

METHOD AND APPARATUS FOR TOKENIZATION OF A NATURAL RESOURCE

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CROSS REFERENCE TO RELATED APPLICATIONS

The present application claims priority benefit from U.S. Provisional Patent Application No. 62/714,425, entitled "METHOD AND APPARATUS FOR
10 TOKENIZATION OF A NATURAL RESOURCE," filed August 3, 2018 (docket number 3058-011-02). The present application also claims priority benefit from U.S. Provisional Patent Application No. 62/714,456, entitled "COMPUTER METHOD AND APPARATUS FOR ADMINISTERING A COMMODITY MATERIAL TRANSACTION VIA A DISTRIBUTED LEDGER," filed August 3,
15 2018 (docket number 3058-001-02). Each of the foregoing applications, to the extent not inconsistent with the disclosure herein, is incorporated by reference.

The present application is related to co-pending International PCT Application No. [TBD], entitled, "COMPUTER METHOD AND APPARATUS FOR ADMINISTERING A COMMODITY MATERIAL TRANSACTION VIA A
20 DISTRIBUTED LEDGER," (docket number 3058-001-04), filed on the same date as the present application. Co-pending International PCT Application No. [TBD], to the extent not inconsistent with the disclosure herein, is incorporated by reference.

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SUMMARY

According to an embodiment, a method for tokenizing a natural resource includes receiving, via a graphical user interface (GUI) into a server computer,

data corresponding to proof of natural resource rights to prospect for, explore for, analyze, estimate, mine, process, refine, produce, and/or harvest a natural resource in a specified region by a first party. The method includes receiving, via the GUI into the server computer, a digital signature from the first party assigning
5 at least a portion of the natural resource rights to a first quantity of distributed ledger tokens. The method includes issuing, with the server computer, the first quantity of distributed ledger tokens, each of the distributed ledger tokens carrying a smart contract entitling the bearer to a fractional amount of at least a portion of the natural resource rights, and crediting, with the server computer, a
10 second quantity of the issued distributed ledger tokens to the first party by transferring the second quantity of the issued distributed ledger tokens to an electronic wallet owned by the first party. The method may include receiving, via the GUI into the server computer, one or more parameters corresponding to tokenization of the natural resource.

15 According to an embodiment, the method further includes administering, with the server computer, a distributed ledger exchange to swap at least a portion of the issued natural resource tokens for second natural resource tokens and/or for one or more cryptocurrencies.

According to an embodiment, a computer method for administering a
20 natural resource transaction includes receiving, via a first graphical user interface (GUI) from a seller, an ask price for a quantity of a tokenized natural resource, denominated in a first currency, and receiving, via a second GUI from a buyer, a bid price for the quantity of the tokenized natural resource, denominated in a second currency. The computer method includes determining that the ask price
25 and the bid price meet a match criterion. The computer method includes receiving a first digital bearer asset, cryptocurrency, and/or digital security transaction corresponding to the bid price from a buyer wallet into a transaction wallet, and transmitting a second digital bearer asset, cryptocurrency, and/or digital security transaction corresponding to the ask price from the transaction
30 wallet to a seller wallet. The computer method includes issuing a distributed

ledger token corresponding to the quantity of the tokenized natural resource, and transmitting the distributed ledger token to the buyer wallet.

According to an embodiment, a non-transitory computer-readable medium carries computer instructions to cause a computer to execute a method including receiving, via a first graphical user interface (GUI) from a seller, an ask price for a quantity of a natural resource, denominated in a first currency, and receiving, via a second GUI from a buyer, a bid price for the quantity of the natural resource, denominated in a second currency. The non-transitory computer-readable medium includes determining that the ask price and the bid price meet a match criterion. The non-transitory computer-readable medium includes receiving a first cryptocurrency, digital security financial instrument, and/or digital bearer asset transaction corresponding to the bid price from a buyer wallet into a transaction wallet, and transmitting a second digital financial instrument, or digital bearer asset, cryptocurrency, and/or digital security transaction corresponding to the ask price from the transaction wallet to a seller wallet. The non-transitory computer-readable medium includes issuing a distributed ledger token corresponding to the quantity of the natural resource, and transmitting the distributed ledger token to the buyer wallet.

According to an embodiment, a computer system includes a webserver configured to output a first graphical user interface (GUI) to a first device for a seller and to receive an ask price for a quantity of a natural resource. The webserver is further configured to output a second GUI to a second device for a buyer and to receive a bid price for the quantity of the natural resource. The computer system includes a server computer, operatively coupled to the webserver, and configured to determine that the ask price and the bid price meet a match criterion, to authorize first and second cryptocurrency and/or digitally securitized asset transactions to respectively transfer the ask price to the seller and receive the bid price from the buyer, and to transmit said authorizations to the webserver.

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BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a flow chart showing a computer method for tokenizing a natural resource, according to an embodiment.

5 **FIG. 2** is a flowchart showing a computer method for administering a natural resource transaction, according to an embodiment.

FIG. 3 is a block diagram of a computer system configured to administer a natural resource transaction, according to an embodiment.

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DETAILED DESCRIPTION

In the following detailed description, reference is made to the accompanying drawings, which form a part hereof. In the drawings, similar
15 symbols typically identify similar components, unless context dictates otherwise. Other embodiments may be used and/or other changes may be made without departing from the spirit or scope of the disclosure.

According to an embodiment, **FIG. 1** is a flow chart showing a computer
20 method 100 for tokenizing a natural resource.

According to an embodiment, a computer method 100 for tokenizing a natural resource includes, in step 104, receiving, via a graphical user interface (GUI) into a server computer, data corresponding to a proof of natural resource rights to prospect for, explore for, analyze, estimate, mine, process, refine,
25 produce, and/or harvest a natural resource in a specified region by a first party. Step 108 includes receiving, via the GUI into the server computer, a digital signature from the first party assigning at least a portion of the natural resource rights to a first quantity of distributed ledger tokens. Step 112 includes issuing, with the server computer, the first quantity of distributed ledger tokens, each of
30 the distributed ledger tokens carrying a smart contract entitling the bearer to a fractional amount of at least a portion of the natural resource rights, and in step

114, crediting, with the server computer, a second quantity of the issued distributed ledger tokens to the first party by transferring the second quantity of the issued distributed ledger tokens to an electronic wallet owned by the first party. In an embodiment, the first quantity of distributed ledger tokens is greater
5 than the second quantity, and the first quantity not included in the second quantity is credited to an issuer of the distributed ledger tokens. According to an embodiment, the first quantity of distributed ledger tokens is equal to the second quantity of distributed ledger tokens.

According to an embodiment, the computer method 100 includes, in step
10 102, generating the GUI for receiving and displaying information about natural resource rights and the tokenization thereof and interfacing, in cooperation with a web server, with the GUI to drive displays in networked electronic devices. In an embodiment, interfacing with the GUI includes outputting HTML pages and receiving user inputs on electronic displays. In another embodiment, interfacing
15 with the GUI includes transmitting and receiving data to the GUI included in a downloaded application resident in networked electronic devices.

In an embodiment, receiving data corresponding to the proof of rights, in step 104, includes receiving a network address to an image of an official document. Issuing the first quantity of distributed ledger tokens may include
20 loading the network address and/or the image onto the distributed ledger. In an embodiment, the natural resource rights, in step 104, include a right to explore for hydrocarbon deposits including a crude oil and/or a natural gas deposit in the specified region. In an embodiment, the natural resource rights, in step 104, include a right to produce crude oil and/or natural gas from the specified region.
25 In an embodiment, the natural resource rights, in step 104, include a permit to drill for oil and/or natural gas. In an embodiment, the natural resource rights, in step 104, include a right to mine shale oil and/or tar sands. In an embodiment, the natural resource rights, in step 104, include a right to fracture-produce ("frack") a known deposit. In an embodiment, the natural resource rights, in step
30 104, include a mining claim. In an embodiment, the natural resource rights, in step 104, include a public right to prospect for an ore. In an embodiment, the

natural resource rights, in step 104, include a permit to operate and/or continue to operate a mine. In an embodiment, the natural resource rights, in step 104, include a right to conduct logging operations.

According to an embodiment, the computer method 100 includes, in step
5 106, receiving, via the GUI into the server computer, one or more parameters corresponding to tokenization of the natural resource. In an embodiment, the one or more parameters, in step 106, include a number of distributed ledger tokens to be issued. In another embodiment, the one or more parameters, in step 106, include a limitation to the natural resource rights. In an embodiment,
10 the one or more parameters, in step 106, include an exclusion of one or more natural resources comprehended by the proof of rights. For example, a right to produce natural gas and oil may exclude the oil from tokenization. In an embodiment, the one or more parameters, in step 106, may include a time limit, after which the token expires. In an embodiment, the one or more parameters, in
15 step 106, include a par value of each token. In another embodiment, the one or more parameters include a distribution of proceeds from token sales.

In an embodiment, the one or more parameters, in step 106, include one or more rules for distribution of proceeds arising from sale or transfer of material corresponding to the natural resource rights. In an embodiment, the one or more
20 rules for distribution include a dividend denominated in a commodity token corresponding to a natural resource produced under the natural resource rights. In an embodiment, the one or more rules for distribution may include a dividend denominated in a cryptocurrency, fiat currency, or other natural resource-based commodity token. In an embodiment, the one or more rules for distribution
25 include a conversion of natural resource tokens into commodity tokens corresponding to production of a material corresponding to the natural resource rights. The natural resource token may be burned (rendered non-tradable) upon conversion.

In an embodiment, receiving a digital signature, in step 108, includes
30 making a binding contract that transfers at least a portion of a realized value corresponding to the natural resource rights collectively to token holders.

According to an embodiment, the computer method 100, in step 110, further includes minting a third quantity of the distributed ledger tokens. In an embodiment, the third quantity is greater than the first quantity. In an embodiment, the minted distributed ledger tokens are blockchain tokens. In an embodiment, issuing the distributed ledger tokens, in step 112, includes issuing the tokens with a contract that discloses the third quantity of minted tokens and sets forth conditions for issuance of additional distributed ledger tokens above and beyond the second quantity. In an embodiment, crediting the second quantity of issued distributed ledger tokens to the first party, in step 114, includes crediting an account of the first party on an exchange that issued the natural resource tokens. In an embodiment, the first quantity is greater than the second quantity.

According to an embodiment, the computer method 100 further includes receiving, into the server computer, data corresponding to an assessment or estimate of the natural resource value (not shown) and publishing the data onto the distributed ledger (not shown). In an embodiment, the data corresponding to the assessment of the natural resource value includes a sonogram (image from a seismic imaging device), a core sample, an assay, a production rate, a production volume, and/or a drilling depth. In an embodiment, the first party is required by a contract carried by the distributed ledger to submit the data corresponding to the assessment of the natural resource value.

According to an embodiment, the computer method 100 further includes, in step 116, administering, with the server computer, a distributed ledger exchange to swap at least a portion of the issued natural resource tokens for second natural resource tokens (e.g., tokens corresponding to a different proved right) and/or for one or more cryptocurrencies.

FIG. 2 is a flowchart showing a computer method 200 for administering a natural resource transaction, according to an embodiment. The computer method 200 may include several steps.

According to an embodiment, step 202 may include receiving, via a first graphical user interface (GUI) from a seller, an ask price for a quantity of a tokenized natural resource, denominated in a first currency.

According to an embodiment, step 204 may include receiving, via a
5 second GUI from a buyer, a bid price for the quantity of the tokenized natural resource, denominated in a second currency.

According to an embodiment, step 206 may include determining that the ask price and the bid price meet a match criterion.

According to an embodiment, step 208 may include receiving a first digital
10 bearer asset, cryptocurrency and/or digital security transaction corresponding to the bid price from a buyer wallet into a transaction wallet.

According to an embodiment, step 210 may include transmitting a second digital bearer asset, cryptocurrency, and/or digital security transaction corresponding to the ask price from the transaction wallet to a seller wallet.

According to an embodiment, step 212 may include issuing a distributed
15 ledger token corresponding to the quantity of the tokenized natural resource.

According to an embodiment, step 214 may include transmitting the distributed ledger token to the buyer wallet.

According to an embodiment, with reference to step 204, the first currency
20 may include a fiat currency such as United States dollars. Additionally or alternatively, the first currency may include a cryptocurrency, digital security, and/or digital bearer asset. According to an embodiment, the second currency may include a different currency than the first currency. According to an embodiment, the second currency may include the same currency as the first
25 currency.

According to an embodiment, the first GUI in step 202 and the second GUI in step 204 may include respective instances of the same GUI.

According to an embodiment, referring to **FIG. 2**, step 201 may include displaying, via the GUI to at least one of the seller or the buyer, at least one
30 benchmark price for the quantity of the tokenized natural resource. Additionally or alternatively, step 201 may include displaying, via the GUI to at least one of

the seller or the buyer, at least one estimated price for the quantity of the tokenized natural resource. In another embodiment, step 201 may include displaying, via the GUI to at least one of the seller or the buyer, at least one historical price for the quantity of the tokenized natural resource.

5 According to an embodiment, with reference to step 206, determining that the ask price and the bid price meet a match criterion may include determining that the bid price is greater than or equal to the ask price plus a transaction fee.

 According to an embodiment, with reference to step 208, receiving the first digital bearer asset, cryptocurrency, and/or digital security transaction from the
10 buyer wallet into the transaction wallet may include receiving a fungible cryptocurrency and/or digitally securitized asset. Additionally or alternatively, with reference to step 208, receiving the first digital bearer asset, cryptocurrency, and/or digital security transaction may include receiving a distributed ledger token corresponding to a quantity of a second tokenized natural resource
15 different than the tokenized natural resource.

 According to an embodiment, step 201 may include displaying a property of the tokenized natural resource in the GUI. In embodiments, the property may include a commodity grade, a physical property, an extrinsic property, an elemental analysis, and/or other properties that may affect a value of the natural
20 resource. Additionally or alternatively, step 201 may include displaying price information about the commodity quantity in the GUI. According to an embodiment, with reference to step 201, displaying the price information may include displaying a price history for previous quantities of the tokenized natural resource. Additionally or alternatively, with reference to step 201, displaying the
25 price information may include displaying a modeled price for the tokenized natural resource.

 According to an embodiment, with reference to step 202, the quantity of tokenized natural resource may include a particular distinguishable instance of the natural resource and/or may include a generalized portion of the natural
30 resource.

According to an embodiment, the natural resource may include in-situ minerals, metals, and hydrocarbon deposits. According to an embodiment, the quantity may include a ton or a metric tonne. According to an embodiment, the quantity may include a quantity of refined metal produced from the in-situ minerals, metals, and hydrocarbon deposits.

According to an embodiment, the natural resource may be produced (e.g., mined, harvested, butchered, refined, etc.) at a future date. According to an embodiment, the natural resource may exist in a transportable form at the moment of distributed ledger token issuance.

According to an embodiment, the natural resource may include mined ore or coal. Additionally or alternatively, the natural resource may include hydrocarbon deposits including oil and/or natural gas. In an alternative embodiment, the natural resource may include liquefied natural gas.

According to an embodiment, the quantity may include a number of standard cubic feet. Additionally or alternatively, the quantity may include a unit of mass. In an alternative embodiment, the quantity may include a unit of energy.

According to an embodiment, the natural resource may include a (e.g., an in-ground) portion of a natural gas deposit. Additionally or alternatively, the natural resource may include an agricultural product.

According to an embodiment, step 212 may include receiving a second ask price for the distributed ledger token at a later date. The distributed ledger token may represent the same distinguishable instance of the natural resource as when the distributed ledger token was issued, according to an embodiment.

According to an embodiment, the method 200 may include receiving notice that the distinguishable instance of the natural resource is delivered as a distinguishable instance of a commodity material, receiving payment for the delivered commodity material, and redeeming the distributed ledger token for a currency corresponding to the received payment.

According to an embodiment, the distributed ledger token may be burned when redeemed. "Burning" the distributed ledger token refers to rendering the

token permanently non-tradable. According to an embodiment, the value of the distributed ledger token may be reset to zero when redeemed. Additionally or alternatively, the value of the distributed ledger token may be set to equal the current value of the quantity of the natural resource. According to an
5 embodiment, the distributed ledger token may be asset-backed by the distinguishable instance of the natural resource it is issued to represent.

According to an embodiment, a non-transitory computer-readable medium carries computer instructions to cause a computer to execute a method 200. The method 200 may include several steps.

10 According to an embodiment, step 202 may include receiving, via a first graphical user interface (GUI) from a seller, an ask price for a quantity of a natural resource, denominated in a first currency.

According to an embodiment, step 204 may include receiving, via a second GUI from a buyer, a bid price for the quantity of the natural resource,
15 denominated in a second currency.

According to an embodiment, step 206 may include determining that the ask price and the bid price meet a match criterion.

According to an embodiment, step 208 may include receiving a first digital asset, cryptocurrency, digital security financial instrument, and/or digitally
20 securitized asset transaction corresponding to the bid price from a buyer wallet into a transaction wallet.

According to an embodiment, step 210 may include transmitting a second digital asset, cryptocurrency, digital security financial instrument, and/or digitally securitized asset transaction corresponding to the ask price from the transaction
25 wallet to a seller wallet.

According to an embodiment, step 212 may include issuing a distributed ledger token corresponding to the quantity of the natural resource.

According to an embodiment, step 214 may include transmitting the distributed ledger token to the buyer wallet.

30 **FIG. 3** is a block diagram of a computer system 300 configured to administer a natural resource transaction, according to an embodiment.

According to an embodiment, the computer system 300 may include a webserver 302 configured to output a first graphical user interface (GUI) to a first device 304 for a seller and to receive an ask price for a quantity of a natural resource. The webserver 302 may be further configured to output a second GUI
5 to a second device 306 for a buyer and to receive a bid price for the quantity of the natural resource, according to an embodiment. The computer system 300 may include a server computer 308, operatively coupled to the webserver 302, and configured to determine that the ask price and the bid price meet a match criterion, to authorize first and second cryptocurrency and/or digitally securitized
10 asset transactions to respectively transfer the ask price to the seller and receive the bid price from the buyer, and transmit said authorizations to the webserver 302.

According to an embodiment, the computer system 300 may include a plurality of devices 310 operatively coupled to the webserver 302 and carrying
15 the distributed ledger. The webserver 302 may be configured to transmit the authorized first and second cryptocurrency and/or digitally securitized asset transactions to the plurality of devices 310, according to an embodiment. The plurality of devices 310 may be configured to collectively validate the first and second cryptocurrency and/or digitally securitized asset transactions, according
20 to an embodiment. The webserver 302 may be configured to receive and forward collective validation to the server computer 308, according to an embodiment.

According to an embodiment, the server computer 308 may be further configured to receive a first cryptocurrency and/or digitally securitized asset
25 transaction corresponding to the bid price from a buyer wallet 312 to a transaction wallet 314 via the webserver 302. The server computer 308 may transmit a second cryptocurrency and/or digitally securitized asset transaction corresponding to the ask price from the transaction wallet 314 to a seller wallet 316 via the webserver 302, according to an embodiment. The server computer
30 308 may issue a distributed ledger token corresponding to the quantity of the

natural resource, according to an embodiment. The server computer 308 may cause the webserver 302 to transmit the token to the buyer wallet 312.

While various aspects and embodiments have been disclosed herein,
5 other aspects and embodiments are contemplated. The various aspects and
embodiments disclosed herein are for purposes of illustration and are not
intended to be limiting, with the true scope and spirit being indicated by the
following claims.

CLAIMS

What is claimed is:

1. A method for tokenizing a natural resource, comprising:
receiving, via a graphical user interface (GUI) into a server computer, data corresponding to proof of natural resource rights to prospect for, explore for, analyze, estimate, mine, process, refine, produce, and/or harvest a natural resource in a specified region by a first party;
receiving, via the GUI into the server computer, a digital signature from the first party assigning at least a portion of the natural resource rights to a first quantity of distributed ledger tokens;
issuing, with the server computer, the first quantity of distributed ledger tokens, each of the distributed ledger tokens carrying a smart contract entitling the bearer to a fractional amount of at least a portion of the natural resource rights; and
crediting, with the server computer, a second quantity of the issued distributed ledger tokens to the first party by transferring the second quantity of the issued distributed ledger tokens to an electronic wallet owned by the first party.
2. The method for tokenizing a natural resource of claim 1, wherein the first quantity of distributed ledger tokens is greater than the second quantity; and
wherein the first quantity not included in the second quantity is credited to an issuer of the distributed ledger tokens.
3. The method for tokenizing a natural resource of claim 1, wherein the first quantity of distributed ledger tokens is equal to the second quantity of distributed ledger tokens.
4. The method for tokenizing a natural resource of claim 1, further comprising:

generating the GUI for receiving and displaying information about natural resource rights and the tokenization thereof and interfacing, in cooperation with a web server, with the GUI to drive displays in networked electronic devices.

5. The method for tokenizing a natural resource of claim 4, wherein interfacing with the GUI includes outputting HTML pages and receiving user inputs on electronic displays.
6. The method for tokenizing a natural resource of claim 4, wherein interfacing with the GUI includes transmitting and receiving data to the GUI included in a downloaded application resident in networked electronic devices.
7. The method for tokenizing a natural resource of claim 1, wherein receiving data corresponding to proof of rights comprises receiving a network address to an image of an official document; and
wherein issuing the first quantity of distributed ledger tokens includes loading the network address and/or the image onto the distributed ledger.
8. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a right to explore for hydrocarbon deposits including a crude oil and/or a natural gas deposit in the specified region.
9. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a right to produce crude oil and/or natural gas from the specified region.
10. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a permit to drill for oil and/or natural gas.
11. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a right to mine shale oil and/or tar sands.

12. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a right to fracture-produce (“frack”) a known deposit.
13. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a mining claim.
14. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a public right to prospect for an ore.
15. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a permit to operate and/or continue to operate a mine.
16. The method for tokenizing a natural resource of claim 1, wherein the natural resource rights include a right to conduct logging operations.
17. The method for tokenizing a natural resource of claim 1, further comprising:
 - receiving, via the GUI into the server computer, one or more parameters corresponding to tokenization of the natural resource.
18. The method for tokenizing a natural resource of claim 17, wherein the one or more parameters include a number of distributed ledger tokens to be issued.
19. The method for tokenizing a natural resource of claim 17, wherein the one or more parameters include a limitation to the natural resource rights.

20. The method for tokenizing a natural resource of claim 19, wherein the one or more parameters include an exclusion of one or more natural resources comprehended by the proof of rights.
21. The method for tokenizing a natural resource of claim 17, wherein the one or more parameters include a time limit, after which the token expires.
22. The method for tokenizing a natural resource of claim 17, wherein the one or more parameters include a par value of each token.
23. The method for tokenizing a natural resource of claim 17, wherein the one or more parameters include a distribution of proceeds from token sales.
24. The method for tokenizing a natural resource of claim 17, wherein the one or more parameters include one or more rules for distribution of proceeds arising from sale or transfer of material corresponding to the natural resource rights.
25. The method for tokenizing a natural resource of claim 24, wherein the one or more rules for distribution include a dividend denominated in a commodity token corresponding to a natural resource produced under the natural resource rights.
26. The method for tokenizing a natural resource of claim 24, wherein the one or more rules for distribution include a dividend denominated in a cryptocurrency, fiat currency, or other natural resource-based commodity token.
27. The method for tokenizing a natural resource of claim 24, wherein the one or more rules for distribution include a conversion of natural resource tokens into commodity tokens corresponding to production of a material corresponding to the natural resource rights.

28. The method for tokenizing a natural resource of claim 1, wherein receiving a digital signature includes making a binding contract that transfers at least a portion of a realized value corresponding to the natural resource rights collectively to token holders.
29. The method for tokenizing a natural resource of claim 1, further comprising:
minting a third quantity of the distributed ledger tokens.
30. The method for tokenizing a natural resource of claim 29, wherein the third quantity is greater than the first quantity.
31. The method for tokenizing a natural resource of claim 1, wherein the minted distributed ledger tokens are blockchain tokens.
32. The method for tokenizing a natural resource of claim 1, wherein issuing the distributed ledger tokens includes issuing the tokens with a contract that discloses the third quantity of minted tokens and sets forth conditions for issuance of additional distributed ledger tokens above and beyond the second quantity.
33. The method for tokenizing a natural resource of claim 1, wherein crediting the second quantity of issued distributed ledger tokens to the first party includes crediting an account of the first party on an exchange that issued the natural resource tokens.
34. The method for tokenizing a natural resource of claim 1, wherein the first quantity is greater than the second quantity.
35. The method for tokenizing a natural resource of claim 1, further comprising:

receiving, into the server computer, data corresponding to an assessment of the natural resource value; and
publishing the data onto the distributed ledger.

36. The method for tokenizing a natural resource of claim 35, wherein the data corresponding to the assessment of natural resource value comprises a sonogram, a core sample, an assay, a production rate, a production volume, and/or a drilling depth.

37. The method for tokenizing a natural resource of claim 35, wherein the first party is required by a contract carried by the distributed ledger to submit the data corresponding to the assessment of the natural resource value.

38. The method for tokenizing a natural resource of claim 1, further comprising:

administering, with the server computer, a distributed ledger exchange to swap at least a portion of the issued natural resource tokens for second natural resource tokens and/or for one or more cryptocurrencies.

39. A computer method for administering a natural resource transaction, comprising:

receiving, via a first graphical user interface (GUI) from a seller, an ask price for a quantity of a tokenized natural resource, denominated in a first currency;

receiving, via a second GUI from a buyer, a bid price for the quantity of the tokenized natural resource, denominated in a second currency;

determining that the ask price and the bid price meet a match criterion;

receiving a first digital bearer asset, cryptocurrency, and/or digital security transaction corresponding to the bid price from a buyer wallet into a transaction wallet;

transmitting a second digital bearer asset, cryptocurrency, and/or digital security transaction corresponding to the ask price from the transaction wallet to a seller wallet;

issuing a distributed ledger token corresponding to the quantity of the tokenized natural resource; and

transmitting the distributed ledger token to the buyer wallet.

40. The computer method of claim 39, wherein the first currency comprises United States dollars.

41. The computer method of claim 39, wherein the first currency comprises a cryptocurrency.

42. The computer method of claim 39, wherein the second currency comprises a different currency than the first currency.

43. The computer method of claim 39, wherein the second currency comprises the same currency as the first currency.

44. The computer method of claim 39, wherein the first GUI and the second GUI comprise respective instances of the same GUI.

45. The computer method of claim 39, further comprising:
displaying, via the GUI to at least one of the seller or the buyer, at least one benchmark price for the quantity of the tokenized natural resource.

46. The computer method of claim 39, further comprising:
displaying, via the GUI to at least one of the seller or the buyer, at least one estimated price for the quantity of the tokenized natural resource.

47. The computer method of claim 39, further comprising:

displaying, via the GUI to at least one of the seller or the buyer, at least one historical price for the quantity of the tokenized natural resource.

48. The computer method of claim 39, wherein determining that the ask price and the bid price meet a match criterion includes determining that the bid price is greater than or equal to the ask price plus a transaction fee.

49. The computer method of claim 39, wherein receiving the first digital bearer asset, cryptocurrency, and/or digital security transaction from the buyer wallet into the transaction wallet comprises receiving a fungible cryptocurrency and/or digitally securitized asset.

50. The computer method of claim 39, wherein receiving the first digital bearer asset, cryptocurrency, and/or digital security transaction comprises receiving a distributed ledger token corresponding to a quantity of a second tokenized natural resource different than the tokenized natural resource.

51. The computer method of claim 39, further comprising:
displaying a property of the tokenized natural resource in the GUI.

52. The computer method of claim 51, wherein the property includes a commodity grade, a physical property, an extrinsic property, an elemental analysis, and/or other properties that may affect a value of the natural resource.

53. The computer method of claim 39, further comprising:
displaying price information about the commodity quantity in the GUI.

54. The computer method of claim 53, wherein displaying the price information includes displaying a price history for previous quantities of the tokenized natural resource.

55. The computer method of claim 53, wherein displaying the price information includes displaying a modeled price for the tokenized natural resource.
56. The computer method of claim 39, wherein the quantity of the tokenized natural resource comprises a particular distinguishable instance of the natural resource and/or a generalized portion of the natural resource.
57. The computer method of claim 39, wherein the natural resource comprises in-situ minerals, metals, and hydrocarbon deposits.
58. The computer method of claim 57, wherein the quantity comprises a ton.
59. The computer method of claim 57, wherein the quantity comprises a metric tonne.
60. The computer method of claim 57, wherein the quantity comprises a quantity of refined metal produced from the in-situ minerals, metals, and hydrocarbon deposits.
61. The computer method of claim 39, wherein the natural resource is to be produced at a future date.
62. The computer method of claim 39, wherein the natural resource exists in a transportable form at the moment of distributed ledger token issuance.
63. The computer method of claim 39, wherein the natural resource comprises mined ore or coal.
64. The computer method of claim 39, wherein the natural resource comprises hydrocarbon deposits including oil and/or natural gas.

65. The computer method of claim 64, wherein the natural resource comprises liquefied natural gas.
66. The computer method of claim 64, wherein the quantity comprises a number of standard cubic feet.
67. The computer method of claim 64, wherein the quantity comprises a unit of mass.
68. The computer method of claim 64, wherein the quantity comprises a unit of energy.
69. The computer method of claim 64, wherein the natural resource comprises a portion of a natural gas deposit.
70. The computer method of claim 39, wherein the natural resource comprises an agricultural product.
71. The computer method of claim 39, further comprising:
receiving a second ask price for the distributed ledger token at a later date;
wherein the distributed ledger token represents the same distinguishable instance of the natural resource as when the distributed ledger token was issued.
72. The computer method of claim 39, further comprising:
receiving notice that the distinguishable instance of the natural resource is delivered as a distinguishable instance of a commodity material;
receiving payment for the delivered commodity material; and
redeeming the distributed ledger token for a currency corresponding to the received payment.

73. The computer method of claim 72, wherein the distributed ledger token is burned when redeemed.

74. The computer method of claim 72, wherein the value of the distributed ledger token is reset to zero when redeemed.

75. The computer method of claim 39, wherein the value of the distributed ledger token is set to equal the current value of the quantity of the natural resource.

76. The computer method of claim 75, whereby the distributed ledger token is asset-backed by the distinguishable instance of natural resource it is issued to represent.

77. A non-transitory computer-readable medium carrying computer instructions to cause a computer to execute a method, comprising:

- receiving, via a first graphical user interface (GUI) from a seller, an ask price for a quantity of a natural resource, denominated in a first currency;
- receiving, via a second GUI from a buyer, a bid price for the quantity of the natural resource, denominated in a second currency;
- determining that the ask price and the bid price meet a match criterion;
- receiving a first digital asset, cryptocurrency, digital security financial instrument, and/or digitally securitized asset transaction corresponding to the bid price from a buyer wallet into a transaction wallet;
- transmitting a second digital asset, cryptocurrency, digital security financial instrument, and/or digitally securitized asset transaction corresponding to the ask price from the transaction wallet to a seller wallet;
- issuing a distributed ledger token corresponding to the quantity of the natural resource; and
- transmitting the distributed ledger token to the buyer wallet.

78. A computer system, comprising:
- a webserver configured to output a first GUI to a first device for a seller and to receive an ask price for a quantity of a natural resource, to output a second GUI to a second device for a buyer, and to receive a bid price for the quantity of the natural resource; and
 - a server computer, operatively coupled to the webserver, and configured to determine that the ask price and the bid price meet a match criterion, to authorize first and second cryptocurrency and/or digitally securitized asset transactions to respectively transfer the ask price to the seller and receive the bid price from the buyer, and to transmit said authorizations to the webserver.
79. The computer system of claim 78, further comprising:
- a plurality of devices operatively coupled to the webserver and carrying the distributed ledger;
 - wherein the webserver is configured to transmit the authorized first and second cryptocurrency and/or digitally securitized asset transactions to the plurality of devices;
 - wherein the plurality of devices are configured to collectively validate the first and second cryptocurrency and/or digitally securitized asset transactions; and
 - wherein the webserver is configured to receive and forward collective validation to the server computer.
80. The computer system of claim 78, wherein the server computer is further configured to:
- receive a first cryptocurrency and/or digitally securitized asset transaction corresponding to the bid price from a buyer wallet to a transaction wallet via the webserver;

transmit a second cryptocurrency and/or digitally securitized asset transaction corresponding to the ask price from the transaction wallet to a seller wallet via the webserver;

issue a distributed ledger token corresponding to the quantity of the natural resource; and

cause the webserver to transmit the token to the buyer wallet.