lawyers, Reading	1
III. Farmers and Voluntary Carbon Market Contracts	1
IV. Climate Change and Focus on Carbon	1
V. Confusing Names and Terms	2
VI. The Approach of This Guide.....	2
VII. Footnotes and Sources for the Guide	3
VIII. Guide Current as of January 1, 2025.....	3
Chapter Two: The Logic of Carbon Contracts.....	4
I. Introduction	4
II. Carbon Credits	5
A. Focus on Carbon and Not Other Greenhouse Gases	6
B. Voluntary vs. Mandatory Markets	7
1. Mandatory Carbon Markets.....	7
2. Voluntary Carbon Markets.....	7
C. Offsetting Versus Insetting.....	8
III. Standards Used in Carbon Markets—Protocols.....	8
IV. Multiple Players in Carbon Markets and Their Tasks	9
A. Creators of Carbon Market Programs	9
B. Project Developers and Brokers	10
C. Farmers Who Sign Contracts	10
D. Technical Assistance Providers	11
E. Verification.....	11
F. Monitoring and Measurement	11
1. Direct Measurement Difficult	11
2. Sophisticated Sampling Possible but Seems Impractical	12
3. Process-Based Modeling	13
4. Future Possibilities.....	14
G. Carbon Registries.....	14
H. Price for Carbon Credit or Per Acre	14
I. Buyer of Carbon Credits	14
V. Carbon Markets Are a Bit of a Free-For-All.....	15

VI.	Pricing of Carbon Credit for Farmers.....	16
A.	Prices Not Public Information	16
B.	Prices Appear to Fluctuate	17
VII.	Uncertain Future of Carbon Markets: Optimism and Pessimism	18
A.	Optimism About Future Carbon Markets.....	18
1.	Many See “Bullish Growth” Ahead for Carbon Markets	18
2.	USDA Seems to Expect Carbon Market Growth	19
B.	Pessimism for Future of Carbon Markets.....	20
1.	Credibility in Carbon Markets	20
2.	Possible Reduced Demand for Carbon Contracts	22
	Chapter Three: General Contract Law	23
I.	Introduction	23
II.	Contracts and Parties Defined.....	24
III.	Some Important General Principles of Contract Law	24
IV.	State Law Usually Governs Contracts	25
A.	Contract Law Varies from State to State.....	25
B.	“Choice of Law” – the Contract May Pick a State Law to Govern	25
C.	State Law “Jurisdiction” and “Venue”	25
V.	Contracts Are Legally Binding.....	26
VI.	Duty to Read the Contract	26
VII.	Contracts are Often Binding Even If They Turn Out to Be Bad for a Party	26
VIII.	Some Contracts May Not Be Enforced – the Narrow Exceptions to the General Rule.....	27
A.	Capacity of the Parties	27
B.	Duress.....	28
C.	Undue Influence	28
D.	Misrepresentation.....	28
E.	Mistake.....	29
F.	Unconscionable Contracts.....	29
a.	Procedural Unconscionability.....	30
b.	Substantive Unconscionability	31
G.	Frustration of Contract.....	32
H.	Impossibility	32
I.	Impracticability.....	33
J.	Illegal or Violates Public Policy	34

IX.	Oral Contracts Can be Valid	34
X.	The “Statute of Frauds” – Some Contracts Must be Reduced to Writing.....	35
A.	Contracts for the Sale of Land or an Interest in Land	35
B.	Contract for the Sale of Goods, and for Lease of Goods	35
C.	Contracts That Cannot be Performed within One Year.....	36
D.	Other Contracts Within the Statute of Frauds.....	36
XI.	Negotiating a Contract: Offer and Acceptance	36
A.	Can Refuse to Agree.....	36
B.	Offers and “Revocation”	37
C.	Acceptance	37
D.	Rejection and Counteroffer	37
E.	Negotiating A Contract	38
XII.	“Consideration” Required for Contracts	38
A.	A Contract is an Exchange—Not a Gift	38
B.	Defining Consideration	39
C.	“Adequacy” of Consideration	40
XIII.	Allocating Risk	40
XIV.	Good Faith in Contracts.....	40
XV.	Reliance and the Law of “Promissory Estoppel”.....	41
XVI.	Contract Terms Must be Definite and Certain.....	42
XVII.	Interpreting the Contract.....	42
A.	Basic Rules for Interpreting the Contract	42
1.	Intent of the Parties.....	42
2.	The Terms of the Contract Itself Most Important.....	42
3.	Oral Statements and Other Written Materials: The Parol Evidence Rule and Integrated Agreements.....	43
a.	Parol Evidence Rule in General	43
b.	When Parol Evidence Rule Applies	43
c.	Integration Clauses	44
d.	Effect of Parol Evidence Rule.....	44
e.	After an Agreement is Made	45
4.	Other Information: Course of Performance, Course of Dealing, and Usage of Trade	45
XVIII.	Standardized Contracts and Contracts of Adhesion.....	45
A.	One Party Drafts Complete Contract	45

B.	No Chance to Negotiate	45
C.	Same Contract Used on Large Scale.....	46
D.	Contracts Include Considerable Detail – And Are Likely Not Understood by the Other Party	46
E.	Contracts Are from One Perspective – And Seem to Some One-Sided	46
F.	Generally Enforced	46
G.	Some Limits on Contracts of Adhesion.....	46
H.	Adhesion Contracts and Carbon Market Contracts.....	47
XIX.	Carrying Out the Contract: Good Faith.....	47
XX.	Default	48
XXI.	Contracts Can be Modified	48
XXII.	Termination of Contracts.....	48
Chapter Four:	The Language of Carbon Contracts.....	49
I.	Introduction	49
II.	Actual Language from Carbon Contracts	49
III.	Examples of Carbon Contract Language.....	49
A.	Entire Agreement.....	49
B.	Double Dipping.....	50
C.	Additionality Rules	51
D.	Length of Contract	51
E.	Leased Land	51
F.	Land Eligibility.....	52
G.	Practice Requirements.....	52
1.	Zero Tillage (No-Till)	52
2.	Improved Tillage	52
3.	Cover Cropping.....	52
4.	Nitrogen Management	53
5.	Pasture Management	53
6.	Buyer Services	53
H.	Access to Farm	53
I.	Measuring Sequestration of Carbon and Reduction in Greenhouse Gas Emissions.....	53
J.	Buffer Accounts and Holdback Acres.....	54
K.	Payment and Market Price	54
L.	Payments Not Guaranteed?.....	55

M. Contract Cancellation: Market Conditions? Sole Discretion?.....	56
N. Default by Farmers	56
O. May Provide Information and Advice—But Not Liable for It	57
P. Who Owns Data	57
Q. Acts of God	58
Chapter Five: Possible Changes for Carbon Market Contracts and Markets	59
I. Introduction	59
II. Voluntary Coordination of Markets	59
A. Examples of Current Voluntary Efforts	59
1. Integrity Council for Voluntary Carbon Market (ICVCM).....	59
2. Voluntary Carbon Market Integrity Initiative (VCMI)	60
3. Greenhouse Gas Protocol (GHGP)	60
4. Science Based Targets Initiative (SBTi).....	60
5. Carbon Disclosure Project (CDP)	60
6. Carbon Quality Credit Initiative (CCQI).....	60
III. Increased Government Role	60
A. Growing Climate Solutions Act	61
1. Purpose of Growing Climate Solutions Act	61
2. General Assessment Report	62
3. Greenhouse Technical Assistance Provider and Third-Party Verifier Program	62
4. Growing Climate Solutions Advisory Council	63
5. Prospects for the Future.....	64
B. Mandatory Carbon Markets	64
C. Research on Climate-Smart Farming	64
D. Future Government Actions Uncertain	65

Chapter One: Introduction

For the past few years farmers have had the opportunity to sign carbon market contracts. A number of businesses promote these contracts and actively seek out farmers to sign up. In a carbon market contract, a farmer agrees to adopt certain farming practices that are expected to keep carbon in the ground or draw carbon from the air into the soil. Under the contract, farmers are paid to adopt these practices. The details for how the carbon is captured by farming practices, how farmers are paid, and other important requirements are set out in the carbon market contract.

This Guide looks closely at those carbon market contracts from the farmer's perspective. The Guide does not take a view on whether carbon markets for farmers a good thing are or not and certainly not on whether any particular contract is a good option for a particular farmer. It does aim to describe how contracts actually work and notes some of the parts of contracts that farmers should understand before signing.

I. The Goal: An Informed Farmer Decision

The Farmers' Guide to Carbon Contracts is designed to help farmers understand carbon market contracts and make an informed decision about whether to agree to a carbon contract. In doing so, the Guide focuses on contract language and the meaning of that language. The Guide, therefore, does not look at whether any particular contract is a good deal. Instead, the aim is for farmers to have the information needed to make that decision for themselves.

II. Contracts, Lawyers, Reading

If a farmer is considering signing any contract with significant stakes—including a carbon market contract—it always makes sense to seek legal advice first. It is also important to read and understand the contract.

III. Farmers and Voluntary Carbon Market Contracts

The focus of this Guide is on farm and ranching practices that are included in carbon contracts. As is explained in Chapter Two that usually means what are often called voluntary carbon markets. In other words, for the agreements described here, the farmer always has the right to refuse to sign the contract. The logic for most carbon contracts presented to farmers is also voluntary in that no government policy requires that control of greenhouse gases. Whatever the origin of the carbon market—voluntary, such as when business wants to pay to reduce carbon in the air, or mandatory, where a government requires a reduction of greenhouse gases—for the farmer, carbon market contracts are always voluntary.

IV. Climate Change and Focus on Carbon

Climate scientists generally agree that the climate has been changing and that the activities of human beings are a cause of those changes.¹ The release of certain gasses—greenhouse gases—are thought to cause these changes. There are several greenhouse gases. The most important, according to scientists, is carbon, but others, such as methane, are also important greenhouse gases. The idea behind carbon contracts is traceable to the idea that if farming practices kept

¹ The Intergovernmental Panel on Climate Change (IPCC) (2025) discusses these issues in detail. See <https://www.ipcc.ch/>.

more carbon in the soil, this would be one way to reduce greenhouse gases in the atmosphere and minimize climate change.

Two important points about carbon and climate change should be noted. First, carbon contracts do not depend on the farmer believing that climate change exists, is important, or is due to human activity. The contract does not require the farmer to believe anything about climate change. Just as organic farmers are sometimes not quite sure that organic farming helps the environment, farmers signing carbon market contracts may well have doubts about the ecological thinking behind carbon contracts.

Second, although there are a number of greenhouse gases that can be released in agriculture, the focus of the contracts discussed is what scientists think is the most important greenhouse gas, carbon.

V. Confusing Names and Terms

Agricultural terminology can be challenging for anyone not using the terms often. Legal terms and theories about contracts can also be confusing. In those two cases, however, there is at least a standard way to name things and ideas—a heifer is a heifer, and legal terms, such as reliance, consideration, and so forth tend to have a standard meaning.

Carbon market terminology, unfortunately, is largely not settled. We have tried to use the most commonly used terms and note when other terms are also in use.

VI. The Approach of This Guide

This Guide does four main things in the next several chapters.

Chapter Two discusses general points about contract law that can be important for the carbon market and other contracts. The discussion is general because state laws have a great deal to say about how contracts work, and state law varies with each state.

In Chapter Three, the Guide discusses the market for carbon contracts and in particular how the whole carbon market system is set up.

Chapter Four of the Guide looks closely at language in actual carbon contracts and the likely meaning of that language.

In Chapter Five, the Guide discusses developments that could affect carbon market contracts in the fairly near future. The Chapter discusses two possibilities.

First, non-governmental organizations are attempting to set standards that might become common through the carbon market industry. If successful, these too could affect how carbon market contracts work in the future.

Second, government efforts could reshape carbon markets. Congress passed one set of reforms that could help regulate and organize carbon contract markets for farmers and provide technical assistance for farmers interested in carbon markets. It is also possible that the government could take dramatic steps to promote carbon markets. Research by the government into “climate smart” agriculture could change the opportunity for carbon markets significantly. The future of at least some of these efforts is in doubt under the Trump Administration.

VII. Footnotes and Sources for the Guide

This Guide uses footnotes to refer farmers to the sources used in writing the Guide. Those sources include federal and state statutes, the Federal Register, journalism, academic writing in books and articles, law reviews, government publications, and reports by independent organizations. They also include materials that discuss the law of contracts and other parts of the law that can be important. The footnotes cite shorter, one-volume discussions of contract law that would be understandable to a non-lawyer, especially with a dictionary available.² Longer, more lawyerly treatises that are often cited in court cases and thought to be authoritative and influential with courts, are also cited in places.³

The footnotes also include references to articles and reports about carbon markets and how they work. and articles that attempt to guide farmers in making decisions about carbon contracts.⁴

Where possible an internet link to sources cited is included.

Quotes from carbon contracts are from actual contracts. They are explained in Chapter Four.

VIII. Guide Current as of January 1, 2025

This Guide is current as of January 1, 2025. As will become clear in the Guide itself, carbon markets have changed rapidly in the few years since they were created. In addition, a number of groups are trying to shape carbon markets and their practices with voluntary agreements among the various players in carbon markets. Those efforts could yield changes that make some part of this Guide outdated. Finally, in recent months, there has been a flurry of government activity related to carbon markets. The nature of those efforts are described below. There has also been a change in Presidency in the United States that may well impact the future of carbon markets. To date, it is unclear exactly what those impacts might be, if any. As this landscape continues to change, it is possible that other parts of the Guide could become outdated.

² One-volume sources include: Claude D. Rohwer, Anthony M. Skrochi, and Michael P. Malloy, *Contracts in a Nutshell* (9th edition 2022); Marvin A. Chirelstein, *Concepts and Case Analysis in the Law of Contracts* (7th edition 2013); John D. Calamari and Joseph M. Perillo, *The Law of Contracts* (4th edition 1998); and *Black's Law Dictionary* (11th edition 2019).

³ Authoritative treatises include the *Restatement (Second) of Law, Contracts*; Arthur L. Corbin, *Corbin on Contracts* (Revised edition 1993, 16 volumes with various editors) (*Corbin on Contracts*); Samuel Williston, a *Treatise on the Law of Contracts* (4th edition 1990, Richard A. Lord) (*Williston on Contracts*).

⁴ This includes a lengthy report issued by USDA in October 2023: USDA, *Report to Congress: A General Assessment of the Role of Agriculture and Forestry in U.S. Carbon Markets*, Written in Support of the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program (October 2023), at <https://www.usda.gov/sites/default/files/documents/USDA-General-Assessment-of-the-Role-of-Agriculture-and-Forestry-in-US-Carbon-Markets.pdf>.

Chapter Two: The Logic of Carbon Contracts

I. Introduction

As noted in Chapter One, this Guide does not take a view on whether carbon markets for farmers are a good thing or not, and certainly does not take a view on whether any contract is a good option for a particular farmer.⁵ That said, a few background points about these markets are helpful for understanding how the markets work and what the contracts could be expected to accomplish.

There are many good sources that explain how carbon markets came to be, and quite a bit of writing discusses the entire industry.⁶ The scientific background behind carbon markets for agriculture is discussed in a number of places.⁷ Possible policies that address carbon capture are

-
- ⁵ Most of the agriculture world seems to endorse farmer carbon markets. Not every observer, however, thinks they should be expanded. For a discussion of concerns that markets will not effectively fight climate change and will promote social inequality, see Tara Ritter and Jordan Treakle, IATP and National Family Farm Coalition, *Why Carbon Markets Won't Work for Agriculture* (2020), at <https://www.iatp.org/documents/why-carbon-markets-wont-work-agriculture>. Other critics who see current carbon markets as “actually serving to enrich corporate power, increase the use of harmful chemicals, worsen social and racial inequalities, and forestall meaningful reforms.” This is true even though farmers could become a “big part of the solution to climate change by adopting certain farming practices that can take carbon from the air and store it in the ground.” Claire Kelloway et al, *Agricultural Carbon Markets, Payments, and Data: Big Ag's Latest Power Grab*, 2, 9-12 (March 2023), at <https://foe.org/resources/ag-carbon-markets-report/>. See, as well, Claire Kelloway, *Greenwashing Big Ag*, *Washington Monthly* (June 19, 2023), at <https://washingtonmonthly.com/2023/06/19/greenwashing-big-ag/>.
- ⁶ Discussions from a variety of viewpoints are available. Those not otherwise cited in this chapter include: Alex Procton, *On the Path to Maturity: 2024 State of the Voluntary Carbon Market*, *Ecosystem Marketplace* (2024), at <https://www.ecosystemmarketplace.com/publications/2024-state-of-the-voluntary-carbon-markets-sovcml/>; Robert Parkhurst et al, *American Farmland Trust, Agricultural Carbon Markets: From Program Chaos to Systems Change* (2023), at <https://farmlandinfo.org/wp-content/uploads/sites/2/2023/08/AFT-SVS-Agricultural-Carbon-Programs.pdf>.
- ⁷ See National Academies of Science, Engineering, and Medicine, *Negative Emissions Technologies and Reliable Sequestration: A Research Agenda*, 1-44, 247-318 (2019), at <https://nap.nationalacademies.org/catalog/25259/negative-emissions-technologies-and-reliable-sequestration-a-research-agenda>; D.A. Bossio et al, *The Role of Soil Carbon in Natural Climate Solutions*, 3 *Nature Sustainability* 391 (2020), at <https://www.nature.com/articles/s41893-020-0491-z>; Jerry Hatfield, CAST, *Potential for U.S. Agriculture to Be Greenhouse Gas Negative* (2024), at <https://cast-science.org/publication/potential-for-u-s-agriculture-to-be-greenhouse-gas-negative/>; Lisa Schulte Moore et al (eds.), *Carbon Science for Carbon Markets: Merging Opportunities in Iowa*, CROP 3175, Iowa State University (2024), at <https://store.extension.iastate.edu/product/Carbon-Science-for-Carbon-Markets-Emerging-Opportunities-in-Iowa>; Stefan Frank et al, *Enhanced Agricultural Carbon Sinks Provide Benefits for Farmers and the Climate*, 5 *Nature Food* 742 (2024), at <https://www.nature.com/articles/s43016-024-01039-1>; Megan Stubbs, *Congressional Research Service, Greenhouse Gas Emissions and Sinks in U.S. Agriculture* (2022), at <https://crsreports.congress.gov/product/details?prodcode=IF11404>; Megan Stubbs, *Congressional Research Service, Agriculture Soils and Climate Change Mitigation* (2020), at <https://crsreports.congress.gov/product/pdf/IF/IF11693/2>. Scientists have long been familiar with the potential role of farming practices as a possible strategy for capturing carbon. See Ray R. Weil and Fred Magdoff (eds.), *Significance of Soil Organic Matter to Soil Quality and Health*, 1, 5-9, *Soil Organic Matter in Sustainable Agriculture* (2004), at https://www.researchgate.net/publication/270162377_Significance_of_Soil_Organic_Matter_to_So

found in thoughtful discussions.⁸ While the ideas of economists and public policy professionals tend to dominate policy analysis, other interesting discussions are available and of interest.⁹

A number of the terms used within carbon markets are confusing, and different people often use different words to mean the same thing.¹⁰ We have tried to note these confusions and differences along the way in this Chapter.

II. Carbon Credits

A number of large corporations wish to claim that they are responsible for reducing the level of greenhouse gasses (GHGs)—in particular carbon—in the atmosphere. Instead of taking that action themselves, corporations sometimes choose to pay someone else to reduce the carbon. In exchange for reducing the carbon, in the context discussed here, the farmer is paid. The way the carbon capture is measured is by a “carbon credit.”¹¹ In general, in the carbon credit markets discussed in this Guide, a carbon credit is thought to be equal to one metric ton of carbon kept

[il Quality and Health](#). For scientific skepticism regarding agricultural carbon markets, see G. Cornelis van Kooten, Biological Carbon Sequestration and Carbon Trading Re-Visited, Working Papers 2008-4, University of Victoria Resource Economics and Policy Research Group (2008), at <https://ideas.repec.org/p/ags/uvicwp/37083.html>.

- ⁸ Discussions of the many policy issues are numerous. Those not otherwise cited in this Chapter include: Megan Stubbs et al, Agriculture and Forestry Offsets in Carbon Markets: Background and Selected Issues, Congressional Research Service (November 3, 2001), at <https://crsreports.congress.gov/product/pdf/R/R46956>; JunJie Wu, Optimal Design of Climate-Smart Policy for Agriculture: Economic Principles and Political Considerations, 38(4) Choices (2023), at <https://www.choicesmagazine.org/choices-magazine/theme-articles/agriculture-and-environmental-policy/optimal-design-of-climate-smart-policy-for-agriculture-economic-principles-and-political-considerations>; Philippe Delacote et al, Strong Transparency Required for Carbon Credit Mechanisms, 7 Nature Sustainability Review 706 (2024), at <https://www.nature.com/articles/s41893-024-01310-0>; Matthias Honegger et al, The ABC of Governance Principles for Carbon Dioxide Removal Policy, 4 Frontiers of Climate 884163 (2022), at <https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2022.884163/full>. See Jonathan D. Haskett, Greenhouse Gas Mitigation: CRS Projects (January 6, 2025), at <https://crsreports.congress.gov/product/pdf/R/R47254>; Peter H. Lehner et al, Farming Our Future: The Science, Law, and Policy of Climate-Neutral Agriculture, 111-204, (2022); Rena S. Miller et al, Voluntary Carbon Credit Markets and the Commodity Futures Trading Commission, Congressional Research Service (June 13, 2024), at <https://crsreports.congress.gov/product/pdf/R/R48095#:~:text=A%20carbon%20market%20generally%20refers,albeit%20unevenly%2C%20in%20recent%20years>.
- ⁹ See, for example, Julie Ingram et al, Contestations in the Emerging Soil-Based Carbon Economy: Towards A Research Agenda, 11(3) Sustainability Science (2025), at <https://link.springer.com/article/10.1007/s11625-024-01609-z>; and Sean Low et al, An Earth System Governance Research Agenda for Carbon Removal, 19 Earth System Governance (2024), at <https://www.sciencedirect.com/science/article/pii/S2589811624000041>.
- ¹⁰ Terminology is discussed in Allegra Dawes et al, Voluntary Carbon Markets: A Review of Global Initiatives and Evolving Models, Center for Strategic and International Studies, at 1-2 (May 2023), at <https://www.csis.org/analysis/voluntary-carbon-markets-review-global-initiatives-and-evolving-models>.
- ¹¹ Corporations reported to have offset emissions include American Express, BMW, FedEx, J.P. Morgan, Lenovo, Uber, Walmart, and Walt Disney. DGB Group, Bullish Growth Projections in the Carbon Market, at 4 (2024), at <https://www.green.earth/blog/bullish-growth-projections-in-the-carbon-market-1>. See, as well, Net Zero Stock Take 2024, Net Zero Tracker (2024), at <https://zerotracker.net/analysis/net-zero-stocktake-2024>.

in, or returned to, the ground.¹² In the end, the farmer is paid per carbon credit. In a way, therefore, a carbon credit is like a bushel of corn or soybeans, or a pound of milk, for farmers that raise corn or beans or milk cattle. The carbon credit represents what the farmer is accomplishing while farming and the farmer in the end is paid according to the number of carbon credits produced.

A carbon credit certifies that someone—in our case a farmer—took certain actions that captured carbon or reduced greenhouse gas emissions. That carbon credit is sold by the entity that grants the farmer the carbon credit. In the end, the large business has offset some of its greenhouse gas emissions by paying, indirectly, for a farmer to capture carbon. The farmer is ultimately the creator of the carbon credit by capturing carbon, and the large business entity is the buyer. In theory these actions make up for emissions that the business cannot or does not wish to cut from its own operations.

It is also possible that the payment to the farmer will be per acre.¹³ In the end, however, corporations buy carbon credits, or pay farmers by the acre, in order to make claims about a reduced carbon footprint.

A. Focus on Carbon and Not Other Greenhouse Gases

A number of possible voluntary market strategies to reduce greenhouse gases in agriculture are possible.¹⁴ Changes in rice production would reduce methane emissions, and some efforts have been made to reduce nitrous oxide in crop production. Contracts for farmers that might engage in such strategies appear not to be available at present and if existing are unusual.¹⁵ Efforts to reduce methane emitted by cattle through feed management appear not to be successful at present.¹⁶ Methane digesters are possible for livestock. Such projects have been concentrated in a few states and are not available to the vast majority of farmers.¹⁷ These greenhouse gas efforts are not discussed in this Guide.¹⁸ It focuses, instead, on carbon contracts.

¹² A metric tonne is about 2204 pounds, so it is about 204 pounds heavier than a United States ton. Michelle Perez et al, American Farmland Trust, *Top 10 Things you Wanted to Know About Ag Carbon Markets*, at 10 (2023), at <https://farmlandinfo.org/wp-content/uploads/sites/2/2023/11/AFT-top-10-things-about-ag-carbon-markets-guidebook.pdf>. For convenience, this Guide refers to tons.

¹³ Perez, American Farmland Trust, *Top Ten Things You Wanted to Know About Ag Carbon Markets*, at 26 (2023).

¹⁴ See USDA, Report to Congress: A General Assessment of the Role of Agriculture and Forestry in U. S. Carbon Markets, 22-25 (October 2023), at <https://www.usda.gov/sites/default/files/documents/USDA-General-Assessment-of-the-Role-of-Agriculture-and-Forestry-in-US-Carbon-Markets.pdf>; Perez, American Farmland Trust, *Ten Things You Wanted to Know About Ag Carbon Markets*, at 9 (2023).

¹⁵ USDA, *A General Assessment of Agriculture in Carbon Markets*, at 25-26 (2023).

¹⁶ USDA, *A General Assessment of Agriculture in Carbon Markets*, at 23-24 (2023).

¹⁷ Methane digestion projects are only for dairy or hog production. USDA, *A General Assessment of Agriculture in Carbon Markets*, at 22-23 (2023). They also seem viable for only the very largest operations.

¹⁸ For other inactive possibilities see USDA, *A General Assessment of Agriculture in Carbon Markets*, at 28 (2023).

B. Voluntary vs. Mandatory Markets

There are two general reasons that corporations would seek to claim they have reduced their carbon footprint. First, it could be that some form of government regulation is requiring it. Second, it could be that the corporation voluntarily wishes to make the claim. Each is discussed below. In either case the actual effort by the corporation can involve contracts with farmers.

1. Mandatory Carbon Markets

Mandatory carbon markets, sometimes called compliance carbon markets, are those that are required by a government. Such requirements exist in some places, but tend not to be the driving force behind carbon contracts for farmers.¹⁹ An example of a mandatory program includes California's Cap-and-Trade Program that involves, among other things, offsets from livestock digesters.²⁰ In recent years, mandatory carbon markets have become less prominent, and voluntary carbon markets have increased.²¹

2. Voluntary Carbon Markets

Corporations that wish to say that they are "carbon neutral" or that they have a reduced "carbon footprint" may buy carbon credits and participate in what are often called voluntary carbon markets. Voluntary carbon markets arise from the willingness of businesses to buy carbon credits without a government requirement.²²

Once a corporation has decided to reduce a carbon footprint, it could do so by reducing carbon as a part of its everyday business practices.²³ Reducing carbon emissions is often thought by the corporation to be so difficult or expensive that the corporation decides it is easier to pay someone else to capture carbon.

In theory, a corporation could pay others directly to reduce their use of carbon or to capture carbon and the corporation could claim credit for that reduction. Carbon markets arise because the company decides not to pay someone directly to reduce carbon but instead to buy a carbon credit. As noted above, a farmer, or someone else, can take steps to reduce carbon in the air, and for their trouble receive a carbon credit. The carbon credit then can be sold. The farmer, in theory, has reduced carbon in the atmosphere and is paid based on the carbon credit earned for that action. A corporation can then buy the carbon credit and claim to have reduced carbon in the air. This set of voluntary transactions has led to the creation of voluntary carbon markets.

¹⁹ For data on compliance and voluntary carbon markets for agriculture and other areas of the economy, see USDA, A General Assessment of Agriculture in Carbon Markets, at 17-18 (2023).

²⁰ USDA, A General Assessment of Agriculture in Carbon Markets, at 11 (2023).

²¹ USDA, A General Assessment of Agriculture in Carbon Markets, at 18 (2023).

²² Oranuch Wongpiyabovorn et al, Challenges to Voluntary Ag Carbon Markets, 45(2) Applied Economic Perspectives and Policy 1154 (2022), at <https://onlinelibrary.wiley.com/doi/full/10.1002/aep.13254#:~:text=While%20the%20current%20supply%20of,by%20all%20voluntary%20carbon%20oprograms>.

²³ Danick Trouwloon, Understanding the Use of Carbon Credit by Companies: A Review of the Defining Elements of Corporate Climate Claims, 7(4) Global Challenges (2023), at <https://onlinelibrary.wiley.com/doi/10.1002/gch.202200158>.

C. Offsetting Versus Insetting

In general, carbon contracts are thought to “offset” a corporation’s carbon emissions through paying someone else—who is outside of the corporation’s business structure—to reduce carbon emissions. As noted above, however, sometimes when a corporation hopes to be carbon neutral or have a lower carbon footprint it can reduce carbon emissions in its own operations. It can also negotiate with its suppliers to reduce their carbon emissions. Often the corporation pays the suppliers to do so. Sometimes this practice is called “insetting” carbon.²⁴ In farming, insetting is most often done by an agribusiness.²⁵ With insetting an input supplier or a grain buyer might agree to reduce their carbon emissions.²⁶

For example, Nespresso, a division of Nestle, has been claiming to use insetting within its value chain by planting three million trees in coffee plantations that supply it with coffee in Colombia, Guatemala, Ethiopia, and Costa Rica.²⁷

For a farmer insetting could mean that a purchaser of the farm’s products asks the farmer to reduce carbon emissions and pays the farmer to adopt these practices. While in some ways similar to carbon offsets, these insetting agreements are different enough from carbon contracts used to offset carbon emissions that they are not discussed specifically in this Guide. The general discussion of contracts in Chapter Three is still relevant to an insetting contract. In addition, it may be that an insetting agreement has similar contract language to that discussed in Chapter Four. In general, though, this Guide discusses carbon offsets and not carbon insets.

III. Standards Used in Carbon Markets—Protocols

Those creating and promoting carbon markets are in some ways starting from scratch, so they have been forced to create standards for all aspects of carbon markets.²⁸ What actions should farmers take under the contract? How much credit will be given for each action taken by the farmer? How will the farmer’s actions be verified? Each of these questions, and a number of others, must be answered. In general, the answers to these questions are often referred to as protocols.²⁹ They might also be called standards or methodologies. From the farmer’s point of view, the protocols are important because they set out what the farmer must do, how the actions

²⁴ See Richard Tipper et al, Is “Insetting” the New “Offsetting”?, Econometrica Press, Technical Paper TP-090413-A (April 2009); Alejandro Plastina et al, Iowa State University Extension and Outreach, How To Grow and Sell Carbon Credits in US Agriculture (2021, 2024), a <https://www.extension.iastate.edu/agdm/crops/pdf/a1-76.pdf>; USDA, A General Assessment of Agriculture in Carbon Markets, General Assessment, at 14; Perez, American Farmland Trust, 10 Things You Wanted to Know About Ag Carbon Markets, at 10-14 (2023); Trouwloon, Understanding the Use of Carbon Credits by Companies (2023).

²⁵ Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 10 (2023).

²⁶ Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 10 (2023); Illinois Sustainable Ag Partnership, An Overview of Carbon Market Opportunities for Illinois Farmers (2023), at <https://ilsustainableag.org/wp-content/uploads/2023/06/ISAP-Ecosystem-Markets-Comparison-Table-2023.pdf>.

²⁷ PUR Projects, Partners: Nespresso (2024), at <https://www.pur.co/partner/nespresso/>.

²⁸ Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 13-14 (2023).

²⁹ USDA, A General Assessment of Agriculture in Carbon Markets, at 9 (2023).

are verified, how and how much the farmer is paid, and so forth. The details of protocols are discussed in more detail below.

IV. Multiple Players in Carbon Markets and Their Tasks

There are a number of carbon markets at present.³⁰ Each involves a number of different actors. In general, however, each of the markets include entities that execute a number of tasks.³¹ Along with farmers are entities that decide what actions farmers must take to earn a carbon credit, offer the farmers a carbon contract, verify that the farmer followed the contract, calculate how much carbon is captured by these actions, and set up a market in which the carbon credits are sold. These various actions can be taken by the same business or by a number of them. Different entities sometime use their own invented terms for certain tasks and roles, and a different entity will sometimes call the same activity something else.³²

Like many other markets, in other words, there are many steps, many players, and many fingers in the pie. The importance of this point is discussed more below, but for now it is worth noting that if any of these businesses fail in their job, or go out of business, there is a risk of loss for someone involved.

Although there are any number of ways to organize a market for carbon credits, the following is a summary of common methods in use.³³

A. Creators of Carbon Market Programs

Creators of carbon market programs are generally some kind of a business entity—either for profit or nonprofit. Sometimes these creators are called “project developers” or “carbon market developers.”³⁴ It seems, however, that the term project developer is more commonly used for work described in the next section. The entity that creates a carbon market program generally creates protocols, or standards, to set what practices farmer should use, how to verify the work, how to measure the carbon credits, and how the carbon credit will be sold.

³⁰ Several writings describe the various markets and some of their similarities and differences. For a timeline of various efforts, see Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 12-13 (2023); Illinois Sustainable Ag Partnership, An Overview of Voluntary Carbon Markets (2023); Alejandro Plastina, Farm Foundation, The U.S. Voluntary Carbon Market: Where From Here, at 7, 10-19 (2022), at <https://www.farmfoundation.org/wp-content/uploads/2022/06/Farm-Foundation-Issue-Report-on-Agricultural-Carbon-Market.pdf>.

³¹ For a skeptical view of the efforts of a number of these “intermediaries” see Dufasne, Secretive Intermediaries: Are Carbon Markets Really Financing Climate Action? (2023), at <https://carbonmarketwatch.org/publications/secret-intermediaries-are-carbon-markets-really-financing-climate-action/>.

³² For a discussion of some terminology issues, see Dawes, Voluntary Carbon Markets: A Review, at 1-6 (2023).

³³ USDA, A General Assessment of Agriculture in Carbon Markets, at 13 (2023).

³⁴ USDA, A General Assessment of Agriculture in Carbon Markets, at 14 (2023); Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 9 (2023).

B. Project Developers and Brokers

Project developers market to farmers, sign up farmers, work with verifiers and carbon credit “registries,” and often work to sell the carbon credits.³⁵ Those playing this or similar roles are sometimes called “project aggregators.”³⁶ They may also be called “project managers.”³⁷ As a part of this task, brokers present contracts to farmers and do sales work for the contracts. They may also collect and manage farmer data. They are not actually buying the carbon credit and selling it directly to the large business that wants to be carbon neutral.

C. Farmers Who Sign Contracts

Farmers are presented with contracts that they may sign. Several publications provide a farmer perspective when discussing carbon markets.³⁸

As part of the contract, the farmer agrees to changes in farming practices that are designed to capture carbon. The contract controls the practices the farmer may use. Typical production practices required by carbon contracts would include reductions in tillage, the use of cover crops, and nutrient management.³⁹ Projects promoting grasslands and wetlands are also possible.⁴⁰

USDA notes that carbon contracts may not be equally available to all farmers.⁴¹ This can be true even among farmers that grow the same crops on similar soil. Given the significance

³⁵ USDA, A General Assessment of Agriculture in Carbon Markets, at 10, 13 (2023); Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 9 (2023); Dawes, Voluntary Carbon Markets, at 2 (2023).

³⁶ Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 11 (2023).

³⁷ Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 10 (2023).

³⁸ These include: Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets (2023); Illinois Sustainable Ag Partnership, An Overview of Carbon Market Opportunities (2023); Alejandro Plastina et al, Iowa State University Extension and Outreach, How To Grow and Sell Carbon Credits in US Agriculture (2021, 2024), a <https://www.extension.iastate.edu/agdm/crops/pdf/a1-76.pdf>; Alejandro Plastina, Farm Foundation, The U.S. Voluntary Carbon Market (2022); Alejandro Plastina et al, Iowa State University Extension and Outreach, Net Returns to Carbon Farming (2023), at <https://www.extension.iastate.edu/agdm/crops/pdf/a1-78.pdf>; United Soybean Board, Carbon Market Programs (2022), at <https://unitedsoybean.org/usb-carbon-toolbox/carbon-programs/>; Sarah Sellars et al, Weekly Farm Economics: What Questions Should Farmers Ask About Selling Carbon Credits? 11 Farmdoc Daily 59 (2021), at <https://farmdocdaily.illinois.edu/2021/04/what-questions-should-farmers-ask-about-selling-carbon-credits.html>. A shorter and significantly different analysis that includes much of the material in Chapter Three of this Guide is Stephen Carpenter and Lindsay Kuehn, Farmers’ Legal Action Group, Inc., Minnesota Department of Agriculture, Minnesota Farmers Union, Farmers’ Guide to Carbon Markets in Minnesota (2023), at https://www.mda.state.mn.us/sites/default/files/inline-files/Carbon%20Market%20Guide_FINAL%2012.23.22.pdf.

³⁹ USDA, A General Assessment of Agriculture in Carbon Markets, at 25 (2023); Kaiyi Zhang et al, Enhancing Agricultural Soil Carbon Sequestration: A Review with Some Research Needs, 12 Climate 151, at 4 (2024), at <https://www.mdpi.com/2225-1154/12/10/151>; Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 5, 21-22 (2023).

⁴⁰ USDA, A General Assessment of Agriculture in Carbon Markets, at 26-28 (2023).

⁴¹ USDA, A General Assessment of Agriculture in Carbon Markets, at 46 (2023).

of verification and other costs, in many cases carbon contracts likely will only be financially viable with very large acreages. As USDA notes, this viability issue is likely to affect opportunities for socially disadvantaged, limited resource, beginning, and veteran farmers.

D. Technical Assistance Providers

Farmers often can receive technical assistance from technical assistance providers.⁴² While often independent, some work directly for project developers or are directly affiliated with carbon programs in some way.⁴³

E. Verification

Often there are verifiers that check to make sure protocols are followed.⁴⁴ Verifiers will be interested to make sure that farmers take the actions described in the carbon contract. Verifiers may be, but are not necessarily, separate from the project developers or others involved in the carbon markets.⁴⁵ “Third party verification” means that the entity doing verification is independent of the entities that are running the carbon market.⁴⁶

F. Monitoring and Measurement

For carbon contracts that pay per ton of carbon captured, a central question for farmers is the amount of carbon each farmer is capturing as a result of changing farming practices. While all experts agree that climate-friendly farming captures carbon, the amount of carbon captured as a result of the farming changes is actually difficult to know. One might think that carbon market payments are based on actual measurement of carbon in the soil before and after the change in farming practices. This is not the case. Direct measurement of carbon captured on a farm is rare in carbon markets. The following paragraphs describe challenges for monitoring and measuring carbon capture.

1. Direct Measurement Difficult

Direct measurement of carbon capture for farming is complicated.⁴⁷ For agriculture, any number of aspects make measurement difficult and uncertain. Land and soil types,

⁴² Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 11 (2023).

⁴³ USDA, A General Assessment of Agriculture in Carbon Markets, at 10, 13 (2023).

⁴⁴ Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 10, 11 (2023); Plastina, Farm Foundation, U.S. Voluntary Agricultural Carbon Market, at 8-11 (2022).

⁴⁵ USDA, A General Assessment of Agriculture in Carbon Markets, at 10 (2023); Perez, American Farmland Trust, Ten Things You Wanted to Know About Ag Carbon Markets, at 11 (2023). USDA emphasizes the independence of these entities, but also acknowledges that verification is “usually” with the help of third party verifiers. Certainly, from the viewpoint of farmers, the verifiers should be independent.

⁴⁶ USDA, A General Assessment of Agriculture in Carbon Markets, at 37-38 (2023).

⁴⁷ USDA, A General Assessment of Agriculture in Carbon Markets, at 22-25 (2023); Kaiyi Zhang et al, Enhancing Agricultural Soil Carbon Sequestration: A Review with Some Research Needs, 12 Climate 151 (2024), at <https://www.mdpi.com/2225-1154/12/10/151>; Stephen M. Ogle et al, Policy Challenges to Enhance Soil Carbon Sinks: The Dirty Part of Making Contributions to the Paris Agreement by the United States, 14(1) Carbon Management, at 5-6 (2023), at <https://www.tandfonline.com/doi/pdf/10.1080/17583004.2023.2268071>; Keith Paustian et al, Climate-Smart Soils, 532 Nature 49, 54 (2016), at <https://www.nature.com/articles/nature17174>; A. Chatterjee et al, Evaluation of Different Soil Carbon Determination Methods, 28(3) Critical Reviews

for example, vary greatly from place to place, weather varies from place to place and year to year, and each affects carbon levels in soil.⁴⁸ More specifically, levels of carbon capture are influenced by “numerous forces” that include climate, vegetation, topography, soil type, soil depth, soil conditions, climate, freeze-thaw cycles, microbial activity, management history, and history of soil disturbance.⁴⁹ Further, variability in soil carbon capture is highly correlated to crop yields, which are themselves highly variable over time.⁵⁰

Even within the same field, variations occur in soil characteristics, wetness, and plant cover that affect carbon capture.⁵¹ As a result, carbon capture farming practices using the exact same practices would be “highly variable” over time and space.⁵² These differences appear to be quite large. As one scholar observes, if the amount of carbon in the soil is calculated by sampling, “there will be a year-to-year spatial variability as it is effectively impossible to sample exhaustively.”⁵³

2. Sophisticated Sampling Possible but Seems Impractical

Sophisticated selective soil sampling, sensors on site, and remote sensing, including satellite mapping could, in theory, measure carbon capture accurately.⁵⁴ As USDA notes, however, outside of research efforts, “it is cost-prohibitive and impractical to directly measure . . . carbon storage from agricultural” activities.⁵⁵ As a result, these measurement methods are expensive and labor intensive and are not used for current markets.⁵⁶

in *Plant Sciences* 164 (2009), at

<https://www.tandfonline.com/doi/abs/10.1080/07352680902776556>; Changcheng J. Wongplabovorn et al, *Agricultural Soils and the Quest for Net Zero Emissions*, 389(4), *Choices*, at 2-3 (2023), at https://ageconsearch.umn.edu/record/338586/files/cmsarticle_878.pdf; JunJie Wu, *Optimal Design of Climate-Smart Policy for Agriculture: Economic Principles and Political Considerations*, 38(4) *Choices* (2023); G. Kornelis van Kooten et al, *Biological Carbon Sequestration and Carbon Trading Revisited*, Working Papers, 2008-04, University of Victoria, at <https://ideas.repec.org/p/rep/wpaper/2008-04.html>.

⁴⁸ USDA, *A General Assessment of Agriculture in Carbon Markets*, at 34 (2023).

⁴⁹ Zhang, *Enhancing Agricultural Soil Carbon Sequestration*, at 7 (2024); Fei, *Agricultural Soils and the Quest for Net Zero Emissions*, at 2 (2023).

⁵⁰ Zhang, *Enhancing Agricultural Soil Carbon Sequestration*, at 7 (2024).

⁵¹ Zhang, *Enhancing Agricultural Soil Carbon Sequestration*, at 7 (2024).

⁵² Man-Keun Kim et al, *Uncertainty Discounting for Land-Based Carbon Sequestration*, 41(1) *Journal of Agricultural and Applied Economics* (2009), at <https://econpapers.repec.org/article/agsjoaec/48754.htm>; Fei, *Agricultural Soils and the Quest for Net Zero Emissions*, at 3 (2023).

⁵³ Zhang, *Enhancing Agricultural Soil Carbon Sequestration*, at 7 (2024).

⁵⁴ USDA, *A General Assessment of Agriculture in Carbon Markets*, at 39 (2023); Zhang, *Enhancing Agricultural Soil Carbon Sequestration*, at 7 (2024); Kim, *Uncertainty Discounting for Land-Based Carbon Sequestration* (2024).

⁵⁵ USDA, *A General Assessment of Agriculture in Carbon Markets*, at 39 (2023).

⁵⁶ USDA, *A General Assessment of Agriculture in Carbon Markets*, at 39 (2023); Manon Castagne et al, *Carbon Markets and Agriculture: Why Offsetting is Putting us on the Wrong Track*, Institute for Agriculture and Trade Policy (2020), at <https://www.iatp.org/carbon-markets-and-agriculture>; Wongpiyabovorn, *Challenges to Voluntary Ag Carbon Markets (Introduction)* (2022); Theodora Angelopoulou, *Remote Sensing Techniques for Soil Organic Carbon Estimation: A Review*, 11(6) *Remote Sensing* (2019), at <https://www.mdpi.com/2072-4292/11/6/676>.

3. Process-Based Modeling

In general, when it comes to measuring carbon sequestration in the farmer's land, no one comes around to the farm and measures carbon captured before the farmer makes changes, and then does the same measurement after the farmer has made the actions called for in the contract. There may be some limited sampling on the farm.⁵⁷ More important in carbon markets, however, are what are known as “dynamic models” or “process-based modeling.”⁵⁸ These are basically mathematical formulas, based on certain assumptions, that estimate how much carbon is captured. Modeling is widely used in carbon market programs.

The entity that does the modeling faces technical difficulties in measuring carbon capture. As a result, as USDA describes it, “many protocols apply conservative adjustments in order to avoid overstating the [greenhouse gas] benefits.”⁵⁹ The conservative assumptions “systematically underestimate the total [greenhouse gas] reductions and removals associated” with the carbon contract. As USDA notes, this conservatism in measuring carbon capture results in fewer carbon credits being issued and “lower incentives” for farmers who might participate in carbon projects. In addition, entities engaged in modeling use “an array of strategies to mitigate the risk and uncertainty arising from quantification difficulties.”⁶⁰ This can include incorporating a discount that reduces the total carbon calculated to be captured.⁶¹ Further, some carbon models incorporate “buffer pools” that reduce the level of carbon otherwise credited to the farmer.⁶²

⁵⁷ USDA, A General Assessment of Agriculture in Carbon Markets, at 32, 35, 39-41 (2023); Stefan Frank et al, Improved Modeling of Carbon Sequestration Potential on Agricultural Land, 5 *Nature Food* 809 (2024), at <https://www.nature.com/articles/s43016-024-01056-0>; Agniva Mandal et al, Impact of Agricultural Management Practices on Soil Carbon Sequestration and Its Monitoring Through Simulation Models and Remote Sensing Techniques: A Review, 52(1) *Critical Reviews in Environmental Science and Policy* (2022), at <https://www.tandfonline.com/doi/abs/10.1080/10643389.2020.1811590>; USDA, A General Assessment of Agriculture in Carbon Markets, at 39 (2023).

⁵⁸ An optimistic account of the role of modeling is Keith Paustian et al, Quantifying Carbon for Agricultural Soil Management: From the Current Status Toward a Global Soil Information System, 10(6) *Carbon Management* 567 (2019), at <https://www.tandfonline.com/doi/epdf/10.1080/17583004.2019.1633231?needAccess=true>; Plastina, Farm Foundation, U.S. Voluntary Agricultural Carbon Market, at 6 (2022). Some modeling is empirically based.

⁵⁹ USDA, A General Assessment of Agriculture in Carbon Markets, at 34 (2023).

⁶⁰ USDA, A General Assessment of Agriculture in Carbon Markets, at 34-35 (2023).

⁶¹ USDA, A General Assessment of Agriculture in Carbon Markets, at 35 (2023).

⁶² USDA, A General Assessment of Agriculture in Carbon Markets, at 35-36 (2023); Perez, American Farmland Trust, Things You Wanted to Know About Ag Carbon, at 37 (2023); Plastina, Farm Foundation, U.S. Voluntary Agricultural Carbon Market, at 8 (2022). In a “buffer pool,” a part of the carbon credit created by the farmer is set aside instead of being sold. The credit can then be canceled from the pool if a “reversal” of the carbon capture takes place. See Anna McDonald, Sylvera, Guide to Carbon Credit Buffer Pools (2022), at <https://www.sylvera.com/blog/carbon-credit-buffer-pools>.

4. Future Possibilities

Research continues on the question of how best to measure changes in carbon in the soil, and new approaches show promise for better measurement moving forward.⁶³

G. Carbon Registries

Any entity creating a carbon registry likely has a role setting the protocols or standards for creating carbon credits.⁶⁴ A registry is where carbon credits are issued, often transferred, and eventually sold to a business. The entity then retires them and takes credit for the carbon capture.

H. Price for Carbon Credit or Per Acre

Once the farmer adopts the practices called for in the contract, an important question is how much a farmer is paid for a carbon credit. As noted above, the prices farmers receive is not public knowledge. USDA, for example, does not estimate the value of a carbon credit for farmers under existing contracts or try to estimate what farmers are receiving per acre.

Other writers have, however, made estimates. An American Farmland Trust report in 2023 listed current prices at the time to be “about” twenty dollars per carbon credit.⁶⁵ They varied from fifteen dollars per ton to thirty dollars per ton. Payments based on acres varied from one dollar per acre to thirty-four dollars per acre.⁶⁶

I. Buyer of Carbon Credits

In the end, entities buy carbon credits.⁶⁷ The logic of corporations’ use of carbon credits is discussed in a number of places.⁶⁸

⁶³ See April Wembling, Institute of Sustainability, Energy, and Environment, *New Method Has Promise for Accurate, Efficient Soil Estimates* (2023), at <https://sustainability.illinois.edu/new-method-shows-promise-for-accurate-efficient-soil-carbon-estimates/>; Emily Oldfield, *Measuring Soil Carbon is Economically Feasible*, Environmental Defense Fund (January 21, 2025), at <https://blogs.edf.org/growingreturns/2025/01/21/measuring-soil-carbon/>; Eric Potash et al, *Measure-and-Remeasure as an Economically Feasible Approach to Crediting Soil Carbon at Scale*, 20 *Environmental Research Letters* 024025 (2025), at <https://iopscience.iop.org/article/10.1088/1748-9326/ada16c>; Eric Potash et al, *Multi-site Evaluation of Stratified and Balanced Sampling of Soil Organic Carbon in Agricultural Fields*, 438 *Geoderma* 116587 (2023), at <https://www.sciencedirect.com/science/article/pii/S0016706123002641?via%3Dihub>; Mark Bradford et al, *Testing the Feasibility of Quantifying Change in Agricultural Soil Carbon Stocks Through Empirical Sampling*, 440 *Geoderma* 116719 (2023), at <https://www.sciencedirect.com/science/article/pii/S0016706123003968>; Anna Raffeld et al, *The Importance of Accounting Method and Sampling Depth to Estimate Changes in Soil Carbon Stocks*, 19(2) *Carbon Balance and Management* (2024), at <https://cbmjournal.biomedcentral.com/articles/10.1186/s13021-024-00249-1>.

⁶⁴ USDA, *A General Assessment of Agriculture in Carbon Markets*, at 10 (2023).

⁶⁵ Perez, American Farmland Trust, *Ten Things You Wanted to Know About Ag Carbon Markets*, at 5, 26 (2023).

⁶⁶ Perez, American Farmland Trust, *Ten Things You Wanted to Know About Ag Carbon Markets*, at 26-27 (2023).

⁶⁷ USDA, *A General Assessment of Agriculture in Carbon Markets*, at 10 (2023); Perez, American Farmland Trust, *Ten Things You Wanted to Know About Ag Carbon Markets*, at 9 (2023).

⁶⁸ Trouwloon, *Understanding the Use of Carbon Credit by Companies* (2023); Jocelyn Timperley, *The Truth Behind Corporate Climate Pledges*, *The Guardian* (July 26, 2021), at

This can be a result of voluntary actions or government requirements. Buyers eventually can “retire” a credit. To be retired, a carbon credit is claimed by a business as a reduction in its carbon footprint. It is possible for a company to buy the credit and hold it without retiring it for some time.⁶⁹

V. Carbon Markets Are a Bit of a Free-For-All

At present, carbon markets are largely unregulated. In general, as one commentator notes, voluntary carbon markets are “fragmented and dominated by decentralized, broker mediated, over-the-counter trades.”⁷⁰ There are no uniform standards as to what might be considered a carbon credit and no uniform rules in carbon markets. Bloomberg News has referred to carbon markets as an “opaque, unregulated industry,” while one large European bank conducted a study of what it called a “wild west” industry.⁷¹

As USDA notes, different programs models have developed within various carbon markets, and many have their own protocols.⁷² The fragmented nature of current markets mean that there are “many standards, rating agencies, projects, and brokers all participating in the space, making it difficult to track high-quality versus low-quality credits.”⁷³

In the normal world of farming, when farmers sell their production, they can usually rely on a standard set of rules, and these rules, including how they are carried out, are fairly uniform. For example, corn growers have a good idea of how moisture in corn is measured and the effects of moisture levels on the price per bushel. Agricultural weights, measures, and grading are very specific and essentially knowable and uniform.⁷⁴

Measurement questions may not sound significant at first, but that may in part be due to the fact that farmers and the whole agricultural industry tend to take for granted the agreed upon methods for measurement of farm products. Basic measurement rules, summarized by USDA’s

<https://www.theguardian.com/environment/2021/jul/26/climate-crisis-green-light>; Nicolas Kreibich et al, Caught in Between: Credibility and the Voluntary Carbon Market Post-2020, 21 Climate Policy 7 (2021), at <https://www.tandfonline.com/doi/full/10.1080/14693062.2021.1948384>; Alice Valiergue et al, Quality Offsets? A Commentary on the Voluntary Carbon Markets, 26 (4) Consumption Markets and Culture (2022), at <https://www.tandfonline.com/doi/abs/10.1080/10253866.2022.2147162>; Gilles Dufrasne et al, Carbon Market Watch, Secretive Intermediaries: Are Carbon Markets Really Financing Climate Action? (2023); Gregory Trencher et al, Demand for Low-Quality Offsets by Major Companies Undermines Climate Integrity of the Voluntary Carbon Market, 15 Nature Communications 6863 (2024), at <https://www.nature.com/articles/s41467-024-51151-w>. For a skeptical look at corporate motives, see Auden Schendler, The False Promise of Corporate Carbon Neutrality, Stanford Social Innovation Review (October 4, 2022), at https://ssir.org/articles/entry/the_false_promise_of_corporate_carbon_neutrality.

⁶⁹ USDA, A General Assessment of Agriculture in Carbon Markets, at 28 (2023).

⁷⁰ Dawes, Voluntary Carbon Markets: A Review, at 2 (2023).

⁷¹ Natasha White and Akshat Rathi, Offsets Watchdog Aiming for Clarity on Net Zero Risks Creating Confusion, Bloomberg (June 14, 2022), at <https://www.bloomberg.com/news/articles/2022-06-14/carbon-offset-claims-watchdog-vcmi-aims-for-net-zero-clarity-risks-confusion?leadSource=verify%20wall>.

⁷² USDA, A General Assessment of Agriculture in Carbon Markets, at 13 (2023).

⁷³ Dawes, Voluntary Carbon Markets: A Review, at 7 (2023).

⁷⁴ USDA, Weights, Measures, and Conversion Factors for Agricultural Commodities and Their Products, Agricultural Handbook no. 697 (1992), at <https://www.ers.usda.gov/publications/pub-details?pubid=41881>.

Economic Research Service and others, are well known and essentially uniform around the country. A bushel of soybeans is sixty pounds, a bushel of shelled corn is fifty-six pounds, and so on.⁷⁵ For livestock, scales and weighing are regulated.⁷⁶ Further, grades and standards for many commodities are regulated at a very specific level.⁷⁷ Organic production markets, perhaps in some ways more similar to carbon capture farming than more conventional agriculture, has a firm and recognized set of rules that apply to anyone that wishes to claim production is organic.⁷⁸

These systems are far from perfect, but they tend to create an understood baseline for measuring what is produced by the farmer. For carbon markets, however, there is no parallel system. There is no USDA certification for carbon capture practices, no regulatory system that sets what the standards should be for measuring carbon capture, and no industry-wide voluntary standard for either certification or measurement.⁷⁹ This does not necessarily make carbon markets unworkable, but it is different from what most farmers are used to using.

VI. Pricing of Carbon Credit for Farmers

One of the crucial aspects of carbon markets is the price farmers receive for sequestering a metric ton of carbon.⁸⁰ As noted above, some contracts pay per acre. Carbon credits based on metric tons are more common and more confusing.

A. Prices Not Public Information

Many farmers are used to selling production when they do not know how much the sale will bring until after the fact. In this way, carbon markets might be thought to be similar to other agricultural markets. For example, carbon markets might be thought to resemble sales of beef cattle at an auction barn. In a carbon contract a farmer agrees to use certain production practices, and if everything goes well the farmer receives a carbon credit as a result. The carbon credit is then sold in a market. Similarly, a cow-calf operator raising several animals sends them to an auction market. In both cases there is the risk that the farmer does not know the price that will result in the auction. A significant difference, however, is in the extent to which the farmer can identify a range of prices in advance, and after the fact can look back and see how the market did. For example, Missouri farmers can see online data and a state-wide report of all of the cattle sold at auction in Missouri in

⁷⁵ USDA, *Weights, Measures, and Conversion Factors* (1992).

⁷⁶ For a quick summary, see USDA, AMS, *Responsibility for Accurate Scales and Livestock Weights* (2025), at <https://www.ams.usda.gov/rules-regulations/packers-and-stockyards-act/regulated-entities/accurate-scales-and-livestock-weights>; Ohio State University, *Bushels, Test Weights, and Calculations*, AGF-503 (2018), at <https://ohioline.osu.edu/factsheet/agf-503>.

⁷⁷ For grain, see USDA, AMS, *Grain Grading Primer* (2016), at <https://www.ams.usda.gov/sites/default/files/media/GrainGradingPrimer11272017.pdf>; USDA, AMS, *Grades and Standards* (2025), at <https://www.ams.usda.gov/grades-standards>; Ohio State University, *Bushels, Test Weights, and Calculations*, AGF-503 (2018), at <https://ohioline.osu.edu/factsheet/agf-503>.

⁷⁸ See USDA, AMS, *About Organic Standards* (2025), at <https://www.ams.usda.gov/grades-standards/organic-standards>.

⁷⁹ *Protocols for practices could well emerge*. See, for example, Genevieve K. Croft, *Agriculture and Forestry Offsets in Carbon Markets: Background and Selected Issues*, Congressional Research Service, R46956 pages 28-29 (2021), at <https://crsreports.congress.gov/product/pdf/R/R46956>.

⁸⁰ As noted above, in some cases farmers are paid by the acre.

a particular week.⁸¹ The data includes average weight, weight ranges, price ranges, and average price for over a dozen different types of cattle. The information is broken down by individual auctions. From these reports one can see that on Monday, June 10, 2024, in one group at MO-KAN Livestock Market in Butler, Missouri there were thirteen steers, that averaged 715 pounds per animal and sold for 2.58 dollars per pound.

There is no such reporting in the carbon market industry.⁸² USDA acknowledges that it does not know the price of carbon credits. As the USDA notes, “registries do not typically publish carbon credit transaction information, such as purchaser information and sale price.”⁸³ This means that a farmer considering signing a carbon contract with a certain buyer for a registry would not be able to know what price other farmers received for a similar or identical contract in a previous year.

Institutions such as the World Bank issue reports that estimate world-wide prices.⁸⁴ The World Bank notes that prices can vary significantly and its reports show a wide variance in prices for carbon credits that are exchanged world-wide.⁸⁵

B. Prices Appear to Fluctuate

The ultimate price of a carbon credit when it is sold can vary based on a number of factors: the project type, perceptions of credit quality, type of protocol, vintage (how long ago the carbon was captured), and possible other benefits of the same activity.

Like any other commodity, the market can move up or down.⁸⁶ As will be noted below, the vast majority of the market for carbon credits comes from large businesses. A small part of that demand is based on government regulation.

The point of this emphasis on the market nature of carbon credits is that the market price for carbon credits can change at any time. This is true for all commodities, of course, but some commodities seem to have greater shifts over time than others. And, even when a market seems steady, it can suddenly become volatile. There are a number of ways to measure volatility in a market, and various ways that people use to try to predict future volatility. There is reason to believe that carbon markets might be especially volatile. The shape and structure of the carbon markets—who is involved, the techniques they use, the various roles they play, the science that they use and rely on—is fluid and changing.⁸⁷

All this suggests that it is important to know the price of the carbon credit the farmer is selling—or at least know how that price will be set. It is perfectly legal to create a contract

⁸¹ USDA, AMS Livestock, Poultry and Grain Market News. For weekly cattle auction data see USDA Market News, Slaughter Cattle Auctions (2025), at <https://www.ams.usda.gov/market-news/slaughter-cattle-auctions>.

⁸² There is a similar lack of price transparency for some contract poultry and hog production operations.

⁸³ USDA, A General Assessment of Agriculture in Carbon Markets, at 28 (2023).

⁸⁴ World Bank Group, State and Trends of Carbon Pricing 2024, at 48-50 (2024), at <https://www.worldbank.org/en/news/press-release/2024/05/21/global-carbon-pricing-revenues-top-a-record-100-billion>.

⁸⁵ World Bank Group, State and Trends of Carbon Pricing 2024, at 49 (2024).

⁸⁶ Some possible scenarios are discussed in Plastina, Farm Foundation, U.S. Voluntary Agricultural Carbon Market, at 25-27 (2022).

⁸⁷ John M. Crespi et al, How Carbon Credits are Certified Could Change the Market Structure, CARD Policy Brief 22-PB-37 (2022), at <https://www.card.iastate.edu/products/publications/pdf/22pb37.pdf>.

for which the payment price of the contract can change as conditions change. Many credit cards, to use a common example, have what are often called variable interest rates. For carbon credit contracts it is important to know when prices are locked in, when they can change, and what makes them change.

Farmers are used to uncertainty. As with every other risk faced by farmers it is important to understand the risk as much as possible and to know how much the farmer is risking. Carbon contracts are no different.

VII. Uncertain Future of Carbon Markets: Optimism and Pessimism

Many observers have opinions about the future of carbon markets, and their assessments vary radically. The next two few sections describe an optimistic view and a pessimistic view.

A. Optimism About Future Carbon Markets

A number of business entities and others, including USDA, project a steady increase in the size of carbon markets over the next few years. Academic studies suggest, as a general matter, that carbon markets can be profitable for farmers.⁸⁸ Looking to the future, positive assessments regarding the general progress of voluntary carbon markets are numerous.⁸⁹

1. Many See “Bullish Growth” Ahead for Carbon Markets

One 2024 analysis, “Bullish Growth Projections in the Carbon Market,” by an investment firm called DGB Group, captures a common optimistic viewpoint.⁹⁰ Carbon markets are emerging as a “cornerstone” in the global agenda. The report describes “exponential growth” in carbon markets “underpinned by a surge in corporate and individual commitment towards achieving net-zero emissions.”⁹¹ The increased demand for voluntary carbon markets, according to the report, is:

driven by a confluence of factors. Corporations, in response to pressure from consumers, investors, and stakeholders, are increasingly committing to net-zero targets, necessitating the

⁸⁸ Alejandro Plastina et al, The Business Case for Carbon Farming in the USA, 19 Carbon Balance and Management 7 (2024), at <https://cbmjournals.biomedcentral.com/articles/10.1186/s13021-024-00253-5>.

⁸⁹ See, for example, Stephen Donofrio et al, Paying for Quality: State of Voluntary Carbon Markets 2023, Ecosystem Marketplace (2023), at https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202023/2023-EcoMarketplace_SOVCM-Nov28_FINALrev-Mar2024.pdf; William Theisen, Voluntary Carbon Markets – Growth and Innovation in 2024 (2024), at <https://trellis.net/article/voluntary-carbon-markets-growth-and-innovation-in-2024/>; Reuters, Voluntary Carbon markets Set to Become at Least Five Times Larger by 2030 – Shell, Reuters (January 19, 2023), at <https://www.reuters.com/markets/carbon/voluntary-carbon-markets-set-become-least-five-times-bigger-by-2030-shell-2023-01-19/>.

⁹⁰ DGB Group, Bullish Growth Projections in the Carbon Market (2024), at <https://www.green.earth/blog/bullish-growth-projections-in-the-carbon-market-1#:~:text=The%20carbon%20price's%20bullish%20growth.increase%20from%202035%20to%202050.>

⁹¹ DGB Group, Bullish Growth Projections in the Carbon Market (2024).

procurement of carbon units to compensate for emissions they cannot eliminate through direct reductions.⁹²

The 2024 report, which conducted a survey of active carbon market parties, noted that projections are for significant growth in the market.

In 2021 [voluntary carbon markets] increased four-fold from 2020, reaching \$2 billion. A testament to the [voluntary carbon market]'s rising prominence is its projected expansion to a market value between \$10 billion and \$40 billion by 2030.⁹³

The report suggests that the projection of a ten-fold increase in the dollar value of carbon markets, from three billion dollars in 2023, to thirty billion dollars by 2030, is probably “conservative.”⁹⁴ Investment firms, such as EY, McKinsey, BCG, and Morgan Stanley all expect a “multi-fold expansion,” such as a carbon market value ranging from thirty billion dollars to fifty billion dollars by 2030.⁹⁵ Others, notably Goldman Sachs and Wood Mackenzie, forecast an even larger market size of 100 billion dollars by 2030.⁹⁶

In sum, according to this analysis “the voluntary carbon market is at a critical juncture, with this trajectory poised for significant growth.”⁹⁷ Market participants, the report concludes, express a unanimous expectation for a continued rise in carbon prices across the board.⁹⁸

2. USDA Seems to Expect Carbon Market Growth

In USDA's General Assessment, USDA appears to endorse the view, similar to the ones described above, that carbon market demand will increase immensely in the near future. USDA discusses estimates that market value will increase by at least eight times by 2030 and by at least about forty times by 2050.⁹⁹ USDA also cites estimates that the demand for carbon credits in metric tons will increase by more than six times from

⁹² DGB Group, Bullish Growth Projections in the Carbon Market (2024). More specifically, “Investments in carbon credit projects have shown remarkable momentum in the past years, with a total of \$26 billion allocated to over 7,000 projects from 2021 to 2022. This investment spree, particularly noticeable with \$17 billion invested between 2021 and 2023, reflects the corporate world's escalating commitment to carbon offsetting as a means to achieve their targets.” DGB Group, Bullish Growth Projections in the Carbon Market (2024).

⁹³ DGB Group, Bullish Growth Projections in the Carbon Market (2024).

⁹⁴ DGB Group, Bullish Growth Projections in the Carbon Market (2024).

⁹⁵ DGB Group, Bullish Growth Projections in the Carbon Market (2024).

⁹⁶ DGB Group, Bullish Growth Projections in the Carbon Market (2024).

⁹⁷ DGB Group, Bullish Growth Projections in the Carbon Market (2024).

⁹⁸ DGB Group, Bullish Growth Projections in the Carbon Market (2024). A subsequent analysis by the same firm in 2025 notes that corporations continue to prioritize carbon credits and that the value of carbon credits are still expected to increase significantly. DGB Group Publishes 2025 Voluntary Carbon Market Outlook (2025), at <https://www.green.earth/press-releases/dgb-group-publishes-2025-voluntary-carbon-market-outlook>.

⁹⁹ USDA, A General Assessment of Agriculture in Carbon Markets, at 31 (2023).

2023 to 2030 and by nearly thirty times between 2023 and 2050.¹⁰⁰ If this estimate is correct, the price of a carbon credit would also increase substantially as well.¹⁰¹

B. Pessimism for Future of Carbon Markets

A number of issues could derail a significant increase in carbon market size. As one report from a carbon market supporter notes, there are challenges of “of trust, quality, scaling the market, and the role of [voluntary carbon markets].”¹⁰² The report also notes several opportunities: “data transparency and accessibility, science and technology, standardization, market structure, and policy landscape.”¹⁰³

1. Credibility in Carbon Markets

A common concern regarding carbon markets is the extent of their true effectiveness. Facing this problem may require a system that is much more transparent than current markets.¹⁰⁴ There seems to be no doubt that significant carbon sequestration can come from the soil through agriculture.¹⁰⁵ One of the problems for carbon markets going forward is that some investigations suggest that there are credibility problems with the claims of carbon capture. Scientific studies question the effectiveness of carbon markets.¹⁰⁶ Journalism and other investigations suggest, more pointedly, that carbon

-
- ¹⁰⁰ USDA, A General Assessment of Agriculture in Carbon Markets, at 30 (2023). In the sources relied on by USDA, market demand is estimated to rise from 181.1 million metric tons in 2023 to 1.2 billion metric tons in 2030 and 5.4 billion metric tons in 2050. A different study (McKinsey and Company) cited by USDA projects that demand for carbon credit could increase by fifteen times by 2030 and by 100 times by 2050. USDA, A General Assessment of Agriculture in Carbon Markets, at 30-31 (2023). For similar estimates see BloombergNEF, Long-Term Carbon Offsets Outlook 2023 (July 18, 2023), at <https://www.bloomberg.com/professional/insights/sustainable-finance/long-term-carbon-offsets-outlook-2023/>; BloombergNEF, Global Carbon Market Outlook 2024 (2024), at <https://about.bnef.com/blog/global-carbon-market-outlook-2024/>. See, as well, Christopher Blaufelder et al, McKinsey Sustainability, A Blueprint for Scaling Voluntary Carbon Markets to Meet the Climate Challenge (2021), at https://www.mckinsey.com/capabilities/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge#.
- ¹⁰¹ USDA seems to accept that the 2022 global price ranges from five to sixteen dollars per ton. With projections of increased demand, USDA seems to agree with projections in demand that would increase the price to between thirty-eight dollars per ton to 250 dollars per ton. USDA, A General Assessment of Agriculture in Carbon Markets, at 29, 31 (2023).
- ¹⁰² Pamela M. Chu et al, Challenges and Opportunities for the Voluntary Carbon Markets, National Institute of Standards and Technology and Georgetown University, Business of Sustainability, at 2 (2024), at https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=957721.
- ¹⁰³ Pamela M. Chu et al, Challenges and Opportunities for the Voluntary Carbon Markets, at 2 (2024).
- ¹⁰⁴ Phillippe Delacote et al, Strong Transparency Required for Carbon Credit Mechanisms, Nature Sustainability (2024), at <https://www.nature.com/articles/s41893-024-01310-0>.
- ¹⁰⁵ See Rattan Lal et al, The Role of Soil in Regulation of Climate, 376 Philosophical Transaction of the Royal Society of Biological Sciences 1834 (2021), at <https://royalsocietypublishing.org/doi/10.1098/rstb.2021.0084>; Ann-Marie Codur et al, Climate Challenges After the Glasgow Conference: The Roles of Forests and Soils, GDAE Climate Policy Brief, No. 15 (Jan. 2022), at https://sites.tufts.edu/gdae/files/2022/01/ClimatePolicyBrief15_2022-final-1.pdf; Fei, Agricultural Soils and the Quest for Net Zero Emissions (2023).
- ¹⁰⁶ A number of studies are summarized and cited in Danny Cullenward et al, Carbon Offsets are Incompatible with the Paris Agreement, 6 One Earth 1085 (Sept 15, 2023), at https://www.researchgate.net/publication/373962185_Carbon_offsets_are_incompatible_with_the_Paris_Agreement. See, as well, Grayson Badgley et al, Systematic Over-Crediting in California’s Forest Carbon Offsets Program, 28(4) Global Change Biology 1433 (2022), at

markets are “riddled with fraud.”¹⁰⁷ The most common problem discussed is that the on-the-ground actions do not actually capture much carbon. Several specific aspects of the problem draw attention. First, the actions taken are thought to be not permanent, thus gains fade away over time. Second, many argue that significant credited offsets would have occurred even without the carbon contract. Third, there seems to be significant double counting; the same offset is counted toward the emission reduction of two separate entities. Reporting also suggests that carbon markets have given carbon credits even though the program did not reduce or remove greenhouse gases.

With almost no actual regulation of carbon markets, some observers suggest “questionable carbon claims” should be expected.¹⁰⁸ If so, buyers are likely to be “reticent to assign much value” to carbon claims.¹⁰⁹ Almost everyone with a role in carbon markets think there needs to be greater confidence in the actual carbon contribution of the voluntary carbon market system. Without that confidence, and perhaps a more formal set of government rules to ensure confidence in the claims of carbon markets, it is possible that carbon markets will not continue to grow.¹¹⁰

<https://pubmed.ncbi.nlm.nih.gov/34668621/>; Barbara Haya et al, Comprehensive Review of Carbon Quantification by Improved Forest Management Offset Protocols, 6 *Frontiers in Forest and Global Change* 1 (2023); at <https://www.frontiersin.org/journals/forests-and-global-change/articles/10.3389/ffgc.2023.958879/full>; Jared Stapp, Early Indications of Effectiveness in California's Forest Offset Program (2022), at <https://escholarship.org/uc/item/4fq0n4pf>.

- ¹⁰⁷ See Joseph Winters, Carbon Offsets are “Riddled with Fraud,” Can New Voluntary Guidelines Fix That?, *Grist*, (2023), at <https://grist.org/regulation/carbon-offsets-are-riddled-with-fraud-can-new-voluntary-guidelines-fix-that/>; Akshat Rathi et al, More Companies Ditch Junk Carbon Offsets But New Buyers Loom, *Bloomberg News* (2024), at <https://www.bloomberg.com/news/features/2024-10-24/carbon-offsets-see-falling-demand-but-cop29-may-open-new-market>; Natasha White, Offset Market Hit by Fresh Allegations of False CO₂ Claims, *Bloomberg* (2023), at <https://www.bloomberg.com/news/articles/2023-09-14/popular-carbon-credits-fail-to-offset-emissions-probe-shows>; Nina Lakhani, Revealed: Top Carbon Offset Projects May Not Cut Planet-Heating Emissions, *The Guardian* (Sept 19, 2023), at <https://www.theguardian.com/environment/2023/sep/19/do-carbon-credit-reduce-emissions-greenhouse-gases>; Akshat Rathi, Bloomberg Green, Inside the Billion Dollar Market for Junk Carbon Offsets and Corporate Greenwashing (Nov 22, 2022), at <https://www.linkedin.com/pulse/inside-billion-dollar-market-junk-carbon-offsets-corporate-rathi>; Akshat Rathi et al, Junk Carbon Offsets Are What Make These Big Companies “Carbon Neutral,” *Bloomberg Green* (2022), at <https://www.bloomberg.com/graphics/2022-carbon-offsets-renewable-energy/>; Susanna Twidale, Carbon Credit Market Confidence Ebbs as Big Names Retreat, *Reuters* (2023), at <https://www.reuters.com/sustainability/carbon-credit-market-confidence-ebbs-big-names-retreat-2023-09-01/>; Heidi Black, The Great Cash-For-Carbon Hustle, *The New Yorker* (October 16, 2023), at <https://www.newyorker.com/magazine/2023/10/23/the-great-cash-for-carbon-hustle>.
- ¹⁰⁸ Wongpiyabovorn et al, Challenges to Voluntary Ag Markets (2022), at 1156.
- ¹⁰⁹ Wongpiyabovorn et al, Challenges to Voluntary Ag Markets (2022), at 1156. See also Dawes, Voluntary Carbon Markets: A Review, at 8 (2023).
- ¹¹⁰ See Nicolas Kreibich, Toward Global Net Zero: The Voluntary Carbon Market on its Quest to Find its Place in the Post-Paris Climate Regime, 15 *WIREs Climate Change* (2024), at <https://www.semanticscholar.org/paper/Toward-global-net-zero%3A-The-voluntary-carbon-market-Kreibich/ae1402f83905e8a4a4222dfe41a0ca9121df2d76>.

2. Possible Reduced Demand for Carbon Contracts

A central feature of voluntary carbon markets is that they are, in fact, voluntary. The demand for them from corporations could go up, as many people expect, stay the same, or even go down. Journalistic accounts suggest that demand for them may be declining.

Some analysts are concerned that the demand for carbon credits will drop or may already have begun to drop. One journalist's account notes that:

Carbon offsets once looked primed for unstoppable growth. Analysts had forecast that the credits, which claim to wipe out a ton of emissions, would be worth hundreds of billions of dollars in the coming years. But companies are starting to cool on the market as it faces increasingly sharp criticism from scientists and experts.¹¹¹

Several journalistic and academic accounts suggest a reduction in corporate interest in carbon offsets is now taking place.¹¹²

¹¹¹ Natasha White et al, Companies are Dropping Offsets, But Still Buying the Worst Ones, Energy Connects (2024), at <https://www.energyconnects.com/news/renewables/2024/october/companies-are-dropping-carbon-offsets-but-still-buying-the-worst-ones/#:~:text=Carbon%20offsets%20once%20looked%20primed,wind%2C%20hydro%20and%20solar%20projects>.

¹¹² White, Companies are Dropping Offsets (2024); Amy Brown, Why It Makes Sense for Companies to Scale Back Unrealistic Net-Zero Targets, Triple Pundit (June 9, 2023), at <https://www.triplepundit.com/story/2023/companies-push-back-net-zero-targets/776341>; Todd Cort, When Companies Reverse Their Climate Commitments, Yale Insights,(2023), at <https://insights.som.yale.edu/insights/when-companies-reverse-their-climate-commitments>; Nicolas Rivero, Wall Street Firms are Ditching Climate Coalitions. Do they Matter?, Washington Post (2015), at <https://www.washingtonpost.com/climate-environment/2025/01/11/blackrock-net-zero-coalition/>; Walmart Says to Miss Climate Targets as Green Challenges Mount, Bloomberg (2024), at <https://www.bloomberg.com/news/articles/2024-12-20/walmart-says-to-miss-climate-targets-as-green-challenges-mount>; Evan Halper, Companies Made Big Climate Pledges. Now They are Balking on Delivering, Washington Post (December 3, 2023), at <https://www.washingtonpost.com/business/2023/12/03/climate-corporate-cop28/>. A former focused discussion is Margy Eckelkamp, Can You Still Bank on Carbon Opportunities?, Agweb (2024), at <https://www.agweb.com/news/crops/crop-production/can-you-still-bank-carbon-opportunities>; Akshat Rathi et al, More Companies Ditch Junk Carbon Offsets but New Buyers Loom, Bloomberg (October 24, 2024), at <https://www.bloomberg.com/news/features/2024-10-24/carbon-offsets-see-falling-demand-but-cop29-may-open-new-market>.

Chapter Three: General Contract Law

I. Introduction

Legal contracts often are an important part of the decisions farmers make. While the focus of this Guide is a particular set of contracts—for carbon markets—this Chapter discusses some of the basics of contract law that apply to the contracts farmers and others use.

Contracts of various forms have long been used in agriculture.¹¹³ Carbon contracts resemble contracts already used by farmers in some ways, and in other ways are different from normal farm contracts.¹¹⁴ It makes sense, therefore, to briefly review some of the important parts of contract law that affect carbon agreements.

The law of contracts can be tricky. As noted below, contracts are mainly governed by state law and can vary from state to state. This Chapter takes a general look at contracts and does not focus on a single state.

¹¹³ Christine Witt, Farmers' Use of Contracts Has Declined Over Last 25 Years, *Amber Waves*, June 23, 2022, at <https://www.ers.usda.gov/amber-waves/2022/june/farmers-use-of-contracts-has-declined-over-last-25-years/>. Various perspectives on how contracts in agriculture should be viewed include Christopher R. Kelley, *Agricultural Production Contracts: Drafting Considerations*, 18 *Hamline Law Review* 397 (1995); Neil Hamilton, *A Farmer's Legal Guide to Production Contracts* (1995); J.W. Looney and Anita K. Poole, *Adhesion Contracts, Bad Faith, and Economically Faulty Contracts*, 4 *Drake Journal of Agricultural Law* 177 (1999); Randi Illyse Roth, *Redressing Unfairness in the New Agricultural Labor Agreement: An Overview of Litigation Seeking Redress for Contract Poultry Growers*, 25 *University of Memphis Law Review* 1207 (1995); Drake University, Farm Service Agency, National Sustainable Agriculture Coalition, *Contracting in Agriculture: Making the Right Decision* (2017), at <https://sustainableagriculture.net/wp-content/uploads/2017/03/2016-Drake-FSA-NSAC-Production-Contracts-Guide.pdf>; Phillip L. Kunkel and Jeffrey A. Peterson, *Agricultural Production Contracts* (April 2020), at <https://conservancy.umn.edu/server/api/core/bitstreams/38cf9b20-ec07-426c-bd73-b6a73d1cof36/content>.

¹¹⁴ In agriculture there are generally two types of contracts—marketing contracts and production contracts. Carbon contracts resemble production contracts in a couple of ways. First, as in a production contract, a carbon market contract sets rules for how the farming is carried out. Very specific production practices must be observed by the farmer. However, carbon contracts are not like production contracts in that in most production contracts the farm product to be raised—usually poultry or hogs—are owned by the company paying for the farming, and inputs, such as feed and medication, also come from the company. In carbon market contracts, all of the ownership of the crop and the inputs remain with the farmer.

Another way to think about carbon market contracts is that they resemble organic production. In organic production, as well as in carbon contract production, the farmer must use certain production practices, and not others, and the farmer is paid for the use of those practices. The farmer in both cases agree to change farming practices and to allow outsiders to inspect the practices in question. Differences include that with organic there is significant federal government involvement in the regulation of what counts as organic, while there is almost none of that regulation in carbon markets. In addition, a single company pays for the carbon market credits, while the premium for organic production comes with an added value to each unit of production the farmer sells.

II. Contracts and Parties Defined

This Guide is intended to avoid legal jargon as much as possible unless it is quoting directly from a contract. Two legal terms, however, might need to be defined right at the start: a “contract,” and a “party.”

Defining a “contract” can be surprisingly hard.¹¹⁵

In a most basic sense, a contract is an agreement that includes a promise. The law gives a remedy if there is a breach in that contract.¹¹⁶ Put differently, a contract is an agreement to either do something, or not do something, and that agreement can be enforced in court.

One common definition of a contract is that it is a legally enforceable agreement. Another definition is that it is a promise that carries with it a legal obligation.¹¹⁷ A different definition is that a contract is a promise, or a set of promises. The law, according to this definition, gives a remedy when those promises are breached, or it takes those promises as a legal duty. Yet another definition of a contract is an agreement between two or more people which creates an obligation to do or not to do a particular thing.

This Guide will often refer to a “party” or two “parties.” We follow the practice of most legal discussions and refer to the “parties” to a contract.¹¹⁸ If two people agree to contract with one another, they are each a party to the contract. A person can be a party to a contract as can a business, the government, and so forth.

III. Some Important General Principles of Contract Law

This Chapter describes a few of the most important principles of contract law that can be important for farmers.

What follows are general rules. In the law, there are almost always exceptions to general rules, and usually there are exceptions to the exceptions. This is certainly true for contracts. It is possible, for example, to write a sixteen-volume treatise on contract law. For our purposes, however, the general rules can give farmers a basic idea of the meaning and effect of a contract.

A great deal of law spells out how contracts work, when a contract actually exists, whether it must be in writing, whether a written contract counts as the complete agreement so that oral agreements, or other written materials, are not part of the agreement, the meaning of the contract when terms are unclear, and other issues. In sum, the law of contracts can be complicated. A few of the most basic issues are discussed below.

¹¹⁵ Definitions in this paragraph are drawn from Black’s Law Dictionary, “Contract,” at 402-403 (11th ed. 2019); Calamari and Perillo, *The Law of Contracts*, at 1-2; Rohwer, *Contracts in a Nutshell* § 1.1, at 1-2; Williston, *Contracts* § 1.1; Corbin, *Contracts* § 1.3; Restatement (Second) of Contracts § 1.

¹¹⁶ Restatement (Second) of Contracts § 1.

¹¹⁷ Or, to put it a bit differently, a contract is a promise, or set of promises, to which the law attaches a legal duty, and the breach of which the law gives a remedy. Restatement (Second) of Contracts § 1. Or, somewhat differently, again, a contract is an agreement between two or more parties to do or not do some particular thing.

¹¹⁸ Black’s Law Dictionary, “Party,” at 1350 (11th ed. 2019).

IV. State Law Usually Governs Contracts

In general, the law governing a contract is state law, although there are some exceptions. This can matter in how a contract conflict gets resolved.

A. Contract Law Varies from State to State

Contract law varies somewhat from state to state. To the extent the Guide discusses contract law it refers generally to some basic principles that are likely—though not guaranteed—to apply in most states.

B. “Choice of Law” – the Contract May Pick a State Law to Govern

In general, if a carbon contract is signed in a particular state, and performed in the same state, that state’s law would most likely govern. If an agreement is silent as to which state’s law governs the contract, courts might look at other factors to decide.¹¹⁹ Some contracts may require certain parts of the agreement to be governed by the law of another state. Often, for example, contracts say that the agreement is governed by Delaware law. That type of language, often called a “choice of law” provision, can be binding on the parties to the contract.¹²⁰ A choice of law provision in a contract, therefore, will say that the law of a certain state should govern the contract. In general, courts will follow the contract in deciding which state law should apply.¹²¹

C. State Law “Jurisdiction” and “Venue”

As noted above, in general, state law applies when it comes to contracts. Similarly, state law generally sets out what types of contract disputes a state court will hear.¹²² Some contracts state that contract disputes must be resolved by the courts in a certain state. These are called jurisdiction clauses, venue clauses, or forum-selection clauses in contracts. This means, for example, that a contract carried out in Missouri could say that any case must be brought in Delaware.¹²³ Courts generally, but not always, defer to these provisions. Unlike choice of law provisions, a jurisdictional clause is about which court can hear a dispute, and not which state’s law will be used to resolve that dispute.¹²⁴

¹¹⁹ Courts might look to see if more than one state has sufficient contacts with respect to the agreement (for example, was the agreement signed in one state, but performance occurs in another state). If so, there is a balancing test that courts conduct to weigh which state’s law should apply.?

¹²⁰ For example, see Corbin on Contracts § 79.1; John F. Coyle and Katherine C. Richardson, *Enforcing Outbound Forum Selection in State Court*, 96 *Indiana Law Journal* 1089 (2021); John F. Coyle, *The Canons of Construction for Choice-of-Law Clauses*, 92 *Washington Law Review* 631 (2017); Kevin M. Clermont, *Symposium: Forum Selection After Atlantic Marine: Governing Law on Forum-Selection Agreements*, 66 *Hastings Law Journal* 643 (2015).

¹²¹ Courts defer to these contract terms. 15 Corbin on Contracts § 83.9. For a discussion of the language used in contracts, see John F. Coyle, *The Cannons of Construction for Choice-of-Law Clauses*, 92 *Washington Law Review* 631 (2017).

¹²² There are exceptions to this rule. In particular, some cases could end up in federal court.

¹²³ For a discussion of this law, see Kevin M. Clermont, *Forum Selection After Atlantic Marine: Governing Law of Forum-Selection Agreements*, 66 *Hastings Law Journal* 643 (2015).

¹²⁴ While the laws is complicated on how choice of venue contracts are interpreted, they often are enforced. Restatement of the Law, *Conflict of Laws (Second)* §§ 32, 80, 187, 188; Shahar Avraham-Giller, *A Contractual Approach to Choice of Law Rules for Forum Selection Cases*, 56 *Akron L. R.* 37

V. Contracts Are Legally Binding

One of the most important aspects of a contract is that in general if a farmer—or anyone else—agrees to a contract, that person is legally bound by the contract. Either party can go to court to enforce the terms of the contract.

As is explained below, this is likely true even if the contract is unfair. It is also likely true even if the person who agreed to a written contract did not read it and did not understand it. To repeat, there are exceptions to the general rules, and some of those exceptions are discussed below, but because contracts are so likely to be enforced by courts, farmers need to be extremely careful when they agree to a contract.

VI. Duty to Read the Contract

In general, when courts say that a person is bound by a contract, they also mean that the person signing a contract had the duty to read and understand the contract.¹²⁵ It is not an excuse to say that a person did not read the contract and should not be bound by it even though that person signed it.

There have always been some exceptions to this rule.¹²⁶ It does not apply, for example, if the contract, or part of it, is not legible. Some cases also take it into account when things in a contract seem to be hidden. Writing on the back side of a page can fall into this category, as do contracts in which the headings in the written agreement are incorrect. It is also possible for a person to be fraudulently misled about the contents of a contract. In such a case, the duty to read may not apply.

In recent years courts have become more lenient regarding the duty to read when it comes to what are often called contracts of adhesion.¹²⁷ These contracts are discussed below.

VII. Contracts are Often Binding Even If They Turn Out to Be Bad for a Party

Lawyers sometimes use Latin phrases.¹²⁸ One such phrase is *pacta sunt servanda*. Agreements are meant to be kept. Or, as courts sometimes say, contracts are to be kept.¹²⁹ In general, if a person agrees to a contract, it is binding “even if circumstances have made the contract more burdensome or less desirable than [the person] had anticipated.”¹³⁰

(2023); John Coyle and Katherine Robinson, Enforcing Outbound Forum Selection Clauses in State Court, 96 *Indiana Law Journal* 1089 (2021); Tanya J. Monestier, When Forum Selection Clauses Meet Choice of Law Clauses, 69 *American University Law Review* 325 (2019); Kevin M. Clermont, Symposium: Forum Selection After Atlantic Marine: Governing Law on Forum-Selection Agreements, 66 *Hastings Law Journal* 643 (2015); Michel E. Moberly and Carolyn F. Burr, Enforcing Forum Selection Clauses in State Court, 39 *Southwestern Law Review* 265 (2009).

¹²⁵ Calamari and Perillo, *The Law of Contracts* § 9.41, at 376-377.

¹²⁶ Calamari and Perillo, *The Law of Contracts* § 9.42, at 377-382.

¹²⁷ Calamari and Perillo, *The Law of Contracts* § 9.43, at 382-389.

¹²⁸ Latin was the language used by the Roman Empire and now has no native speakers.

¹²⁹ Thanks to Paul Allen Miller for the literal translation (personnel correspondence, June 20, 2024); *Black’s Law Dictionary*, “Pacta sunt servanda,” at 1334 (11th ed. 2019).

¹³⁰ *Restatement (Second) of Contracts*, Chapter 11, Introductory Note; Rohwer, *Contracts in a Nutshell* § 6.1, at 339.

Further, as one scholar notes, the law of contracts has “relatively little to say about equity and fairness in the large.”¹³¹ As a result, contracts are enforced by courts even if “the commitments [] seem improvident or idiosyncratic.”¹³²

In general, as the discussion here suggests, farmers will be legally bound by a contract they sign—including a carbon market contract. There are important exceptions that can apply. Some exceptions to this important general rule are discussed below.

VIII. Some Contracts May Not Be Enforced – the Narrow Exceptions to the General Rule

In a very narrow range of facts, courts will not enforce a contract.¹³³ Even if all other aspects of the agreement appear to be legal, a contract will not be enforced for a number of possible reasons.

The following sections describe several of these reasons. It must be emphasized that courts generally require a strong version of these events before refusing to enforce a contract. Put differently, a person should never agree to a contract thinking that if it does not turn out well, one of the following exceptions to the enforceability of a contract will apply.

The following sections describe several of the reasons that can lead a court to decide that a contract should not be enforced. These reasons are: (1) capacity of the parties; (2) contracts created under duress; (3) contracts that are the product of undue influence; (4) misrepresentations by a party; (5) mistakes by a party; and (6) unconscionable contracts.

Sometimes these various exceptions overlap. An unconscionable contract, for example, may also involve undue influence, and so forth.¹³⁴

A. Capacity of the Parties

Courts will refuse to enforce a contract because one of the parties lacks the “capacity” to make a contract. In general, the law defines capacity as having the “mental ability to understand the nature and effect of one’s acts.”¹³⁵

Capacity can mean age. Most states allow a person to contract when the person turns eighteen years old.¹³⁶

Capacity rules also mean that if a party is “mentally infirm” courts will not enforce the agreement.¹³⁷ Generally mentally infirm means the person does not understand the nature and consequence of what is happening at the time.

¹³¹ Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 1, at 8.

¹³² Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 4.A, at 82.

¹³³ Some exceptions are not mentioned in this Guide. See Calamari and Perillo, *The Law of Contracts* §§ 8.1 to 8.9, at 279-297 (enforceability of agreements with minors). In addition, a person may not create a contract with himself or herself. See Calamari and Perillo, *The Law of Contracts* §§ 8.16 to 8.17, at 303-305.

¹³⁴ Calamari and Perillo, *The Law of Contracts* § 19.25, at 751.

¹³⁵ Black’s Law Dictionary, “Capacity,” at 257 (11th ed. 2019). See, as well, Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 4.A, at 82.

¹³⁶ See Calamari and Perillo, *The Law of Contracts* § 8.2, at 280; Rohwer, *Contracts in a Nutshell* §§ 5.2 to 5.2.1, at 281-285.

¹³⁷ See Calamari and Perillo, *The Law of Contracts* §§ 8.10 to 8.15, at 296-303.

B. Duress

In general, a court will not enforce a contract agreed to under duress.¹³⁸ This of course includes physical threats. Duress does not, however, require a physical threat. The general rule is that duress means a wrongful act or threat that overcomes the free will of a party. The improper threat must induce a party to agree to the contract, and the agreement must have been induced by the threat.

C. Undue Influence

Courts will not enforce a contract if the court concludes one party used “undue influence” over the other party.¹³⁹

Undue influence does not include actually forcing the other party to act. Instead, it is persuasion, pressure, or influence that is stronger than advice and so overpowers the dominated party’s free will or judgment that he or she cannot act intelligently and voluntarily.¹⁴⁰ The party acts, instead, subject to the will or purposes of the dominating party.

This can mean, for example, that one party has a dominant psychological position and uses it in an unfair manner to induce the other party to consent to an agreement that the other party would otherwise not have consented to.¹⁴¹

It can also mean one party uses a position of trust and confidence to unfairly persuade the other party into a transaction.¹⁴²

D. Misrepresentation

A court will not enforce a contract when one party engaged in “misrepresentation.”¹⁴³ Misrepresentation for contract purposes often means fraud is used to get the other party to agree to the contract. Sometimes, though, misrepresentation can be found where one party negligently fails to check facts. In other words, misrepresentations are not always strictly fraudulent.¹⁴⁴ A misrepresentation must be an assertion, in words or other actions, that is not true. The party engaged in misrepresentation generally must know the information is not true and must intend for the other party to rely on the information. The other party must then rely on the information when agreeing to the contract.

¹³⁸ Calamari and Perillo, *The Law of Contracts* §§ 9.2, at 308-3011; Rohwer, *Contracts in a Nutshell* §§ 5.3 to 5.3.1, at 288-292; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 4.A, at 82-88. Specific circumstances that could mean duress are discussed in Calamari and Perillo, *The Law of Contracts* §§ 9.1 to 9.8, at 308-321.

¹³⁹ Rohwer, *Contracts in a Nutshell* § 5.4, 293-294; Calamari and Perillo, *The Law of Contracts* §§ 9.9 to 9.12, at 321-325.

¹⁴⁰ *Black’s Law Dictionary*, “Undue influence,” at 1838 (11th ed. 2019); Calamari and Perillo, *The Law of Contracts* § 9.10, at 322-324.

¹⁴¹ Calamari and Perillo, *The Law of Contracts* § 9.10, at 322-324.

¹⁴² Calamari and Perillo, *The Law of Contracts* § 9.10, at 322-324.

¹⁴³ *Black’s Law Dictionary*, “Misrepresentation,” at 1198 (11th ed. 2019).

¹⁴⁴ Calamari and Perillo, *The Law of Contracts* §§ 9.13 to 9.24, at 325-347; Rohwer, *Contracts in a Nutshell* § 5.7 to 5.9, at 312-321. In general, if a merger clause—stating something to the effect that the writing contains the entire contract—is a part of the contract, parol evidence is still allowed to show fraud. Calamari and Perillo, *The Law of Contracts* §§ 9.21, at 340-342.

E. Mistake

Some kinds of mistake may lead a court to decide the contract should not be enforced.¹⁴⁵ Only very narrow kinds of mistakes matter for this purpose. Mutual mistakes may make the contract unenforceable. For example, if both parties share a common assumption about a vital fact on which they based the agreement, and that assumption is not true, a court may decide the contract should not be enforced.¹⁴⁶

Courts are much more likely to enforce the contract if only one party has made such a mistake. However, if a party knows, or has reason to know, that the other party is acting on the basis of a mistake, the court is more likely to say the contract is not to be enforced. In some extreme cases, a court will not enforce a contract when only one party is mistaken, and the other party does not know, and had no reason to know, of the mistake.¹⁴⁷

F. Unconscionable Contracts

Sometimes, though not often, a contract can be so unfair that a court will not enforce it. Legally, such a contract is called “unconscionable.”¹⁴⁸

As noted above, in contract law courts assume that the parties can make contracts and that courts should not pass judgment on them.¹⁴⁹ In everyday life, therefore, few contracts are ruled unconscionable. It is still the case, however, that the law protects parties from some extremely one-sided contracts. This is true even if in all other respects the contract is legal.

Although unconscionability can seem confusing and complicated it is emphasized in this Guide because agricultural contracts, especially for poultry production, have sometimes been described as unconscionable. It would not be shocking, therefore, if a new variety of contract, with a whole new area of farmer actions required—in this case a carbon contract—could also raise such concerns.

1. Unconscionability Defined

Unconscionability is hard to define.¹⁵⁰ Speaking generally, an unconscionable contract, or an unconscionable part of a contract, is “grossly unfair to one of the parties because of stronger bargaining powers of the other party.”¹⁵¹ An unconscionable contract will

¹⁴⁵ Black’s Law Dictionary, “Mistake,” “Mistake of fact,” “Mistake of law,” and “Mutual mistake,” at 1199 to 1200 (11th ed. 2019); Calamari and Perillo, *The Law of Contracts* §§ 9.25 to 9.30, at 347-359; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, chapter 7.A, at 170-181.

¹⁴⁶ Calamari and Perillo, *The Law of Contracts* § 9.26, at 348. See also Rohwer, *Contracts in a Nutshell* § 5.5.1, at 297-299.

¹⁴⁷ In general, this may be done if enforcing the contract would do two things. First, it must be oppressive or at least result in an unconscionable unequal exchange. Second, refusing to enforce the contract would not create a substantial hardship for either party. Calamari and Perillo, *The Law of Contracts* § 9.27, at 355.

¹⁴⁸ Black’s Law Dictionary, “Unconscionability,” “Unconscionable bargain or contract,” at 1835 to 1836 (11th ed. 2019). Discussions of unconscionability are at Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 4.B, at 93-99; Rohwer, *Contracts in a Nutshell* § 5.10, at 321-326; and Calamari and Perillo, *The Law of Contracts* §§ 9.37 to 9.40, at 365-376.

¹⁴⁹ Rohwer, *Contracts in a Nutshell* § 5.10, at 322.

¹⁵⁰ Calamari and Perillo, *The Law of Contracts* § 9.40, at 372-373.

¹⁵¹ Restatement (Second) of Contracts § 208; Calamari and Perillo, *The Law of Contracts* §§ 9.37 to 9.40, at 365-376.

involve “gross” one-sidedness.¹⁵² An unconscionable contract is one “in which no person in their right sense, not under delusion,” would make. And finally, an unconscionable contract “affronts the sense of decency.”¹⁵³

Further, no fair and honest person would agree to a contract that had unconscionable terms for the other party. The law of unconscionability is meant to prevent “oppression” and “unfair surprise.”¹⁵⁴ It is not intended to “relieve a party from the effects of a bad bargain.”¹⁵⁵

2. Unconscionable at the Time Contract is Made

In order to be unconscionable, the contract must have been unconscionable at the time the contract was made.¹⁵⁶

3. Two Factors: Procedural Unconscionability and Substantive Unconscionability

In order for a court to decide not to enforce a contract because the contract is unconscionable, two aspects of unconscionability are usually present: (1) procedural unconscionability; and (2) substantive unconscionability.¹⁵⁷ Although both are usually present, in some cases courts have found a contract unconscionable seemingly based only on substantive unconscionability.¹⁵⁸

a. Procedural Unconscionability

Procedural unconscionability is based on how the contract terms came to be.¹⁵⁹ In other words, conditions around the creation of the contract led to an unfair contract. It is often said by lawyers that a contract can be unconscionable when it takes the form of “unfair surprise.”¹⁶⁰

Procedural unconscionability can mean, for example, that one party lacked knowledge of or understanding of the contract terms. This could be due to inconspicuous print, unintelligible, legalistic language, or a party’s lack of a chance or ability to read the contract and ask questions about its meaning, or other reasons.¹⁶¹ Courts are more likely to rule a contract unconscionable, for example, if the unbalanced term is “buried in small print and often couched in language unintelligible to even a person of moderate education.”¹⁶²

¹⁵² Calamari and Perillo, *The Law of Contracts* § 9.40, at 373.

¹⁵³ Calamari and Perillo, *The Law of Contracts* § 9.40, at 373.

¹⁵⁴ Rohwer, *Contracts in a Nutshell* § 5.10, at 324.

¹⁵⁵ Rohwer, *Contracts in a Nutshell* § 5.10, at 324.

¹⁵⁶ Rohwer, *Contracts in a Nutshell* § 5.10, at 322, 323; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 4.B, at 97.

¹⁵⁷ Rohwer, *Contracts in a Nutshell* § 5.10, at 325; 9.40, at 373.

¹⁵⁸ Calamari and Perillo, *The Law of Contracts* § 9.40, at 373.

¹⁵⁹ Rohwer, *Contracts in a Nutshell* § 5.10, at 324.

¹⁶⁰ Calamari and Perillo, *The Law of Contracts* § 9.40, at 372-373; Rohwer, *Contracts in a Nutshell* § 5.10, at 324.

¹⁶¹ Rohwer, *Contracts in a Nutshell* § 5.10, at 324.

¹⁶² Calamari and Perillo, *The Law of Contracts* § 9.40, at 374.

It can also be the result of “great disparity of bargaining power that makes the stronger party’s term non-negotiable.”¹⁶³ Inequality of bargaining power is generally not enough on its own. Other procedural aspects include lack of meaningful choice, such as an industry-wide contract tilted heavily in favor of one party and offered as a take it or leave it choice.¹⁶⁴ Take it or leave it contracts, sometimes called contracts of adhesion, are discussed below. Courts also sometimes take into account the sophistication of the parties. Unconscionability may occur, however, even where the parties are on about equal footing.¹⁶⁵

In almost every case in which a court has granted relief for substantive unconscionability, there have been elements of procedural unconscionability as well.¹⁶⁶

Adhesion contracts, which are discussed below, are not automatically objectionable, but the presence of an adhesion contract, with the lack of ability to negotiate, may bear on a decision finding the method of agreeing to the contract unconscionable.¹⁶⁷ Unconscionable contracts are discussed more as a part of the discussion of contracts of adhesion.

b. Substantive Unconscionability

Usually, for a contract to be ruled unconscionable there must be what is often called “substantive unconscionability.” Substantive unconscionability occurs when the terms of the agreement are oppressive or overly harsh.¹⁶⁸ As one scholar explains, the contract takes the form of an “oppression.”¹⁶⁹ In other words, substantive unconscionability is about the unfairness of the final substance of the contract. Examples of substantive unconscionability include when a party gets almost all of the benefits of the agreement or leaves the other party without a remedy for nonperformance of the contract.¹⁷⁰ It can also appear as part of the contract that puts one party at a substantial disadvantage to another party without giving a benefit of similar value to that same party. An excessively large disparity between the cost of something provided in a contract, and the selling price of the same item when sold, is an indication of substantive unconscionability.

Substantive unconscionability is generally required for a contract to be unconscionable. Although substantive unconscionability is often thought to come about because of procedural unconscionability some courts seem to conclude that substantive fairness is the only question and are less interested in procedural fairness.¹⁷¹ For these courts, if the substance of the contract was fair when made,

¹⁶³ Rohwer, *Contracts in a Nutshell* § 5.10, at 324.

¹⁶⁴ Calamari and Perillo, *The Law of Contracts* § 9.40, at 374.

¹⁶⁵ Calamari and Perillo, *The Law of Contracts* § 9.40, at 374.

¹⁶⁶ Rohwer, *Contracts in a Nutshell* § 5.10, at 326.

¹⁶⁷ Rohwer, *Contracts in a Nutshell* § 5.10, at 324.

¹⁶⁸ Rohwer, *Contracts in a Nutshell* § 5.10, at 325-326.

¹⁶⁹ Calamari and Perillo, *The Law of Contracts* § 9.40, at 372-373; Rohwer, *Contracts in a Nutshell* § 5.10, at 325.

¹⁷⁰ Rohwer, *Contracts in a Nutshell* § 5.10, at 325.

¹⁷¹ Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 4.B, at 97.

inequality in disparity in bargaining power or other factors that suggest procedural unconscionability will not make the contract unenforceable.

4. Businesses—Including Farmers—Are Protected from Unconscionable Contracts

Unconscionability is sometimes assumed to be available only to consumers that deal with large corporations. Businesses, especially small businesses, are also legally protected from unconscionable contracts.¹⁷² This includes farmers.

G. Frustration of Contract

A court will not enforce a contract if there has been a “frustration” of that contract.¹⁷³ Similarly, courts will not enforce contact if there has been a “frustration of purpose” of the contract.¹⁷⁴

For frustration of a contract to occur, the underlying purpose that led a party to enter into the contract must be frustrated or hindered.¹⁷⁵ Sometimes the purpose is in the terms of the contract itself. Other times the purpose is not in writing, but rather exists in the thoughts and intentions of the parties. In either case, the purpose becomes a central aspect of the contract, and if the performance of the parties no longer satisfies the intended purpose, then a court will not enforce the contract.

If the contract has a specific purpose and the purpose of the contract no longer exists due to reasons beyond the party’s control, the court will not enforce the contract.¹⁷⁶ For this rule to apply, the aims of the contract must be utterly defeated by circumstances that took place after the creation of the contract. This can be true even if the performance of the contract is still possible.

H. Impossibility

Courts do not enforce a contract if it becomes impossible to carry out the contract.¹⁷⁷ An example of a contract that becomes impossible is the death of a person who was to perform a contract.¹⁷⁸ Similarly, if carrying out the contract becomes illegal, a court will agree that the contract should not be enforced. If the subject of a contract is destroyed, this is also an example of a contract that the courts will conclude has become impossible to carry out.

¹⁷² Calamari and Perillo, *The Law of Contracts* §§ 9.39 to 9.40, at 370-373; Rohwer, *Contracts in a Nutshell* § 5.10, at 326.

¹⁷³ *Black’s Law Dictionary*, “Frustration,” at 812 (11th ed. 2019).

¹⁷⁴ *Black’s Law Dictionary*, “Frustration,” at 812 (11th ed. 2019); Rohwer, *Contracts in a Nutshell* § 6.3, at 348-351; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 7B, at 181-192.

¹⁷⁵ *Black’s Law Dictionary*, “Frustration,” at 812 (11th ed. 2019).

¹⁷⁶ *Black’s Law Dictionary*, “Frustration,” at 812 (11th ed. 2019); Rohwer, *Contracts in a Nutshell* § 6.3, at 348-351.

¹⁷⁷ *Black’s Law Dictionary*, “Impossibility,” at 905 (11th ed. 2019); Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 7.B, at 181-192; Rohwer, *Contracts in a Nutshell* § 6.1, at 339-341; Calamari and Perillo, *The Law Contract* § 13.1, at 494-496.

¹⁷⁸ Calamari and Perillo, *The Law Contract* § 13.1, at 496.

I. Impracticability

Courts do not enforce a contract if carrying out the contract turns out to be impracticable.¹⁷⁹

In general, courts assume that parties often enter a contract for the purpose of shifting risk of future events.¹⁸⁰ Parties, for their part, generally take into account that prices or other circumstances can change over the term of the contract.

In very narrow cases, however, impracticability can come into play when a change of circumstance makes performance by a party more expensive or makes the returns the party will receive less valuable.¹⁸¹ Even if meeting the terms of a contract is technically possible, changes can occur that are outside of the parties' control and which will lead a court to refuse to enforce the contract due to impracticality.¹⁸² If parties discover facts that existed at the time the contract was made and that make the performance impracticable, this is probably an issue of mistake, not impracticability.¹⁸³

Price changes are often a part of impracticability. To be considered legally impracticable, the price changes must be significant and must be caused by some specific event that was not considered by the parties.¹⁸⁴ Market changes themselves do not make a contract impracticable. The changes must be due to events that the parties assumed would not occur.¹⁸⁵

Four things need to be true for a court to refuse to enforce a contract due to impracticability.

First, as noted above, there must be an occurrence or event that has made performance either impossible or impracticable.¹⁸⁶ This can include, death, fire, illness, and government regulations. These events are thought of as acts of God or are acts of third persons or of the government and are beyond the control of the parties.

The degree of impracticability is a central issue. Increased cost alone is generally not enough, although costs that involve economic waste through unreasonable allocation of labor or resources could make an alternative method of performance legally impracticable.¹⁸⁷

¹⁷⁹ Black's Law Dictionary, "Impracticability," at 906 (11th ed. 2019); Rohwer, *Contracts in a Nutshell* §§ 6.1 to 6.2, at 339-348; Calamari and Perillo, *The Law Contract* § 13.9, at 511-513; Restatement (Second) of Contracts § 261; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 7A, at 180.

¹⁸⁰ Rohwer, *Contracts in a Nutshell* § 6.1, at 342-343.

¹⁸¹ Rohwer, *Contracts in a Nutshell* § 6.1.1, at 342.

¹⁸² Rohwer, *Contracts in a Nutshell* § 6.2, at 344-346; Calamari and Perillo, *The Law Contract* § 13.9, at 511-512.

¹⁸³ Rohwer, *Contracts in a Nutshell* § 6.2, at 344-45. There will be some cases in which either argument might be used.

¹⁸⁴ Rohwer, *Contracts in a Nutshell* § 6.1 at 343; Calamari and Perillo, *The Law Contract* § 13.9, at 512-513.

¹⁸⁵ Rohwer, *Contracts in a Nutshell* § 6.2 at 346.

¹⁸⁶ Rohwer, *Contracts in a Nutshell* § 6.2 at 344.

¹⁸⁷ Rohwer, *Contracts in a Nutshell* § 6.2, at 344.

Second, the event must have occurred without the fault of the party that seeks relief due to the occurrence of the event.¹⁸⁸

Third, it must have been a basic assumption of the contract when it was made that the occurrence would not happen.¹⁸⁹

Fourth and finally, the parties themselves must not have negotiated over the possibility of the event. Parties often include language allocating risk for extreme and unusual events, and the law sometimes allocates those risks in advance. An event will not make a contract impracticable if the contract sets out who assumes the risk. If this legal allocation of the risk of the occurrence has been included in the contract, the parties may not use impracticability as a defense.¹⁹⁰ A risk that is not included in the list of risks that can excuse performance can therefore raise an issue of impracticality.¹⁹¹

In sum, courts tend to hold parties to their bargain and find that the parties assume the risk of many events that later make performance difficult.¹⁹²

J. Illegal or Violates Public Policy

Courts will not enforce contracts that are illegal or against public policy.¹⁹³ A contract violates public policy if it conflicts with clear legislative intent or is contrary to principles of equity and fairness that are well recognized and long standing.¹⁹⁴ Contracts that require a party to violate the law are an example of this type of exception.¹⁹⁵ Another example is contracts that excuse a party of liability for harm caused by intentional or reckless conduct.¹⁹⁶

IX. Oral Contracts Can be Valid

It is sometimes assumed that all contracts must be in writing. This is not true. The common handshake agreements in agriculture can be just as legal and enforceable as a written contract.

An oral contract must meet other basic contract requirements, including ones discussed in this chapter. In general, they must involve an offer and acceptance, they must include consideration, must have enough details to give a court the ability to understand the terms of the contract if the contract is to be enforced, and so forth.

It might be possible for a legally enforceable carbon market contract to be oral and not written. It seems unlikely, however, and we have never heard of a farmer being offered an oral carbon market contract.

¹⁸⁸ Rohwer, *Contracts in a Nutshell* § 6.2, at 345.

¹⁸⁹ Rohwer, *Contracts in a Nutshell* § 6.2, at 345.

¹⁹⁰ Rohwer, *Contracts in a Nutshell* § 6.2, at 345-347.

¹⁹¹ Rohwer, *Contracts in a Nutshell* § 6.2, at 346.

¹⁹² Rohwer, *Contracts in a Nutshell* § 6.2, at 347-348.

¹⁹³ Black's Law Dictionary, "Public Policy," at 1487 (11th ed. 2019); Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 4.C, at 99-103; Calamari and Perillo, *The Law of Contracts* § 22.1 to 22.9, at 818-835; Rohwer, *Contracts in a Nutshell* § 5.11 to 5.11.5, at 326 to 327; Restatement (Second) of Contracts § 178; Murray, *Corbin on Contracts* §§ 79.1 to 79.3.

¹⁹⁴ Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 4.C, at 99. A court will not enforce such a contract even if the disadvantaged party is aware of the contract term and agreed to it.

¹⁹⁵ Rohwer, *Contracts in a Nutshell* § 5.11, at 326-331.

¹⁹⁶ Rohwer, *Contracts in a Nutshell* § 5.11 at 329, 332-334

For certain kinds of contracts, however, the contract must be in writing. Some of these are discussed in the next section.

X. The “Statute of Frauds” – Some Contracts Must be Reduced to Writing

Although many contracts can be valid whether they are oral or written, in most states some types of contracts must be made in writing in order to be enforceable.¹⁹⁷ This is true even though all other usual requirements for a contract are met.

While there are a number of rules along these lines, some are especially important for this Guide. This part of contract law is known as the “statute of frauds.”¹⁹⁸ Statute of frauds laws generally require certain information to be in the writing and also require a signature.¹⁹⁹ Courts have certain rules for what counts as enough written information for a contract to meet the rules of the statute of frauds.²⁰⁰

A carbon market contract is likely to require a written agreement. Anyone who offers a farmer a carbon market contract but does not want to reduce the agreement to writing is likely offering a contract that cannot be enforced legally.

It is important to note that this is one area of contract law that can have significant variation from state to state.

A. Contracts for the Sale of Land or an Interest in Land

In most states contracts that include a promise to sell land must be in writing.²⁰¹ In addition, contracts that promise to sell an interest in land must also be in writing. In general, that would mean the promise to lease land, or grant an easement, or a promise to mortgage land must be in writing. In many cases, to fall within the statute of frauds—and the requirement for the agreement to be in writing—a lease must be for more than one year.²⁰²

B. Contract for the Sale of Goods, and for Lease of Goods

Many contracts for the sale of goods must be in writing.²⁰³ Often for the contract to need to be in writing it must have a value of at least 500 dollars.²⁰⁴

¹⁹⁷ Restatement (Second) of Contracts §§ 110, 131; Rohwer, *Contracts in a Nutshell* §§ 3.1 to 3.7, at 195-228; Calamari and Perillo, *The Law of Contracts* §§ 19.1 to 19.12, at 714-730. When lawyers say a contract is inside the statute of frauds, that means the contract must be in writing. We know of no carbon market contract offers that did not include a written contract.

¹⁹⁸ Calamari and Perillo, *The Law of Contracts* § 19.1, at 714-716; Rohwer, *Contracts in a Nutshell*, Chapter 3, at 195-228.

¹⁹⁹ For the writing, see Restatement (Second) of Contracts § 131; Rohwer, *Contracts in a Nutshell* §§ 3.3, 3.3.1, at 216-217.

²⁰⁰ Calamari and Perillo, *The Law of Contracts* §§ 19.26 to 19.39, at 752-768.

²⁰¹ Calamari and Perillo, *The Law of Contracts* §§ 19.14 to 9.15, at 732-737; Rohwer, *Contracts in a Nutshell* § 3.2.4, at 209.

²⁰² Rohwer, *Contracts in a Nutshell* § 3.2.5, at 210.

²⁰³ Calamari and Perillo, *The Law of Contracts* § 19.16, at 737-742.

²⁰⁴ Rohwer, *Contracts in a Nutshell* § 3.2.7, at 211.

Legally, “goods” are defined in a particular way.²⁰⁵ Goods are a form of personal property. That means goods do not include land and buildings. Goods do include many tangible items that can be moved at the time a contract is made. Goods can include what are often called capital goods, such as equipment and machines, consumer goods, which are used or bought for personal or household use, and durable goods, which have a reasonably long life, such as a refrigerator. As it relates to farmers specifically, goods can include growing crops and the unborn young of animals. Goods, however, do not include money, documents, accounts, and intangible items.

Some states require that a lease of goods must be in writing if the value of the lease is at least 1,000 dollars.²⁰⁶

C. Contracts That Cannot be Performed within One Year

In general, contracts that, by their own terms, cannot be completed within one year are within the statute of frauds.²⁰⁷ They must therefore be in writing and include signatures.

D. Other Contracts Within the Statute of Frauds

Other contracts are often included in the statute of frauds. These include promises to discharge the debt of another person, contracts to marry (“I will pay you one thousand dollars to marry this person”), and contracts that cannot be performed in a lifetime.²⁰⁸

XI. Negotiating a Contract: Offer and Acceptance

Contract law tends to assume that every contract is the result of a negotiation between parties. In general, this is true, but the details of how parties agree to a contract can vary greatly.²⁰⁹

A. Can Refuse to Agree

Anyone in a contract negotiation or who is thinking about agreeing to a contract can refuse to agree. No one can be literally forced to sign a contract. Contracts by definition are voluntary agreements. That means a potential party can refuse the contract and the offer then becomes terminated.²¹⁰

²⁰⁵ Black’s Law Dictionary, “Goods,” at 837-838 (11th ed. 2019); Rohwer, Contracts in a Nutshell § 1.5.1, at 15-19.

²⁰⁶ Rohwer, Contracts in a Nutshell § 3.2.8, at 212.

²⁰⁷ Calamari and Perillo, The Law of Contracts § 19.17 to 19.24, at 743-751; Rohwer, Contracts in a Nutshell § 3.2.1, at 203-207; Restatement (Second) of Contracts § 130; Murray, Corbin on Contracts § 19.1.

²⁰⁸ Rohwer, Contracts in a Nutshell §§ 3.2.2, at 207-209, 3.2.3, at 209, 3.2.6, at 210-211.

²⁰⁹ Offer and acceptance of contracts is described in Chirelstein, Concepts and Case Analysis in the Law of Contracts, Chapter 3.A, at 41-53; Rohwer, Contracts in a Nutshell §§ 2.1 to 2.23, at 25-116; Camarillo and Perillo, the Law of Contracts 2.1 to 2.26, at 25-117.

²¹⁰ Rohwer, Contracts in a Nutshell, § 2.73, at 55.

B. Offers and “Revocation”

If one person proposes a contract to another person, that is considered by the law to be an “offer.”²¹¹ An offer, in general, is a promise to do or refrain from doing some specific thing in the future if the other party accepts the offer.²¹²

Legal rules address the situation in which someone makes an offer and decides to withdraw the offer before there is a final agreement, which is known as a “revocation.”²¹³ In general an offer can be revoked any time before it is accepted without liability for the person revoking the offer.

C. Acceptance

After a person makes an offer, the other potential party can accept the offer. This is considered by courts as an “offer and acceptance.”²¹⁴ An acceptance is the final step in the creation of a contract. Once accepted, it becomes a contract and both parties are bound by it.²¹⁵ In general, if an acceptance also includes other conditions or qualifications, it likely does not count as an acceptance that binds the parties.²¹⁶ This is likely true even if the changes are small, but there are exceptions to the general rule which are described immediately below.

D. Rejection and Counteroffer

A person who receives an offer can reject the offer and end the discussion. This person can also respond by proposing changes to the offer. The law considers this proposal a

²¹¹ See Restatement (Second) of Contracts § 24; Rohwer, *Contracts in a Nutshell* § 2.3, at 28-30; Calamari and Perillo, *The Law of Contracts* 2.5, at 30-46. According to Black’s Law Dictionary, an offer is “A promise to do or refrain from doing some specified thing in the future, conditioned on an act, forbearance, or return promise being given in exchange for the promise or its performance.” Black’s Law Dictionary, “Offer,” at 1304 (11th ed. 2019). It shows a “willingness to enter into a contract on specified terms, made in a way that would lead a reasonable person to understand that an acceptance, having been sought, will result in a binding contract.” Some aspects of a contract offer can be complicated. When, for example, has a person made an offer, and when is it an invitation to bargain and negotiate? Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 3.A, at 41-42

²¹² Calamari and Perillo, *The Law of Contracts* 2.5, at 30-31.

²¹³ Black’s Law Dictionary, “Revocation,” at 1579 (11th ed. 2019); Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 3.B, at 53-59; Rohwer, *Contracts in a Nutshell* § 2.75, at 56-57; Calamari and Perillo, *The Law of Contracts* 2.20, at 87-97. Reliance by one party can become an issue with offer revocation. *Concepts and Case Analysis in the Law of Contracts*, Chapter 3.B, at 59-66. “Agreements to agree” can also create confusion questions. Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 3.B, at 67-70. Some offers, known as irrevocable offers, may not be revoked. Black’s Law Dictionary, “Irrevocable offer,” at 1304 (11th ed. 2019); Rohwer, *Contracts in a Nutshell* § 2.8 to 2.84, at 59-65; Calamari and Perillo, *The Law of Contracts*, 2.25, at 113-117.

²¹⁴ Rohwer, *Contracts in a Nutshell* § 2.11, at 75-78.

²¹⁵ Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 3.A, at 45-46. Various types of action, including beginning performance, can sometimes count as an acceptance. Rohwer, *Contracts in a Nutshell* § 2.11, 2.16, 2.21 to 2.22, at 75-78, 109-111, 97-100. Other acceptance issues are discussed by Calamari and Perillo, *The Law of Contracts* 2.11-2.25, at 71-120.

²¹⁶ Restatement (Second) of Contracts §§ 39, 59; Chirelstein, *Concepts and Case Analysis in the Law of Contracts* Chapter 3.B, at 70-81; Calamari and Perillo, *The Law of Contracts*, 2.21, at 96-104.

counteroffer.²¹⁷ The first person can accept the counteroffer, refuse it and end the discussion, or make another counteroffer. In theory, this back and forth can go on indefinitely until there is an agreement or someone refuses the offer and no more offers or counteroffers are made.

E. Negotiating A Contract

Two additional points about offer and acceptance are relevant to carbon market contracts.

First, it is perfectly legal for a farmer to be presented with a contract but make changes to the contract before signing. From a legal point of view, the original contract presented to a farmer is an offer, and the farmer can make a counteroffer. The other party can agree or not. This can be done quite simply by making written changes in the contract. Both parties need to sign off on those changes. If the farmer makes a change in the contract, it is probably also a good idea to initial the change.

Second, although the option for farmer negotiation of a carbon market contract sounds good, in most carbon contract cases the other party is not likely to agree to changes. The carbon market contracts may be what lawyers sometimes call “contracts of adhesion.” That means that one party drafts the entire contract, presents it to another party, and requires the other party to agree with all terms as written or there is no agreement.²¹⁸ This take it or leave it type of contract is legal and enforceable. There is no rule that says a party must negotiate any changes to a potential contract. The point here is that it is likely that the carbon contract presented to a farmer is a take it or leave it offer. In theory, terms could change, but there may well be no room for negotiation. Contracts of adhesion are discussed in more detail below.

XII. “Consideration” Required for Contracts

One of the stranger aspects of contract law is that for the agreement to be enforced there must be “consideration.”²¹⁹ In other words, the agreement must include the promise of an exchange of something of value.

A. A Contract is an Exchange—Not a Gift

For an agreement to be a contract, it may not be a promise of a gift. Lawyers call these gifts “donative promises,” and donative promises are not a contract and are not enforced by courts.²²⁰

²¹⁷ Restatement (Second) of Contracts § 59; Rohwer, *Contracts in a Nutshell* § 2.7.4, at 55-56, 2.12.1, at 81-82. Black’s Law Dictionary, “Counteroffer,” at 442 (11th ed. 2019). A counteroffer is technically a statement made by the offeree (the person receiving the offer) to the offeror (the person who made the offer) that varies the terms of the original offer and which ordinarily rejects and terminates the original offer. It is therefore a statement by the offeree which has the legal effect of rejecting the original offer and proposing and new offer to the offeror.

²¹⁸ See generally, Corbin on Contracts § 1.4.

²¹⁹ Discussions of consideration are at Calamari and Perillo, *The Law of Contracts*, §§ 4.1 to 4.16, at 165-221; Rohwer, *Contracts in a Nutshell*, 2.24 to 2.40, at 116-166; Chirelstein, *Concepts and Cases in Contracts*, Chapter 2, at 12-35.

²²⁰ Calamari and Perillo, *The Law of Contracts* § 4.1, at 166, and 4.5, at 175 to 177; Chirelstein, *Concepts and Cases in Contract Law*, Chapter 2.A, at 15-22.

As one example: “I promise to pay you 5,000 dollars in thirty days” is not an enforceable agreement.²²¹ It is instead merely a promise to give money.

The promise must include a legal detriment. The promise, in other words, must be to do something the party was not legally obligated to do otherwise.²²² Or, the legal detriment could be a promise to refrain from doing something the party is legally allowed to do. The promise must induce the detriment and the detriment must induce the promise.²²³

These inducements are known as “consideration.”

B. Defining Consideration

Consideration can be defined as follows.

The inducement to a contract. The cause, motive, price, or impelling influence which induces a contracting party to enter into a contract. The reason for the contract. The reason or material cause of a contract. Some right, interest, profit or benefit accruing to one party, or some forbearance, detriment, loss or responsibility, given, suffered, or undertaken by the other.²²⁴

More simply put, the definition of consideration can be broken down into three parts: (1) there must be a “legal detriment;” (2) the legal detriment must induce a promise; and (3) the promise must also induce the legal detriment.

First, the promise must create what lawyers call “legal detriment.”²²⁵ This means a party must promise to do something the party would not otherwise have been obligated to do. Or, conversely, the party must promise not to do something that the party would be otherwise be allowed to do. The detriment must have been bargained for by the party making the promise; and what counts as consideration must be exchanged and in return for a promise from the other party.²²⁶

Second, the detriment must induce the promise.²²⁷ In other words, the party making the promise must have made the promise in order to exchange it for the detriment that the other party promises.

Third, the promise must induce the detriment.²²⁸ That means the promise must be known to the other party and the other party must intend to accept the offer.

The question is whether the exchange was made because of the promise. A bad exchange still qualifies as consideration.

²²¹ Calamari and Perillo, *The Law of Contracts* § 4.2, at 171.

²²² Calamari and Perillo, *The Law of Contracts* § 4.2, at 168-171.

²²³ Calamari and Perillo, *The Law of Contracts* § 4.2, at 168-171.

²²⁴ Black's Law Dictionary, “Consideration,” at 382 (11th ed. 2019); Restatement (Second) of Contracts § 71.

²²⁵ Calamari and Perillo, *The Law of Contracts* § 4.2, at 168-171. Sometimes this is described as either legal detriment to the person making the promise or legal benefit for the other party.

²²⁶ Calamari and Perillo, *The Law of Contracts* § 4.2 to 4.3, at 168-172.

²²⁷ Calamari and Perillo, *The Law of Contracts* § 4.2, at 170.

²²⁸ Calamari and Perillo, *The Law of Contracts* § 4.2, at 170-171.

C. “Adequacy” of Consideration

Sometimes a question is raised as to whether the consideration is “adequate” to create a contract.²²⁹ Is the consideration, to put it differently, enough for the courts to decide it is a real bargain because something of value is actually exchanged? In general, when courts ask this question they defer to the parties and do not second guess the agreement and do not use the consideration as a way to question the legality of a so-called “bad” agreement. Courts tend not to interfere with the parties’ freedom of contract.

The only way courts tend to see consideration as inadequate is when there is a promise to exchange money or goods for a lesser amount of money or goods at the same time and place.²³⁰ Even these types of contracts are legal if there are risks or other factors that explain the inequality of the values. So, in general, consideration needs to be “fair and reasonable under the circumstances of the agreement.”²³¹ Put differently, the question is whether the consideration is “so disproportionate as to shock our sense of that morality and fair dealing.”²³²

Courts will look to see that the consideration is not a sham and is not nominal. If the consideration is either of those, the exchange, legally, is a gift.²³³ In other words, courts can conclude the consideration was so little that it was not what induced the agreement.

XIII. Allocating Risk

Contracts often call for the delivery of various things, including, for example, agricultural products. Contracts also set out which party bears the risk for certain problems that might occur during the contract. Risks in agricultural production, change in the business climate, financial changes, and many other types of risk can be discussed in a contract. The law has some general principles in this regard, but risks are often shifted by a contract. Courts, in general, enforce this risk shifting.²³⁴

XIV. Good Faith in Contracts

As will be noted below, once a contract is signed, each party must carry out the contract in “good faith.”²³⁵ The contract itself gives rise to this obligation of good faith. Contract law does not require good faith in negotiations.²³⁶ It may turn out that actions that would seem to be a lack of good faith can make a contract not enforceable, but failure to act in good faith itself—which has a legal definition—has not been required for contract negotiations, but this rule may be changing.²³⁷

²²⁹ Black’s Law Dictionary, “Adequate Consideration,” at 382 (11th ed. 2019); Restatement (Second) of Contracts § 79; Rohwer, *Contracts in a Nutshell* § 2.34, 2.36, at 152-153, 154-158.

²³⁰ Calamari and Perillo, *the Law of Contracts* § 4.4, at 172-175. These types of inequalities may be part of the court’s review of other issues, such as fraud, duress, undue influence, and mistake. Calamari and Perillo, *the Law of Contracts* § 4.4, at 174-175.

²³¹ Black’s Law Dictionary, “Adequate Consideration,” at 382 (11th ed. 2019).

²³² Black’s Law Dictionary, “Adequate Consideration,” at 39 (6th ed. 1990).

²³³ Calamari and Perillo, *the Law of Contracts* § 4.6, at 177-180; Rohwer, *Contracts in a Nutshell* § 2.30, at 141.

²³⁴ Rohwer, *Contracts in a Nutshell* § 6.1, at 342-343.

²³⁵ Rohwer, *Contracts in a Nutshell* §§ 4.11 to 4.12, at 266-277.

²³⁶ Rohwer, *Contracts in a Nutshell* § 8.13, at 440-442.

²³⁷ Rohwer, *Contracts in a Nutshell* §§ 4.11, 8.13, at 266-276, 440-442.

XV. Reliance and the Law of “Promissory Estoppel”

An important exception to a number of rules in contract law is the law of “promissory estoppel.”²³⁸ Promissory estoppel comes into play when a person makes a promise to a second person, the second person relies on that promise, and the second person is then harmed by that reliance. In general, the relying party is treated under the law of promissory estoppel as if there was actually a contract. The person that makes the promise is obligated because of the reliance by the second party and because the harm to that party was foreseeable when the promise was made. Reliance on a promise, as a result, becomes a basis for the creation of rights and duties that are similar to those under a contract.²³⁹ This is true even if the parties did not actually agree to a completed contract.

Promissory estoppel might be considered a “mender of ailing contracts” and a substitution for consideration.²⁴⁰ Promissory estoppel provides an exception to basic contract rules like the requirement of consideration in a bargain, the statute of frauds, and the requirement that contracts are definite.²⁴¹

Promissory estoppel can be difficult to use, but almost all courts recognize it as a remedy for some contracts.

In general, for promissory estoppel to come into play three things must happen.²⁴²

First, there must be a promise from one party to another.²⁴³ The promise must be clear and not ambiguous. In some cases, the promise is made in negotiations in the run-up to a contract.²⁴⁴

Second, the promise must be one that a party would “reasonably expect” to induce the other party into action of a definite and substantial character.²⁴⁵ Reliance by the other party must be reasonable and foreseeable. The promise can also be one that would induce the other party to “forbear” an action—meaning not take an action that the party would have otherwise taken.

²³⁸ Black’s Law Dictionary, “Promissory estoppel,” at 692-693 (11th ed. 2019); Restatement (Second) of Contracts §§ 1, 90, 139; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 2.B, at 22-27; Rohwer, *Contracts in a Nutshell* §§ 2.41 to 2.43, at 167-176, 3.6.3, at 221-223; Calamari and Perillo, *The Law of Contracts* §§ 6.1 to 6.4, at 247-267. The strange word estoppel apparently is traceable to French. Calamari and Perillo, *The Law of Contracts* § 6.2, at 252, n. 1.

²³⁹ Rohwer, *Contracts in a Nutshell* § 2.41, at 168.

²⁴⁰ Calamari and Perillo, *The Law of Contracts* § 6.1, 248.

²⁴¹ Restatement (Second) of Contracts §§ 90, 139; Chirelstein, *Concepts and Cases of Contract Law*, Chapter 2.B, at 23; Rohwer, *Contracts in a Nutshell* §§ 2.41, 3.6.3, at 167-168, 221-223; Calamari and Perillo, *The Law of Contracts* § 6.1, at 248.

²⁴² Black’s Law Dictionary, “Promissory estoppel,” at 692-293 (11th ed. 2019).

²⁴³ Black’s Law Dictionary, “Promissory estoppel,” at 692-293 (11th ed. 2019); Calamari and Perillo, *The Law of Contracts* § 6.1, at 249.

²⁴⁴ Calamari and Perillo, *The Law of Contracts* § 6.5(c), at 288-290.

²⁴⁵ Black’s Law Dictionary, “Promissory estoppel,” at 692-293 (11th ed. 2019); Calamari and Perillo, *The Law of Contracts* § 6.1, at 272. Restatement (First) of Contracts § 90 says it is a “promise which the promisor should reasonably expect to induce action or forbearance of a definite and substantial character on the part of the promisee and which does induce such action or forbearance is binding if injustice can be avoided only by the enforcement of the promise.”

Third, the promise must actually induce action or forbearance from the other party.²⁴⁶ The relying party is harmed as a result of relying on the promise.²⁴⁷

Finally, courts will enforce the agreement only if that is the only way to avoid injustice.²⁴⁸ Recovery in court for promissory estoppel is somewhat different than for normal contract issues.²⁴⁹ The remedy for promissory estoppel may be limited to the extent of the reliance on the promise.

XVI. Contract Terms Must be Definite and Certain

The terms of a contract must be definite and certain.²⁵⁰ Some courts are reluctant to invalidate contracts merely because they are indefinite if a just result can be reached by upholding the agreement. In general, this means that if a carbon contract agreement is specific enough that the parties understand what is required of them, understand the terms of payment, and have a clear understanding of the duration of the agreement, courts will enforce the contract.

XVII. Interpreting the Contract

Once an agreement is reached, and there is a binding contract, a question often raised is: what does the contract actually mean. In theory, the law is intended to protect the reasonable expectations of people who are parties to the contract. Not surprisingly, many contract disagreements are about the meaning of the language used in the contract.

The question of the meaning of a contract could easily arise in a carbon market contract.

A. Basic Rules for Interpreting the Contract

A great deal of law looks at how a contract should be interpreted.²⁵¹ A few important rules are discussed here.

1. Intent of the Parties

The goal of a court in interpreting a contract is to understand the reasonable expectations the parties had when they made the agreement.²⁵²

2. The Terms of the Contract Itself Most Important

In general, when interpreting the meaning of a contract, the most important factor is the terms of the agreement itself. When there is a legal dispute about a contract, courts will look closely at the meaning of the language used by the parties in the contract.²⁵³

²⁴⁶ Black's Law Dictionary, "Promissory estoppel," at 692-293 (11th ed. 2019).

²⁴⁷ Black's Law Dictionary, "Promissory estoppel," at 692-693 (11th ed. 2019).

²⁴⁸ Calamari and Perillo, *The Law of Contracts* § 6.1, at 250; Rohwer, *Contracts in a Nutshell* § 2.41, at 171.

²⁴⁹ Restatement (Second) of Contracts § 90, Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 2.B, at 22; Calamari and Perillo, *The Law of Contracts* § 6.4, at 265-267.

²⁵⁰ Rohwer, *Contracts in a Nutshell* § 5.6.1, at 311-312; Calamari and Perillo, *The Law of Contracts* § 2.9, at 50-51.

²⁵¹ Rohwer, *Contracts in a Nutshell* ch. 4, at 229-277; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 5, at 104-127; Calamari and Perillo, *The Law of Contracts*, ch. 3, at 118-164.

²⁵² Rohwer, *Contracts in a Nutshell* § 4.1, at 229; Calamari and Perillo, *The Law of Contracts*, § 3.9, at 146-148; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 5, at 104-107.

²⁵³ Rohwer, *Contracts in a Nutshell* §§ 4.1-4.1.2 at 229-235.

Other factors can come into play, but “express terms” in a contract are given the most weight.²⁵⁴

3. Oral Statements and Other Written Materials: The Parol Evidence Rule and Integrated Agreements

The parol evidence rule holds that certain agreements are considered final. Any earlier version of the agreement—either verbal or written—is not a part of the final agreement.²⁵⁵

a. Parol Evidence Rule in General

It is often the case that oral agreements are reached before there is a final and agreed upon written contract. An important question is the extent to which these verbal discussions or agreements, or other written materials, are taken into account when interpreting a later written contract. In general, if parties have more than one agreement, an “earlier tentative agreement” is rejected and instead it is the later final agreement that is binding.²⁵⁶ The other agreements may not be used to contradict the final agreement, although they may be used to interpret it if it is not clear.²⁵⁷ This is the “parol evidence” rule.

b. When Parol Evidence Rule Applies

For the parol evidence rule to apply two things must be true.²⁵⁸

First, the last agreement must be in writing.

Second, the last agreement must qualify as a binding contract.²⁵⁹ If a written contract is “completely integrated” that written contract captures the full and complete meaning of the agreement.²⁶⁰ Sometimes the term used is “total integration.”²⁶¹ A completely integrated agreement, to put it differently, is a final and complete agreement.²⁶² Legally, one question is whether the parties intended the agreement to be final.²⁶³

²⁵⁴ Restatement (Second) of Contracts § 203.

²⁵⁵ Calamari and Perillo, *The Law of Contracts* § 3.2-3.2(a), at 121-123. Agreements affected can be both oral or written, so the name “parol” is misleading. There is some disagreement as to whether the parol evidence rule applies when the additional evidence is contemporaneous with the integrated agreement.

²⁵⁶ Calamari and Perillo, *The Law of Contracts* § 3.2 at 121; Rohwer, *Contracts in a Nutshell* § 4.6, at 249.

²⁵⁷ Rohwer, *Contracts in a Nutshell* § 4.7, at 257.

²⁵⁸ Calamari and Perillo § 3.2, at 122; Rohwer, *Contracts in a Nutshell* § 4.5, at 248-249.

²⁵⁸ Calamari and Perillo, *The Law of Contracts* § 3.2 at 122.

²⁵⁹ Calamari and Perillo, *The Law of Contracts* §§ 3.2, 3.7, at 122, 140-146.

²⁶⁰ Rohwer, *Contracts in a Nutshell* § 4.6.1, at 251-255; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 5A, at 107-114.

²⁶¹ Calamari and Perillo, *The Law of Contracts* § 3.4, at 129.

²⁶² Calamari and Perillo, *The Law of Contracts* § 3.2 at 122.

²⁶³ Rohwer, *Contracts in a Nutshell* § 4.6, at 251-252; Calamari and Perillo, *The Law of Contracts* §§ 3.3, 3.7, at 128, 140-146. For example, the rule does not apply, if the parties did not intend the agreement to be final or if there was fraud, mistake, unconscionability, or lack of consideration.

Anything less than a completely integrated agreement—often called a partial integration—does not trigger the parol evidence rule.²⁶⁴ Only the completely integrated agreement, not earlier partially integrated agreements, is binding. Further, the partial integration agreement cannot be used to interpret the complete integration agreement.

A number of different, complicated approaches are used to decide if a contract is a complete, or total, integration or if it is only a partial integration.²⁶⁵

An integrated contract will be considered the “complete and exclusive statement of the terms of the agreement.”²⁶⁶ If the contract is considered integrated, statements made in the past, or other written documents, are not a part of the final agreement.²⁶⁷

c. Integration Clauses

Written contracts often have what is called a merger clause or an integration clause. These clauses say directly that the written agreement is the entire understanding of the parties and that there are no other verbal or written agreements that are a part of the final contract.²⁶⁸ Common terms say that the agreement is the final, complete, and exclusive statement of all the terms of the agreement.²⁶⁹

In general, courts will decide that an agreement that includes a merger clause or an integration clause is completely integrated, although more recently courts seem less likely to reach that conclusion.²⁷⁰ An exception to this rule would apply if the agreement is obviously incomplete.²⁷¹ An exception would also apply if the merger clause was in the agreement as a result of fraud or mistake.

Courts also are sometimes skeptical of integration clauses in what are known as adhesion contracts.²⁷² Adhesion contracts are discussed below.

d. Effect of Parol Evidence Rule

When the parol evidence rule applies, all earlier agreements, either oral or written, are not a part of the contract.²⁷³ They may not be used to contradict the terms of the final written agreement.

²⁶⁴ Calamari and Perillo, *The Law of Contracts* § 3.2 at 121-122.

²⁶⁵ Calamari and Perillo, *The Law of Contracts* § 3.4, at 129-137.

²⁶⁶ Restatement, Second, of Contracts § 210.

²⁶⁷ Restatement, Second, of Contracts, Introduction, Chapter 9, Topic 3, Introductory Note, §§ 209, 212, 213, 216.

²⁶⁸ Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 5A, at 113.

²⁶⁹ Calamari and Perillo, *The Law of Contracts* § 3.6 at 139.

²⁷⁰ See Rohwer, *Contracts in a Nutshell* § 4.8, at 259; Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 5A, at 113; Calamari and Perillo, *The Law of Contracts* § 3.6, at 156-157.

²⁷¹ Calamari and Perillo, *The Law of Contracts* § 3.6 at 140.

²⁷² Rohwer, *Contracts in a Nutshell* § 4.8, at 259.

²⁷³ Legally, these earlier agreements are said to be discharged. Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 5A, at 107.

e. After an Agreement is Made

The parol evidence rule does not apply to oral or other agreements that take place after the agreement is completed.²⁷⁴ Some written agreements say that the agreement may not be changed by oral agreement.²⁷⁵

4. Other Information: Course of Performance, Course of Dealing, and Usage of Trade

Although the language of the contract is the most important factor that the courts look at when interpreting a contract, other factors sometimes come into play.²⁷⁶

Courts will sometimes look at what the law calls the “course of performance,” the “course of dealing,” or the “usage of trade” when interpreting a contract.²⁷⁷ A course of performance is the understanding the two parties develop by the conduct between them over time.²⁷⁸ They do so without disagreement about the performance from either. Course of dealing has a similar meaning. It is a series of acts by the parties in which it can fairly be seen as setting out a common basis for understanding for interpreting their agreements.²⁷⁹ Usage of trade looks at what is the prevailing and accepted custom within a trade or industry. It is common enough that parties can expect that it will be observed in the dealing of the parties.²⁸⁰

XVIII. Standardized Contracts and Contracts of Adhesion

In many instances people, including farmers, sign agreements that are what lawyers often call “standardized.”²⁸¹ They are also sometimes called “contracts of adhesion.”²⁸²

Contracts of adhesion are thought by many to have several common traits.

A. One Party Drafts Complete Contract

In a contract of adhesion one party drafts the agreement.²⁸³ The contract is then presented to the other party.

B. No Chance to Negotiate

In a contract of adhesion there is no realistic chance to negotiate the content of the contract. The non-drafting party has no choice but to reject the offer or to “adhere” to it.²⁸⁴ The non-drafting party might bargain over the price, but the remaining contract terms are

²⁷⁴ Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 6A, at 142-143.

²⁷⁵ This part of the agreement can be changed with an agreement of the parties. Chirelstein, *Concepts and Case Analysis in the Law of Contracts*, Chapter 6A, at 142-143.

²⁷⁶ The course of the performance of the contract, the course of dealing, and the customary usage of trade are such factors that can be important. Rohwer, *Contracts in a Nutshell*, ch. 4, at 229-278.

²⁷⁷ Rohwer, *Contracts in a Nutshell* § 4.2, at 239-244.

²⁷⁸ Black's Law Dictionary, “Course of performance,” at 444 (11th ed. 2019).

²⁷⁹ Black's Law Dictionary, “Course of dealing,” at 444 (11th ed. 2019).

²⁸⁰ Black's Law Dictionary, “Usage,” “trade usage,” at 1853 (11th ed. 2019).

²⁸¹ Restatement, Second, of Contracts § 211.

²⁸² 1 Corbin on Contracts § 1.4, at 14-18; Rohwer, *Contracts in a Nutshell* § 4.4, at 244-48.

²⁸³ Black's Law Dictionary, “Adhesion contract,” at 403 (11th ed. 2019); Rohwer, *Contracts in a Nutshell* § 4.4, at 245.

²⁸⁴ Rohwer, *Contracts in a Nutshell* § 4.4, at 245.

offered on a take it or leave it basis.²⁸⁵ The representative presenting the contract of adhesion, for example, would not have the power to change its terms in a negotiation.²⁸⁶

C. Same Contract Used on Large Scale

A standardized agreement is one in which a party, generally a business of some kind, uses the same contract terms over and over.²⁸⁷ Credit card agreements are a good example of a standardized contract.

D. Contracts Include Considerable Detail – And Are Likely Not Understood by the Other Party

Contracts of adhesion tend to include significant detail that would generally be hard to understand. As a result, it is very likely that the party presented with the contract is not aware of the detailed content of the agreement at the time it is signed.²⁸⁸ Further, it is unlikely that the party presented with the contract could understand the technical language in the contract even if that person tried to read it.²⁸⁹

E. Contracts Are from One Perspective – And Seem to Some One-Sided

A contract of adhesion, by being drafted by only one party, is usually written with the interest of the one writing the contract in mind.²⁹⁰ For some scholars, contracts of adhesion seem to be one-sided. They minimize the corporation's risks and responsibilities and place significant burdens and other limitations on the other party.²⁹¹ The result is a document that "thoroughly favors the seller's interest—one, moreover, to which the buyer is compelled to 'adhere' if she wants the [agreement]. . . ."²⁹²

F. Generally Enforced

In general, courts consider contracts of adhesion to be an enforceable and fully integrated agreement. Courts therefore tend to rule as if the person signing an adhesion contract has read the contract and understands it completely. This is true even though the courts know that it is often the case that the contracts are not the result of a back-and-forth negotiation and the person signing the contract usually does not read or understand it.²⁹³ Further, any other documents that were passed between the parties, or any other statements made by one of the parties, that did not make it into the final agreement signed by the farmer, are generally thought not to be a part of the contract.

G. Some Limits on Contracts of Adhesion

There are, however, some limits on the exact terms of a contract of adhesion.

²⁸⁵ Chirelstein, *Concepts and Cases of Contract Law*, Chapter 4.B, at 93.

²⁸⁶ Rohwer, *Contracts in a Nutshell* § 4.4, at 245; Restatement, Second, of Contracts § 211, comment b.

²⁸⁷ Chirelstein, *Concepts and Cases of Contract Law*, Chapter 4.B, at 94.

²⁸⁸ Chirelstein, *Concepts and Cases of Contract Law*, Chapter 4.B, at 93.

²⁸⁹ Chirelstein, *Concepts and Cases of Contract Law*, Chapter 4.B, at 93.

²⁹⁰ Chirelstein, *Concepts and Cases of Contract Law*, Chapter 4.B, at 93.

²⁹¹ Chirelstein, *Concepts and Cases of Contract Law*, Chapter 4.B, at 93.

²⁹² Chirelstein, *Concepts and Cases of Contract Law*, Chapter at 4.B, 94.

²⁹³ Restatement, Second, of Contracts § 211, comment c; Rohwer, *Contracts in a Nutshell* § 4.4, at 246.

First, in general they will be interpreted against the interest of the party who drafted the contract.²⁹⁴ This follows from a general rule that an agreement should be interpreted against the interest of the party that drafted it.

Second, other limits on the enforceability of a contract—for example unconscionability—continue to apply to a contract of adhesion.²⁹⁵ In recent years courts have become somewhat more skeptical of adhesion contracts.²⁹⁶ Courts sometimes conclude that the party signing the contract did not really agree to a particular term, and that, even if it was agreed to, the contract term is unconscionable or violates public policy.²⁹⁷

H. Adhesion Contracts and Carbon Market Contracts

Adhesion contracts in general are controversial.²⁹⁸ To our knowledge no court has ever reviewed a carbon contract and made a ruling that suggested carbon market contracts are adhesion contracts. Chapter Four provides a lengthy discussion of some actual terms from carbon contracts. There is certainly a case to be made that carbon market contracts have some aspects that resemble adhesion contracts. That does not necessarily make them unfair or something a farmer should not sign. It is true, however, that farmers should be careful with all contracts, and perhaps especially with an adhesion contract.

XIX. Carrying Out the Contract: Good Faith

Once a contract is signed, each party must carry out the contract in “good faith.”²⁹⁹ The contract itself gives rise to this obligation of good faith. In general, contract law does not require good faith in negotiations, but this rule may be changing.³⁰⁰

Legally, the concept of good faith is difficult to define. The definition is so difficult, in fact, that some courts refuse even to try.³⁰¹ One definition, which can apply to contracts, is that good faith means honesty of purpose, freedom from intention to defraud, and, generally speaking, means being faithful to one’s duty or obligation.³⁰² Other definitions that could apply to contracts say that good faith means an absence of design to defraud or to seek unconscionable advantage. Good faith is sometimes defined as “honesty in fact in the conduct for the transaction concerned.”³⁰³ One definition describes it as an intention to abstain from taking unconscientious

²⁹⁴ Rohwer, *Contracts in a Nutshell* § 4.4, at 245.

²⁹⁵ Rohwer, *Contracts in a Nutshell* § 4.4, at 245.

²⁹⁶ Calamari and Perillo, *The Law of Contracts* § 9.43, at 382.

²⁹⁷ Calamari and Perillo, *The Law of Contracts* § 9.43, at 382-383.

²⁹⁸ See Margaret Jane Radin, *Boilerplate: The Fine Print, Vanishing Rights, and the Rule of Law* (2014).

²⁹⁹ Rohwer, *Contracts in a Nutshell* §§ 4.11 to 4.12, at 266-277; Restatement, Second, of Contracts § 205, comment c and d; Chirelstein, *Concepts and Cases of Contract Law*, Chapter 6, at 129-130; Calamari and Perillo, *The Law of Contracts* § 11.38, at 457-461.

³⁰⁰ Rohwer, *Contracts in a Nutshell* §§ 4.11, 8.13, at 266-277, 440-442.

³⁰¹ Rohwer, *Contracts in a Nutshell* § 4.11, at 266-77.

³⁰² Good faith is used in a number of different ways legally. In bankruptcy, for example, and in labor negotiations, and in insurance law. The definition can vary as it is used for each of these purposes. Black’s *Law Dictionary*, “Good faith,” at 836 (11th ed. 2019).

³⁰³ Uniform Commercial Code § 2-103(1)(b); Rohwer, *Contracts in a Nutshell*, Introduction, § 1.5.3, at 20.

advantage of another, even though technicalities of the law, together with the absence of all information, notice, or benefit or relief of facts render the transaction unconscientious.³⁰⁴

In general, good faith requirements do not create rights that contradict the terms of the contract, although there are exceptions to the general rule.³⁰⁵ In other words, in most cases courts will not require a good faith actor to directly violate the terms of the agreement.

XX. Default

In general, state law does not govern what constitutes a default. Instead, in most cases the contract itself will define what counts as a default. If a party does not carry out the terms of the contract, that person can be in default.

XXI. Contracts Can be Modified

It is possible to change a contract even after it is completed. Legally this is known as contract “modification.”³⁰⁶ In order to modify a contract, both parties must agree to the modification. It may be that the modification must be in writing.³⁰⁷

XXII. Termination of Contracts

Many contracts include a provision that says the contract can be terminated by one party or both parties. Typically, there are specific circumstances that are described to inform the parties when and how a contract can be terminated. For example, while there is no legal definition of a “default” most contracts will describe those situations that will count as a default for purposes of that agreement. When a default is defined in a contract, or when a contract defines when and how the contract may be terminated, courts will strictly adhere to those conditions when determining whether the agreement has, in fact, been lawfully terminated.

³⁰⁴ Russell A. Eisenberg, *Commercial Law: Good Faith Under the Uniform Commercial Code*, 54(1) *Marquette Law Review* 1, 5 (1971).

³⁰⁵ Rohwer, *Contracts in a Nutshell* § 4.11.3, at 275-276

³⁰⁶ Rohwer, *Contracts in a Nutshell*, Chapter 7, at 353-373; Calamari and Perillo, *The Law of Contracts* § 5.14, at 237-241.

³⁰⁷ Rohwer, *Contracts in a Nutshell* § 7.5, at 363; Calamari and Perillo, *The Law of Contracts* § 5.1, at 240-241.

Chapter Four: The Language of Carbon Contracts

I. Introduction

This Chapter is perhaps the most important in the Guide. It quotes directly from actual carbon contracts that have been offered to farmers.

II. Actual Language from Carbon Contracts

All of the quoted contract language below comes from actual contracts. The names of specific firms are redacted as is other information that might make identifying a party possible.

In the contracts, various wording is used for the businesses buying the carbon credit service from a farmer. In the quoted parts of the contracts below, such businesses are called a "Buyer."

The contracts also use various language to describe the farmers that are selling the carbon contract service. Sometimes, for example, the farmer is referred to as the "Supplier." In the sections quoted below the farmer is referred to as simply the Farmer.

As noted in Chapter Two, in carbon contracts the farmer does not usually receive a direct payment for adopting a new practice. Instead, the farmer receives what is often called a "carbon credit." The carbon credits are then sold on a market. Some contracts refer to the credits as something else. In this Guide, they are all referred to as Carbon Credits.

Any time the language cited below is not identical to that in the contract, there are brackets around the substitute word. So, instead of referring to the specific company that is paying the farmer, the language below says [Buyer]. The same is true for the farmer, who is always called the [Farmer], and carbon credits, which are called [Carbon Credits]. Any time words are taken out in the quote there is an ellipsis.

III. Examples of Carbon Contract Language

The following sections provide examples of quoted language from actual carbon contracts.

A. Entire Agreement

One thing that is highly likely is that the contract will say, in one way or another, that the agreement itself contains all of the terms of the contract. This means that promotional materials, handouts, verbal assurances, and any other explanation of the meaning of the contract are not relevant legally. One contract states:

[The Agreement] includes all of the annexes and terms and conditions . . . appended hereto which shall be deemed to form part of [the Agreement]. [The Agreement] constitutes the entire agreement between the [Parties] and supersedes all prior agreements relating to the subject matter of [the Agreement]. [The Agreement] may be amended or modified only by a written instrument signed by both [Parties].

A different contract says:

Except as expressly set forth herein, this [Agreement] and the document referenced herein sets forth the entire agreement and understanding of the [P]arties relating to the subject matter herein and supersedes all prior agreements between them. No modification of or amendment to this

[Agreement], nor any waiver of any rights under this [Agreement] shall be effective unless in writing signed by the [Parties].

In other words, if a party to a carbon contract speaks with a farmer and clarifies the meaning of the contract, or assures the farmer about certain aspects of the agreement, unless those clarifications or assurances are actually *written* into the contract itself, they will not be binding.³⁰⁸ This is true even if there is no ill intent on the part of either party. Considering that carbon contracts can last for years and even decades, relying on the verbal assurances of another party can be a very financially dangerous mistake for a farmer—after all, it is quite possible that in five or ten years a person with whom a farmer has a conversation about the contract may no longer be employed with the company. For this reason, it is essential that *all* terms of the agreement are written into the contract itself.

B. Double Dipping

Every contract likely has something similar to the following:

[The Farmer] confirms that the [f]arm is not subject to any agreement with another ecosystem service that generates credits, offsets, assets, or claims related to soil carbon sequestration, changes in greenhouse gas emissions, improvements in water quality, and/or water use efficiencies that could conflict with the creation of or result in double counting of the [carbon credits] that are subject to the [p]rogram (excluding easement or contract that restrict the [f]arm to agricultural uses).

Because there is no overall regulation of carbon contracts—mandatory or voluntary—it is not clear how a buyer would know that a farmer was double dipping. Compare this, for example, to the Uniform Commercial Code (UCC) system where it is public knowledge when there is a lien on property. It appears no one is trying to create a public system for that in carbon contracts. That said, it is not beyond the realm of possibility that buyers could begin to share information. Further, there could be instances where a buyer would be forced to make business information public. A lawsuit, for example, might do this, or a bankruptcy. Or, one buyer could purchase another, and would then have two lists of farmer contracts. And, it is possible that an effective voluntary registry of carbon contracts could be created in the future.

Language like this in contracts raises the question of whether farmers could sign a carbon contract and also participate in a USDA carbon capture program or another governmental carbon capture program.³⁰⁹ This is definitely not clear in a number of the contracts. They often say that the farmer may not sign up for another “program.” The language does not say that another “program” includes a government program. This is a very significant

³⁰⁸ Chapter Three describes generally the law of contracts as it applies to clauses that say the language of a contract is the final agreement between the parties. As Chapter Three notes, this language is generally binding on the parties.

³⁰⁹ For a discussion of the possible interaction between USDA programs and carbon contracts, see Oranuch Wongpiyabovorn et al, Carbon Farming: Stacking Payments from Private Initiatives and Government Programs, Ag Decision Maker, Iowa State Extension (2023), at <https://www.extension.iastate.edu/agdm/crops/pdf/a1-40.pdf>.

unknown. And, as pointed out above, a verbal promise from a representative is not part of the contract, so if the contract does not explain whether a government program counts as a carbon capture program, a verbal explanation will not be binding on the parties.

One contract seems to allow that USDA payments will not affect buyer payments for carbon credits so long as the USDA payments are:

unrelated to the generation of [carbon credits].

This suggests that if, for example, a USDA conservation payment is in part for carbon capture, it violates the carbon contract.

One would guess that at least some people will try to game the system by signing up for more than one carbon credit contract. It is not clear how buyers will attempt to stop that.

As noted above, a farmer can always try and negotiate different language into their carbon contract. For example, a farmer could request that the agreement more narrowly state that the “Farm is not subject to any non-governmental program” rather than simply stating that the farm cannot be part of another “program.”

C. **Additionality Rules**

Contracts tend to require what is called “additionality.” This term refers to a requirement in some carbon contracts that farmers must use a new and different practice to reduce carbon. In other words, some contracts require that the farmer change their production practices in order to participate in the carbon market.

It is important to understand exactly what counts as additionality. For example, it is unclear whether government conservation payments count as payments that would violate additionality rules.

D. **Length of Contract**

Contracts vary in length. Some last up to ten or more years. It is important to know how long the farmer’s obligations last and if payment will continue for actions taken over the whole time. A contract may also list actions that could allow the Buyer to shorten the contract terms.

E. **Leased Land**

Contracts tend to require that the farmer either own the land or get permission from the owner before signing a carbon credit contract. There tend not be requirements that the land not be rented. In one contract, the farmer must represent and warrant that the farmer either:

(i) owns the [Farm] on which the [carbon credits] are generated and has legal ownership to the [carbon credits]; or (ii) leases the [Farm] and has legal ownership to the [carbon credits] pursuant to a lease of the [Farm] or [a carbon credit] assignment agreement

In some of the contracts, losing the lease or control of the land counts as a default. For example, under the terms of one contract, the farmer:

AGREES AND ACKNOWLEDGES THAT ANY FAILURE TO ABIDE BY THE TERMS HEREIN WILL RESULT IN [FARMER] LIABILITY FOR ANY REVERSAL OF [CARBON CREDITS] PURSUANT TO THIS AGREEMENT.³¹⁰

The same contract includes the requirement that the:

[Farmer] shall provide [Buyers] prompt written notice of any loss or potential loss of control of the [farm]

F. Land Eligibility

The contracts may include rules for “land eligibility.” The land must, in the eyes of the Buyer, meet those requirements. Buyers are not required to offer contracts to all farmers that have eligible land. As one contract puts it:

Land enrollment is subject to eligibility requirements as may be established by the [Buyer] in its discretion.

This suggests that the buyer could change land eligibility rules at any time before the contract is signed.

G. Practice Requirements

Practices can be called many things. One contract, for example, refers to them as “regenerative practices.”

Some descriptions of practices are general. Others are much more specific. If there are annexes or appendices that explain the practices more specifically these are extremely important to read and understand.

Examples of practices that are in contracts include the following.

1. Zero Tillage (No-Till)

This is defined by one contract as “a shift from conventional or reduced tillage to zero tillage.” Or, as another contract states, low or no till practices mean

the reduction or elimination of soil tillage that results in the retention of [greenhouse gases] in the soil.

2. Improved Tillage

In one contract improved tillage is defined as a shift from:

conventional tillage to reduced tillage.

3. Cover Cropping

In one agreement cover cropping is defined as a:

shift from no cover cropping to cover cropping.

³¹⁰ Capital letters appear in the original contract.

4. Nitrogen Management

Nitrogen management is defined in one contract as “optimization of nitrogen use.”

5. Pasture Management

Pasture management is defined in one contract as a:

shift in range and/or pastureland management practices.

6. Buyer Services

Some contracts require that the farmer use the buyer's sustainable products or advice regarding practices.

H. Access to Farm

The buyer will likely want the right to inspect the farm. Not all farmers will be enthusiastic about this. As one contract says:

[Farmer] will permit [Buyer], its representatives and any third party service providers of [Buyer], verifiers, and/or auditors with full access to the [farm], books and records, data and information relating to the [farm], the [Farmer's] farming operations and offices at any time, for the purposes of performance of each party's obligation

I. Measuring Sequestration of Carbon and Reduction in Greenhouse Gas Emissions

As discussed in some detail in Chapter Three, as of now, in general, there is not a set of standardized and agreed upon metrics for measuring practices and carbon outcomes. Accurate measurement and verification of carbon credits from farming is generally thought to be difficult and costly. In general, collecting soil samples and measuring soil organic carbon is thought to be the most accurate way to measure, but it is often seen as too costly and time-consuming. Satellite images might be useful but apparently have their own limitations. A great deal of work is being done to improve testing and estimates of soil carbon on agricultural land. As a result, the main players in agricultural carbon sequestration rely on what are known as scientific models that estimate how much carbon is sequestered based on the agricultural practices adopted.

Some contracts pay based on a calculation of carbon sequestered or the reduction in greenhouse gas emissions. In one contract, for example, a carbon credit is considered to be equal to one metric ton of carbon:

either sequestered in soil or not emitted to the atmosphere as a result of [Farmer's] implementation of the [practices].

For this contract there is a “carbon standard” used to measure the carbon.

One contract provides that a certain university-created model of carbon capture will be used. The contract, however, says:

[O]ther models may be selected by [the Buyer] at its sole discretion.³¹¹

In one contract, payments are based on a “quantification” of carbon that comes from a scientific model. In the contract, the Farmer is required to accept that

changes in the carbon removal quantification might occur due to updates to the [models used] or other models that feed into the [quantification model]. In the event of a [model] update, [the Buyer] will communicate [updates] to the [Farmer] in writing, and the {Farmer} will accept and comply with the [updates] when, as, and if such [updates] are activated.

Another contract says that the method used to measure carbon credit “will be subject to the methodology” set by the buyer of the carbon credit. The method for the quantification of those credits, and the verification of credits:

may be elected and applied by [the Buyer] at [the Buyer’s] sole discretion.

Each of the programs seems to have a different model that is named.

Some contracts say that the model can be changed at the discretion of the buyer. This could mean a radical change in the payment to the farmer.

J. Buffer Accounts and Holdback Acres

Some contracts create an extra margin that protects the buyer. These are sometimes called buffer accounts or holdback acres.³¹² For example, in order to give the farmer credit for one ton of carbon, the farmer may need to sequester 1.2 tons of carbon, or some other amount that is more than one ton.

For example, one contract says:

The number of [carbon credits] that may be issued and allocated to [the farmer] from the [farmer’s land] will be based on the volume of [greenhouse gasses] sequestered or avoided, net any buffer account contribution or similar holdback mechanisms . . . intended to protect against [reversals].

Further:

The [holdback] is approximately 20% of the [greenhouse gasses] sequestered and avoided as determined by the [Carbon Credit Issuer and the Buyer]. [Farmers] will not receive payment for any of the [holdback.] As a result, the number of [carbon credits] generated from the Farmer’s land], and for which the [Farmer] will receive payment from the [Buyer], will be lower than the volume of [greenhouse gases] sequestered or avoided.

K. Payment and Market Price

Payment methods vary. In some contracts, there is payment by acre. In others there is payment based on the carbon that is estimated to be sequestered. At least one does a mixture of these two.

³¹¹ As Chapter Three notes this means to farmer would have no say in the possible changes.

³¹² Chapter Three also discusses this acreage.

In several contracts payment is based on what the carbon credit sells for in the market. For example:

[Farmer] will receive . . . a [share] of the net proceeds resulting from the sale and delivery of [Carbon Credits] as provided herein.

One contract says:

[The Buyer's] goal is to generate Credit and facilitate the sale of the [Carbon Credits] to third parties.

It is important to know what kind of market will be used. In some instances, the buyer also runs the market.

Buyers tend to retain sole control over how carbon credits are marketed.

For example:

[Buyer] in its discretion, shall use commercially reasonable efforts to . . . manage the development, marketing and sale of [carbon credits] arising from the [agreement].

In one contract, payments are based on a "payment rate." The calculation of the payment rate, in this contract, starts with a full 100 percent of the payment rate. Twenty percent is not paid and becomes part of a "holdback." The buyer must sell the carbon credit. In this contract, it appears that if the buyer is not able to sell the carbon credit, the farmer would not be paid anything. In addition, the buyer will subtract an additional percent of the payment in order to cover "fees" for the buyer and the entity that sells the credits.

This contract states that the first payments will be no less than \$10.00 per verified carbon credit. This payment rate only applies for what the contract calls the "First Sale." It does not apply to later sales. A contract for the same buyer says that payments after the first year "will be determined and established by the buyer in its sole discretion."

The same contract continues in a way that suggests the buyer could later set the price at a much different rate:

While not guaranteed and subject to change, [the Buyer's] anticipated, and target Payment Rate is at least 75% of the weighted average sale price per [carbon credit] sold to a third party from the applicable credit cohort. . . . The payment Rate for any verified [carbon credit] allocated to [the Farmer] during the [t]erm will be determined and established by [the Buyer] in its sole discretion.

L. Payments Not Guaranteed?

In one contract, the buyer is named as a corporation. The buyer requires the farmer to implement certain practices. Based on adopting the practices, a "third-party independent registry" issues carbon credits to the buyer. If, for some reason, these carbon credits are not issued by the third-party registry, the contract says that the

[Farmer] acknowledges that [Buyer] does not guarantee the issuance of [carbon credits].

This appears to mean that even if the farmer executes the contract, in this case, by changing practices, if for some reason the third-party registry does not issue the carbon credits, the farmer has no legal remedy with the buyer.

M. Contract Cancellation: Market Conditions? Sole Discretion?

Most contracts will include a list of things that mean the farmer is in violation of the contract—or in legal terms, is in breach of the contract.

One contract reads as follows:

Insufficient [Carbon Credits], Data or Market Conditions. If [Carbon Credits], [Farmer] Data, or market conditions are deemed by [Buyer], in its sole discretion, to be insufficient for purposes of [the project], the [Buyer] may terminate this Agreement upon written notice to the [Parties].

Part of this provision makes sense. If a farmer does not provide adequate data, that could be a reason to terminate the contract. Of more concern is the idea that the contract can be cancelled due to “market conditions.”

“Sole discretion” means sole discretion. The buyer’s decision to cancel the contract probably does not need to be reasonable.

Here a farmer could be left having adopted expensive new practices and the contract could be cancelled for nothing the farmer has done. The choice to cancel does not need to be based on anything except the buyer’s decision.

However, other contracts allow either party to cancel the agreement. For example, one contract states that:

[E]ither [Party] may terminate this Agreement, for any reason and in its sole discretion, upon sixty (60) days’ written notice to the other [Party].

N. Default by Farmers

Contracts generally set out some part of the consequences for a farmer that defaults on a contract and also explain a number of things that can count as a default. This can include, for example, allowing the captured carbon to escape, or abandoning the farming practices before the agreement allows.

One contract says the farmer will be in default if, among other things, the farmer:

fails to use reasonable commercial efforts to perform any of the undertakings, covenants or obligations made by the [Farmer] hereunder. . . [or] . . . fails to use reasonable commercial efforts to farm the [land] in a manner that will generate or create the required [credits] under the [agreement]

Often, in the case of a default, the farmer forfeits future payments that may have already been earned but are not yet paid or vested. For example, one contract states:

In the event of material default by [Farmer], including unilateral termination of this Agreement by [Farmer] or other action taken by [Farmer] that results in the reversal of soil carbon sequestration or

emission reductions, non-issuance, or cancellation of the [carbon credits], [Farmer] shall be liable to [Buyer] for any and all, losses, costs, penalties, damages, or other liabilities or expenses (including reasonable legal fees) incurred by [Buyer] with respect to the reversal, cancellation, revocation, or retirement by the [the Buyer or Buyer's agent] of [Carbon Credits] issued with respect to the [covered land] or with respect to the termination of this [agreement], subject to a maximum liability of an amount equivalent to the total value of this [agreement].

In some cases, especially if the buyer decides the farmer acted in bad faith, the buyer can seek to get payments returned.

O. May Provide Information and Advice—But Not Liable for It

The buyer may provide resources to the farmer or give the farmer advice relating to carbon markets or carbon farming practices. Some agreements expressly state that the Buyer is not legally liable for the outcome if the farmer relies on the resources or advice provided. For example, one contract states:

The [Buyer] may make resources or advice relating to [carbon farming practices] or agricultural practices in general, and/or carbon credit developments available to [the Farmer], either directly or through third parties . . . the [information] may include information from third party sources that may not have been independently verified [by the Buyer] . . . Resources are provided for educational purposes and are subject to change. . . Resources should not be solely relied upon by [the farmer] . . . and the Entity explicitly disclaims any representations, warranties or guarantees with respect to any specific results or outcome with respect to the adoption of, or changes to, an agronomic practice on [the Farmer's] land.

P. Who Owns Data

The measurements on a farm after certain practices are adopted, and a comparison of before and after, is valuable. An interesting question is who owns the data.

A contract that agrees that the data is owned by the buyer is probably enforceable.³¹³ That means it is possible that the data could be sold to someone who could use it for various reasons. It also means that the farmer may not have the right to the data.

³¹³ With the rise of “precision agriculture,” the question of ownership of farm data and why it can be important has led to disputes. Discussion of this development include: Sjaak Wolfert, *Big Data in Smart Farming – A Review*, 153 *Agricultural Systems* 69 (2017), at <https://www.sciencedirect.com/science/article/pii/S0308521X16303754>; Isabelle M. Carbonell, *The Ethics of Big Data in Big Agriculture*, 5(1) *Internet Policy Review* (2016), at <https://policyreview.info/articles/analysis/ethics-big-data-big-agriculture>; Emma Jakku et al, “If They Don’t Tell Us What They Do With It, Why Would We Trust Them?” *Trust, Transparency and Benefit-Sharing in Smart Farming*, 90-91(1) *NJAS: Wageningen Journal of Life Sciences* (2019), at <https://www.sciencedirect.com/science/article/pii/S1573521418301842>; Leanne Wiseman et al, *Farmers and their Data: An Examination of Farmers’ Reluctance to Share Their Data Through the Lens of the Laws Impacting Smart Farming*, 90-91(1) *NJAS – Wageningen Journal of Life Sciences* (December 2019), at <https://www.tandfonline.com/doi/full/10.1016/j.njas.2019.04.007>; Cheryl

One contract has the following language:

[T]he Buyer] collect[s] personal information (i.e. information that can identify specific individuals, including by name, identification number, mailing address, e-mail address, and other personal characteristics or attribute's), and details about your farming practices, land details, land use, infrastructure, management plans, economic conditions, sustainability practice, operational details, customized serviced and results [The Buyer] will use your personal information . . . [to] provide maintain and improve services, research, and develop new services

Q. Acts of God

For many years, many types of contracts had what have been called “force majeure” clauses, or Acts of God clauses, that basically allow an out for a party facing something that no one could have foreseen that makes executing the contract impossible. These days, such provisions seem more realistic.

In one contract for example, an Act of God includes a fire or weather-related event.

Chapter Five: Possible Changes for Carbon Market Contracts and Markets

I. Introduction

As is discussed in Chapter Two of this Guide, carbon markets are something of a free for all. The lack of a coordinated structure to the markets is often thought to be a barrier for further advance of carbon markets and farmer opportunities to use carbon contracts. This Chapter discusses two general paths by which that situation could change: voluntary changes in carbon markets; and an increased government role in carbon markets.

II. Voluntary Coordination of Markets

It is possible that the issues of uncoordinated markets, discussed in Chapter Two, could at least in part be resolved by voluntary action.³¹⁴ Previous efforts to voluntarily standardize have not succeeded. The Chicago Climate Exchange, for example, sought to create a structured carbon market. Several significant corporations were interested in using the market. It closed, however after a long period in which carbon credit traded at only five cents and the exchange had very little activity.³¹⁵

A. Examples of Current Voluntary Efforts

A number of organizations aim to create uniform voluntary standards for carbon markets. The following sections briefly summarize some of the activities of several organizations that seek to develop standards for carbon credits and protocols for carbon capture. There are certainly more. The discussion here is intended to provide a snapshot of current efforts to coordinate carbon markets that could either expand or could be models for other more expansive efforts.

1. Integrity Council for Voluntary Carbon Market (ICVCM)

The Integrity Council for Voluntary Carbon Market (ICVCM) is a:

multi-stakeholder led independent governance body. It establishes and maintains the highest standards of ethics, sustainability, and transparency for the global voluntary carbon market.³¹⁶

³¹⁴ USDA, Report to Congress: A General Assessment of the Role of Agriculture and Forestry in U. S. Carbon Markets, 11-13 (October 2023), at <https://www.usda.gov/sites/default/files/documents/USDA-General-Assessment-of-the-Role-of-Agriculture-and-Forestry-in-US-Carbon-Markets.pdf>.

³¹⁵ Nathaniel Gronewold, Chicago Climate Exchange Closes Nation's First Cap-And Trade System but Keeps Eye to the Future, The New York Times (Jan. 3, 2011), at <https://archive.nytimes.com/www.nytimes.com/cwire/2011/01/03/03climatewire-chicago-climate-exchange-closes-but-keeps-ey-78598.html>; Allegra Dawes et al, Voluntary Carbon Markets: A Review of Global Initiatives and Evolving Models Center for Strategic and International Studies, at 2-3 (2023), at <https://www.jstor.org/stable/resrep53722?seq=1>; Tim Stumhofer, The Chicago Climate Exchange Closure, a Vote for Robust GHG MRV? GHG Management Institute (Nov. 10, 2010), at <https://ghginstitute.org/2010/11/10/the-chicago-climate-exchange-closure-a-vote-for-robust-ghg-mrv/>.

³¹⁶ Integrity Council for the Independent Carbon Market (2025), at <https://icvcm.org/>.

ICVCM is developing a set of Core Carbon Principles that it believes will help buyers locate credible carbon credits.³¹⁷

2. Voluntary Carbon Market Integrity Initiative (VCMI)

The Voluntary Carbon Market Integrity Initiative (VCMI) says it works to create a shared vision of high-integrity voluntary carbon markets.³¹⁸ It has created a Claims Code of Practice that is intended to give corporations guidance as to how to use carbon markets.³¹⁹

3. Greenhouse Gas Protocol (GHGP)

The Greenhouse Gas Protocol (GHGP) aims to provide effective guidance for businesses on how they can measure and account for emissions.³²⁰

4. Science Based Targets Initiative (SBTi)

The Science Based Targets Initiative (SBTi) describes itself as providing methods to set baselines for emissions reduction.³²¹ It seeks to identify best practices and develop standards that can be used by corporations.

5. Carbon Disclosure Project (CDP)

The Carbon Disclosure Project (CDP) describes itself as providing a platform for corporations to make environmental disclosures regarding carbon and to better meet climate targets.³²²

6. Carbon Quality Credit Initiative (CCQI)

The Carbon Credit Quality Initiative (CCQI) seeks to assign a transparent score on the quality of carbon protocols.³²³

III. Increased Government Role

There are several things that government could do that would increase opportunities for carbon markets farmers.

Government, especially the federal government, has tremendous power to shape agricultural markets. Two quick examples demonstrate that power.

First, government mandates for biofuels have played the main role in a multi-billion-dollar market for farmers. It did so especially by creating subsidies and fuel requirements that created

³¹⁷ See also, USDA, A General Assessment of Agriculture in Carbon Markets, at 15-16 (2023)..

³¹⁸ Voluntary Carbon Market Integrity Initiative (2025), at <https://vcmintegrity.org/about/>.

³¹⁹ See also USDA, A General Assessment of Agriculture in Carbon Markets, at 16 (2023)..

³²⁰ Greenhouse Gas Protocol (2025), at <https://ghgprotocol.org/>.

³²¹ Science Based Target Initiative (2025), at <https://sciencebasedtargets.org/>.

³²² Carbon Disclosure Project (2025), <https://www.cdp.net/en>.

³²³ Carbon Quality Credit Initiative (2025), at <https://carboncreditquality.org/>. See also USDA, A General Assessment of Agriculture in Carbon Markets, at 16 (2023).

a significant demand for certain kinds of production, especially corn and soybeans. The demand for ethanol, largely due to government policies, is now enormous.³²⁴

A second example of government power to regulate agricultural markets is the federal role in organic markets. For many years, while private parties attempted to define organic, and some states started some regulation in the 1970s, organic standards varied and their enforcement was limited.³²⁵ In 1990 Congress passed the Organic Foods Protection Act and in 2000 USDA issued uniform national standards for organic production.³²⁶ Since then, organic food sales have increased rapidly. While many people disagree with particulars in USDA's organic program, a coherent set of rules, applied nationally, certainly resulted in a substantial increase in organic farming.

The following three strategies could be adopted by the federal government.³²⁷ Each could make carbon contracts a more viable option for farmers: (1) the Growing Climate Solutions Act; (2) mandatory carbon markets; and (3) research on climate-smart agriculture.

A. Growing Climate Solutions Act

The Growing Climate Solutions Act was signed into law on December 29, 2022, and was part of the Consolidated Appropriations Act of 2023.³²⁸

1. Purpose of Growing Climate Solutions Act

The Growing Climate Solutions Act is intended to allow—but not require—USDA to create a program that would facilitate farmer, rancher, and private forest landowner participation in voluntary carbon markets.

³²⁴ Steven Ramsey et al, Global Demand for fuel Ethanol Through 2030, ERS Special Outlook Report Number BIO-05 (2023), at 1-5, at <https://ers.usda.gov/sites/default/files/laserfiche/outlooks/105762/BIO-05.pdf?v=22837>; Keith Good, ERS: Soybean Oil Domestic Use Expected to Grow,” Renewable Diesel a Factor, Farm Policy News (December 14, 2021), at <https://farmpolicynews.illinois.edu/2021/12/ers-soybean-oil-domestic-use-expected-to-grow-renewable-diesel-a-factor/>.

³²⁵ Andrea Carlson et al, U.S. Organic Production Markets, Consumers, and Policy 2000-21, ERS Report 315, at 1 (2023), at https://ers.usda.gov/sites/default/files/_laserfiche/publications/106016/ERR-315.pdf?v=17945.

³²⁶ Organic Foods Production Act of 1990, Pub. L. No. 101-624 (codified at 7 U. S.C. 6501 et seq.); USDA, National Organic Program, 65 Fed. Reg. 80,548 (Dec. 21, 2000)(codified at 7 C.F.R. part 205).

³²⁷ Many other changes could also take place. Rules by the Security and Exchange Commission, for example, could affect demand for carbon contracts. See Security and Exchange Commission, SEC Adopts Rules to Enhance and Standardize Climate-Related Disclosures for Investors (March 6, 2024), at <https://www.sec.gov/newsroom/press-releases/2024-31#:~:text=The%20Securities%20and%20Exchange%20Commission,associated%20costs%20of%20the%20rules>.

³²⁸ Climate Solutions Act, Consolidated Appropriation Act of 2023, Pub. L. 117-328, 136 Stat. 4459, 5971, div. HH, title I, section 201 (codified at 7.U.S.C. § 6712) (December 29, 2022), <https://www.govinfo.gov/content/pkg/PLAW-117publ328/pdf/PLAW-117publ328.pdf>.

2. General Assessment Report

The Growing Climate Act required USDA to conduct an assessment of carbon markets for farmers. The Act calls for USDA to look at current carbon markets, barriers to farmer participation in those markets, and the opportunities to improve farmer access to those markets.³²⁹ USDA released the lengthy and detailed assessment on October 13, 2023.³³⁰ It noted barriers that USDA concluded slowed farmer participation in carbon markets and changes in federal policy that might support carbon markets. In sum, the Assessment concluded that carbon markets are a promising means of reducing carbon emissions and of providing new income opportunities for farmers.

3. Greenhouse Technical Assistance Provider and Third-Party Verifier Program

The Growing Climate Act instructed USDA to decide, based on the Assessment, whether to create a Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program. The goal of the program would be for USDA to facilitate better technical assistance to farmers in participating in carbon markets and to create a program to register carbon market verifiers. If USDA decided to create the program it was instructed to publish a report describing the reasons for this decision. On February 27, 2024, USDA released a Justification Report: USDA Intent to Establish the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program.³³¹ In sum, the Report finds that a program could do four things.³³²

First, USDA concluded that a Program could facilitate the participation of farmers in voluntary environmental credit markets. This seems to mean carbon markets. More specifically, the Program would facilitate participation by farmers and others by evaluating and listing protocols used for carbon markets and developing a list of technical service providers and third-party verifiers.³³³

Second, USDA concluded that the Program could facilitate technical assistance to farmers and others to overcome barriers to carbon markets. The Program would do this by evaluating technical assistance providers and list those that farmers “will be able to trust.”³³⁴

Third, USDA found that the Program could help ensure that farmers and other receive a “fair distribution of revenue derived” from the sale of carbon credits.³³⁵ USDA notes

³²⁹ See USDA, USDA Releases Assessment on Agriculture and Carbon Markets, Press Release No. 0214.23 (October 23, 2023), at <https://www.usda.gov/about-usda/news/press-releases/2023/10/23/usda-releases-assessment-agriculture-and-forestry-carbon-markets#:~:text=%E2%80%9CThe%20Biden%20DHarris%20Administration%20is.present%20for%20agriculture%20and%20forestry.%E2%80%9D>.

³³⁰ USDA, USDA, A General Assessment of Agriculture in Carbon Markets (2023).

³³¹ USDA, Justification Report: USDA Intent to Establish the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program (2024), at <https://www.usda.gov/sites/default/files/documents/GCSA-JustificationReport.pdf>.

³³² USDA, Justification Report, at 2 (2024).

³³³ USDA, Justification Report, at 2-5 (2024).

³³⁴ USDA, Justification Report, at 5 (2024).

³³⁵ USDA, Justification Report, at 5 (2024).

that it will have “limited ability” to ensure that farmers and others receive “fair distribution” of revenue from carbon credit sales.³³⁶ Further, USDA notes that “lack of data availability will hinder USDA’s ability to evaluate project revenue and producer compensation.”³³⁷ This is true because “carbon project developers and registries generally do not disclose the price at which carbon credit are sold or the price paid to producers that implement a carbon project.”³³⁸ USDA does note that it is required by the Act to publish a general assessment every four years and to create an Advisory Committee for the program. USDA says it will use both the report and the advisory committee “to evaluate producer revenues.”³³⁹

Fourth, USDA concluded the Program could increase access for farmers and others to resources and information regarding carbon markets.³⁴⁰ It will do so by providing information about carbon programs, registries, and protocols that can help producers navigate options, find qualified technical assistance providers, and overcome barriers to participation.³⁴¹

4. Growing Climate Solutions Advisory Council

If USDA decided to go forward with the Program, the Act required USDA to create an advisory committee. Members of the Growing Climate Solution Advisory Council were named on January 27, 2025.³⁴²

According to USDA, the Council will advise USDA on current methods used in carbon markets “to quantify and verify the prevention, reduction, or mitigation of greenhouse gas emissions.”³⁴³ It will also advise USDA on ways to reduce the barriers to entry for carbon markets and transaction costs for them. In addition, the Council will review and suggest changes to the carbon markets protocols recognized by the Program, the required qualifications for entities that provide technical assistance to farmers and others, and the activities available to farmers and others the program.

The Council will also submit an assessment to Congress about the Program and it will consult with the USDA regarding later assessments.

³³⁶ USDA, Justification Report, at 5 (2024).

³³⁷ USDA, Justification Report, at 5 (2024).

³³⁸ USDA, Justification Report, at 5-6 (2024).

³³⁹ USDA, Justification Report, at 6 (2024).

³⁴⁰ USDA, Justification Report, at 2 (2024).

³⁴¹ These resources, according to USDA: “May address participant questions about how carbon markets function as well as what common practices and procedure are included in carbon market protocols, and may suggest questions to ask when considering a carbon project.” USDA, Justification Report, at 6 (2024).

³⁴² USDA, USDA Announces Appointments to the Greenhouse Gas Technical Service Provider and Third-Party Verifier Program Advisory Council, USDA Press Release no. (January 7, 2025), at <https://www.usda.gov/about-usda/news/press-releases/2025/01/07/usda-announces-appointments-greenhouse-gas-technical-assistance-provider-and-third-party-verifier>.

³⁴³ USDA, USDA Announces Appointments to the Greenhouse Gas Technical Service Provider and Third-Party Verifier Program Advisory Council (2025).

5. Prospects for the Future

On May 29, 2024, USDA published a Federal Register request for information regarding the Greenhouse Gas Technical Assistance and Third-party Provider Program.³⁴⁴ It asked for information and suggestions for regulations for the program and especially asked for discussion of the criteria used to evaluate protocols and identification of specific protocols that should be considered for inclusion in the Program.

Despite the fact that the Climate Solutions Act gave USDA the power to create the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program, and programing has been at least partially implemented by USDA, that does not mean the Program will continue in the future.

B. Mandatory Carbon Markets

Mandatory carbon markets, sometimes called compliance markets, occur when a government requires that businesses buy carbon emission allowances. This can be, for example, through a cap and trade system.³⁴⁵ Examples of such programs include a European Union program in which there are markets for carbon capture.³⁴⁶ California also runs an emissions trading program.³⁴⁷ And, perhaps most interestingly, the Canadian province of Alberta has a program that specifically targets agriculture as a means of capturing carbon.³⁴⁸

In theory, other governments, including the federal government could adopt a program that would have the potential to make markets more uniform and understandable and would increase demand for carbon.

C. Research on Climate-Smart Farming

One significant role for the federal government's role in agriculture for the past century has been research and extension. A consensus of studies shows that research and

³⁴⁴ USDA, Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program, 89 Fed. Reg. 46,335 (May 29, 2024), at <https://www.federalregister.gov/documents/2024/05/29/2024-11424/greenhouse-gas-technical-assistance-provider-and-third-party-verifier-program>.

³⁴⁵ For a brief summary of how cap and trade system work, see Center for Climate and Energy Solutions, Cap and Trade Basics (2025), at <https://www.c2es.org/content/cap-and-trade-basics/>.

³⁴⁶ EU Emissions Trading Scheme (EU ETS) (2025), at https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets_en. See, as well, Jonathan L. Ramseur et al, Border Carbon Adjustments: Background and Developments in the European Union, Congressional Research Service Report R47167 (2023), at <https://crsreports.congress.gov/product/details?prodcode=R47167>.

³⁴⁷ California Air Resources Board, <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program>, and FAQ, Cap-and-Trade Program (2025), at <https://ww2.arb.ca.gov/resources/documents/faq-cap-and-trade-program>. See also, USDA, General Assessment of the Role of Agriculture and Forestry in U. S. Carbon Markets, at 11 (2023).

³⁴⁸ Government of Alberta, Agricultural Carbon Offsets – Overview (2025), at <https://www.alberta.ca/agricultural-carbon-offsets>. See, as well, Sarah Sellers et al, Agricultural Carbon Markets: A Case Study of Alberta, 12 *farmdoc daily* 58 (2022), at <https://farmdocdaily.illinois.edu/2022/04/agricultural-carbon-markets-a-case-study-of-alberta.html>.

extension in agriculture eventually changes production practices toward the goals of the research.³⁴⁹ Often, that means research and extension efforts aimed at increasing productivity. There is good reason to believe that research into practices that help to capture carbon will be just as effective. Research efforts could lead to new strategies for capturing carbon, for example, which could make carbon markets a more viable option for farmers.

A current effort in this regard is USDA's Partnerships for Climate-Smart Commodities.³⁵⁰ In the medium and long term such a program could change the way carbon capture could work on farms. The future of this Program, budgeted with very substantial resources, and well under way, is in question.

D. Future Government Actions Uncertain

It will always be the case that it is difficult to predict government policies. For the Trump Administration, and the question of carbon markets, this is certainly the case. While the administration is skeptical of government action as a response to climate change, it also may actively listen to the farm sector, which has been generally supportive of farmer participation in carbon markets.

³⁴⁹ See, for example, Keith O. Fuglie et al, Economic Returns to Public Agricultural Research, ERS Economic Brief no. 10 (2007), at https://ers.usda.gov/sites/default/files/laserfiche/publications/42826/11496_eb10_1.pdf?v=77891. A short summary of the effectiveness of agricultural research is Keith Fuglie et al, Agricultural Research and Productivity, USDA ERS (2025), at <https://www.ers.usda.gov/topics/farm-economy/agricultural-research-and-productivity>.

³⁵⁰ For a description of the program, see USDA, Partnerships for Climate-Smart Commodities (2024), at <https://www.usda.gov/sites/default/files/documents/partnerships-climate-smart-commodities-overview-brochure.pdf>, and for a more detailed description see USDA, Partnership for Climate-Smart Commodities FAQs (2023), at <https://www.usda.gov/about-usda/general-information/priorities/climate-solutions/partnerships-climate-smart-commodities-faqs#:~:text=Commodities%20broadly%20include%20more%20traditional,Soil%20amendments%2C%20like%20biochar>.