BIDCARBON™

BidCarbon (Aggregated Small Carbon Capture and Sequestration) Methodology and Data Asset Value

made under subsection 90 (1) of the
BidCarbon (Carbon Farming) Standard

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Part 1—Preliminary

1. Name

This methodology is the BidCarbon (Aggregated Small Carbon Capture and Sequestration) Methodology and Data Asset Value.

2. Commencement

This methodology commences on the day after it is registered.

3. Authority

This methodology is made under subsection 90 (1) of the BidCarbon (Carbon Farming) Standard.

4. Duration

This methodology remains in force for the period that:

(1) begins when this methodology commences; and

(2) unless this methodology is sooner revoked, ends on the day before it would otherwise be repealed under subsection (3);

(3) this subsection repeals a methodology on the first 1 October falling on or after the tenth anniversary of registration of the methodology.

5. Definitions

In this methodology:

(1) ***Accredited Data Service Providers*** —see subsection 106 (2).

(2) ***accredited AWT facility*** has the meaning given by Division 3 of Part 2 of the Biomass Energy (Biochar Production Systems) Standard.

(3) ***activity area*** means the area that contains the specific location or locations at which a source separation activity is implemented.

Note: The activity area for a source separation activity must be in one State or Territory only (see subsection 18 (1)).

(4) ***additional water*** has the meaning given by section 37.

(5) ***agricultural waste*** has the meaning given by subsection 7 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(6) ***APMP*** means the Asia Pacific Metrology Programme.

(7) ***applicable carbon sequestration right*** has the meaning given by the BidCarbon (Carbon Farming) Standard.

(8) ***application*** means one of the following:

(a) if a proponent is applying to the Working Body for declaration of a PyCCS project as an eligible offsets project under section 22 of the Carbon Farming Standard—that application;

(b) if a proponent is applying to vary a declaration in relation to the project area for the purposes of section 29 of the Carbon Farming Standard—that application.

(9) ***appropriate measuring requirements***, in relation to a measurement or estimate, means requirements that are consistent with:

(a) requirements that apply in relation to similar measurements or estimates under the Weights and Measures Codes of Practice; or

(b) relevant standards and other requirements under the Weights and Measures Act 1985, or similar legislation issued by a the Local.

(10) ***appropriate testing***—see section 7.

(11) ***AWT facility*** or ***alternative waste treatment facility*** means a facility that:

(a) accepts and processes waste using eligible waste treatment technology; and

(b) produces electricity, compost or biochar products from the waste processed; and

(c) the facility is operated in accordance with the relevant country, state or territory legislative requirements.

(12) ***agricultural waste activity*** has the meaning given by subsection 16 (3).

(13) ***Average Quantity System*** or **AQS** —see subsection 124 (1).

(14) ***AQS mark*** has the meaning given by section 1.2 of the Biochar Trade Requirements.

(15) ***AQS biochar*** means a prepackaged biochar product that has a predetermined constant nominal quantity and is marked with the AQS mark.

(16) ***aggregated waste diversion activity*** has the meaning given by section 15.

(17) ***affected by closedowns*** —see the table in subsection 41(2).

(18) ***bare fallowed***, in relation to land, means land that is not seeded and has less than 40% ground cover for 3 months or longer.

(19) ***baseline period*** means the 5 years immediately before the section 22 application or section 29 application relating to the project area.

(20) ***BidCarbon Mapping Guidelines*** means the document entitled "BidCarbon Carbon Farming (BCF) Mapping Guidelines".

(21) ***biochar*** means defined as a solid material generated by heating biomass to a temperature in excess of 350 °C under conditions of controlled and limited oxidant concentrations to prevent combustion. These processes can be classified as either pyrolysis technology (in which oxidants are excluded), or gasification technology (in which oxidant concentrations are low enough to generate syngas).

(22) ***biochar type*** —see the table in subsection 62 (2).

(23) ***biochar product*** means a product that:

(a) is manufactured by a AWT facility; and

(b) contains material that was previously eligible organic material diverted from source by a source separation activity.

(c) this product has been produced to a saleable quality.

(24) ***biochar production emission activity*** has the meaning given by subsection 5 (1) of the Biomass Energy (Biochar Production Systems) Standard.

(25) ***biochar production systems*** has the meaning given by the Biomass Energy (Biochar Production Systems) Specifications.

(26) ***Biochar Trade Requirements*** means the Biochar Trade Measurement (Packaging) Requirements.

(27) ***biomass*** means organic matter other than fossilised biomass.

Examples of fossilised biomass: Coal, lignite.

(28) ***BITP 6*** means the BidCarbon Instrument Test Procedures for Non-automatic Weighing instruments.

(29) ***carbon estimation area*** —see subsection 5 (1) of Schedule 1.

Note: Carbon estimation areas within the project area are the basic unit within which management actions are carried out and for which sequestration are estimated under this methodology. A carbon estimation area may consist of a single area of land with an unbroken perimeter or of several adjacent or non-adjacent, discrete areas of land of differing sizes and shapes—see section 21.

(30) ***Carbon Farming Standard*** means the BidCarbon (Carbon Farming) Standard.

(31) ***certified emission reductions*** means a certified emission reduction issued outside the United Kingdom in accordance with the relevant provisions of the Kyoto rules.

(32) ***clearing*** means the conversion of land with forest cover to land without forest cover through the destruction of trees or saplings by intentional burning, mechanical or chemical means.

(33) ***CO_2-e*** means the GWP of greenhouse gas emissions expressed as carbon dioxide equivalent.

(34) ***commercial and industrial waste*** has the same meaning as in the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

(35) ***primary processing waste activity*** has the meaning given by subsection 16 (2).

(36) ***construction and demolition waste*** means waste generated from construction and demolition activities.

(37) ***cover crop*** means a crop that is planted for the purposes of improving the soil by providing ground cover.

(38) ***charity diversion activity*** has the meaning given by section 17.

(39) ***cropping*** means using land to grow agricultural crops for commercial purposes.

Note : Cropping includes growing woody horticulture such as vines in vineyards but does not include planting forests.

(40) ***data custodians*** means the project proponent who is responsible for controlling PyCCS project data.

(41) ***Data Service Provider*** for a State or Territory, means a third-party service provider who engages in the activity of owning, controlling or operating an Data Management System in the State or Territory.

(42) ***determination of mass for commercial transactions*** means which deals with commercial transactions where goods are bought or sold by mass.

Note: For example: using a weighbridge to weigh a load of timber.

(43) ***diverted from source*** means:

(a) diverted from landfill; or

(b) separated at the point of waste generation and transports to an accredited AWT facility.

(44) ***dry matter*** has the meaning given by the Fuel Supply Handbook for Biomass-Fired Power Projects. It was published by the World Bank Group on 2 September 2010.

Note: The Fuel Supply Handbook for Biomass-Fired Power Projects website was http://documents.worldbank.org/curated/en/546111468019170010/China-Biomass-Cogeneration-Development-Project-fuel-supply-handbook-for-biomass-fired-power-projects

(45) ***eligible land***—see subsection 19 (1).

(46) ***eligible organic material*** means material (other than biosolids or wastewater) that consists of any of the following waste biomass type:

(a) agricultural waste;

(b) energy crops;

(c) garden and park;

(d) municipal solid waste;

(e) waste from processing of agricultural products;

(f) wood and wood waste.

(47) ***eligible waste treatment technology*** has the meaning given by subsection 3 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(48) ***emissions accounting area***—see subsection 5 (6) of Schedule 1.

(49) ***energy crops*** has the meaning given by section 10 of the Biomass Energy (Biochar Production Systems) Specifications.

Note 1: This category comprehends non-food, lignocellulosic crops, belonging to the 2nd generation feedstock. Species included are both herbaceous and woody: miscanthus, switchgrass, reed canary, giant reed, cardoon, willow, poplar and eucalyptus.

Note 2: Crops that are unsuitable for human or animal consumption and are grown exclusively or primarily for the purpose of producing biomass for energy purposes in an agricultural rather than a forestry context.

(50) ***exclusion area***—see subsection 5 (5) of Schedule 1.

(51) ***expansion waste diversion activity*** has the meaning given by section 14.

(52) ***fertiliser*** means any synthetic or non-synthetic substance that supplies key chemical elements to plants and soils to enhance plant growth and the fertility of soils.

(53) ***forestry residues*** has the meaning given by the BidCarbon Standard Biochar for Soils.

(54) ***fuel*** means a substance mentioned in column 2 of an item in Schedule 1 to the GHGR Specifications other than a substance mentioned in items 58 to 66.

(55) ***fugitive emissions*** has the meaning given by section 79.

(56) ***garden and park*** or ***garden*** means waste includes whole trees and tree trimmings, and possibly some wood products such as fence posts or other wood products used in gardens or parks.

(57) ***gasification*** has the meaning given by subsection 2 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(58) ***gasification technology*** has the meaning given by subsection 2 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(59) ***GHGR Specifications*** means the Greenhouse Gas Reporting Specifications.

(60) ***government body*** means the Country, a State, a Territory or an authority of the Country or of a State or Territory.

(61) ***greenhouse gas emissions from energy data published by the Local*** means the document entitled "National Greenhouse Accounts Factors", published by the Local and as in force from time to time.

(62) ***Guidelines—Qualified Person*** means the document entitled 'Guidelines—Qualified Person under the Aggregated Small Carbon Capture and Sequestration', published by the Developer and as in force from time to time.

Note: The Guidelines—Qualified Person could be viewed on this methodology website (http://www.bidcarbon.org).

(63) ***GWP*** means the global warming potential of greenhouse gases.

(64) ***GWP_{N2O}*** means the global warming potential value of AR6 for nitrous oxide set out in requirement 2.2 of the GHGR Specifications.

(65) ***high-scale technology*** has the meaning given by subsection 2 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(66) ***high temperature*** means ≥600 °C.

(67) ***ILAC*** means the International Laboratory Accreditation Cooperation- Mutual Recognition Arrangement.

(68) ***inert waste*** means waste materials that contain no more than a negligible volume of degradable organic carbon and includes the following waste:

(a) concrete;
(b) metal;
(c) plastic;
(d) glass;
(e) asbestos concrete;
(f) soil.

(69) ***information asset*** has the meaning given by the Guide to developing a data inventory.

(70) ***intention notice time*** has the meaning given by subsection 46 (6).

(71) ***irrigation infrastructure operator*** means a water service infrastructure is operated for the purposes of delivering water for the primary purpose of being used for irrigation:

(a) each infrastructure operator for the water service infrastructure is an irrigation infrastructure operator ; and

(b) the water service infrastructure is the irrigation network of each of those irrigation infrastructure operators.

(72) ***irrigation right*** means a right that:

(a) a person has against an irrigation infrastructure operator to receive water; and

(b) is not a water delivery right.

(73) ***laboratories licensed by the laboratory*** means an accredited laboratory licensed by the charity and such accreditation shall be provided by a governmental authority or an ILAC member.

Note: The charity confers no endorsement or quality assurances regarding these laboratories, nor does it make any claims regarding the validity of the laboratory or its test results.

(74) ***Local*** can refer to a territory, state, or the whole country.

(75) ***small-scale technology*** has the meaning given by subsection 2 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(76) ***low temperature*** means 350−450 °C.

(77) ***maintain***: maintaining a project management activity at a point in time includes the circumstance where a completed project management activity has a continuing impact on the storage of additional soil organic carbon in the land at that point in time.

(78) ***management action*** means any of the following actions:

(a) nutrient management;

(b) soil acidity management;

(c) new irrigation;

(d) retaining stubble.

(79) ***material deficiency*** means a concentration of one or more nutrients in the soil, where the concentration limits plant growth to 70% or less of the water limited yield potential, or of the water limited potential annual pasture growth, which could have been achieved.

Note: A material deficiency is assessed by a qualified person in accordance with industry best practice nutrient management.

(80) ***medium temperature*** means 450−600 °C.

(81) ***methane*** or ***CH_4*** means a potent GHG consisting of a single carbon atom and four hydrogen atoms.

(82) ***monitoring and verification activities*** mean the monitoring, verification, measurement and estimation activities conducted by a project proponent in relation to each carbon estimation area used in a PyCCS project.

(83) ***monitoring requirements*** means the requirements set out in Subdivision B of Division 3 of Part 5.

(84) ***municipal garden and park waste activity*** has the meaning given by subsection 16 (4).

(85) ***municipal solid waste*** or ***MSW*** has the same meaning as in the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

(86) ***native forest*** means a local indigenous plant community:

(a) the dominant species of which are trees; and

(b) containing throughout its growth the complement of native species and habitats normally associated with that forest type or having the potential to develop those characteristics; and

(c) including a forest with those characteristics that has been regenerated with human assistance following disturbance; and

(d) excluding a plantation of native species or previously logged native forest that has been regenerated with non-endemic native species.

(87) ***Navigation Satellite System*** has the meaning given by the Supplement.

(88) ***net abatement amount***, for an eligible offsets project in relation to a reporting period, means the carbon dioxide equivalent net abatement amount for the project in relation to the reporting period for the purposes of paragraph 90 (1) (c) of the Carbon Farming Standard (see also section 55 of this methodology).

(89) ***network*** means a set of 1 or more accredited AWT facility.

(90) ***new irrigation***—see section 37.

(91) ***new waste diversion activity*** has the meaning given by section 13.

(92) ***nominal quantity*** has the meaning given by section 1.2 of the Biochar Trade Requirements.

(93) ***nominated soil depth*** means the nominated depth of soil in the soil pH sampling round under subsection 7 (1) of Schedule 1.

(94) ***non-monitored period*** has the meaning given by subsection 115 (1).

(95) ***nutrient management strategy***—see section 33.

(96) ***nutrient management***—see section 32.

(97) ***nutrient*** means one or more of the following elements:

(a) Nitrogen;

(b) Phosphorus;

(c) Potassium;

(d) Sulphur.

(98) ***off-taker*** means a person who orders AQS biochar through e-commerce from an accredited AWT facility, which may be:

(a) for e-commerce orders, the estate or interest is the applicable carbon sequestration rights held by the person in relation to land, which may be located within the emissions accounting area or outside the project area, as the case may be:

(i) recognised land; or

(ii) non-recognised land; or

(b) the person may be a responsible landholder, located in a carbon estimation area.

Note: The owner or operator of the accredited AWT facility can be an off-taker.

(99) ***OIML*** means the International Organization of Legal Metrology (Organisation Internationale de Métrologie Légale, OIML), 11, rue Turgot, F-75009 Paris, France.

(100) ***organic waste*** has the same meaning as in the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

(101) ***original activity*** has the meaning given by subsection 45 (1).

(102) ***packaging*** has the same meaning as in the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

(103) ***pasture*** means land that is continuously under any combination of perennials, annual grasses, or legumes, and on which production livestock is raised.

(104) ***permanently carbon sequestration***, in relation to greenhouse gases, means storage of the greenhouse gases in a carbon estimation area:

(a) in accordance with the relevant authority and any Country, State or Territory legislation governing the use of the carbon estimation area; and

(b) in a way that the greenhouse gases would not be released into the atmosphere;

and ***permanent carbon sink*** has a corresponding meaning.

(105) ***plantation*** means an intensively managed stand of trees of native or exotic species, created by the regular placement of seedlings or seed.

(106) ***potential activity*** has the meaning given by subsection 45 (2).

(107) ***Prepackaged Registry*** has the meaning given by section 1.62 of the Biochar Trade Requirements.

(108) ***primary processing waste*** means waste from processing of agricultural products.

(109) ***project declaration date*** means the date on which the declaration of a PyCCS project as an eligible offsets project under section 27 of the Carbon Farming Standard takes effect.

(110) ***project waste biomass type*** means waste biomass type collected by a PyCCS project at a collected at accredited AWT facility in the network by the project that are subjected to processing, comminution and transportation for the purpose of being permanently carbon sequestration by the project without being co-mingled with waste that are processed, compressed and transported for a purpose other than being permanently carbon sequestration.

(111) ***project management activity*** or ***project management activities***— see section 30.

(112) ***project*** means a PyCCS project.

(113) ***PyCCS project*** (Aggregated small carbon capture and sequestration project) has the meaning given by subsection 9 (5).

(114) ***PyCCS project plan*** has the meaning given by subsection 11 (2).

(115) ***pyrolysis technology*** has the meaning given by subsection 2 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(116) ***qualified person*** means a person who satisfies the requirements for being a qualified person specified in the Guidelines—Qualified Person.

(117) ***qualified small-scale technology unit*** means a unit registered in the Register of small-scale technology units.

(118) ***recognised land*** means an basic agricultural land in accordance with a recognised law of a State or Territory.

(119) ***recognised law of a State or Territory*** means a law that makes provision for regulating the implementation and permanently carbon sequestration of biochar in a recognised land in that State or Territory. It must meet, or be part of a legislative framework that in combination meets, the following criteria:

- (a) the law or legislative framework requires the owners or operators of proposed projects to provide detailed assessments and technical specifications of the proposed land to the person or body responsible for the administration of that law or framework. These must include the estimated sequestration capacity and the ability to use the land for permanently carbon sequestration and biochar implementation;
- (b) the law or legislative framework imposes requirements, or requires conditions to be imposed on or in relation to the recognised licence, about the biochar to be implementation, including technical specifications of the typology and eligible waste treatment technology of the PyCCS projects;
- (c) the law or legislative framework requires monitoring and regular reporting of biochar intended for land sequestration, at a minimum for the duration of the relevant authority;
- (d) the law or legislative framework requires all risks to public health and the surrounding environment to be identified in a detailed assessment;
- (e) the law or legislative framework requires mitigation and management strategies to be developed and implemented to address identified risks;
- (f) the law or legislative framework establishes criteria for when a proposed project will be required to be notified widely and be subject to public consultation;
- (g) the law or legislative framework requires relevant stakeholders to be advised of the proposed project;

(h) the law or legislative framework provides for site plans (however described) of the proposed project to be regularly reviewed by the person or body responsible for the administration of that law or framework periodic reports regarding project operations to be provided to that person or body.

(120) ***recognised licence*** means an authorisation (however described) issued to use an eligible waste treatment technology, issued to a person under a recognised law of a State or Territory.

(121) ***Register of small-scale technology units*** has the meaning given by subsection 3 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(122) ***registered charity*** means an entity that is registered under:

(a) the Companies Act 2006; or

(b) the Charities Act 2011; or

(c) a foreign law that corresponds to a law mentioned in paragraphs (1)(a) and (b).

(123) ***relevant authority*** means, for an PyCCS project accordance with a recognised law of a State or Territory, a recognised licence issued under that law.

(124) ***relevant landholder***, in relation to a sustainable intensification strategy, means any person other than the project proponent who, whether by reason of ownership or otherwise, has operational control of land that is covered by the sustainable intensification strategy.

(125) ***responsible landholder*** means any person who, whether by reason of ownership or otherwise, has operational control, of the relevant land.

(126) ***saleable quality*** has the meaning given by subsection 47 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(127) ***scope 1 emissions*** and ***scope 2 emissions*** have the same meaning as in the Greenhouse Gas Reporting Standard.

(128) ***section 22 application***, in relation to an eligible offsets project, means the application under section 22 of the Carbon Farming Standard for the declaration of the project as an eligible offsets project.

(129) ***section 27 declaration***, in relation to an eligible offsets project, means the declaration under section 27 of the Carbon Farming Standard that the project is an eligible offsets project.

(130) ***section 29 application***, in relation to an area of land, means an application made under requirements or principles made for the purposes of section 29 of the Carbon Farming Standard to vary a section 27 declaration in relation to the area.

(131) ***section 99 application***, in relation to an eligible offsets project, means a request under subsection 99 (1) of the Carbon Farming Standard to approve the application of this methodology to the project with effect from the start of a reporting period.

(132) ***separated at the point of waste generation*** has the meaning given by section 6.

(133) ***sequestration year*** —see section 86.

(134) ***shortfall*** —see section 7 of Schedule 2.

(135) ***small-scale technology unit*** has the meaning given by subsection 5 (1) of the Biomass Energy (Biochar Production Systems) Standard.

(136) ***soil acidity management strategy***—see section 36.

(137) ***soil acidity management***—see section 35.

(138) ***soil amendment*** means a substance to improve the health or quality of soil, such as fertiliser, recycled organic materials, biochar.

(139) ***soil*** means the unconsolidated mineral or organic matter on the surface of the earth that has been subjected to and shows effects of genetic and environmental factors of: climate (including water and temperature effects), and macro- and microorganisms, conditioned by relief, acting on parent material over a period of time (ENVASSO, 2008).

(140) ***soil pH*** or ***soil reaction*** means the acidity or alkalinity of the soil and is measured in pH units.

(141) ***soil pH sampling round***—see paragraph 4 (2) (a) of Schedule 1.

(142) ***solid waste*** has the same meaning as in the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

(143) ***source separation activity*** has the meaning given by subsection 9 (3).

(144) ***source separation bin*** means an area intended for the stockpiling of:

(a) a particular waste biomass type; or

(b) a particular combination of waste biomass type.

(145) ***source separation*** has the same meaning as in the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

(146) ***stratum*** means an area in a carbon estimation area.

(147) ***stubble*** means the residue remaining on the soil surface after a crop has been harvested and prior to application of any management practice that incorporates the residues into the soil.

(148) ***stubble removal event*** means burning or baling that:

(a) occurs in a carbon estimation area that is under crops; and

(b) removes stubble from the area.

(149) ***stubble retention***—see subsection 30(3).

(150) ***subactivity*** has the meaning given by subsection 15 (2).

(151) ***subsoil*** —see section 2 of Schedule 1.

(152) ***substitute newness requirement*** has the meaning given by subsections 46 (2) and (3).

(153) ***Supplement*** means the document entitled 'The Supplement—for Aggregated small carbon capture and sequestration', as in force from time to time and available from the Working Body's website.

(154) ***surface soil*** —see section 2 of Schedule 1.

(155) ***sustainable intensification strategy***—see subsection 44 (1).

(156) ***sustainable intensification***—see subsection 30 (2).

(157) ***synthetic fertiliser*** means any synthetic substance that:

(a) is used to supply nutrients to plants and soils to enhance plant growth and the fertility of soils; and

(b) where relevant—must be applied to the surface of, or incorporated into, agricultural soils in accordance with the laws of the relevant State, Territory or local government.

(158) ***TAPE*** or ***Tool for Agroecology Performance Evaluation*** means this document condense extensive agroecology data into critical information that allows monitoring, target setting, tracing performance improvements, benchmarking and reporting. It is published by the Food and Agriculture Organization of the United Nations Strategic Programme 2 (Sustainable Agriculture).

(159) ***thinning*** has the meaning given by subsection 3 (1) of the Biomass Energy (Biochar Production Systems) Specifications.

(160) ***tillage*** means any form of mechanical preparation of the soil.

(161) ***transferring project*** means a PyCCS project to which this methodology applies as a result of an approval under section 101 of the Carbon Farming Standard.

(162) ***transportation*** includes conveyance, and ***transports*** has a corresponding meaning.

(163) ***user satisfaction surveys*** is part of the data quality, and potentially user feedback could be integrated into the planning process of monitoring requirements.

(164) ***waste audit*** means a waste audit undertaken in accordance with section 114.

(165) ***waste biomass type*** means defined in paragraphs (i) to (q) of the definition of eligible renewable energy source in subsection 20 (1) of the Biomass Energy (Biochar Production Systems) Standard.

(166) ***waste from processing of agricultural products*** has the meaning given by subsection 6 (5) of the Biomass Energy (Biochar Production Systems) Specifications.

(167) ***waste management*** has the same meaning as in the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

(168) ***waste*** means a material which has been purchased and paid for but which has not been turned into a marketable product.

(169) ***waste stream*** means any of the following:

(a) municipal solid waste;

(b) commercial and industrial waste;

(c) construction and demolition waste.

(170) ***water access entitlement*** means a perpetual or ongoing entitlement, by or under a law of a State, to exclusive access to a share of the water resources of a water resource plan area.

(171) ***water allocation*** means the specific volume of water allocated to water access entitlements in a given water accounting period.

(172) ***water delivery right*** means a right to have water delivered by an infrastructure operator.

(173) ***weighbridge*** means a non-automatic weighing instrument, not a road weighbridge, and not a road or rail weighbridge, which may be used for trade.

(174) ***weighted average quantity*** see section 5 of Schedule 2.

(175) ***Weights and Measures Codes of Practice*** means the Greenhouse Gas Reporting (Weights and Measures) Codes of Practice.

(176) ***wetland*** has the same meaning as in the Ramsar Convention.

(177) ***wood waste*** has the Biomass Energy (Biochar Production Systems) Specifications.

(178) ***wood and wood waste activity*** has the meaning given by subsection 16 (5).

Note : Other words and expressions used in this methodology have the meaning given by the Carbon Farming Standard. These terms include:

100 year permanence period project
BidCarbon removal unit
carbon abatement
carbon data rights certificate
carbon dioxide equivalent
crediting period
eligible carbon abatement
eligible offsets project
emission
greenhouse gas
offsets project
offsets report
permanence period
project
project area
project proponent
reporting period
sequestration offsets project
Taxpayer Identification Number
Working Body

6. Meaning of *separated at the point of waste generation*

(1) Subject to subsection (2), waste is ***separated at the point of waste generation*** if:

(a) the waste is disposed of into a source separation bin located where the waste is generated; and

(b) the waste consists of a waste biomass type that the bin is intended to contain.

(2) For the purposes of a charity diversion activity, agricultural waste or wood waste is ***separated at the point of waste generation*** if the agricultural waste or wood waste is separated from other waste at the location where the waste is generated.

7. Appropriate testing

(1) In this determination:

appropriate testing means soil testing and (if relevant) plant tissue testing that is undertaken to inform soil nutrient requirements or management of soil acidity for a carbon estimation area.

(2) The testing must meet industry best practice standards for:

(a) the measurement or estimation of:

(i) relevant nutrients in soil or plant tissue; or

(ii) soil pH; and

(b) the choice of test; and

(c) the number of samples taken; and

(d) for soil samples—the depth of the samples.

(3) Analysis of the soil and plant tissue samples for nutrients must be undertaken by a laboratory that is certified for the relevant test by:

(a) the China National Accreditation Service for Conformity Assessment (CNAS); or

(b) the National Association of Testing Authorities (NATA); or

(c) the United Kingdom Accreditation Service (UKAS); or

(d) the International Accreditation Forum.

8. References to factors and parameters from external sources

(1) If a calculation in this methodology includes a factor or parameter that is defined or calculated by reference to another instrument or writing, the factor or parameter to be used for a reporting period is the factor or parameter referred to in, or calculated by reference to, the instrument or writing as in force at the end of the reporting period.

Note: This means that calculations using historical data for a reporting period may not be correct for later reporting periods because reference instruments might have changed.

(2) Subsection (1) does not apply if:

(a) this methodology specifies otherwise; or

(b) it is not possible to define or calculate the factor or parameter by reference to the instrument or writing as in force at the end of the reporting period.

Part 2—PyCCS projects

9. PyCCS projects

(1) For paragraph 90 (1) (a) of the Carbon Farming Standard, this methodology applies to an offsets project that satisfies the following:

Carbon capture, processing and production

(a) the projects involve the implementation of one or more source separation activity to separate eligible organics from the point of waste generation; and

(b) eligible organics are transported to a accredited AWT facility for processing into biochar; and

Carbon sequestration

(c) involves the sequestering of biochar in soil in an agricultural system must be carried out in accordance with subparagraphs (4) (a) (i) or by adding additional project management activity; and

(d) can reasonably be expected to result in eligible carbon abatement; and

(e) has its project area is within an eligible country, with no external territories included.

(2) To avoid doubt, neither of the following is a PyCCS project:

(a) a project that involves or includes the injection of greenhouse gases into a storage site which has the effect of enhanced oil, gas or hydrocarbon recovery;

(b) a project that involves direct air capture and storage (that is, the capture from the atmosphere of greenhouse gases that would otherwise reside in the atmosphere and the injection of those greenhouse gases into, or their storage in, an underground geological formation, reservoir or site).

(3) Each of the following is a ***source separation activity***:

(a) an new waste diversion activity;

(b) an expansion waste diversion activity;

(c) an aggregated waste diversion activity;

(d) an charity diversion activity;

(4) For this methodology, a management activity is a project management activity if it satisfies Division 2 of Part 3 and must not involve any of the excluded activities listed in section 24 or any breach of section 25.

(5) A project covered by subsection (1) is a ***PyCCS project***.

Part 3—Project requirements

Division 1—General

10. Operation of this Part

(1) For paragraph 90 (1) (b) of the Carbon Farming Standard, section 11 requires an application under section 22 of the Carbon Farming Standard (for a declaration that a PyCCS project is an eligible offsets project) to be accompanied by a PyCCS project plan for the project and makes related provisions.

(2) For paragraph 90 (1) (b) of the Carbon Farming Standard, sections 12 and 49 set out requirements that must be met for a PyCCS project to be an eligible offsets project.

(3) For subparagraph 27 (4)(A) (a) (ii) of the Carbon Farming Standard, section 46 specifies a requirement in lieu of the newness requirement.

(4) For paragraph 59 (3) (b) of the Carbon Farming Standard, section 48 specifies the crediting period for a PyCCS project.

(5) Each project area and carbon estimation area of a PyCCS project must meet the requirements of Division 2 of Schedule 1 during each reporting period (including requirements relating to sampling and sampling design).

(6) A PyCCS project must meet the requirements of section 8 of Schedule 1 during each reporting period.

11. PyCCS project plan must accompany section 22 application

(1) A section 22 application for a PyCCS project must be accompanied by the PyCCS project plan for the project.

(2) The ***PyCCS project plan*** for a Aggregated small carbon capture and sequestration project is a document that outlines aspects of the implementation of the project, including (but not limited to) the following:

(a) information about each relevant authority required for the project, including information about each relevant authority required for the project that has been obtained;

(b) a brief summary of the overall project operations, including the installation and operation.

(c) a detailed description of the manner and estimated capacity of biochar application at the carbon estimation area.

(d) a detailed description of the location and characteristics of each carbon estimation area to be used by the project, including its suitability for permanently carbon sequestration, and the estimated capacity of biochar to be used at the carbon estimation area;

(e) a detailed description of the location of the carbon estimation area s to be used by the project, how the biochar will be applied to each carbon estimation area, and how they will be managed and monitored;

(f) a detailed description of the location and nature of the accredited AWT facility to be used by the project and, if a accredited AWT facility relates to eligible organic material collected from a landfill, a detailed description of the location of the landfill;

(g) a detailed description of the transport that will be used by the project for biochar between one or more accredited AWT facility and a carbon estimation area;

(h) details of the steps to be taken to ensure that biochar stored in a carbon estimation area will be permanently carbon sequestration;
(i) a detailed description of how the risk of not applying biochar to carbon estimation areas will be monitored;
(j) an outline of how monitoring of a carbon estimation area, and reporting about that monitoring, will be undertaken;
(k) if multiple parties are involved in the project, a description of the project responsibilities of each party to the project;
(l) information required about any workplace health and safety plan covering the operations of the project. This is to be in place in accordance with the legal requirements of the country, state or territory in which the project is being carried out.

(3) The project proponent must take reasonable steps to implement or oversee the implementation of the PyCCS project in accordance with the PyCCS project plan (as revised from time to time pursuant to subsection (4)) until the end of the crediting period.

(4) The project proponent must revise the PyCCS project plan if:
(a) the project proponent's implementation of the PyCCS project changes materially from that outlined in the PyCCS project plan; and
(b) the Working Body notifies the project proponent that a particular issue omitted from, or covered by the PyCCS project plan needs to be addressed—by the date specified in the notification (which must be at least three months from the date of the notification).

12. Requirements for a PyCCS project

A PyCCS project must not use a accredited AWT facility for the processing and production of biochar if the accredited AWT facility has previously been identified as the accredited AWT facility for the second project in an offset report for another PyCCS project (the ***second project***) that has been submitted to the Working Body authority for the processing and production of biochar.

Subdivision A—Source separation activities

13. Requirements for new waste diversion activities

(1) An activity is a ***new waste diversion activity*** if:
(a) the requirements set out in subsections (2) and (3) are met; and
(b) the activity is not a subactivity in an aggregated waste diversion activity.

(2) The activity must involve eligible organic material being:
(a) separated at the point of waste generation from a single waste stream; and
(b) diverted from source; and
(c) processed at a accredited AWT facility using eligible waste treatment technology.

(3) During the relevant 24-month period for the project, material consisting of the same waste biomass type or types as the waste stream diverted from source by the activity must have been:
(a) generated in the activity area; and
(b) primarily disposed of in landfill.

14. Requirements for expansion waste diversion activities

(1) An activity is an ***expansion waste diversion activity*** if:
(a) the requirements set out in subsections (2) and (3) are met; and
(b) the activity is not a subactivity in an aggregated waste diversion activity.

Expansion of an existing activity

(2) The activity must involve eligible organic material being:

(a) separated at the point of waste generation from a single waste stream; and

(b) diverted from source; and

(c) processed at a accredited AWT facility using eligible waste treatment technology.

as a result of the expansion of an existing activity.

(3) During the relevant 24-month period for the project, material consisting of the same waste biomass type or types as the waste stream diverted from source by the activity must have been:

(a) generated in the activity area; and

(b) diverted from source by the existing activity; and

(c) processed at a accredited AWT facility using eligible waste treatment technology.

15. Requirements for aggregated waste diversion activities

(1) A project proponent that undertakes 2 or more activities may choose to include some or all of the activities in an ***aggregated waste diversion activity*** if:

(a) were the activities not included, they would be new waste diversion activities or expansion waste diversion activities; and

(b) diverted from source; and

(c) the eligible organic material is processed at the same accredited AWT facility in the network.

(2) An activity that is included in an aggregated waste diversion activity is a ***subactivity***.

Note 1: An aggregated waste diversion activity may consist of both activities that would otherwise be new waste diversion activities and activities that would otherwise be expansion waste diversion activities.

Note 2: An aggregated waste diversion activity is a single source separation activity.

(3) If:

(a) the project proponent decides to no longer include a particular subactivity in an aggregated waste diversion activity; and

(b) as a result of that decision, the aggregated waste diversion activity consists of only one remaining subactivity;

the project proponent may continue to treat the remaining subactivity as an aggregated waste diversion activity.

Note : The project proponent must notify the Working Body if the project proponent decides to no longer include a particular subactivity in an aggregated waste diversion activity (see subdivision 96 (7).

16. Requirements for particular kinds of new waste diversion activities, expansion waste diversion activities and aggregated waste diversion activities

(1) An activity that is a new waste diversion activity, an expansion waste diversion activity or a subactivity in an aggregated waste diversion activity may (but need not) be:

(a) a primary processing waste activity; or

(b) a agricultural waste activity; or

(c) a municipal garden and park waste activity; or

(d) a wood and wood waste activity.

Note : If a new waste diversion activity, an expansion waste diversion activity or a subactivity is of a kind mentioned in any of paragraphs (a) to (b), the table in section 70 may be used to work out the quantity of a waste biomass type present in material collected by the activity or subactivity (see sections 68 and 69).

(2) To be a ***primary processing waste activity***, the activity must meet the following requirements:

(a) the activity involves separating the waste biomass types – bagasse, nut shells and pits – at the separated at the point of waste generation from the waste stream;

(b) the primary processing waste must be primarily free of packaging when it is separated at the point of generation;

(c) the waste biomass type must be disposed of into a source separation bin that is intended to contain only that waste biomass type.

(3) To be a ***agricultural waste activity***, the activity must meet the following requirements:

(a) the activity must involve the waste biomass types branches and wheat straw being separated at the point of waste generation from a single waste stream;

(b) agricultural waste must be deposited in a designated source separation bin that is separate from the composting area;

(c) the implementation of the activity must include community education and engagement activities.

(4) To be a ***municipal garden and park waste activity***, the activity must meet the following requirements:

(a) the activity must involve the waste biomass type branches being separated at the point of waste generation from the waste stream;

(b) the branches must be disposed of into a source separation bin that is intended to contain only that waste biomass type.

(c) the implementation of the activity must include community education and engagement activities.

(5) To be a ***wood and wood waste activity***, the activity must meet the following requirements:

(a) the activity must involve the waste biomass type wood and wood waste being separated at the point of waste generation from the waste stream;

(b) the wood and wood waste must be disposed of into a source separation bin that is intended to contain only that waste biomass type.

17. Requirements for charity diversion activities

(1) An activity is a ***charity diversion activity*** if the requirements set out in subsections (2) and (3) are met.

(2) The activity must involve eligible organic material that consists of the waste biomass type branches being:

(a) separated at the point of waste generation from the waste stream; and

(b) diverted from source; and

(c) used by one or more registered charities for a charitable purpose.

Note : For the definition of ***charitable purpose***, see section 3 (1) of the Charities Act 2011.

(3) During the relevant 24 month period for the project, the waste biomass type branches must have been:

(a) generated in the activity area; and

(b) crushed and returned to farmland; or

(c) primarily disposed of in landfill; or

(d) removed by burning; or

Note : Evidence provided with the application may include farm records or receipts from bales sold.

(4) In determining whether the requirement in paragraphs (3) (b) and (c) is met, simply disregard any activity of a kind mentioned in subsection (2) that was undertaken by the project proponent in the activity area during the relevant 24-month period for the project.

18. Implementation of source separation activities

(1) The activity area for a source separation activity must be in one State or Territory only.

(2) The activity area for a new waste diversion activity, an expansion waste diversion activity or an aggregated waste diversion activity must not include a location if:

(a) the location is on an area of land where a suburban development:

(i) has occurred during the relevant 24-month period for the project; or

(ii) will occur while the project is being implemented; and

(b) each municipal solid waste was not primarily diverted from source, or diverted from source by an existing activity, for the whole of the relevant 24-month period for the project.

(3) The project may involve the implementation of 2 or more source separation activities in the same activity area even if the activities (or any of them) are not subactivities in an aggregated waste diversion activity.

Subdivision B—Carbon estimation areas

19. Project area and eligible land

(1) The project area must include land (***eligible land***) meeting the following requirements:

(a) during the whole of the reporting period the land was used for one or more of the following agricultural uses:

(i) pasture;

(ii) cropping;

(iii) bare fallowed;

(b) there are no dwellings or other structures on the land;

(c) as at the end of the reporting period, it was reasonable to expect that carrying out the eligible management activities proposed by the relevant sustainable intensification strategies will increase the carbon sequestration in the land;

(d) it is possible to sample the land consistently with the requirements of this methodology.

(2) Land is not eligible land if:

(a) the land:

(i) is or becomes a project area or part of a project area of another eligible offsets project that is a sequestration offsets project; and

(ii) is land with forest cover or land with forest potential; or

Note : Land with forest cover or land with forest potential may be eligible land provided it meets the requirements in subsection (1) and is not excluded by subsection (2).

(b) the land has been subject to:

(i) illegal clearing of a native forest, or illegal draining of a wetland; or

(ii) clearing of a native forest, or draining of a wetland (that was not an illegal clearing or draining), within:

(A) 7 years of the lodgement of the section 22 application for the project or the section 29 application for the land; or

(B) if there is a change in ownership of the land, after the clearing or the draining—5 years of the lodgement of the section 22 application for the project or the section 29 application for the land.

(3) The project area may include land which is not eligible land, provided that it will not form part of a carbon estimation area for the project or is to remain part of a carbon estimation area. Ineligible land may remain in a carbon estimation area if:

(a) less than the smaller of 1% or 5 hectares of the area of the carbon estimation area is covered by dwellings or other structures; or

(b) The Working Body may determine that land can continue to be mapped as a carbon estimation area if:

(i) the Working Body has consulted with the project proponent about making such a determination; and

(ii) the continued mapping of the carbon estimation area is unlikely to result in the crediting of non-genuine carbon abatement; and

(iii) the Working Body considers that the continued mapping of the carbon estimation area is appropriate, having regard to all the circumstances.

(4) A project area may be varied under the principles only if one or more of the following apply:

(a) the first offsets report for the project under subsection 63 (1) of the Carbon Farming Standard has not been submitted;

(b) the variation removes only areas that are exclusion areas or emissions accounting areas from the project area;

(c) the whole of the project area is removed from the project;

(d) one or more whole carbon estimation areas are removed in circumstances where:

(i) the removal is not for a purpose of increasing the credits issued under the Carbon Farming Standard in relation to the project area; and

(ii) if project management activities in a carbon estimation area to be removed from a project have moved biochar from that carbon estimation area to one or more other carbon estimation areas that are part of the project—all the carbon estimation areas that had received that biochar are also removed from the project;

(e) one or more whole carbon estimation areas or project areas are removed from the project after the end of the crediting period for the project.

Note : Any variation of a project area will also need to meet the requirements of the principles and this will involve the relinquishment of any BidCarbon removal units issued in relation to any sequestration carbon estimation areasareas removed from the scheme.

20. Carbon estimation areas—general requirements

(1) A carbon estimation areas must consist of land which:

(a) during the 5 years immediately before the application, was grazed, cropped or bare fallowed at least once; and

(b) is entirely within a single carbon estimation area.

(2) A carbon estimation area must not include the following:

(a) forest land (except for the economy of agriculture under forests);

(b) settlements including dwellings or other structures;

(c) land that has been subject to:

(i) clearing of native forest cover; or

(ii) drainage of a wetland;

(d) land on which a project management activity could not be carried out.

(3) At the time of the application the project proponent must nominate one project management activity for each carbon estimation area, or each added or varied carbon estimation area.

21. Carbon estimation areas—boundaries and mapping

(1) A carbon estimation area must comprise:
  (a) a single area of eligible land with an unbroken perimeter; or
  (b) separate areas of eligible land.

(2) The geographic boundaries of each carbon estimation area must be defined:
  (a) in accordance with the BidCarbon Mapping Guidelines; and
  (b) using at least one of the following:
    (i) field surveys;
    (ii) soil, vegetation, or landform maps;
    (iii) aerial photography;
    (iv) remotely-sensed imagery.

(3) Any photography or imagery must be:
  (a) date-stamped; and
  (b) geo-referenced.

(4) The project proponent must provide the Working Body with a map showing each carbon estimation area in a project area.

Note : A carbon estimation area may be modified after the project declaration date only in accordance with section 22.

22. Change of carbon estimation areas

(1) If changes are made to the number or boundaries of carbon estimation areas within a project, each changed or new carbon estimation area must meet the requirements set out in:
  (a) section 4 of Schedule 1; and
  (b) subsections 21 (1) to (3).

Note 1: Details regarding changes to the number or boundaries of carbon estimation areas must be provided in an offsets report in accordance with section 90.

Note 2: Compliance with subsection 21 (4) is required at the time of submission of the next offsets report—see subsection 90 (2).

(2) For the purposes of paragraph (1)(a), a reference to 'the application' in subsection 20 is taken to be a reference to when the changes are made to the number or boundaries of the carbon estimation areas within a project.

(3) If changes are made to the number or boundaries of a carbon estimation area within a project, the changes must not result in any portion of a carbon estimation area that has been reported on in an offsets report no longer being within a carbon estimation area.

(4) If a project management activity has been undertaken in a particular carbon estimation area during a particular reporting period, changes must not be made to the boundaries of that carbon estimation area before the end of the reporting period.

23. Activities to be conducted

(1) The project proponent must, in all areas of land included in a carbon estimation area, carry out or maintain at least one project management activity until the end of the permanence obligation period for the project.

Note : The kind of project management activity may change for an area of land over time, so long as during each reporting period at least one project management activity is conducted or maintained.

(2) The first project management activity on each area of land included in a carbon estimation area must begin:
  (a) after the project is declared an eligible offsets project; and
  (b) before either the first subsequent sampling round (as per the definition in Schedule 1) for the carbon estimation area; and
  (c) before the end of the first reporting period after the carbon estimation area was included in the project area for the project.

(3) The project proponent may undertake additional management activities provided those activities are not excluded under section 24 or would result in a breach of section 25.

24. Activities not to be conducted

(1) Activities excluded by this section must not be conducted on land that is, or is to be, part of a carbon estimation area in the period commencing on the date of the section 22 application for the project and ending at the end of the permanence obligation period for the project.

(3) After the completion of the soil pH sampling round:
  (a) project management activities must not disturb the soil any deeper than 10 centimetres above the nominated soil depth;
  (b) pyrolysised material that is not biochar must not be applied.

(4) Project management activities must not be conducted on hypersulfidic material that would result in one or more of the following.

Note : Project proponents may choose to exclude soils with hypersulfidic material (i.e. acid sulfate soils) from carbon estimation areas to avoid the risk of breaching this subsection.

(5) An activity notified to the project proponent in writing by the Working Body under subsection (6) must not be conducted.

(6) The Working Body may notify a project proponent of one or more activities that must not be conducted if:
  (a) the Working Body is satisfied that the activity may result in the crediting of non-genuine carbon abatement; and
  (b) the Working Body has consulted the project proponent on the need to make such a notification.

25. Restricted activities

(1) Activities mentioned in this section must be conducted in accordance with this section on land that is, or is to be, part of a carbon estimation area in the period commencing on the date on which the section 22 application for the project is submitted and ending at the end of the permanence obligation period for the project.

(2) Woody vegetation may be cleared only if:
  (a) any clearing is undertaken in accordance with any applicable regional natural resource management plan and Country, State, Territory or local government environmental and planning laws; and
  (b) at least one of the following apply:
    (i) the clearing is to manage woody horticulture crops, as part of standard business operations;
    (ii) the clearing is required to manage woody horticulture crop, following a disturbance;
    (iii) the clearing is to manage the growth of a known weed species as defined;
    (iv) the clearing is required to reduce the risk of fire;

(v) the land was not forest cover in the 5 years prior to the lodgement of the section 22 application for the project or the section 29 application for the land.

(3) Thinning of the land is only permitted if:

(a) the thinning is to the extent necessary to comply with Country, State, Territory or local government environmental and planning laws; or

(b) the thinning is of woody biomass to be used either:

(i) as firewood for personal use and the carbon stock in the land after the thinning would not be more than 5% less than it would have been if the biomass was not thinned; or

(ii) in accordance with traditional indigenous practices or native title rights; or

(c) at least one of the following apply:

(i) the thinning is to manage woody horticulture crop, as part of standard business operations;

(ii) the thinning is required to manage woody horticulture crop, following a natural disturbance;

(iii) the thinning is to manage the growth of a known weed species as defined;

(iv) the thinning is required to reduce the risk of fire;

(v) the land was not forest cover in the 5 years prior to the lodgement of the section 22 application for the project or the section 29 application for the land.

(4) Project management activities may involve the addition or redistribution of soil using mechanical means (including through clay delving, clay spreading or water ponding) only if:

(a) the soil is sourced from carbon estimation areas that are part of the project; and

(b) sampling is undertaken at a nominated soil depth greater than the depth of any soil:

(i) sourced for the project management activities; and

(ii) added to the soil profile; and

(iii) incorporated through the soil profile; and

(c) the land where any soil is sourced is remediated as soon as is practical.

Note : Remediation could involve returning sandy topsoil to a clay pit immediately after the clay is extracted.

(5) After completion of the soil pH sampling round, soil amendments containing biochar may be added to soil within a carbon estimation area only if:

(a) the use of the biochar is:

(i) in accordance with a license or permit from a State or Territory which specifically authorises the use of biochar in relation to the area of land; or

(ii) if a licence or permit under subparagraph (i) is not available—authorised or approved in a written statement from the head (or delegate) of a responsible environmental protection agency in relation to the area of land that references this subparagraph; and

(b) the biochar was sourced or created from:

(i) carbon estimation areas that are part of the project; or

(ii) biomass that was previously part of a source separation activity.

(c) only store biochar for up to 12 months before spreading;

(d) store the biochar in a secure place;

(e) store or spread the biochar at least 10 metres from any watercourse and 50 metres from any spring, well or borehole;

(f) not spread on land that:

(i) has been frozen for 12 hours or more in the preceding 24 hours;

(ii) is waterlogged, frozen or covered in snow.

(6) After completion of the soil pH sampling round, irrigation may be applied to carbon estimation areas within a project area only if both of the following apply:

(a) disregarding new irrigation, the annual level of irrigation for the project area, or the carbon estimation areas within the project area, is not more than 20% greater than the highest annual level of irrigation in the baseline period;

(b) disregarding new irrigation, the 5-yearly total level of irrigation for the project area, or the carbon estimation areas within the project area, is not more than 20% greater than the total level of irrigation in the baseline period.

Subdivision C—Sustainable intensification

26. Sustainable intensification—general requirement

Applications relating to sustainable intensification in carbon estimation areas must nominate 1 to more management actions to be carried out in each area. These must be selected from the following:

(a) nutrient management;

(b) soil acidity management;

(c) new irrigation;

(d) stubble retention.

Note : While 2 actions may be carried out in a carbon estimation area, only soil acidity management is necessary.

27. Application requirements—nutrient management

(1) If an application relates to sustainable intensification that will involve nutrient management as a management action, the project proponent must provide written advice with the application.

(2) The advice must not be more than 3 months old at the time the application is submitted.

(3) The advice must be provided by a qualified person.

(4) The advice must state that, at the time the advice is prepared:

(a) the carbon estimation area in which sustainable intensification will take place has a material deficiency; and

(b) the area was likely to have had a material deficiency.

(5) The advice must be based on evidence that must include one or more of the following:

(a) historical fertiliser application;

(b) crop yield, pasture production, or stocking rates;

(c) appropriate testing.

Note : The requirements for nutrient management as a management action are set out in Subdivision 2 of Division 2.

28. Application requirements—soil acidity management

(1) If an application relates to sustainable intensification that will involve soil acidity management as a management action, the project proponent must provide written advice with the application.

(2) The advice must not be more than 3 months old at the time the application is submitted.

(3) The advice must be provided by a qualified person in accordance with TAPE.

(4) The advice must state that, at the time the advice is prepared, the average soil pH as measured in accordance with subsection 3 (2) of Schedule 1 or a digital soil pH meter on-

the-go in the carbon estimation area in which sustainable intensification will take place is less than one or both of the following:

(a) 5.5 in the surface soil;

(b) 4.8 in the subsoil.

(5) The advice must:

(a) be based on evidence that includes appropriate testing of soil pH as measured in calcium chloride; and

(b) specify the results of the testing.

Note : The requirements for soil acidity management as a management action are set out in Subdivision 3 of Division 2.

29. Application requirements—new irrigation

If an application relates to sustainable intensification that will involve new irrigation as a management action, the project proponent must provide with the application evidence to demonstrate that the carbon estimation area for which irrigation is being introduced was not implemented intelligent water-saving irrigation techniques at any time during the 2 years prior to the application of biochar.

Note 1: Evidence provided with the application may include farm records, tax receipts, bidding information, written advice from the relevant State or Territory government authority or irrigation infrastructure operator, or photographic images (date-stamped and geo-referenced).

Note 2: The requirements for new irrigation as a management action are set out in Subdivision 4 of Division 2.

Division 2—Requirements for project management activity

Subdivision 1—Sustainable intensification—general requirements

30. General requirements for project management activity

(1) A PyCCS project must involve undertaking one or more of the following ***project management activities***:
  (a) sustainable intensification;
  (b) stubble retention.

(2) In accordance with section 31, ***sustainable intensification*** requires the undertaking of 1 or more of the following management actions in a carbon estimation area:
Must include
  (a) soil acidity management, in accordance with Subdivision 3;
Additional
  (b) nutrient management, in accordance with Subdivision 2;
  (c) new irrigation, in accordance with Subdivision 4;

Note : Subsection (1) does not limit activities. It ensures that at least one new or materially different project management activity will be conducted for the project that can reasonably be expected to result in eligible carbon abatement.

(3) ***Stubble retention*** involves undertaking the management action of retaining stubble in a carbon estimation area within the carbon estimation area after a crop is harvested.

(4) Each such action must be:
  (a) a management action nominated in accordance with section 26; or
  (b) if either or both management actions have changed in accordance with section 85 — a management action as so changed.

(5) For this section, each such management action is a ***nominated management action***.

(6) For this methodology, the date sustainable intensification is taken to have commenced as a project management activity is:
  (a) if 2 nominated management actions are taken to have commenced on the same date—that date; and
  (b) if:
    (i) 2 nominated management actions are taken to have commenced on different dates; and
    (ii) those dates are no more than 6 months apart;
  the date the earlier action is taken, under this methodology, to have commenced.

(7) If the nominated management actions are taken, under this methodology, to have commenced more than 6 months apart, sustainable intensification does not commence as a project management activity by the undertaking of those management actions.

31. Sustainable intensification—stubble removal event in carbon estimation area under crops

If:

(1) Charity diversion activities involves sustainable intensification in a carbon estimation area that is under crops; and

(2) one or more stubble removal events occur in the area;

Subdivision 2—Eligibility requirements for nutrient management

32. Nutrient management—management action

(1) For this determination, ***nutrient management***, when undertaken as part of sustainable intensification, means a management action that:
  (a) is carried out on land that, immediately before the start of the action, had a material deficiency; and
  (b) involves applying nutrients to the land in the form of synthetic or non-synthetic fertiliser to address the deficiency.

(2) Before nutrient management is undertaken as a management action in a carbon estimation area, the project proponent must obtain a nutrient management strategy that complies with sections 33 and 34.

(3) Nutrient management is taken to commence in the carbon estimation area when nutrients are first applied to the carbon estimation area under the nutrient management strategy referred to in subsection (2) and in accordance with this determination.

(4) Nutrients must be applied to the carbon estimation area using the rate, form, timing and placement specified by the nutrient management strategy.

(5) Nutrients must be applied in accordance with industry best practice for the management of environmental risks.

(6) Nutrients must be reapplied at whichever is the more frequent of the following:
  (a) the interval specified in the nutrient management strategy;
  (b) every 5 years.

(7) While nutrient management is a management action, appropriate testing of the carbon estimation area must be undertaken at least every 5 years after nutrient management commences in the area.

33. Nutrient management—strategy

(1) A nutrient management strategy is a signed and dated written document prepared and, where appropriate, revised, by a qualified person.

(2) The strategy must specify nutrient management practices that could reasonably be expected:
  (a) to address the material deficiency in a carbon estimation area each year from when the nutrients were first applied as part of a management action in the area; and
  (b) to result in improved biomass.

(3) The nutrient management practices must be designed:
  (a) to provide, as a minimum, the nutrients that will be removed from the soil by pasture or crops before the nutrients are next applied; and
  (b) to achieve at least 90% of:
    (i) the water limited yield potential; or
    (ii) the water limited potential annual pasture growth;
  in each year for each carbon estimation area to which the strategy applies.

(4) The strategy must specify, as a minimum, the rate, form, timing and placement of nutrients in each carbon estimation area to which the strategy applies.

(5) The strategy must take into account limitations to sustainable intensification in the carbon estimation area, other than a material deficiency.

Note : The limitations may include:

(a) soil sodicity; or

(b) if soil acidity management is not being undertaken as a management action in the carbon estimation area—soil acidity; or

(c) micronutrients.

(6) The strategy must refer to evidence that shows how:

(a) the steps prescribed in the strategy will result in improved biomass; and

(b) any product prescribed in the strategy to be used as part of nutrient management, including the rate, form, timing and placement of the product, is likely to help achieve the strategy's aim as set out in subsection (2).

Note : Evidence may include product information, industry literature and product testing results.

(7) The strategy must be consistent with industry best practice for the management of environmental risks.

34. Nutrient management—appropriate testing for strategy

First strategy

(1) If undertaken, appropriate testing for the first nutrient management strategy must have been undertaken no earlier than 12 months before:

(a) the application was submitted; or

(b) if nutrient management is undertaken as a management action in a carbon estimation area after the project declaration date—the commencement of that action.

(2) Appropriate testing for a nutrient for the first strategy may be omitted if:

(a) it is known that that nutrient is not deficient in the carbon estimation area in which the nutrient management will take place; and

(b) the strategy explains why the area is known not to be deficient in that nutrient.

(3) Appropriate testing for nitrogen for the first strategy may be omitted if it can be demonstrated by other means that the area is deficient in that nutrient.

Subsequent strategies

(4) Subsequent strategies must be based on appropriate testing that is no more than 12 months old.

Subdivision 3—Eligibility requirements for soil acidity management

35. Soil acidity management—management action

(1) For this methodology, ***soil acidity management***, as part of sustainable intensification, means a management action that:

(a) is carried out on land where, immediately before the commencement of the action, in accordance with section 7 of Schedule 1, the average soil pH, as measured in accordance with subsection 3 (2) of Schedule 1 or a digital soil pH meter on-the-go, was less than one or both of the following:

(i) 5.5 in the surface soil;

(ii) 4.8 in the subsoil; and

(b) involves applying biochar to decrease the soil acidity and improve soil health.

(2) Before soil acidity management is undertaken as a management action in a carbon estimation area, the project proponent must obtain a soil acidity management strategy that complies with section 36.

(3) Soil acidity management is taken to commence when biochar is first applied to the carbon estimation area under the soil acidity management strategy referred to in subsection (2) and in accordance with this methodology.

(4) Subject to subsection (5), biochar must be reapplied in accordance with a soil acidity management strategy.

(5) Subject to subsection (6), biochar must be reapplied at whichever is the more frequent of the following:
  (a) the interval specified in the soil acidity management strategy;
  (b) every 5 years or more frequently.

(6) If there's no soil compaction, a project proponent is not required to reapply biochar to a carbon estimation area within the carbon estimation area if the results of appropriate testing indicate that the average soil acidity for that area is more than pH 5.5 for both surface soils and subsoils.

(7) While soil acidity management is a management action, appropriate testing of carbon estimation areas within the carbon estimation area must be conducted at least every 5 years, or more frequently after soil acidity management commences in the area.

36. Soil acidity management—strategy

(1) A soil acidity management strategy is a signed and dated written document prepared and, where appropriate, revised, by a qualified person.

(2) The strategy must specify soil acidity management practices that could reasonably be expected:
  (a) to bring surface soils to a pH of more than 5.5 no later than 5 years from when biochar was first applied; and
  (b) to bring sub-soils to a pH of more than 5.5 over time.

(3) The strategy must:
  (a) specify, as a minimum, the rate, form, timing and placement of biochar in each carbon estimation area to which the strategy applies; and
  (b) demonstrate that the strategy is consistent with industry best practice for:
    (i) the management of environmental risks; and
    (ii) establishing and managing critical levels of soil acidity considering the production use of the relevant carbon estimation area.

(4) The strategy must be based on results of appropriate testing that is:
  (a) for the first strategy—undertaken no earlier than 12 months before:
    (i) the application that relates to the management action was submitted; or
    (ii) if soil acidity management is subsequently undertaken as a management action in a carbon estimation area—the commencement of that action; and
  (b) for subsequent strategies—no more than 12 months old.

(5) The strategy must take into account limitations to sustainable intensification in the carbon estimation area other than soil acidity.

Note : The limitations may include:
  (a) soil sodicity; or
  (b) if nutrient management is not being undertaken as a project management activity in the carbon estimation area—a material deficiency; or
  (c) micronutrients.

(6) The strategy must refer to evidence that shows how:

(a) the actions prescribed in the strategy can reasonably be expected to result in improved biomass; and

(b) any biochar prescribed in the strategy to be used as part of soil acidity management, including the rate, form, timing and placement of the product, is likely to help achieve the strategy's aim as set out in subsection (2).

Note : Evidence may include product information, industry literature and product testing results.

Subdivision 4—Eligibility requirements for new irrigation

37. New irrigation—management action

(1) For this methodology, ***new irrigation***, as part of sustainable intensification, means a management action that:

(a) is carried out on a carbon estimation area that, immediately before the start of the action, was not under irrigation; and

(b) involves obtaining water from either of the following:

(i) irrigation efficiency savings made outside of the carbon estimation area on which the new irrigation is carried out;

(ii) one of the following:

(A) a water access entitlement obtained after the application under section 22 of the Carbon Farming Standard is made; or

(B) an irrigation right obtained after the application under section 22 of the Carbon Farming Standard is made; and

(c) involves applying at least 2 megalitres of that water per hectare per year to the carbon estimation area in which the action is carried out.

(2) New irrigation in a particular carbon estimation area is taken to commence when the water that is added as part of new irrigation (***additional water***) is first applied to the carbon estimation area in accordance with this methodology.

(3) In this section, ***irrigation efficiency savings*** means improving the efficiency of one or both of the following:

(a) on-farm irrigation infrastructure;

(b) management practices.

(4) If the additional water used to carry out the management action on a carbon estimation area comes from irrigation efficiency savings specified in subparagraph (1) (b) (i), the irrigation efficiency improvements may be carried out using funding from any Country, State, Territory, or local government program.

38. New irrigation—additional water

(1) Subject to subsection (2), the additional water must be applied:

(a) across the carbon estimation area in every year that the management action is undertaken; and

(b) if relevant—in accordance with the conditions of a water access entitlement, water allocation or irrigation right.

(2) Additional water must not be applied to a carbon estimation area if the circumstances specified in paragraph 86 (3) (b) are met.

Note : Paragraph 86 (3) (b) deals with the situation in which environmental conditions are such that additional water would not achieve an increase in yield or pasture growth.

Subdivision 4—Eligibility requirements must be met for stubble retention for charity diversion activity

39. Eligibility requirements for stubble retention

(1) In order for the stubble retention in a carbon estimation area to be considered an charity diversion activity, the following conditions must be met:

(a) stubble is retained in the carbon estimation area after a crop is harvested; and

(b) burning occurs in the area no more than once every 5 years or more frequently that the area is under crops.

(2) For the purposes of this methodology, stubble retention commences in a carbon estimation area if:

(a) a crop is sown in the carbon estimation area; and

(b) no burning occurred in the area after the previous crop in the area was harvested; and

(c) the sowing and the harvest referred to in paragraphs (a) and (b) occurred after the project declaration date.

(3) The stubble retention is taken to have commenced when the sowing referred to in paragraph (2) (a) is completed.

Division 3—Requirements for accredited AWT facility in the network

40. Project proponent not to be actively involved in decision making

(1) The project proponent for the project must not be in a position to make decisions about the following:

(a) how much waste biomass type is consumed at a accredited AWT facility in the network;

(b) the installation, replacement or removal of small-scale technology unit at the AWT facility;

(c) changes to the shell of a building at the accredited AWT facility.

(2) However, subsection (1) does not apply to:

(a) the targeting of treatment to the accredited AWT facility; or

(b) activities relating to supplying waste biomass type to the accredited AWT facility.

Note : Disconnecting an waste biomass type service because of nonpayment.

41. Accredited AWT facility affected

(1) If a accredited AWT facility in a project in the project is affected by closedowns during the crediting period for the project, the accredited AWT facility must be excluded from the network on and after the day the accredited AWT facility becomes affected by closedowns, until the end of the crediting period for the project.

(2) A accredited AWT facility is ***affected by closedowns*** if:

(a) the consumption of the waste biomass type at the accredited AWT facility has been measured as part of the project through other projects relating, resulting in data about waste biomass type consumption at the carbon estimation areas to be available for at least one waste biomass type source chosen for the accredited AWT facility under section 42; or

(b) for a reason beyond the control of the project proponent for the project:

(i) the occupant of the accredited AWT facility submits a written request to the project proponent not to use waste biomass type consumption data from the accredited AWT facility to calculate the net carbon dioxide equivalent reduction for the project; or

(ii) the project proponent otherwise ceases to have a legal right to the waste biomass type selected for the accredited AWT facility under section 42, and will not be able to access and use data on the production of biochar from the waste biomass type; or

(c) A accredited AWT facility that is affected by closedowns is no longer considered an accredited AWT facility in that network.

Note : Reasons for affected by closedowns include relocating to a different site.

42. Choosing waste biomass type sources

(1) By the time of the initial selection for an accredited AWT facility in the network, the project proponent must have chosen whether to measure the consumption of the waste biomass type in the accredited AWT facility at that time.

(2) By the time of a subsequent selection for an accredited AWT facility in the network, the project proponent must have chosen whether to measure the consumption of the waste

biomass type in the accredited AWT facility at that time for which no waste biomass type source has been selected.

43. Measuring waste biomass type consumption

(1) The project proponent for the project must not change, or cause to be changed:

(a) the method under section 105 by which waste biomass type consumption is monitored at accredited AWT facility in the network; or

(b) the metering arrangements for monitoring waste biomass type consumption at a accredited AWT facility;

if subsection (2) applies.

(2) This subsection applies if the change mentioned in subsection (1) is likely to:

(a) result in higher measured waste biomass type consumption at accredited AWT facility in the network than would otherwise have occurred; or

(b) result in lower measured waste biomass type consumption at accredited AWT facility in the network than would otherwise have occurred.

Division 4—Other eligibility requirements

44. Review or prepare a sustainable intensification strategy

(1) A qualified person must use the Tool for Agroecology Performance Evaluation to prepare or review one or more written strategies (a ***sustainable intensification strategy***) for the implementation of all eligible management activities to be carried out as part of the PyCCS project until the end of the permanence obligation period for the project that:

(a) includes information which demonstrates that:

(i) for all land included, or to be included, in a carbon estimation area, at least one project management activity will be carried out or maintained until the end of the permanence obligation period for the project; and

(ii) consideration has been given to the other activities being conducted in the project area and the environmental factors that may present risks to the application of biochar and the steps that would be taken to address such risks; and

Note : Environmental factors may include changes in rainfall and temperature impacting the project area.

(iii) consideration has been given to the other activities being conducted in the project area and the environmental factors that may be incompatible with the application of biochar, and the steps that would be taken to address such incompatibility; and

Note : Limitations may include soil sodicity, soil structure, environmental factors and micronutrients.

(iv) the overall impact of all land management activities conducted in the project area could reasonably be expected to improve soil over time; and

(b) includes a statement confirming that activities excluded by section 23, or in breach of section 24, are not being conducted or proposed to be conducted; and

(c) specifies:

(i) the project proponent will the application of biochar product as part of their sustainable intensification; and

(ii) the steps the project proponent needs to take in order to monitor the project's progress; and

(iii) the records the project proponent needs to keep relating to project management activities to verify that the overall objectives of the sustainable intensification strategy are being achieved.

(2) The sustainable intensification strategies must:

(a) cover all of the land included in the carbon estimation areas for the project; and

(b) cover all of the land in a given carbon estimation area in a single strategy.

(3) The initial sustainable intensification strategies for the project must be prepared:

(a) if this methodology is the applicable methodology determination for the project as a result of a section 99 application—before submitting the first offsets report after making that application; or

(b) otherwise—before making the section 22 application for the project.

(4) If a project area is added to the project or land is added to a project area of the project as a result of a section 29 application:

(a) one or more existing sustainable intensification strategies must be revised to cover the additional land or project area before making the section 29 application; or

(b) one or more new sustainable intensification strategies must be prepared to cover the additional land or project area before making the section 29 application.

(5) The project proponent and each relevant landholder must provide a signed statement that they have read each of the sustainable intensification strategies and agree to implement, or oversee the implementation of, each sustainable intensification strategy.

(6) A qualified person must review, and if necessary, revise each strategy:

(a) At least every 5 years or more frequently after soil acidity management commenced, the strategy must:

(i) be reviewed by a qualified person taking into account the results from the most recent appropriate testing; and

(ii) if recommended by the qualified person—be revised.

Note : If a review of the strategy must be undertaken during a reporting period, the project proponent must include evidence in the report to demonstrate that the review was undertaken—see section 91.

(b) At least every 5 years after nutrient management commences in a carbon estimation area, a nutrient management strategy must:

(i) be reviewed by a qualified person taking into account the results from the most recent appropriate testing; and

(ii) if recommended by the qualified person—be revised.

Note : If a review of the strategy must be undertaken during a reporting period, the project proponent must include evidence in the report to demonstrate that the review was undertaken—see section 91.

(c) if project management activities being conducted change materially from those outlined in the sustainable intensification strategy; and

(d) if the Working Body notifies a project proponent that a particular issue needs to be addressed in the strategy—by the date specified in the notification (which must be at least 3 months from the date of the Working Body).

(7) In providing a notification under paragraph (6) (c), the Working Body must take into account whether the carrying out of the sustainable intensification strategy could reasonably be expected to result in the crediting of non-genuine carbon abatement.

45. Information to be included in applications relating to the project

Information to be included in application for declaration—original activities

(1) The application made under section 22 of the Carbon Farming Standard in relation to the project must include the following for each of the project's source separation activities (an ***original activity***) identified at the time of making the application:

(a) a detailed description of the nature of:

(i) the activity; or

(ii) for aggregated waste diversion activities—each subactivity in the aggregated waste diversion activity;

(b) a detailed description of the kind of eligible organic material that will be diverted from source by the activity;

(c) details of the activity area;

(d) for expansion waste diversion activities and subactivities that would otherwise be expansion waste diversion activities—information about the existing activity, that is to be expanded and the nature of the expansion;

(e) for new waste diversion activities, expansion waste diversion activities and aggregated waste diversion activities —a description of each eligible waste treatment technology to be used to process the eligible organic material diverted

from source by the activity and details of each accredited AWT facility nominated as a facility at which the eligible organic material will be processed;

(f) for charity diversion activities—a description of the process by which branches will be separated at the point of waste generation and details of the registered charity or charities to which the branches will be diverted.

Note : If the activity is a new waste diversion activity, an expansion waste diversion activity or an aggregated waste diversion activity, the information provided for the purpose of paragraph (1) (c) may identify the activity area by reference to the area in which the activity is to be implemented rather than each site at which a source separation bin is to be located.

(2) For each of the project's original activities, the application must be accompanied by appropriate evidence of the following:

(a) that the requirement set out in subsection 12 (3), 13 (3), 13 (5) or 16 (3), as applicable to the activity, has been met by:

(i) the activity; or

(ii) if the activity is an aggregated waste diversion activity—each subactivity in the aggregated waste diversion activity;

(b) for charity diversion activities, new waste diversion activities and subactivities that would otherwise be new waste diversion activities—the landfill that, during the relevant 24-month period for the project, received material consisting of the same waste biomass type or types as the eligible organic material to be diverted by the activity or subactivity (if such evidence is available);

(c) for expansion waste diversion activities and subactivities that would otherwise be expansion waste diversion activities—the number and volume of source separation bins used by the existing activity, during the relevant 24-month period for the project, and the waste biomass types collected in those bins during that period.

Note : A project that does not have the required appropriate evidence for each original activity or for the whole of the relevant 24-month period for the project does not meet the requirements to be an eligible offsets project.

(3) For paragraph (2) (a), the appropriate evidence must consist of:

(a) weighbridge shall comply with the requirements of subsection 4(1) of the BITP 6; or

(b) weighbridge evidence from an accepted industry weighbridge that meets appropriate measuring requirements.

(4) For paragraph (2) (c), the appropriate evidence must consist of waste management records for the existing activity, that provide details of the service arrangement, including the number and volume of source separation bins.

Information to be included in application for declaration—potential activities

(5) This section applies to the application made under section 22 of the Carbon Farming Standard in relation to the project if there are one or more activities (a ***potential activity***) that are:

(a) source separation activities that the project is likely to implement but that are not able to be identified at the time the application is made; or

(b) if the project's original activities include an aggregated waste diversion activity—activities that the project proponent is likely to include in the aggregated waste diversion activity but that are not able to be identified at the time the application is made.

(6) The application must include a description of:

(a) the likely nature of the potential activity; and

(b) the kind of eligible organic material that is likely to be diverted from source by the potential activity.

Note : If a potential activity is included in the calculation of the project's activity capture portions for a reporting period because of paragraph 57 (1) (b), the offsets report about the project for the reporting period must include the same information and evidence as would be required to be provided under section 45 if the potential activity were able to be identified at the time the application under section 22 of the Carbon Farming Standard is made in relation to the project (see section 89).

Information to be included in application for declaration— network

(1) Information that must be included in an offsets report during the crediting period:

(a) summary of how the components of the net abatement amount have been calculated, including (but not limited to) a description of the method used to calculate emissions from each accredited AWT facility in the network;

(b) a description of any change to the location of the project that occurred during the reporting period, including (if relevant) a description of any new carbon estimation areas;

(c) A description of any changes to the network that occurred during the reporting period, including, if relevant, a description of any new accredited AWT facility.

(d) a description of any increase or decrease in the number of small-scale technology units used at accredited AWT facility in the network during the reporting period, including the location of any new small-scale technology unit.

(e) a description of any change to any accredited AWT facility in the network, or any material change in the operation of a accredited AWT facility, during the reporting period;

(f) if during the reporting period, the project operated in a manner that deviated from that described in the PyCCS project plan—a description of the deviation, including the duration and frequency of the deviation.

Information to be included in application for declaration—sustainable intensification

(1) The section 22 application, section 29 application or section 99 application for the project must include:

(a) a description of the project management activities that were carried out during the reporting period; and

(b) evidence that all of the land included, or to be included, in a carbon estimation area is eligible land; and

(c) if the project proponent wishes to undertake baseline sampling prior to the project being declared an eligible offsets project—a sampling plan for the soil pH sampling round, prepared in accordance with the Supplement.

Note : Conducting baseline sampling will not assure that the project will be declared as an eligible offsets project.

(2) The section 22 application, section 29 application or section 99 application must include copies of the sustainable intensification strategies prepared for the project.

(3) However, if the Working Body is not satisfied that the sustainable intensification strategies included under subsection (2) meet the requirements of section 44, the project is not an eligible offsets project or covered by this methodology unless one or more revised sustainable intensification strategies are provided which satisfy the Working Body that the requirements of section 44 have been met.

Division 5—Additionality

46. Newness requirement

(1) For subparagraph 27 (4)(A) (a) (ii) of the Carbon Farming Standard, a requirement in lieu of the substitute newness requirement for a PyCCS project is that the project complies with subparagraph 27 (4)(A) (a) (i) of the Carbon Farming Standard, disregarding:

(a) the preparation of any nutrient management strategy, soil acidity management strategy, before the relevant management action or project management activity commences; and

(b) any baseline sampling undertaken before the project was declared an eligible offsets project by the Working Body, provided that the baseline sampling occurred:

(i) after the Working Body received a sampling plan for the soil pH sampling round, prepared in accordance with the Supplement; and

(ii) after submission of the section 22 application for the project.

(2) The project meets the ***substitute newness requirement*** if it has not begun to be implemented.

(3) The project also meets the ***substitute newness requirement*** if:

(a) a final investment decision has not been made for the project at the time of the making of a declaration under subsection 27 (2) of the Carbon Farming Standard that the project is an eligible offsets project that is covered by this methodology; and

(b) the project proponent or project proponents for the project have notified the Working Body in writing of their intention to submit an application in respect of the project:

(A) paragraphs 47 (1) (a) to (d); or

(B) paragraphs 47 (2) (a) to (d); or

(c) the project had not begun to be implemented at the intention notice time.

(4) For the purpose of paragraph (3) (a), ***final investment decision***:

(a) has the meaning generally accepted within the corporate finance community; and

(b) does not include a decision to proceed with an offsets project that is contingent on the project being declared to be an eligible offsets project that is covered by this methodology.

(5) A determination as to whether a project has begun to be implemented at a particular time is to be done as if for the purposes of subparagraph 27 (4)(A) (a) (i) of the Carbon Farming Standard (so that subsections 27 (4)(B) to (4)(E) of the Carbon Farming Standard apply).

(6) In this section:

intention notice time has the meaning given by section 47.

47. Intention notice time

Transitional--newness requirement (single project proponent)

(1) This item applies to an offsets project (within the meaning of the Carbon Farming Standard) if:

(a) a person is the only project proponent for the project (within the meaning of the Carbon Farming Standard); and

(b) at a particular time (the ***intention notice time***) during the period:

(i) beginning at the start of 24 April 2024; and

(ii) ending immediately before the commencement of this item;

the person gave the Working Body written notice of the person's intention to make an application during the period:

(iii) beginning at the commencement of this item; and

(iv) ending immediately before the start of 23 April 2026;

for the declaration of the project as an eligible offsets project; and

(c) the notice sets out:

(i) the name of the project; and

(ii) a description of the project; and

(iii) the location of the project; and

(d) the notice is accompanied by documentary evidence that the person is the only project proponent for the project (within the meaning of the Carbon Farming Standard); and

(e) during the period:

(i) beginning at the commencement of this item; and

(ii) ending immediately before the start of 23 April 2026;

the person makes an application for the declaration of the project as an eligible offsets project.

Transitional--newness requirement (multiple project proponents)

(2) This item applies to an offsets project (within the meaning of the Carbon Farming Standard) if:

(a) each of 2 or more persons is a project proponent for the project (within the meaning of the Carbon Farming Standard); and

(b) at a particular time (the ***intention notice time***) during the period:

(i) beginning at the start of 1 July 2024; and

(ii) ending immediately before the commencement of this item;

those persons jointly gave the Working Body written notice of their intention to make an application during the period:

(iii) beginning at the commencement of this item; and

(iv) ending immediately before the start of 23 April 2026;

for the declaration of the project as an eligible offsets project; and

(c) the notice sets out:

(i) the name of the project; and

(ii) a description of the project; and

(iii) the location of the project; and

(d) the notice is accompanied by documentary evidence that each of those persons is a project proponent for the project (within the meaning of the Carbon Farming Standard); and

(e) during the period:

(i) beginning at the commencement of this item; and

(ii) ending immediately before the start of 23 April 2026;

those persons make (or are taken by section 107 of the Carbon Farming Standard to make) an application for the declaration of the project as an eligible offsets project.

48. Crediting period

For paragraph 59 (3) (b) of the Carbon Farming Standard, the period of 25 years is specified for a PyCCS project.

49. Using GHGR methods to work out factors and parameters

(1) If during a reporting period the emissions from a facility included in a PyCCS project are reported under the Greenhouse Gas Reporting Standard using an GHGR method to work out a factor or parameter involved in calculating those emissions, the project proponent must use the same GHGR method for working out that factor or parameter for the facility for the purposes of the project during the reporting period.

(2) In this section, ***GHGR method*** means a method specified in the Weights and Measures Codes of Practice.

50. Promoting government programs disproportionately

(1) It should be noted that section 37 (new irrigation—management action) does not apply to this section.

(2) The project proponent for the project must not:

(a) offer goods or services that are funded or supported under:

(i) a government program or scheme; or

(ii) another eligible offsets project; or

(b) advise or facilitate the uptake of goods or services that are funded or supported under a government program or scheme or another eligible offsets project; or

(c) cause the offer, advice or facilitation to be given;

(3) In this section:

government program or scheme means:

(a) a government program or scheme, specified in principles (if any) made under subparagraph 27 (4)(A) (c) (ii) of the Carbon Farming Standard, under which an offsets project must not receive funding or support for activities undertaken as part of that project; or

(b) a government program or scheme that funds or supports an activity that, under principles (if any) made for subparagraph 27 (4)(A) (c) (ii) of the Carbon Farming Standard, must not be included in an eligible offsets project.

Part 4—Net abatement amount

Division 1—Preliminary

51. Operation of this Part

For paragraph 90 (1) (c) of the Carbon Farming Standard, this Part specifies the method for working out the carbon dioxide equivalent net abatement amount for a reporting period for a PyCCS project that is an eligible offsets project.

52. Overview of gases accounted for in abatement calculations

The following table provides an overview of the greenhouse gases and emissions sources that are relevant to working out the carbon dioxide equivalent net abatement amount for a PyCCS project.

Greenhouse gases and emissions sources

Item	Relevant emissions calculation	Emissions source	Greenhouse gas
1	Source separation activity (process for capturing organic waste)	Fuel consumption	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
2	Source separation activity (process for capturing organic waste)	Electricity consumption	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
4	Biochar production emission activity (processed)	Processing, comminution and transportation emissions	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
5	Biochar production emission activity (processed)	Emissions from small-scale technology in biochar production	Methane (CH_4)
6	Biochar production emission activity (processed)	Emissions from high-scale technology in biochar production	The pyrolysis gases must undergo engineered emissions control to decrease methane to negligible levels
7	Measured AQS biochar transportation to an off-taker (carbon transferred)	Transportation	There is no need to calculate the emissions from transportation
3	Project management activity (carbon sequestration)	Irrigation energy	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)

53. Baseline emissions

If a project proponent is paragraphs 9 (4) as part of project management activity, baseline emissions from the PyCCS project are taken to be zero.

Division 2—Method for calculating net abatement amount

54. Summary

The carbon dioxide equivalent net abatement amount in relation to a reporting period for the project is definitively taken to be the increase in carbon sequestration associated with the carbon estimation area for a project area, minus the project emissions.

55. The net abatement amount

(1) The methodology used to estimate biochar additions to soils is based on a top-down approach. To estimate the contribution of biochar to annual changes in sustainable intensification, it is first necessary to calculate the total amount of biochar produced and added to soil in the waste collected by the project. The net carbon dioxide equivalent removal for a reporting period in the crediting period, in tonnes CO_2-e, is calculated using the following (***equation 1***).

$$A = SC_{Rc,Proj} - CCSE$$

where:

A means the carbon dioxide equivalent net abatement amount for the reporting period, in tonnes CO_2-e.

$SC_{Rc,Proj}$ means the total amount of permanent carbon sink from the applied of biochar product at the project during the reporting period, in tonnes CO_2-e, worked out using equation 2.

$CCSE$ means the sum of the following:

(a) the emissions from a source separation activity during a reporting period, in tonnes CO_2-e, worked out using equation 14 (submethod 1);

(b) the emissions from a source separation activity during a reporting period, in tonnes CO_2-e, worked out using equation 15 (submethod 2);

(c) the emissions from fuel use for new irrigation during the reporting period, in tonnes of CO_2-e, worked out using equation 20;

(d) the emissions from electricity use for new irrigation during the reporting period, in tonnes of CO_2-e, are calculated using equation 21;

(e) the emissions from processing, comminution and transportation during the reporting period, in tonnes CO_2-e, worked out using equation 22;

(f) the fugitive emissions from the production of the biochar product emission activity during the reporting period, in tonnes CO_2-e, worked out using equation 25;

(2) Under the requirements of subsection (3), it is permissible to offset emissions in paragraph (1)(a) to (e) by purchasing certified emission reductions through the BidCarbon marketplace, in which case the emissions calculated under the monitoring requirements are zero.

(3) For emissions in paragraphs (1)(a) to (e), offsets are required prior to the create of carbon data rights certificates.

Division 3—Method for calculating total permanent carbon sequestration

Subdivision A—Total amount of permanent carbon sequestration

56. Summary

(1) This methodology accounts for carbon abatement from undertaking eligible management activities in accordance with this methodology, crediting abatement from the carbon dioxide that is removed from the atmosphere and sequestered in soils.

(2) A project covered by this methodology is a sequestration offsets project, and is therefore subject to the obligations under the Carbon Farming Standard that relate to the permanence obligation period.

(3) The net abatement amounts from the PyCCS project during the reporting period are derived from the CO_2-e removed from the applied AQS biochar in the soil by the carbon estimation area outside the project area and carbon estimation areas implementing project management activities in the project area, minus the project emissions in the project area.

(4) The atmosphere is sequestered in the soil through the applied of AQS biochar by the carbon estimation area or carbon estimation areas in accordance with this Part and the CO_2 equivalent is calculated accordingly.

(5) The calculation of project emissions in the reporting period is done in accordance with Subdivision D.

(6) If the project has 2 or more project areas, the net abatement amount is calculated separately for each project area and added together.

(7) Biochar produced by accredited AWT facility within the network can be applied in carbon estimation areas within multiple project areas.

57. Activities to be included in calculations

(1) The calculation of each accredited AWT facility in the network for a reporting period must include:

(a) each of the project's original activities; and

(b) if one or more of the project's potential activities are implemented during the reporting period—each potential activity implemented.

(2) Despite subsection (1), the project proponent may choose not to include an activity or subactivity in the calculation of the accredited AWT facility in the network for a reporting period if the activity or subactivity ceases being implemented during the reporting period.

(3) If, under subsection (2), the project proponent chooses not to include an activity or subactivity in the calculation of the accredited AWT facility in the network for a reporting period, the activity or subactivity must not be included in the calculation of the accredited AWT facility for any subsequent reporting period.

(4) An activity must not be included in the calculation of the accredited AWT facility in the network for a reporting period if:

(a) it is not an original activity or a potential activity identified in the application made under section 22 of the Carbon Farming Standard in relation to the project; or

(b) the project has been divided into 2 or more specified parts for the purpose of section 65 of the Carbon Farming Standard and the activity is not included in the part of the project to which the calculation relates.

58. Total amount of permanent carbon sequestration

The total amount of permanently carbon sequestration by AQS biochar applied to carbon estimation area, in tonnes CO_2-e, was calculated using the following (***equation 2***):

$$SC_{Rc,Proj} = SC_{Rc,NCEA} + SC_{Rc,x,CEA}$$

where:

$SC_{Rc,Proj}$ means the total amount of permanently carbon sequestration from the applied of biochar at the project during the reporting period , in tonnes CO_2-e.

$SC_{Rc,NCEA}$ means the amount of permanent carbon sinks in the applied of AQS biochar type to one or more carbon estimation areas outside during the reporting period, in tonnes CO2-e, worked out using equation 3.

$SC_{Rc,x,CEA}$ means the total amount of permanent carbon sinks resulting from the applied of AQS biochar type by the project management activity in one or more carbon estimation areas during the reporting period, in tonnes of CO_2-e, worked out using equation 4.

59. Sequestration amount in each carbon estimation area outside of the project area

(1) Quantity of AQS biochar type popularise by the project in one or more of its carbon estimation area outside the project area during a reporting period in the crediting period, in tonnes of CO_2-e, is calculated using the following:

(a) in accordance with paragraph (2), the off-taker must provide the quantity of AQS biochar type applied in the carbon estimation area outside the project area during the reporting period;

(b) add up the quantity of AQS biochar type applied to each carbon estimation area outside the project area.

(2) The total amount of permanent carbon sinks generated by the off-taker applied of AQS biochar in one or more carbon estimation areas outside the project area during a reporting period of the crediting period, in tonnes of CO_2-e, is calculated according to the following formula (***equation 3***).

$$SC_{Rc,NCEA} = \sum_{NCEA} SC_{Rc,NCEA,A} \times 0.75$$

where:

$SC_{Rc,NCEA}$ means the amount of permanent carbon sinks in the applied of AQS biochar type to one or more carbon estimation areas outside ($NCEA$) during the reporting period (Rc), in tonnes CO2-e.

$SC_{Rc,NCEA,A}$ means the amount of permanent carbon sinks in the quantity of AQS biochar type (A) used by the off-taker in the carbon estimation area outside ($NCEA$) during the reporting period (Rc), in tonnes CO2-e, as determined by the project proponent, worked out using equation 5B.

A means the AQS biochar type that is published in the Prepackaged Registry.

$NCEA$ means a carbon estimation areas outside the project area and does not involve project management activities.

Rc means current reporting period.

0.75 means leakage discount factor— 0.75.

(3) If the number of permanent carbon sinks in the carbon estimation area calculated in accordance with paragraph (2) is less than zero, it is deemed to be zero in the reporting period.

60. Sequestration amount in each carbon estimation area within of the project area

(1) The quantity of AQS biochar type applied by the project through off-takers from carbon estimation areas within the project area for project management activities (x) purposes during the reporting period is calculated as follows:

(a) in accordance with paragraph (2), the off-taker must provide the quantity of AQS biochar type applied in the carbon estimation area within the project area during the reporting period;

(b) add up the quantity of AQS biochar type applied to each carbon estimation area within the project area.

(2) The total amount of permanent carbon sinks generated by the off-taker applied of AQS biochar in one or more carbon estimation areas within the project area during a reporting period of the crediting period, in tonnes of CO_2-e, is calculated according to the following formula (***equation 4***).

$$SC_{Rc,x,CEA} = \sum_{CEA} SC_{Rc,CEA,A} \times 0.95$$

where:

$SC_{Rc,x,CEA}$ means the total amount of permanent carbon sinks resulting from the applied of AQS biochar type by the project management activity (x) in one or more carbon estimation areas (CEA) during the reporting period (Rc), in tonnes of CO_2-e.

$SC_{Rc,CEA,A}$ means the amount of permanent carbon sink in the quantity of AQS biochar type (A) used by the off-taker in the carbon estimation area (CEA) during the reporting period (Rc), in tonnes of CO_2-e. as determined by the project proponent, worked out using equation 5A.

CEA means a carbon estimation areas within the project area used in project management activities (x).

Rc means current reporting period.

A means the AQS biochar type that is published in the Prepackaged Registry.

0.95 means confidence level —0.95.

61. Calculate the permanent carbon sink of AQS biogenic carbon in CEAs within and outside the project area

(1) The amount of permanent carbon sink over a 100 year time horizon by the quantity of AQS biochar type applied to carbon estimation areas within and outside the project area.

(2) Carbon estimates the amount of permanent carbon sinks over a 100-year time horizon for the quantity of AQS biochar type used in the carbon estimation area within the project area. The formula is as follows (***equation 5A***):

$$SC_{Rc,CEA,A} = Q_{Rc,WI,CEA,A} \times C_{org,f,A,y} \times F_{perm}^{TH,T_s} \times \frac{44}{12}$$

where:

$SC_{Rc,CEA,A}$ means the amount of permanent carbon sinks in the quantity of AQS biochar type (A) used by the off-taker in the carbon estimation area (CEA) during the reporting period (Rc), in tonnes CO_2-e.

$Q_{Rc,WI,CEA,A}$ means to the quantity of AQS biochar type (A) applied by the off-taker within (WI) in the carbon estimation area (CEA) during the reporting period (Rc), in kilograms, worked out using equation 28.

$C_{org,f,A,y}$ means the organic carbon (C_{org}) ratio of AQS biochar type (A) in samples from accredited AWT facility (f) by year (y), worked out in accordance with the monitoring requirements.

F_{perm}^{TH,T_S} means the permanence factor of biochar organic carbon over a given time horizon (TH) in a given soil at temperature (T_S) , worked out using equation 9.

$\frac{44}{12}$ means molar ratio of carbon dioxide to carbon.

A means the AQS biochar type that is published in the Prepackaged Registry.

CEA means a carbon estimation areas within the project area used in project management activities.

Rc means current reporting period.

WI means off-taker within the project area.

f means an accredited AWT facility within the network that has been nominated as an accredited AWT facility for source separation activities involving the collection of waste biomass type for biochar production during the reporting period.

(3) Carbon estimates the amount of permanent carbon sinks over a 100-year time horizon for the quantity of AQS biochar type used in the carbon estimation area outside the project area. The formula is as follows (***equation 5B***):

$$SC_{Rc,NCEA,A} = Q_{Rc,O/S,NCEA,A} \times C_{org,f,A,y} \times F_{perm}^{TH,T_s} \times \frac{44}{12}$$

where:

$SC_{Rc,NCEA,A}$ means the amount of permanent carbon sinks in the quantity of AQS biochar type (A) used by the off-taker in the carbon estimation area outside ($NCEA$) the project area during the reporting period (Rc), in tonnes CO_2-e.

$Q_{Rc,O/S,NCEA,A}$ means to the quantity of AQS biochar type (A) applied by the off-taker outside (O/S) in the carbon estimation area outside ($NCEA$) the project area during the reporting period (Rc), in kilograms, worked out using equation 29.

$C_{org,f,A,y}$ means the organic carbon (C_{org}) ratio of AQS biochar type (A) in samples from accredited AWT facility (f) by year (y), worked out in accordance with the monitoring requirements.

F_{perm}^{TH,T_S} means the permanence factor of biochar organic carbon over a given time horizon (TH) in a given soil at temperature (T_S) , worked out using equation 9.

$\frac{44}{12}$ means molar ratio of carbon dioxide to carbon.

A means the AQS biochar type that is published in the Prepackaged Registry.

$NCEA$ means a carbon estimation areas outside the project area and does not involve project management activities.

Rc means current reporting period.

O/S means off-taker outside the project area.

f means an accredited AWT facility within the network that has been nominated as an accredited AWT facility for source separation activities involving the collection of waste biomass type for biochar production during the reporting period.

62. Organic carbon calculated from the sample

(1) The organic carbon (C_{org}) may be estimated using the following (***equation 6***):

$$C_{org} = C_{tot} - C_{inorg}$$

where:

C_{org} means the percentage of organic carbon content of the biochar type. The organic carbon (C_{org}) content is calculated using the following order of preference:

Laboratory report data

(a) worked out in accordance with the monitoring requirements; or

Default value

(b) the provisions of paragraph (1)(a) are replaced by the values specified by the default organic carbon content factor for organic material in the table in subsection (2) during the crediting period.

Note : For gasification-derived biochar in which the ash component has been fully or partially removed, the carbon content values in the table in subsection (2) should not be used, and the carbon content should instead be measured directly.

C_{tot} means the determination of hydrogen (H) and total carbon (C_{tot}) content in a biochar sample using an elemental analyser in accordance with paragraph (1)(a), the total amount of carbon in a sample, both organic and inorganic.

C_{inorg} means the percentage of inorganic carbon to be tested in the laboratory, in accordance with paragraph (1)(a).

(2) The following table lists the default values for organic carbon (C_{org}) content of biochar type or sub-type.

The following values represent the default organic carbon content factor for organic material						
item	Biochar classification type	Organic material			Production device	Default values for C_{org}
		Category	Biochar type	Biochar sub-type		
1	HCB (High Carbon low ash biochar)	Wood and wood waste, energy crops or garden and park.	Wood and wood waste	Sawdust, wood chips, wood scrap, etc.	Pyrolysis technology	0.77
					Gasification technology	0.52
2			Vegetation	Shrubs, branches, logs, etc.	Pyrolysis technology	0.76
					Gasification technology	0.63
3				bamboo	Pyrolysis technology	0.71
					Gasification technology	0.51
4		Energy crops	herbaceous		Pyrolysis technology	0.64
					Gasification technology	0.38
5		Waste from processing of agricultural products	nut shells and pits		Pyrolysis technology	0.72
					Gasification technology	0.52
6	MCB (Medium Carbon medium ash biochar)	Agricultural waste	wheat straw		Pyrolysis technology	0.63
					Gasification technology	0.38
7			maize stover		Pyrolysis technology	0.47
					Gasification technology	0.20
8			bagasse		Pyrolysis technology	0.61
					Gasification technology	0.43
9	LCB (Low Carbon high ash);	Biosolids	Paper sludge / Sewage sludge		Pyrolysis technology	0.35
					Gasification technology	0.07

Note 1: If coffee grounds are used as a raw material, the factor 'nut shells and pits' shall be used.
Note 2: If grape branch are used as a raw material, the factor 'vegetation' shall be used.

63. Calculating hydrogen to organic carbon molar ratios

(1) The hydrogen (H) to organic carbon (C_{org}) molar ratio is calculated as follows (***equation 7***):

$$H/C_{org} = \frac{(H/1)}{\left(C_{org}/12\right)}$$

where:

H/C_{org} means the hydrogen to organic carbon molar ratio, which directly affects the stability of the biochar. The provisions of paragraph (3) must be met and worked out as follows:

(a) worked out in accordance with the monitoring requirements; or

(b) The accredited AWT facility used the eligible waste treatment technology on 10 consecutive occasions, and each time the temperature of the biochar production systems was measured using a pyrometer during the monitoring and verification activities was high temperature, with a default value of 0.2.

Note : Calibrated in accordance with section 130 for use with a pyrometer in monitoring and verification activities.

(c) if neither possible to measure H/C_{org} nor to obtain reliable data on production conditions, a conservative estimate of biochar permanence is adopted using the value of F_{perm} derived for column 4 of an item in the table in subsection 66 (2).

H means hydrogen mass of the sample, in percentage (%), all samples must be analysed by a laboratories licensed by the laboratory in accordance with the BidCarbon Standard Biochar for Soils.

C_{org} means the organic carbon content of the biochar, in percentage (%), worked out using equation 6;

(2) By defining cut-offs at 0.1 intervals for H/C_{org} values between 0.2 and 0.7 for the biochar samples (see table below).

H/C_{org} cut-offs

Item	Biochar production systems temperature	H/C_{org} (mol/mol)
1	High temperature	< 0.2
2	Medium temperature	0.2 - 0.4
3	Low temperature	0.4 - 0.7

(3) For the purposes of this methodology, organic material with a H/C_{org} value greater than 0.7 is not considered biochar.

64. Calculate the moisture

Calculate the moisture content as follows (***equation 8***):

$$\mathbf{M}_{\mathrm{f,b,y}} = \left[\frac{\left(m_{sr} - m_{sd}\right)}{\left(m_{sr} - m_{v}\right)} \right] * 100$$

where:

$\mathbf{M}_{\mathrm{f,b,y}}$ means the moisture content of the biochar type (b), as determined in samples the accredited AWT facility (f) in year (y), and it is expressed as a percentage (%), worked out in accordance with the monitoring requirements.

m_{sr} means mass of vessel and as received sample, in grams.

m_{sd} means mass of vessel and dried sample, in grams.

m_{v} means mass of vessel, in grams.

65. Calculating the carbon stability ratio of biochar

At a given TH and $\mathrm{T_S}$, the permanence factor $\mathrm{F_{perm}^{TH,T_S}}$ is only a function of the molar $\mathrm{H/C_{org}}$ ratio of the biochar and follows the linear relationship below (***equation 9***):

$$\mathrm{F_{perm}^{TH,T_S}} = \mathrm{c} + \mathrm{m} \times \mathrm{H/C_{org}}$$

where:

$\mathrm{F_{perm}^{TH,T_S}}$ means the permanence factor of biochar over a given time horizon (TH) in a given soil at temperature ($\mathrm{T_S}$). It is also known as biochar carbon stability, and it is expressed as a percentage (%). At lower soil temperatures and with biochar having a low $\mathrm{H/C_{org}}$, it is possible that the linear regression provides $\mathrm{F_{perm}^{TH,T_S}}$ above 100%, the value should be set equal to 100%.

Note : For more accurate carbon estimation area specific calculations, the carbon estimation area mean annual soil temperature should be used, either from the values in the table in subsection 66 (2) or using the spreadsheet provided as the ***Supporting Information***, which allows recalculation of the permanence values at any soil temperature. The Supporting Information website was https://pubs.acs.org/doi/suppl/10.1021/acs.est.1c02425/suppl_file/es1c02425_si_001.xlsx

$\mathrm{F_{perm}}$ means for the $\mathrm{H/C_{org}}$ parameterisation, $\mathrm{F_{perm}}$ was expressed as a linear regression against $\mathrm{H/C_{org}}$. When $\mathrm{F_{perm}}$ was expressed as a function of the temperature of the biochar production systems, in degrees centigrade (°C), worked out in accordance with the monitoring requirements.

TH means given time horizon in column 3 of an item in the table in subsection 66 (2).

$\mathrm{T_S}$ means the mean annual soil temperature at the carbon estimation area or carbon estimation areas, in degrees centigrade (°C), worked out in accordance with the monitoring requirements.

c means given intercept in column 7 of an item in the table in subsection 66 (2).

m means given slope in column 8 of an item in the table in subsection 66 (2).

$\mathrm{H/C_{org}}$ means the hydrogen to organic carbon molar ratio, in percentage (%), worked out using equation 7.

66. Permanence coefficients for carbon sequestration as a function of soil temperature and time

(1) The soil temperature data for the reporting period in question was reported using one or more of the following methods:

(a) soil temperature data collected in the field in conjunction with the requirements of section 7 of Schedule 1:

(i) the annual average of the last 2 years of soil temperature data collected in the field and accumulated for more than 2 years; and

(ii) these soil temperature data are collected in the field on a monthly basis; or

(b) the following data has been provided by Accredited Data Service Providers:

Applicable to carbon estimation areas within the project area

(i) the historical average annual soil temperature (surface soil, 0–10 centimetre depth) for the last 24 months; and

Applicable to carbon estimation areas outside the project area

(ii) the historical annual average soil temperature (at a depth of 0–10 centimetres) for the last 24 months in the county/district where the coordinates of the carbon estimation area are located; and

(2) The table below provides soil temperatures in 5.0°C increments from 5.0 to 25.0°C, as well as the global annual mean temperature of cropland (14.9°C). To meet the monitoring and verification requirements of this carbon estimation area, it has been assumed that the sampling at the carbon estimation area tested a confidence interval for the soil temperature of 12.4°C, as indicated in column 2 for the item. Linear regression coefficients of F_{perm} against H/C_{org} are also given in the right three columns for use in equation 9. These linear regressions were significant at $p < 0.001$ for all time periods and soil temperatures.

H/C_{org} coefficient of regression

Item	Soil temperature (T_S)	Time horizon (TH)	F_{perm} as function of biochar production systems temperature			H/C_{org} coefficient of regression	
			Low temperature	Medium temperature	High temperature	c	m
1	5.0 °C	100 years	0.84	0.89	0.94	1.13	-0.46
2	10.0 °C	100 years	0.72	0.79	0.88	1.10	-0.59
3	15.0 °C	100 years	0.63	0.71	0.82	1.04	-0.64
4	20.0 °C	100 years	0.57	0.67	0.79	1.01	-0.65
5	25.0 °C	100 years	0.54	0.64	0.76	0.98	-0.66
6	14.9 °C global annual mean temperature of cropland	100 years	0.63	0.71	0.82	1.04	-0.64

Subdivision B— Activity capture portions

67. Quantity of a waste biomass type in eligible organic material—submethod 1

(1) Subject to subsection (2), the quantity of waste biomass type (W) present in eligible organic material under subsection 17 (2) (b) by a charity diversion activity during the reporting period is worked out using the formula (***equation 10***):

$$EO_W = \left(Q_{MC,w} - Q_{RJ,w}\right) \times W_{EO,w}$$

where:

EO_w means the quantity of waste biomass type (W) present in the eligible organic material diverted from source by the activity during the reporting period, the determination of mass for commercial transactions, in kilograms.

$Q_{MC,w}$ means the quantity of waste biomass type (W) present in the eligible organic material collected (MC) by the activity during the reporting period, in kilograms, worked out in accordance with the monitoring requirements.

$Q_{RJ,w}$ means the quantity of waste biomass type (W) present in the eligible organic material collected by the activity that is rejected (RJ) during the reporting period, in kilograms, worked out in accordance with the monitoring requirements.

$W_{EO,w}$ means the proportion of waste biomass type (W) in the material collected by the activity during the reporting period, worked out:

(a) if the activity is of a kind mentioned in the table in section 70 and $W_{EO,w}$ for the activity has not been worked out in accordance with the monitoring requirements for a previous reporting period—in accordance with:

(i) the table in section 70; or

(ii) the monitoring requirements; or

(b) otherwise—in accordance with the monitoring requirements.

W means a waste biomass type present in the eligible organic material.

(2) If the amount worked out under subsection (1) for a waste biomass type is less than zero, the quantity of the waste biomass type present in the eligible organic material diverted from source by the activity during the reporting period is taken to be zero.

68. Quantity of a waste biomass type in eligible organic material—submethod 2

(1) The quantity of waste biomass type (W) present in the eligible organic material diverted from source by a new waste diversion activity or an expansion waste diversion activity during a reporting period (EO_W) is worked out as follows:

(a) in accordance with subsection (2), work out the quantity of waste biomass type (W) present in the eligible organic material diverted from source by the activity to each nominated accredited AWT facility in the network for the activity during the reporting period;

(b) add together the quantity worked out for each accredited AWT facility.

Note : The project proponent must notify the Working Body if there is a change to which accredited AWT facility will process the waste biomass type diverted from source (see subsection 96 (3)).

(2) Subject to subsection (3), the quantity of waste biomass type (w) present in the eligible organic material diverted from source by a new waste diversion activity or an expansion waste diversion activity to a accredited AWT facility during a reporting period is worked out using the formula (***equation 11***):

$$EO_{W,f} = \left(Q_{MC,f} - Q_{RJ,f}\right) \times W_{EO,w} \times EX$$

where:

$EO_{W,f}$ means the quantity of waste biomass type (w) present in the waste biomass type diverted from source by the activity to accredited AWT facility (f) during the reporting period, the determination of mass for commercial transactions, in kilograms.

$Q_{MC,f}$ means the total quantity of material collected by the activity and sent to accredited AWT facility (f) during the reporting period, in kilograms, worked out in accordance with the monitoring requirements.

$Q_{RJ,f}$ means the quantity of material collected by the activity and sent to accredited AWT facility (f) that is rejected during the reporting period, in kilograms, worked out in accordance with the monitoring requirements.

$W_{EO,w}$ means the proportion of waste biomass type (w) in the material collected by the activity during the reporting period, worked out:

(a) if the activity is of a kind mentioned in the table in section 70 and $W_{EO,w}$ for the activity has not been worked out in accordance with the monitoring requirements for a previous reporting period—in accordance with:
  (i) the table in section 70; or
  (ii) the monitoring requirements; or

(b) otherwise—in accordance with the monitoring requirements.

EX means:

(a) if the activity is an expansion waste diversion activity—the expansion proportion for the eligible organic material diverted from source by the activity during the reporting period, worked out using equation 13; or

(b) otherwise—1.

f means an accredited AWT facility that is a nominated accredited AWT facility for the activity during the reporting period and that is not subject to affected by closedowns under subsection 41(2).

w means a waste biomass type present in the eligible organic material.

(3) If the quantity worked out under subsection (2) for a waste biomass type (w) is less than zero, the quantity of the waste biomass type present in the eligible organic material diverted from source by the activity to the accredited AWT facility during the reporting period is taken to be zero.

69. Quantity of a waste biomass type in eligible organic material—submethod 3

(1) The quantity of waste biomass type (w) present in the eligible organic material diverted from source by an aggregated waste diversion activity during a reporting period (EO_W) is worked out as follows:

(a) in accordance with subsection (2), work out the quantity of waste biomass type (w) present in the eligible organic material diverted from source by the activity to each nominated accredited AWT facility for the activity during the reporting period;

(b) add together the quantity worked out for each accredited AWT facility.

Note : The eligible organic material diverted from source by the subactivities included in the aggregated waste diversion activity must be processed at the same accredited AWT facility (see paragraph 14 (1) (b)). However, the facility that processes the material diverted by the subactivities may change during a reporting period.

Note : The project proponent must notify the Working Body if there is a change to which accredited AWT facility is to process the eligible organic material diverted from source (see subsection 96 (3)).

(2) Subject to subsection (3), the quantity of waste biomass type (w) present in the eligible organic material diverted from source by an aggregated waste diversion activity to a accredited AWT facility during a reporting period is worked out using the formula (***equation 12***):

$$EO_{w,f} = \sum_{sa} \left[\left(Q_{MC,sa,f} - Q_{RJ,sa,f} \right) \times W_{EO,w,sa} \times EX_{sa} \right]$$

where:

$EO_{W,f}$ means the quantity of waste biomass type (w) present in the eligible organic material diverted from source by the aggregated waste diversion activity to accredited AWT facility (f) during the reporting period, the determination of mass for commercial transactions, in kilograms.

$Q_{MC,sa,f}$ means the total quantity of material collected by subactivity (sa) and sent to accredited AWT facility (f) during the reporting period, in kilograms, worked out in accordance with the monitoring requirements.

$Q_{RJ,sa,f}$ means the quantity of material collected by subactivity (sa) and sent to accredited AWT facility (f) that is rejected during the reporting period, in kilograms, worked out in accordance with the monitoring requirements.

$W_{EO,w,sa}$ means the proportion of waste biomass type (w) in the material collected by subactivity (sa) during the reporting period, worked out:

(a) if the subactivity is of a kind mentioned in the table in section 70 and $W_{EO,w,sa}$ for the subactivity has not been worked out in accordance with the monitoring requirements for a previous reporting period—in accordance with:

(i) the table in section 70; or

(ii) the monitoring requirements; or

(b) otherwise—in accordance with the monitoring requirements.

EX_{sa} means:

(a) if subactivity (sa) would otherwise be an expansion waste diversion activity—the expansion proportion for the eligible organic material diverted from source by the subactivity during the reporting period, worked out as EX using equation 13; or

(b) otherwise—1.

f means an accredited AWT facility that is a nominated accredited AWT facility for the aggregated waste diversion activity during the reporting period and that is not subject to affected by closedowns under subsection 41(2).

sa means a subactivity included in the aggregated waste diversion activity, other than a subactivity that is not included in the calculation of the AWT facility for the reporting period in accordance with section 57.

w means a waste biomass type present in the eligible organic material.

(3) If the amount worked out under subsection (2) for a waste biomass type is less than zero, the quantity of the waste biomass type present in the eligible organic material diverted from source by the aggregated waste diversion activity to the accredited AWT facility during the reporting period is taken to be zero.

70. Default proportion of waste biomass type w in material collected

The following table sets out the default proportion of waste biomass type (w) in material collected by a new waste diversion activity, an expansion activity, or a subactivity in an aggregated waste diversion activity, of a particular kind.

Proportion of waste biomass type w in material collected ($W_{EO,w}$)

Item	Kind of activity or subactivity	Proportion of waste biomass type (w)			
		Nut shells and pits	branches	bagasse	Wood and wood waste
1	Agricultural waste	0.00	1.00	0.00	0.00
2	Municipal garden and park waste	0.00	0.96	0.00	0.00
3	Primary processing waste	1.00	0.00	1.00	0.00
4	Wood and wood waste	0.00	0.00	0.00	1.00

71. Expansion waste diversion activity proportion

The expansion proportion for the eligible organic material diverted from source by an expansion waste diversion activity, or a subactivity that would otherwise be an expansion waste diversion activity, during a reporting period is worked out using the formula (***equation 13***):

$$EX = 1 - \frac{\sum_s \left(HQ_{B,s} \times V_{B,s}\right)}{\sum_s \left(Q_{B,s} \times V_{B,s}\right)}$$

where:

EX means the expansion proportion for the eligible organic material diverted from source by the activity or subactivity during the reporting period.

$HQ_{B,s}$ means the greatest quantity of source separation bins of bin size (s) that, on any one day during the relevant 24-month period for the project, were used in the activity area to divert the eligible organic material from landfill, worked out using the appropriate evidence that accompanied the application under subsection 45 (2).

$V_{B,s}$ means the volume of source separation bins of bin size (s).

$Q_{B,s}$ means the quantity of source separation bins of bin size (s) that are used in implementing the activity or subactivity during the reporting period, worked out in accordance with the monitoring requirements.

s means a source separation bin size.

72. Emissions from source separation activities

(1) The source separation activities emissions for a source separation activity during a reporting period, in tonnes CO_2-e, are worked out using:

(a) for a charity diversion activity—submethod 1 in subsection (3); or

(b) for a new waste diversion activity, an expansion waste diversion activity or an aggregated waste diversion activity—subject to subsection (2), either:

(i) submethod 1 in subsection (3); or

(ii) submethod 2 in subsection (4).

(2) If submethod 2 is used to work out the project emissions for a new waste diversion activity, an expansion waste diversion activity or an aggregated waste diversion activity for a reporting period, that submethod must be used to work out the project emissions for the activity for all subsequent reporting periods.

Submethod 1

(3) The emissions for a source separation activity during a reporting period, in tonnes CO_2-e, are worked out using the formula (***equation 14***):

$$E_{P,a} = \sum_{i} \sum_{j} \frac{Q_{F,i} \times EC_i \times EF_i}{1000}$$

where:

$E_{P,a}$ means the source separation activities emissions, in tonnes CO_2-e.

$Q_{F,i}$ means the quantity of fuel type (i) used for diverted from source during the reporting period, worked out in accordance with the monitoring requirements.

EC_i means:

(a) if $Q_{F,i}$ is measured in gigajoules—1; or

(b) otherwise—the energy content factor, in gigajoules per tonne, gigajoules per kilolitre or gigajoules per cubic metre, mentioned in Part 1, 2 or 3 of Schedule to the Weights and Measures Codes of Practice for fuel type (i).

EF_i means the emission factor, in kilograms CO_2-e per gigajoule, mentioned in Part 1, 2 or 3 of Schedule to the Weights and Measures Codes of Practice for fuel type (i).

i means a fuel type.

j means a greenhouse gas type, being carbon dioxide, methane or nitrous oxide.

Submethod 2

(4) The project emissions for a source separation activity during a reporting period, in tonnes CO_2-e, are worked out using the formula (***equation 15***):

$$E_{P,a} = \sum_{f} \left[\left(\frac{\sum_{w} EO_{w,f}}{TW_{f,w}} \right) \times \left(E_{F,f} + E_{EP,f} \right) \right]$$

where:

$E_{P,a}$ means the source separation activities emissions, in tonnes CO_2-e.

$EO_{w,f}$ means the quantity of waste biomass type (w) present in the eligible organic material diverted from source by the source separation activity to accredited AWT facility (f) during the reporting period, in kilograms, worked out in accordance with:

(a) if the source separation activity is a new waste diversion activity or an expansion waste diversion activity—subsection 68 (2); or

(b) if the source separation activity is an aggregated waste diversion activity—subsection 68 (2).

$TW_{f,w}$ means the total quantity of waste biomass type (w) processed at accredited AWT facility (f) during the reporting period, in kilograms, worked out using equation 16.

$E_{F,f}$ means the emissions from fuel used by accredited AWT facility (f) during the reporting period, in tonnes CO_2-e, worked out using equation 18.

$E_{EP,f}$ means the emissions from purchased electricity used by accredited AWT facility (f) during the reporting period, in tonnes CO_2-e, worked out using equation 19.

w means a waste biomass type present in the eligible organic material.

f means an accredited AWT facility that is a nominated accredited AWT facility for the source separation activity during the reporting period and that is not subject to affected by closedowns under subsection 41(2).

a means a source separation activity that is included in the calculation of the accredited AWT facility for the reporting period in accordance with section 57.

73. Total quantity of waste biomass type

The total quantity of waste biomass type (w) processed at a accredited AWT facility during a reporting period, in kilograms, is worked out using the formula (***equation 16***):

$$TW_{f,w} = Q_{TWC,f,w} - Q_{TRW,f,w}$$

where:

$TW_{f,w}$ means the total quantity of waste biomass type (w) processed at accredited AWT facility (f) during the reporting period, in kilograms.

$Q_{TWC,f,w}$ means the total quantity of waste biomass type (w) received by accredited AWT facility (f) during the reporting period, in kilograms, worked out in accordance with the monitoring requirements.

$Q_{TRW,f,w}$ means the total quantity of waste biomass type (w) comminution and returned to the soil in an accredited AWT facility (f) during the reporting period, in kilograms, calculated in accordance with the monitoring requirements.

f means an accredited AWT facility that is a nominated accredited AWT facility for the source separation activity during the reporting period and that is not subject to affected by closedowns under subsection 41(2).

w means a waste biomass type present in the eligible organic material.

74. The consumption of the waste biomass type in the AWT facility

(1) The mass yield of biochar type (b) produced by the accredited AWT facility during the reporting period will be calculated using the following (***equation 17***):

$$\text{Yield}_{f,b} = \left(Q_{f,b} - Q_{f,w,b}\right) \times 100$$

where:

$\text{Yield}_{f,b}$ means the mass yield of biochar type (b) produced by the accredited AWT facility (f).

$Q_{f,b}$ means the quantity of biochar type (b) produced by the accredited AWT facility (f) during the reporting period, in kilograms, worked out in accordance with the monitoring requirements.

$Q_{f,w,b}$ means the quantity of waste biomass type (w) needed for production to biochar type (b) using a qualified small-scale technology unit under specified conditions at the accredited AWT facility (f), in kilograms, worked out in accordance with the monitoring requirements.

f means an accredited AWT facility that is a nominated accredited AWT facility for the source separation activity during the reporting period and that is not subject to affected by closedowns under subsection 41(2).

w means a waste biomass type present in the eligible organic material.

b means the biochar type produced by the accredited AWT facility (f).

(2) Accredited AWT facility (f) shall not process and produce more than a cumulative total of 120,000 kilograms of any biochar type per month, with any excess not counting.

75. Emissions from fuel

The emissions from fuel used by a accredited AWT facility during a reporting period, in tonnes CO_2-e, are worked out using the following (***equation 18***):

$$E_{F,f} = \sum_{i} \sum_{j} \frac{Q_{F,i,f} \times EC_i \times EF_i}{1000}$$

where:

$E_{F,f}$ means the emissions from fuel used by accredited AWT facility (f) during the reporting period, in tonnes CO_2-e.

$Q_{F,i,f}$ means the quantity of fuel type (i) used by accredited AWT facility (f) during the reporting period, worked out in accordance with the monitoring requirements.

EC_i means:

(a) if $Q_{F,i,f}$ is measured in gigajoules—1; or

(b) otherwise—the energy content factor, in gigajoules per tonne, gigajoules per kilolitre or gigajoules per cubic metre, mentioned in Part 1, 2 or 3 of Schedule to the Weights and Measures Codes of Practice for fuel type (i).

EF_i means the emission factor, in kilograms CO_2-e per gigajoule, mentioned in Part 1, 2 or 3 of Schedule to the Weights and Measures Codes of Practice for fuel type (i).

f means an accredited AWT facility that is a nominated accredited AWT facility for the source separation activity during the reporting period and that is not subject to affected by closedowns under subsection 41(2).

i means a fuel type.

j means a greenhouse gas type, being carbon dioxide, methane or nitrous oxide.

76. Emissions from purchased electricity

(1) The emissions from purchased electricity used by a accredited AWT facility during a reporting period, in tonnes CO_2-e, are worked out using the formula (***equation 19***):

$$E_{EP,f} = Q_{EP,f} \times \frac{EF_{EP}}{1000}$$

where:

$E_{EP,f}$ means the emissions from purchased electricity used by accredited AWT facility (f) during the reporting period, in tonnes CO_2-e.

$Q_{EP,f}$ means the quantity of electricity purchased by accredited AWT facility (f) during the reporting period, in kilowatt hours, worked out in accordance with the monitoring requirements.

EF_{EP} means:

(a) for electricity obtained from an electricity grid that is a grid in relation to which the greenhouse gas emissions from energy data published by the Local, in force on the declaration day for the project includes an emissions factor—that factor, in kilograms CO_2-e per kilowatt hour; or

(b) for electricity obtained from an electricity grid not covered by paragraph (a) or from a source other than an electricity grid:

(i) if the supplier of the electricity is able to provide an emissions factor that reflects the emissions intensity of the electricity (worked out in accordance with subsection (2)) and is applicable on the declaration day for the project —that factor, in kilograms CO_2-e per kilowatt hour; or

(ii) otherwise—the emissions factor, in kilograms CO_2-e per kilowatt hour (or its equivalent of tonnes CO_2-e per megawatt hours), for off-grid electricity included in the greenhouse gas emissions from energy data published by the Local in force at the end of the reporting period.

f means an accredited AWT facility that is a nominated accredited AWT facility for the source separation activity during the reporting period and that is not subject to affected by closedowns under subsection 41(2).

(2) For subparagraph (b) (i) of the definition of EF_{EP} in subsection (1), the emissions factor must be worked out:

(a) on a sent-out basis; and

(b) using a measurement or estimation approach that is consistent with the Weights and Measures Codes of Practice.

(3) Section 7 does not apply to the parameter EF_{EP}.

Subdivision C—Calculating project management activity

77. Emissions from irrigation energy use

(1) Emissions from the use of fuel and electricity to irrigate a carbon estimation area must be calculated if new irrigation is a management action in a sustainable intensification project management activity.

(2) The emissions released from fuel use associated with irrigation for each relevant carbon estimation area for the reporting period must be calculated using the following (***equation 20***):

$$E_{IFuul,Rc,CEA} = \sum_{g=1}^{n} \left(\frac{Q_{I,Rc,CEA} \times EC_F \times EF_{Fg}}{1000} \right)$$

where:

$E_{IFuel,Rc,CEA}$ means emissions from irrigation fuel in the reporting period in carbon estimation area (CEA); in tonnes CO_2-e.

n means number of gas groups.

$Q_{I,Rc,CEA}$ means quantity of fuel used to irrigate carbon estimation area (CEA) in the reporting period; in kilolitre.

EC_F is the energy content factor for diesel fuel set out in the Weights and Measures Codes of Practice, in gigajoules per kilolitre.

EF_{Fg} is the emissions factor for each gas type g for diesel fuel set out in the Weights and Measures Codes of Practice, in kilograms CO_2-e per gigajoule.

Note : The values for EC_F and EF_{Fg} are set out in 'Fuel combustion—liquid fuels and certain petroleum-based products for stationary energy purposes' in 'Schedule — Energy content factors and emission factors' to the Weights and Measures Codes of Practice.

(3) The emissions released from electricity use associated with irrigation for each relevant carbon estimation area for the reporting period must be calculated using the following (***equation 21***):

$$E_{IP,Rc,CEA} = Q_{IP,Rc,CEA} \times \frac{EF_{IP}}{1000}$$

where:

$E_{IP,Rc,CEA}$ means emissions from irrigation electricity in the reporting period in carbon estimation area (CEA); in tonnes CO_2-e.

$Q_{IP,Rc,CEA}$ means quantity of electricity used to irrigate carbon estimation area (CEA) in the reporting period; in kilowatt hours, worked out in accordance with the monitoring requirements.

EF_{IP} means emission factor for scope 2 electricity use; in kilograms CO_2-e per kWh.

CEA means a carbon estimation areas within the project area used in project management activities.

(4) For $E_{IP,Rc,CEA}$, if the electricity purchased is measured in gigajoules, the quantity of kilowatt hours must be calculated by dividing the amount of gigajoules by 0.0036.

Note : Values for emission factors for the relevant Country/State/Territory/region are set out in 'Schedule 1—Energy content factors and emission factors' to the Weights and Measures Codes of Practice.

Subdivision D—Calculating biochar production emission activity

78. Emissions from processing, comminution and transportation of biochar

(1) The emissions from processing, comminution and transportation of biochar for a reporting period in the crediting period, in tonnes CO_2-e, are worked out using the formula (***equation 22***):

$$E_{PCT} = \sum_{f} E_{PCT,f}$$

where:

E_{PCT} means emissions from processing, comminution and transportation of biochar for the reporting period, in tonnes CO_2-e.

$E_{PCT,f}$ means emissions from processing, comminution and transportation of project waste biomass type collected at a accredited AWT facility (f) for the reporting period, in tonnes CO_2-e, worked out using equation 23.

f means an accredited AWT facility within the network that has been nominated as an accredited AWT facility for source separation activities involving the collection of project waste biomass type during the reporting period.

(2) The emissions from processing, comminution and transportation of project waste biomass type collected at a accredited AWT facility (f) for the reporting period, in tonnes CO_2-e, are worked out using the following (***equation 23***):

$$E_{PCT,f} = EPCT_{Scopel,f} + EPCT_{Scope2,f}$$

where:

$E_{PCT,f}$ means the emissions from processing, comminution and transportation of project waste biomass type collected at the accredited AWT facility for the reporting period, in tonnes CO_2-e.

$EPCT_{Scope1,f}$ means the scope 1 emissions relating to the processing, comminution and transportation of project waste biomass type collected at the accredited AWT facility for the reporting period, in tonnes CO_2-e, estimated:

(a) for solid fuels used during the reporting period in relation to the processing, comminution and transportation of the project waste biomass type collected at the accredited AWT facility—in accordance with Part 2.2 of the Weights and Measures Codes of Practice;

(b) for gaseous fuels during the reporting period in relation to the processing, comminution and transportation of project waste biomass type collected at the

accredited AWT facility—in accordance with Part 2.3 of the Weights and Measures Codes of Practice;

(c) for liquid fuels used during the reporting period in relation to the processing, comminution and transportation of project waste biomass type collected at the accredited AWT facility — in accordance with Part 2.4 of the Weights and Measures Codes of Practice.

$EPCT_{Scope2,f}$ means the scope 2 emissions relating to the processing, comminution and transportation of project waste biomass type capture at a accredited AWT facility (f) for the reporting period, in tonnes CO_2-e, worked out using equation 24.

f means an accredited AWT facility within the network that has been nominated as an accredited AWT facility for source separation activities involving the collection of project waste biomass type during the reporting period.

(3) The scope 2 emissions relating to the processing, comminution and transportation of project waste biomass type collected at a accredited AWT facility (f) for the reporting period, in tonnes CO_2-e, are worked out using the formula (***equation 24***):

$$EPCT_{Scope2,f} = Q_{EPCT,f} \times EF/1000$$

where:

$EPCT_{Scope2,f}$ means scope 2 emissions relating to the processing, comminution and transportation of project waste biomass type collected at the accredited AWT facility for the reporting period, in tonnes CO_2-e.

$Q_{EPCT,f}$ means the quantity of electricity used during the reporting period in relation to the processing, comminution and transportation of project waste biomass type collected at the accredited AWT facility, in kilowatt hours, worked out in accordance with the monitoring requirements.

EF means:

(a) for electricity obtained from an electricity grid that is a grid in relation to which the greenhouse gas emissions from energy data published by the Local includes an emissions factor—that factor, in kilograms CO_2-e per kilowatt hour (or its equivalent of tonnes CO_2-e per megawatt hour); or

(b) for electricity obtained from an electricity grid not covered by paragraph (a) or obtained from a source other than an electricity grid:

(i) if the supplier of the electricity is able to provide an emissions factor that reflects the emissions intensity of the electricity (worked out in accordance with subsection (5))—that factor, in kilograms CO_2-e per kilowatt hour (or its equivalent of tonnes CO_2-e per megawatt hour); or

(ii) otherwise—the emissions factor, in kilograms CO_2-e per kilowatt hour (or its equivalent of tonnes CO_2-e per megawatt hours), for off-grid electricity included in the greenhouse gas emissions from energy data published by the Local in force at the end of the reporting period.

(4) For subparagraph (b) (i) of the definition of (EF) in subsection (3), the emissions factor must be worked out:

(a) on a sent-out basis; and

(b) using a measurement or estimation approach that is consistent with the Weights and Measures Codes of Practice.

(5) If the Weights and Measures Codes of Practice does not include any relevant measurement or estimation approach, the emissions factor must be worked out in a manner that is consistent with relevant standards and other requirements under:

(a) reporting and disseminating information relating to greenhouse gas emissions or greenhouse gas projects under any other law of the Country or of a State or Territory; or

(b) emissions trading under a law of the Country or of a State or Territory.

79. Calculation of emissions from small-scale technology in biochar production

(1) The emissions from the production of biochar type using high-scale technology are zero in a reporting period.

(2) The emissions of small-scale technology for biochar production in a reporting period within the crediting period, in tonnes CO_2-e (the ***fugitive emissions***), are worked out using the formula (***equation 25***):

$$FGG = \sum_{j,f,PS} \left[\left(FGG_{j,f,PS} \times \% \right) \times Q_{f,b} \times \gamma_j \right] \times GWP_{CH4}$$

where:

FGG means the emissions from production for the reporting period, in tonnes CO_2-e.

$FGG_{j,f,PS}$ means the amount of greenhouse gas type (j) emitted to the atmosphere during the reporting period by a accredited AWT facility (f) using a biochar production systems (PS) that produces biochar type from collected project waste biomass type, in grams greenhouse gas / kilograms of biochar type, using the default emission factors in section 80,

$\%$ means the limit of uncertainty (expressed as a percentage of the value in question) pertaining to section 80. In the event that statistical data is unavailable, expert elicitation and expert judgement may be employed to address any uncertainties associated with the biochar production data.

$Q_{f,b}$ means the quantity of biochar type (b) processed and produced by the accredited AWT facility (f) during the reporting period, expressed in kilograms, calculated according to the $Q_{f,b}$ of equation 17.

f means an accredited AWT facility within the network that has been nominated as an accredited AWT facility for source separation activities involving the collection of project waste biomass type during the reporting period.

means an accredited AWT facility within the network that has been nominated as an accredited AWT facility for source separation activities involving the collection of waste biomass type for biochar production during the reporting period.

j means a greenhouse gas type, being CH_4.

b means the biochar type produced by the accredited AWT facility (f).

PS means the type of biochar production systems.

γ_j means the factor to the coefficient that converts grams to tonnes of greenhouse gas type (j) — 0.000001.

GWP_{CH4} means the global warming potential value of AR6 for methane set out in requirement 2.2 of the GHGR Specifications.

80. Default emission factors for qualified small-scale technology units in the production of biochar

This period was chosen to compensate for methane emissions as required by subsection 81(3) and the default emission factors in the table below are multiplied by GWP_{CH4}.

Default emission factors for biochar production
(g GHG / kg of biochar produced)

Gas	Default emission factors for different types of biochar production systems		Uncertainty (% of value)
	Pyrolysis technology [a]	Gasification technology [b]	
CH_4	30	15	-100% to +200%

Note :
a. Source of data: The 2019 revision of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 4: Fugitive Emissions, Table 4.3.3 (https://www.ipcc-nggip.iges.or.jp/efdb/find_ef.php?ipcc_code=1.B.1.c.i&ipcc_level=4)
b. Source of data: TLUD is accredited by the Carbon Standards International.

Subdivision E—Calculating carbon sequestration

81. Calculating the quantity of AQS biochar transferred to an off-taker within the project area

The quantity of AQS biochar transferred to an off-taker during a reporting period is calculated using the following (***equation 26***):

$$Q_{Rc,WI,f,A} = \sum_{n} BC_{WI,f,A} \times \bar{x}_{a,Rc,f,A}$$

where:

$Q_{Rc,WI,f,A}$ means the quantity of AQS biochar type (A) transferred to the off-taker within (WI) at an accredited AWT facility (f) during the reporting period (Rc), the determination of mass for commercial transactions, in kilograms.

$BC_{WI,f,A}$ means the quantity of AQS biochar type (A) produced for permanently carbon sequestration by the project at an accredited AWT facility (f) and transferred to off-taker within (WI) during the reporting period, measured in kilograms, worked out in accordance with the monitoring requirements.

$\bar{x}_{a,Rc,f,A}$ means:

(a) The shortfall of AQS biochar type (A) according to the Average Quantity System, including testing under section 3 of Schedule 2, $\bar{x}_{a,Rc,f,A}$ is 97.5 per cent (%); or

Note : AQS provides a 97.5% assurance that AQS biochar are the correct quantity within the prescribed tolerances. These tolerances are proportional to the quantity of biochar and related difficulty of accurate filling.

(b) The shortfall of AQS biochar type (A) according to the Average Quantity System including testing under section 4 of Schedule 2, $\bar{x}_{a,Rc,f,A}$ is 0; or

(c) There's no shortfall, $\bar{x}_{a,Rc,f,A}$ is 100 per cent (%).

f means an accredited AWT facility within the network that has been nominated as an accredited AWT facility for source separation activities involving the collection of project waste biomass type during the reporting period.

A means the AQS biochar type that is published in the Prepackaged Registry.

Note : All biochar must be transferred to the off-taker in packages that are registered in accordance with the Biochar Trade Requirements.

WI means off-taker within the project area.

n means number of transferred.

82. Calculating the quantity of AQS biochar transferred to an off-taker outside the project area

The quantity of AQS biochar transferred to an off-taker during a reporting period is calculated using the following (***equation 27***):

$$Q_{Rc,O/S,f,A} = \sum_{n} BC_{O/S,f,A} \times \bar{x}_{a,Rc,f,A}$$

where:

$Q_{Rc,O/S,f,A}$ means the quantity of AQS biochar type (A) transferred to the off-taker outside (O/S) at an accredited AWT facility (f) during the reporting period (Rc), the determination of mass for commercial transactions, in kilograms.

$BC_{O/S,f,A}$ means the quantity of AQS biochar type (A) produced for permanently carbon sequestration by the project at an accredited AWT facility (f) and transferred to the off-taker outside (O/S) during the reporting period, measured in kilograms, worked out in accordance with the monitoring requirements.

$\bar{x}_{a,Rc,f,A}$ means:

(a) The shortfall of AQS biochar type (A) according to the Average Quantity System, including testing under section 3 of Schedule 2, $\bar{x}_{a,Rc,f,A}$ is 97.5 per cent (%); or

Note : AQS provides a 97.5% assurance that AQS biochar are the correct quantity within the prescribed tolerances. These tolerances are proportional to the quantity of biochar and related difficulty of accurate filling.

(b) The shortfall of AQS biochar type (A) according to the Average Quantity System including testing under section 4 of Schedule 2, $\bar{x}_{a,Rc,f,A}$ is 0; or

(c) There's no shortfall, $\bar{x}_{a,Rc,f,A}$ is 100 per cent (%).

f means an accredited AWT facility within the network that has been nominated as an accredited AWT facility for source separation activities involving the collection of project waste biomass type during the reporting period.

A means the AQS biochar type that is published in the Prepackaged Registry.

Note : All biochar must be transferred to the off-taker in packages that are registered in accordance with the Biochar Trade Requirements.

O/S means off-takers outside the project area.

n means number of transferred.

83. Calculating the quantity of permanent carbon sink by the off-taker within the project area

The quantity of AQS biochar not applied by off-taker within during the reporting period was calculated using the following (***equation 28***):

$$Q_{Rc,WI,CEA,A} = Q_{Rc,WI,f,A} - Q_{Rc,A,N}$$

where:

$Q_{Rc,WI,CEA,A}$ means to the quantity of AQS biochar type (A) applied by the off-taker within (WI) in the carbon estimation area (CEA) the project area during the reporting period (Rc), in kilograms.

$Q_{Rc,WI,f,A}$ means the quantity of AQS biochar type (A) transferred to the off-taker within (WI) at an accredited AWT facility (f) during the reporting period (Rc), in kilograms, worked out using equation 26.

$Q_{Rc,A,N}$ means the quantity of AQS biochar type (A) that has not been applied $Q_{Rc,WI,f,b}$ by the off-taker during the reporting period (Rc), measured in kilograms, worked out in accordance with the monitoring requirements.

A means the AQS biochar type that is published in the Prepackaged Registry.

Note : All biochar must be transferred to the off-taker in packages that are registered in accordance with the Biochar Trade Requirements.

84. Calculating the quantity of permanent carbon sink by the off-taker outside the project area

(1) The quantity of AQS biochar not applied by off-takers outside the project area during the reporting period was calculated using the following (***equation 29***):

$$Q_{Rc,O/S,NCEA,A} = Q_{Rc,O/S,f,A} - Q_{Rc,A,N}$$

where:

$Q_{Rc,O/S,NCEA,A}$ means to the quantity of AQS biochar type (A) applied by the off-taker outside (O/S) in the carbon estimation area outside ($NCEA$) the project area during the reporting period (Rc), in kilograms.

$Q_{Rc,O/S,f,A}$ means the quantity of AQS biochar type (A) transferred to the off-taker outside (O/S) at an accredited AWT facility (f) during the reporting period (Rc), in kilograms, worked out using equation 27.

$Q_{Rc,A,N}$ means the amount of AQS biochar type (A) that has not been applied $Q_{Rc,O/S,f,A}$ by the off-taker during the reporting period (Rc), measured in kilograms, worked out in accordance with the monitoring requirements.

A means the AQS biochar that is published in the Prepackaged Registry.

$NCEA$ means the promotion of biochar in carbon estimation areas outside the project area.

(2) If no AQS biochar has been transferred to an off-takers outside the project area, in which case the quantity calculated in accordance with the monitoring requirements is zero.

Division 4—Changing project management activity or management actions

85. Limitations on changing activities or actions

(1) A project proponent may change project management activity and management actions during a project only if they are able to demonstrate that they are sustainable and intensifying the project.

(2) If a project management activity is undertaken in a particular carbon estimation area during a particular reporting period, the activity must not be changed before the end of the reporting period.

(3) If sustainable intensification has commenced as a project management activity in a particular carbon estimation area during a particular reporting period, neither management action that makes up the activity may be changed before the end of the reporting period.

(4) A project proponent must carry out the activity or action in accordance with Division 1 of Part 3.

86. When other activity or action is taken to have ceased in carbon estimation area

Soil acidity management

(1) Soil acidity management in a sustainable intensification project management activity is taken to have ceased as a management action if biochar is not applied at the time determined in accordance with section 35.

Nutrient management

(2) Nutrient management in a sustainable intensification project management activity is taken to have ceased as a management action if a nutrient is not applied at the time specified in subsection 31 (6).

New irrigation

(3) Subject to subsection (4), new irrigation in a sustainable intensification project management activity is taken to have ceased as a management action if additional water is not applied in any year within the nominated permanence period.

(4) If:

(a) additional water is not applied in a year within the nominated permanence period; and

(b) the environmental conditions in that year are such that additional water would not achieve an increase in yield or pasture growth;

then the management action will not be taken to have ceased under subsection (3).

Note : Records demonstrating the requirement in paragraph (4) (b) is met are required to be kept under paragraph 97 (1) (h).

Sustainable intensification

(5) Sustainable intensification is taken to cease as a project management activity in a carbon estimation area if the project proponent ceases to undertake a nominated management action, or both nominated management actions, in the carbon estimation area.

(6) For subsection (4), ***nominated***, in relation to a management action, has the same meaning as it has in section 28.

Stubble retention

(7) Stubble retention is taken to have ceased as a project management activity in a carbon estimation area if a second stubble removal event occurs in the area within 5 years that the area is under crops.

When activity taken to have ceased

(8) If sustainable intensification ceases under this section, it is taken to cease at the start of the sequestration year in which the activity ceased in accordance with this section.

(9) If soil acidity management ceases under this section, the project management activity is taken to cease when the the second stubble removal event commences.

*Meaning of **sequestration year***

(10) For this methodology, ***sequestration year*** begin on the first day of the sequestration period for a project management activity in the carbon estimation area, and on each anniversary of that day.

*Meaning of **sequestration period***

(11) For a carbon estimation area in which a particular project management activity is being undertaken, the sequestration period, for a particular reporting period (the current reporting period):

(a) commences:

(i) if the project management activity had commenced in a previous reporting period and has not been changed in accordance with section 85 (in which case the activity is continuing into the current reporting period)—at the start of the current reporting period; and

(ii) if the project management activity commences during the reporting period—when the activity is taken to commence in accordance with Division 1 of Part 3; and

(b) ends at the end of the current reporting period.

Part 5— Blockchain technology for reporting, Record keeping, notification and monitoring requirements

The reporting, notification and monitoring requirements in this Part supplement the general requirements relating to those matters set out in requirements and principles made under the Carbon Farming Standard.

Division 1—Reporting requirements

87. Operation of this Division

For paragraph 90 (3) (a) of the Carbon Farming Standard, this Division sets out the information that must be included in each offsets report about a PyCCS project that is an eligible offsets project.

88. Offsets reports requirements—processing

An offsets report for a reporting period in the crediting period for a PyCCS project must include all of the following information:

(a) a summary of how the components of the net abatement amount have been calculated. It includes a description of the method used to calculate the emissions from the collection of waste from each accredited AWT facility that is the source of biochar by the project (under Subdivision D of Division 3 of Part 4);

(b) a description of any change in the location of the project that has occurred during the reporting period, including (if relevant) a description of any new carbon estimation area, carbon estimation areas and accredited AWT facility;

(c) a description of any increase or decrease in the number of carbon estimation areas used in the project during the reporting period, including the location of any new carbon estimation areas;

(d) a description of any change to any carbon estimation area used in the project, or any material change in the operation of a carbon estimation area, during the reporting period;

(e) a description of any increase or decrease in the number of carbon estimation areas used in the project during the reporting period, including the location of any new carbon estimation areas;

(f) if during the reporting period the project operated in a manner that deviated from that described in the PyCCS project plan—a description of the deviation, including the duration and frequency of the deviation.

89. Offsets reports requirements—source capture and Soil pH

Source capture

(1) The offsets report about an PyCCS project for a reporting period must:

(a) identify each source separation activity (whether an original activity or a potential activity) included in the calculation of the carbon capture for the reporting period; and

(b) include the following information for each such activity:

(i) the Local in which the activity area is located (if not included in a previous offsets report about the project);

(ii) for charity diversion activities, new waste diversion activities and aggregated waste diversion activities that include a subactivity that would otherwise be a new waste diversion activity—the landfill that, during the relevant 24-month period for the project, received material consisting of the same waste biomass type or types as the eligible organic material diverted by the activity during the reporting period (if known and not included in a previous offsets report about the project);

(iii) for new waste diversion activities, expansion waste diversion activities and aggregated waste diversion activities, the same is true for each accredited AWT facility that was a nominated accredited AWT facility for the activity during the reporting period.

(iv) each waste biomass type present in the eligible organic material diverted from source by the activity during the reporting period;

(v) the value of parameter EO_W for the activity for the reporting period, worked out in accordance with section 67 or subsection 68 (1) or 69 (1) (as applicable);

(vi) for charity diversion activities—the value of parameter Q_{MC} for the activity for the reporting period, worked out in accordance with the monitoring requirements;

(vii) for new waste diversion activities and expansion waste diversion activities—the value of parameter $Q_{MC,f}$ for each nominated accredited AWT facility for the activity for the reporting period, worked out in accordance with the monitoring requirements;

(viii) for aggregated waste diversion activities—the value of parameter $Q_{MC,sa,f}$ for each nominated accredited AWT facility for each subactivity for the reporting period, worked out in accordance with the monitoring requirements;

(ix) if the value of parameter $W_{EO,w}$ for the activity, or the value of parameter $W_{EO,w,sa}$ for each subactivity if the activity is an aggregated waste diversion activity, was worked out for the reporting period using waste audits, the results of the waste audits (including a value for each proportion mentioned in paragraphs 114 (5) (a) to (d)); and

(2) if a potential activity has been included in the calculation of the AWT facility for the reporting period because of paragraph 57 (1) (b)—include the same information and evidence as would have been required to be provided under section 45 if the activity were able to be identified at the time the application under section 22 of the Carbon Farming Standard was made in relation to the project; and

(3) if, under subsection 57 (2), the project proponent chooses not to include a particular activity in the calculation of the AWT facility for the reporting period—identify the activity not included and the reasons why it was not included.

Soil pH

(4) Each offsets report must include the following for the project:

(a) copies of the sustainable intensification strategies applicable to the project during the reporting period;

(b) a description of the project management activities undertaken during the reporting period including an explanation of:

(i) how eligible management activities have been undertaken in each carbon estimation area during the reporting period; and

(ii) the extent to which the project management activities undertaken have implemented the relevant sustainable intensification strategies;

(c) This report includes the number of sampling rounds conducted during the reporting period for the carbon estimation areas included in the report. These sampling rounds were conducted for soil pH;

(d) for each sampling round conducted in relation to a carbon estimation area included in the report until the end of the reporting period:

(i) the start and end date of that sampling round; and

(ii) the median day (within the meaning of the Supplement) of the sampling round;

(e) for each sampling round conducted during the reporting period, the following information,

(i) any spatial data files required to be created by the Supplement;

(ii) the accuracy of the Navigation Satellite System used to locate and record the location for each land collected;

(iii) the depth of the samples data;

(iv) the location in the land where the soil pH data were collected.

(f) the amount of each input and component of each equation or calculation that, under this methodology, is used to work out the net abatement amount for the reporting period;

(g) if activities are undertaken in a reporting period that were restricted under section 24—evidence that those requirements were met;

(h) if the Supplement requires a matter to be documented—that matter;

(i) a written statement from the project proponent verifying that the activities, or sampling or calculation approaches, have not been undertaken which could be reasonably expected to result in the crediting of non-genuine carbon abatement;

(j) a written statement, in a form approved by the Working Body, from the person, or persons, responsible for carrying out the sampling round verifying that:

(i) the person or persons have no financial interest in the project and were not influenced in any way to adjust the sampling; and

(ii) the sample collection and preparation were undertaken in accordance with this methodology and the requirements of the Supplement.

(5) If an offsets report is the first report after the declaration of the project as an eligible offsets project, it must include the following:

(a) the date the eligible management activities started in each carbon estimation area;

(b) a detailed description of all project management activities undertaken in each carbon estimation area;

(c) if any clearing or thinning has been conducted in a project area since submission of the section 22 application—evidence that the clearing is not in breach of subsection 24 (3) (disregarding subsection 24 (1)) and the thinning is not in breach of subsection 24 (3) (disregarding subsection 24 (1));

90. Offsets reports requirements— AQS biochar applied to soils

(1) If changes are made to the number or boundaries of carbon estimation areas within a project, the new carbon estimation areas or new boundaries must be identified in the next offsets report that is submitted to the Working Body and that reports on those carbon estimation areas.

(2) The map referred to in subsection 20 (4) must be provided to the Working Body with the offsets report referred to in subsection 90 (1).

91. Offsets reports requirements—review of strategies

If, during a reporting period, review of a strategy was required under any of the following:

(a) paragraph 44 (6) (a) (soil acidity management);

(b) paragraph 44 (6) (b) (nutrient management strategy);

the project proponent must include, in the offsets report for that period, evidence that demonstrates that the review was undertaken.

Note : For example, the evidence could include a letter from the qualified person who conducted the review.

92. Determination of certain factors and parameters

(1) If, in the circumstances described in paragraph 7 (2) (b), a factor or parameter is defined or calculated for a reporting period by reference to an instrument or writing as in force from time to time, the offsets report about the project for the reporting period must include the following information for the factor or parameter:

(a) the versions of the instrument or writing used;

(b) the start and end dates of each use;

(c) the reasons why it was not possible to define or calculate the factor or parameter by reference to the instrument or writing as in force at the end of the reporting period.

(2) If a parameter is determined under section 117 for the purpose of working out the AWT facility for an PyCCS project for a reporting period, the offsets report about the project for the reporting period must include the following information for the parameter:

(a) the name of the parameter;

(b) the start and end of the non-monitored period for which the parameter was determined;

(c) the value of the parameter and how that value was calculated;

Division 2—Notification requirements

93. Operation of this Division

For paragraph 90 (3) (b) of the Carbon Farming Standard, this Division sets out requirements to notify one or more matters relating to the project to the Working Body for a PyCCS project that is an eligible offsets project during the permanence obligation period for the project.

94. Obligation to notify Working Body about changes in project's regulatory approvals

(1) The project proponent must notify the Working Body in writing of any change to the project proponent's relevant authority or other regulatory approvals that has had or may have an impact on the project proponent's ability to continue to implement the PyCCS project, including (without limitation) any such change that occurs during the crediting period.

(2) The project proponent must notify the Working Body of that change as soon as practicable after the project proponent becomes aware that the change has occurred.

95. Obligation to notify Working Body about certain fugitive emissions

(1) The project proponent must notify the Working Body in writing immediately if any material volume of fugitive emissions has been released during a reporting period or during the crediting period.

(2) The project proponent must notify the Working Body of those matters as soon as practicable after the project proponent becomes aware of the release or material risk.

96. Notification requirements—— Source separated organic waste

Implementation of potential activities

(3) This section applies if:

(a) one or more of an PyCCS project's potential activities are implemented during a reporting period; and

(b) the potential activity is a new waste diversion activity, an expansion waste diversion activity or an aggregated waste diversion activity.

(4) The project proponent must, within 14 days after the potential activity starts to be implemented, notify the Working Body, in writing, of:

(a) each accredited AWT facility nominated as a facility at which waste biomass type diverted from source by the activity will be processed; and

(b) each eligible waste treatment technology to be used to process the eligible organic material.

Change to nominated accredited AWT facility

(5) If:

(a) an PyCCS project involves the implementation of a new waste diversion activity, an expansion waste diversion activity or an aggregated waste diversion activity; and

(b) there is a change to which accredited AWT facility are to process eligible organic material diverted from source by the activity;

the project proponent must, within 14 days after the change occurs, notify the Working Body, in writing, of the change.

(6) A notification under subsection (1) must include:

(a) details of each accredited AWT facility that, as a result of the change, is to be nominated as a accredited AWT facility at which eligible organic material diverted from source by the activity is to be processed; and

(b) details of each accredited AWT facility that has previously been, but is no longer, a nominated accredited AWT facility for the activity; and

(c) a description of each eligible waste treatment technology that was, or is to be, used to process the eligible organic material at each qualified small-scale technology unit mentioned in paragraph (a) or (b).

Change to subactivities included in aggregated waste diversion activities

(7) If:

(a) an PyCCS project involves the implementation of an aggregated waste diversion activity; and

(b) the project proponent decides to no longer include a particular subactivity in the aggregated waste diversion activity;

the project proponent must, within 30 days after making the decision, notify the Working Body, in writing, of the decision.

97. Notification requirements—AQS biochar applied to soils

(1) The project proponent must notify the Working Body within 60 days of becoming aware that an activity contrary to section 24 or 25 is conducted in the area of a carbon estimation area.

(2) If a sustainable intensification strategy for the project changes, the project proponent must, within 60 days after the change, notify the Working Body of the change and within 9 months after the change, provide a copy of the new sustainable intensification strategy to the Working Body.

(3) If the project management activities on land that is part of a carbon estimation area changes materially after the end of the first reporting period for the project, the project proponent must, within 60 days after the change, notify the Working Body of:

(a) the nature of the change; and

(b) whether the change is likely to materially impact the sequestration of carbon in the project area.

(4) Before the start of each sampling round, the project proponent must notify the Working Body of the intended location of each sample to be taken in accordance with the Supplement.

Division 3—Record keeping and project monitoring requirements

Note : Other Record keeping and project monitoring requirements are prescribed in the principles .

Subdivision A—Record keeping requirements

98. Operation of this Division

For paragraph 90 (3) (c) of the Carbon Farming Standard, this Division sets out Record keeping requirements for a PyCCS project that is an eligible offsets project.

99. Record keeping requirements—sustainable intensification

(1) The project proponent must keep records of the following:

(a) the identity, relevant experience and qualifications of:

(i) all qualified persons involved in the preparation or review of the sustainable intensification strategies under section 44; and

(ii) all independent persons involved in soil pH sampling under subsection 7(2) of Schedule 1;

Note : Examples of when a qualified person may be involved in the project include:

(a) providing advice about material shortfall or the average soil pH in a carbon estimation area submitted as part of an application; or

(b) preparing or reviewing a management strategy used as part of a project management activity.

(b) material and evidence used in the preparation of a management strategy that is prepared as part of a project management activity or management action; and

(c) material and evidence to support any written advice by a qualified person and provided with the application in accordance with Subdivision C of Division 1 of Part 3; and

(d) anything which is specified in a sustainable intensification strategy for the project under paragraph 44 (1) (a) (iii)); and

(e) if activities restricted by section 24 are conducted—evidence that the requirements of section 24 have been met; and

(f) the results of any appropriate testing undertaken as part of the project; and

(g) material to demonstrate that each management action nominated for a carbon estimation area has been carried out as required under Part 3; and

(h) if additional water is not applied in a year as part of a new irrigation management action—material and evidence that demonstrates the environmental conditions in that year are such that additional water would not achieve an increase in yield or pasture growth.

(i) if the project proponent changes an project management activity or other project management activity in accordance with section 85 —the activity as so changed.

(j) To avoid doubt, and subject to this methodology, a land management activity that is not a management action nominated under section 25 may be carried out in a carbon estimation area at the same time as a project management activity or management action is carried out.

(k) records which demonstrate that the requirements of this methodology and Supplement have been met;

(l) material to demonstrate that each project management activity nominated for each carbon estimation area has been carried out or maintained;

(2) The proponent must keep any management strategy prepared as part of a project management activity or a management action.

(3) The proponent must create and keep records of the result of every calculation completed in accordance with Part 4.

(4) If a project proponent changes a project management activity or management action, the proponent must keep the information and evidence required under Subdivision C of Division 1 of Part 3 for each project management activity or management action to which the proponent has changed.

100. Record keeping requirements—waste audits

(1) If the project proponent chooses to use waste audits to monitor one or more of the project's source separation activities or subactivities, the project proponent must keep a record of evidence that each waste audit undertaken consists of at least 2 audit periods that occur at times representative of relevant seasonal variation.

(2) Records must be kept to an auditable standard to demonstrate that the project is carried out in accordance with this Methodology.

101. Record keeping requirements— AWT facility

Information about AWT facility

(1) The project proponent must also keep a record of the following information about facility:

(a) the address, in the form approved by the Working Body, of every site that is or has been included in a population in the project;

(b) for a site added to the population during the project—the circumstances in which the site was added.

Disposal of unit and components

(2) If, as part of the treatment under the project, the project proponent, the project proponent's agent, or a person contracted by the project proponent:

(a) removes small-scale technology unit (the ***removed system unit***) that is not being directly replaced; or

(b) delivers, installs, or facilitates the delivery or installation of, small-scale technology unit, and that unit replaces other small-scale technology unit (the ***replaced system unit***);

the project proponent must also keep a record of evidence that the removed system unit, or replaced system unit, was disposed of in accordance with relevant State or Territory legislative requirements or the Biomass Energy (Biochar Production Systems) Standard.

(3) If:

(a) as part of the treatment under the project, the project proponent, the project proponent's agent, or a person contracted by the project proponent, (the ***relevant person***) removes a unit component or other equipment that is not removed system unit or replaced system unit; and

(b) the relevant person disposes of the unit component or other equipment; the project proponent must also keep a record of evidence that the disposal of the unit component or other equipment was in accordance with section 103.

102. Legal right to access and use data about PyCCS project

If the project proponent for the project uses data, about waste biomass type consumption for a AWT facility in the network, to calculate the carbon dioxide equivalent net abatement amount for the project in accordance with Part 4, the project proponent must have a legal right to:

(d) access the data; and

(e) use the data for that purpose.

Note : If there is more than one project proponent for a project, it is not necessary for each project proponent to have a legal right to access and use the data. A project proponent is required to have that legal right only if the project proponent will access and use the data to calculate the carbon dioxide equivalent net abatement amount for the project.

103. Disposing of removed or replaced qualified small-scale technology unit

(1) This section applies if the project proponent for the project, the project proponent's agent, or a person contracted by the project proponent, (the ***relevant person***):

(a) removes qualified small-scale technology unit, that is not being directly replaced, as part of the treatment under the project; or

(b) delivers, installs, or facilitates the delivery or installation of, small-scale technology unit (the ***new small-scale technology unit***) as part of the treatment under the project.

(2) The relevant person must take reasonable steps to ensure that the qualified small-scale technology unit that is being removed under paragraph (1) (a), or any qualified small-scale technology unit that is being replaced by the new small-scale technology unit under paragraph (1) (b), is:

(a) disposed of; and

(b) not refurbished, reused or sold.

(3) However, the qualified small-scale technology unit that is being removed or replaced may be sold to a third party to be broken down and recycled as described in subsection (4).

(4) This section does not prevent the metering equipment, pyrometer or biochar production systems from being broken down into components and recycled.

Subdivision B—Monitoring requirements

104. Monitoring waste biomass type consumption

The waste biomass type consumption from the waste biomass type source or sources chosen for a AWT facility in a population in the project under section 42 must be monitored for the AWT facility for all time periods in the crediting period for the project.

105. Monitoring waste biomass type consumption using metering equipment data

(1) This section applies if the project proponent for the project monitors waste biomass type consumption at a AWT facility in the network using metering equipment data.

(2) The project proponent must monitor the consumption of the waste biomass type in the AWT facility during each reporting period using metering equipment that meets the requirements of subsection 45(3).

106. Data collected system

(1) Any entity operating a Data collected system that is compliant with Part 5, audited annually and approved by the Working Body, is authorised to act as an Accredited Data Service Providers for small-scale technology unit under this methodology (including Registrants).

(2) The following companies are ***Accredited Data Service Providers***. They provide complex data integration, de-identification and secure data access services to support data sharing:

(a) the BidCarbon Data Limited; or

(b) the Dream & Company; or

(c) a state and territory government bodies.

(3) In this section:

BidCarbon Data Limited means the BidCarbon Big Data Chengdu Limited (Registered in the mainland of China, Taxpayer Identification Number 91510100MA65RX6J3L).

Dream & Company means the Dream Aerospace Industries Limited (Registered in the mainland of China, Taxpayer Identification Number 91510105MA65R0Y9XT).

107. Operation of this Division

For paragraph 90 (3) (d) of the Carbon Farming Standard, this Division sets out:

(a) a requirement to monitor relevant parameters relating to a PyCCS project that is an eligible offsets project (see section 108); and

(b) in the event that the project proponent fails to monitor any parameter as required, a requirement that the project proponent estimates the parameter (see section 115).

108. Requirement to monitor certain parameters

(1) The project proponent must, during a reporting period, monitor and determine any parameter that is required to calculate the carbon dioxide equivalent net abatement amount for the reporting period or a future reporting period:

(a) in a manner that is consistent with the Weights and Measures Codes of Practice; or

(b) if the Weights and Measures Codes of Practice does not include any relevant requirements, in a manner that is consistent with relevant standards and other requirements under:

(i) reporting and disseminating information relating to greenhouse gas emissions or greenhouse gas projects under any other law of the Country or of a State or Territory; or

(ii) emissions trading under a law of the Country or of a State or Territory.

(2) Any equipment or device used to monitor a parameter must be calibrated:

(a) in a manner that is consistent with the Sampling and Test Procedures for Prepackaged Products; and

(b) in a manner that is consistent with the Weights and Measures Codes of Practice; or

(c) if the Weights and Measures Codes of Practice does not include any relevant requirements, by an accredited third-party technician at intervals, and using methods, that are in accordance with the manufacturer's specifications.

109. Requirements to monitor certain parameters—charity diversion activities

(1) The project proponent for an PyCCS project must, for each of the project's charity diversion activities, monitor and determine a parameter set out in an item of the following table in accordance with the instructions in the item.

Monitored parameters					
Item	**Parameter**	**Description**	**Unit**	**Measurement procedure (including frequency as required)**	**Determination of parameter from measurements**
1	$Q_{MC,w}$ (see equation 10)	Quantity of material collected	Kg	Measure in accordance with the data management and reporting requirements set out in subsection 120 (1). **Frequency**—for each load of material collected	Cumulative value for the activity for the reporting period
2	$Q_{RJ,w}$ (see equation 10)	Quantity of rejected material disposed of	Kg	Either: (a) the weighbridge shall comply with the requirements of subsection 4(1) of the BITP 6.; or (b) evidenced by taxation invoices or contractual arrangements. **Frequency**—for each load of rejected material disposed of	Cumulative value for the activity for the reporting period

(2) Any equipment or device used to monitor a parameter must:

(a) be certified in accordance with the Biomass Energy (Biochar Production Systems) Specifications; and

(b) be calibrated by an accredited third party technician at intervals, and using methods, that are in accordance with the manufacturer's specifications.

110. Requirements to monitor certain parameters — source separation activities

Parameters to be monitored for each nominated accredited AWT facility

(1) The project proponent for an PyCCS project must, for each nominated accredited AWT facility for each of the project's new waste diversion activities, expansion waste diversion activities and aggregated waste diversion activities, monitor and determine a parameter set out in an item of the following table in accordance with the instructions in the item.

Monitored parameters for each nominated accredited AWT facility

Item	Parameter	Description	Unit	Measurement procedure (including frequency as required)	Determination of parameter from measurements
1	$Q_{EP,f}$ (see equation 19)	Quantity of electricity purchased by the AWT facility	kWh or GJ	Evidenced by taxation invoices, contractual arrangements or industry metering records. If $Q_{EP,f}$ is measured in gigajoules, the quantity of kilowatt hours must be calculated by dividing the amount of gigajoules by the conversion factor of 0.0036. **Frequency**—if subsection 72(4) is, or must be, used to calculate $E_{P,a}$ for the activity for which the facility is nominated, continuous	Cumulative value for the AWT facility for the reporting period

2	$Q_{F,i}$ (see equation 14)	Quantity of each fuel type used to transportation waste biomass type to an accredited AWT facility	Either: (a) t (for solid fuel); or (b) m^3 (for gas fuel); or (c) KL (for liquid fuel); or (d) GJ	Either: (a) monitored in accordance with section 2.25 or 2.36, or Division 2.4.6, of the Weights and Measures Codes of Practice (as applicable to the fuel type); or (b) evidenced by taxation invoices, contractual arrangements or industry metering records. **Frequency**—if subsection 72(3) is, or must be, used to calculate $E_{P,a}$ for the Activity for which the facility is nominated, continuous	Cumulative value for the reporting period

3	$Q_{F,i,f}$ (see equation 18)	Quantity of each fuel type used by the AWT facility	Either: (a) *t* (for solid fuel); or (b) m^3 (for gas fuel); or (c) KL (for liquid fuel); or (d) GJ	Either: (a) monitored in accordance with section 2.25 or 2.36, or Division 2.4.6, of the Weights and Measures Codes of Practice (as applicable to the fuel type); or (b) evidenced by taxation invoices, contractual arrangements or industry metering records. **Frequency**—if subsection 72(4) is, or must be, used to calculate $E_{P,a}$ for the Activity for which the facility is nominated, continuous	Cumulative value for the AWT facility for the reporting period
4	$Q_{MC,f}$ (see equation 11)	Quantity of material collected and sent to the AWT facility	Kg	Measure in accordance with the data management and reporting requirements set out in subsection 120 (1). **Frequency**—for each load of material received by the facility； Evidenced by taxation invoices, contractual arrangements or other industry standard practices.	Cumulative value for the AWT facility for the reporting period

5	$Q_{RJ,f}$ (see equation 11)	Quantity of rejected material disposed of	Kg	Either: (a) the weighbridge shall comply with the requirements of subsection 4(1) of the BITP 6.; or (b) evidenced by taxation invoices or contractual arrangements. **Frequency**—for each load of rejected material disposed of	Cumulative value for the AWT facility for the reporting period
6	$Q_{MC,sa,f}$ (see equation 12)	Quantity of material collected by subactivity and sent to the AWT facility	Kg	Measure in accordance with the data management and reporting requirements set out in subsection 120 (1). **Frequency**—for each load of material received by the facility； Evidenced by taxation invoices, contractual arrangements or other industry standard practices.	Cumulative value for the AWT facility for the reporting period
7	$Q_{R,sa,f}$ (see equation 12)	Quantity of rejected material disposed of	Kg	Either: (a) the weighbridge shall comply with the requirements of subsection 4(1) of the BITP 6; or (b) evidenced by taxation invoices or contractual arrangements. **Frequency**—for each load of rejected material disposed of	Cumulative value for the AWT facility for the reporting period

8	$Q_{TRW,f,w}$ (see equation 16)	Quantity of waste biomass type comminution and returned to the soil in an accredited AWT facility.	Kg	Measure in accordance with the data management and reporting requirements set out in subsection 120 (1). **Frequency**—if subsection 72 (4) is, or must be, used to calculate $E_{P,a}$ for the activity for which the facility is nominated, for each load of residual waste disposed of in landfill by the facility	Cumulative value for the AWT facility for the reporting period
9	$Q_{TWC,f,w}$ (see equation 16)	Total quantity of waste received by the accredited AWT facility.	Kg	Measure in accordance with the data management and reporting requirements set out in subsection 120 (1). **Frequency**—if subsection 72 (4) is, or must be, used to calculate $E_{P,a}$ for the activity for which the facility is nominated, for each load of waste received by the facility	Cumulative value for the AWT facility for the reporting period

10	$Q_{IP,Rc,CEA}$ (see equation 21)	Quantity of electricity used to irrigate carbon estimation area in the reporting period	kWh or GJ	Evidenced by taxation invoices or contractual arrangements and apportioned based on hectares of the carbon estimation area irrigated as a fraction of the total hectares of land irrigated and the fuel used to run all pumps on that land. Where electricity purchased is measured in gigajoules, the quantity of kWh must be calculated by dividing the amount of GJ by 0.0036.

Parameters to be monitored for each activity or subactivity

(2) The project proponent for an PyCCS project must, for each of the project's new waste diversion activities and expansion waste diversion activities and each subactivity included in each of the project's aggregated waste diversion activities, monitor and determine a parameter set out in an item of the following table in accordance with the instructions in the item.

Monitored parameters for each activity or subactivity

Item	Parameter	Description	Unit	Measurement procedure (including frequency as required)	Determination of parameter from measurements
1	$Q_{B,s}$ (see equation 13)	Quantity of each size of source separation bins used by the activity or subactivity		Evidenced by taxation invoices, contractual arrangements or waste management records	Total number of source separation bins of each bin size for the activity or subactivity for the reporting period

2	$W_{EO,w}$ (see equation 10 or equation 11)	Proportion of a waste biomass type in material collected by the activity or subactivity	Fraction	If waste audits are undertaken to monitor the activity or subactivity, calculated using the results of the waste audits. **Frequency**—subject to subsection (4), in accordance with section 114.	Either: (a) the waste audit or audits undertaken during the reporting period to monitor the activity or subactivity; or (b) if no waste audits were undertaken during the reporting period—the most recent waste audit undertaken to monitor the activity or subactivity
3	$W_{EO,w,sa}$ (see equation 12)	Proportion of a waste biomass type in material collected by the activity or subactivity	Fraction	If waste audits are undertaken to monitor the activity or subactivity, calculated using the results of the waste audits. **Frequency**—subject to subsection (4), in accordance with section 114.	Either: (a) the waste audit or audits undertaken during the reporting period to monitor the activity or subactivity; or (b) if no waste audits were undertaken during the reporting period—the most recent waste audit undertaken to monitor the activity or subactivity

Parameters $W_{EO,w,sa}$ and $W_{EO,w}$

(3) If the project proponent chooses to use waste audits to monitor parameter $W_{EO,w}$ for a source separation activity, or parameter $W_{EO,w,sa}$ for a subactivity included in an aggregated waste diversion activity, the project proponent must monitor the parameter using waste audits for the activity or subactivity for the whole of the project.

Note: If the project proponent chooses to monitor parameter $W_{EO,w}$ or $W_{EO,w,sa}$ using waste audits and then, during a reporting period, fails to do so, the parameter is determined in accordance with section 117.

Calibration of equipment etc.

(4) Any equipment or device used to monitor a parameter must:

(a) be certified in accordance with the Biomass Energy (Biochar Production Systems) Specifications; and

(b) be calibrated by an accredited third party technician at intervals, and using methods, that are in accordance with the manufacturer's specifications.

111. Requirements to monitor certain parameters—biochar

(1) The project proponent must comply with the monitoring requirements set out in the following table in accordance with the instructions given in the item.

Monitored parameters

Item	Parameter	Description	Unit	Measurement procedure (including frequency as required)	Determination of parameter from measurements
1	$C_{org,f,b,y}$ (see equation 5A or equation 5B)	The percentage of organic carbon content of the biochar type.	%	Paragraph 62(1)(a) requirement.	
2	C_{org} (see equation 6)	The percentage of organic carbon content of the biochar type.	%	Analyse the samples in a laboratories licensed by the laboratory in accordance with the BidCarbon Standard Biochar for Soils. **Frequency**—Annually, or if there is any material change to the waste biomass type or production process.	Use the default values for organic carbon content in the table in subsection 62(2) for the crediting period.

3	H/C_{org} (see equation 7)	The percentage of hydrogen to organic carbon from the accredited AWT facility used to produce this biochar in the year.	%	Calculated using the default value of paragraphs 63 (1) (b) or (c). Alternatively, analyse the samples in a laboratories licensed by the laboratory in accordance with the BidCarbon Standard Biochar for Soils. **Frequency**—Annually, or if there is any material change to the waste biomass type or production process.	Accredited AWT facility that uses an eligible waste treatment technology on ten consecutive occasions has biochar production systems with consistently high temperatures and H/C_{org} ratios typically less than 0.2, with a default value of 0.2.
4	T_S (see equation 9)	the soil temperature.	°C	The requirements of subsection 66 (1) measure soil temperature at carbon estimation areas. **Frequency**—Annually, or if there is any material change to the waste biomass type or production process.	

5	$Q_{Rc,WI,CEA,b}$ (see equation 5A or equation 29) , $Q_{Rc,O/S,NCEA,b}$ (see equation 5B or equation 29)	Quantity of AQS biochar types used by the off-takers during the reporting period.	kg	Either: 1. The PyCCS project uses the OMS provided by Aunioncen on a reimbursable basis. The user satisfaction surveys are conducted on a case-by-case basis for the list of users in the OMS; or 2. Evidenced by taxation invoices, contractual arrangements and sales records; and 3. If selling through e-commerce, can add a positive product review field and use the off-takers to upload photos or videos of on-site use to support it. **Frequency**— Continuous, aggregated monthly or annually.
7	$M_{f,b,y}$ (see equation 8)	The moisture content of the biochar type, as determined in samples the accredited AWT facility in year.	%	The samples must be analysed in a laboratories licensed by the laboratory in accordance with the BidCarbon Standard Biochar for Soils. **Frequency**— Measurement s must be repeated for each subsequent year of production or after any material change in feedstock or process activity.

8	F_{perm} (see equation 9)	This was expressed as a function of the temperature of the biochar production systems.	°C	Shop for pyrometers from the approved product list. **Frequency**—the pyrometer is used to take one temperature at a time for each qualified small-scale technology unit.

Calibration of equipment etc.

(2) Any equipment or device used to monitor a parameter must:

(a) be certified in accordance with the Biomass Energy (Biochar Production Systems) Specifications; and

(b) be calibrated by an accredited third party technician at intervals, and using methods, that are in accordance with the manufacturer's specifications.

112. Requirements to monitor certain parameters—Processing

The project proponent must comply with the monitoring requirements set out in the following table in accordance with the instructions given in the table.

Monitored parameters

Item	Parameter	Description	Unit	Measurement procedure (including frequency as required)
1	$Q_{f,b}$ (see equation 17 or equation 25)	Quantity of biochar type processed and produced by the accredited AWT facility	kg	Measure in accordance with the data management and reporting requirements set out in subsection 120 (1) and fulfil the requirements of subsection 74(2). **Frequency**—for each time a biochar type is produced it must pass through a weighbridge in order to be counted in the inventory, these biochar types can be accumulated in the warehouse up to a certain quantity and the weighbridge must comply with the requirements of section 128.

2	$Q_{f,w,b}$ (see equation 17)	Quantity of waste biomass type needed for processing to biochar type in a qualified small-scale technology unit under specified conditions at the accredited AWT facility.	kg	Measure in accordance with the data management and reporting requirements set out in subsection 120 (1). **Frequency**—for every time waste biomass type goes out of storage, it must pass through the weighbridge and the requirements of section 128 must be met.
3	$Q_{EPCT,f}$ (see equation 24)	Quantity of electricity used related to processing, comminution and transportation at accredited AWT facility in the reporting period	kWh or GJ	Evidenced by taxation invoices, contractual arrangements. Where electricity purchased is measured in gigajoules, the quantity of kWh must be calculated by dividing the amount of GJ by 0.0036.

113. Requirements to monitor certain parameters—Biochar applied

The project proponent must comply with the monitoring requirements set out in the following table in accordance with the instructions given in the table.

Monitored parameters				
Item	**Parameter**	**Description**	**Unit**	**Measurement procedure (including frequency as required)**
1	$BC_{WI,f,b}$ (see equation 26)	Quantity of AQS biochar type transferred to off-takers	kg	Either: 1. The PyCCS project uses the Order Management System (OMS) provided by Aunioncen on a reimbursable basis. The user satisfaction surveys are conducted on a case-by-case basis for the list of users in the OMS; or 2. Evidenced by taxation invoices, contractual arrangements and sales records. **Frequency**—Continuous, aggregated monthly or annually.

2	$BC_{O/S,f,b}$ (see equation 27)	Quantity of AQS biochar type transferred to off-takers	kg	Either: 1. The PyCCS project uses the Order Management System (OMS) provided by Aunioncen on a reimbursable basis. The user satisfaction surveys are conducted on a case-by-case basis for the list of users in the OMS; or 2. Evidenced by taxation invoices, contractual arrangements and sales records. **Frequency**—Continuous, aggregated monthly or annually.
3	$\bar{x}_{a,Rc,f,b}$ (see equation 26)	a AQS biochar type that contains less than the quantity stated on the package or a label attached to it and the shortfall.	%	Determined in accordance with Schedule 2.
4	$Q_{Rc,b,N}$ (see equation 28 or equation 29)	Quantity of AQS biochar applied to a carbon estimation area is contingent upon the quantity of biochar required by the off-taker	Kg	Either: 1. The PyCCS project uses the Order Management System (OMS) provided by Aunioncen on a reimbursable basis. The user satisfaction surveys are conducted on a case-by-case basis for the list of users in the OMS; or 2. Evidenced by taxation invoices, contractual arrangements and sales records. **Frequency**—Continuous, aggregated monthly or annually. The carbon content should be evidenced by appropriate documentation, such as product labels, specifications or laboratory reports.

114. Requirement to undertake waste audits

(1) The project proponent may choose to undertake waste audits for the purpose of monitoring one or more of the project's source separation activities or subactivities.

Note: If the project proponent chooses to use waste audits to monitor parameter $W_{EO,w}$ for a source separation activity, or parameter $W_{EO,w,sa}$ for a subactivity included in an aggregated waste diversion activity, the project proponent must monitor the parameter using waste audits for the whole of the project (see subsection 107 (3)).

(2) The waste audits for an activity or subactivity must meet the following requirements:

(a) the first waste audit for the activity or subactivity must be undertaken during the first reporting period for the project;

(b) such number of subsequent waste audits as is required by subsection (3) for the activity or subactivity must be undertaken in later reporting periods for the project;

(c) only one waste audit may be undertaken in any 12 month period;

(d) each waste audit must consist of at least 2 audit periods that occur at times representative of relevant seasonal variation;

(e) each audit period must run for at least 1 week;

(f) during each audit period, at least one sample per day must be taken from a randomly selected truck or other bulk container used by the activity or subactivity to divert eligible organic material from landfill;

(g) the number of samples taken during each waste audit must be sufficient to obtain statistical confidence of 95% (plus or minus 5%) for each waste biomass type present in the eligible organic material diverted from source by the activity or subactivity;

(h) the samples taken must comprise aggregated collected waste from whole loads prior to processing;

(i) the aggregated collected waste must be sorted into eligible organic material, other organic waste and inert waste;

(j) all measurements of quantity must be in tonnes.

Note: The project proponent must keep a record of evidence that each waste audit undertaken consists of at least 2 audit periods that occur at times representative of relevant seasonal variation (see section 98).

(3) For the purposes of paragraph (2) (b), the number of subsequent waste audits required for the activity or subactivity is as follows:

(a) if the average annual abatement resulting from all of the project is less than 50,000 tonnes CO_2-e—2;

(b) if the average annual abatement resulting from all of the project is 50,000 tonnes CO_2-e or more and less than 150,000 tonnes CO_2-e—3;

(c) if the average annual abatement resulting from all of the project is 150,000 tonnes CO_2-e or more—5.

(4) The waste audits must be conducted by a person who:

(a) is engaged by the project proponent for that purpose; and

(b) has provided the project proponent with written evidence verifying that the person:

(i) has no conflict of interest in conducting the audit; and

(ii) possesses a relevant university degree; and

(iii) has more than 3 years' experience in waste management and conducting audits; and

(c) at the completion of each waste audit, provides the project proponent with written evidence verifying the results of the waste audit, including the calculations, assumptions, information and inputs used.

(5) For the purposes of paragraph (4) (c), the results must include a value (between zero and 1) for each of the following for each waste audit:

(a) the proportion of eligible organic material in the material collected by the activity or subactivity;

(b) the proportion of ineligible organic material in the material collected by the activity or subactivity;

(c) if the material collected by the activity or subactivity includes more than 1 waste biomass type—the proportion of each waste biomass type present in the material.

115. Value of certain parameters may be estimated if project proponent fails to monitor them

(1) This section applies if in any period in a reporting period the project proponent is unable or fails to monitor a parameter that is required to calculate the carbon dioxide net abatement amount for the reporting period or a future reporting period. In this methodology this period is called the ***non-monitored period***.

(2) In that case, the value of the parameter for that purpose is to be determined for the non-monitored period by the project proponent making a conservative estimate of the parameter having regard to:

(a) any relevant historical data for the parameter; and

(b) any other data that relates to the parameter; and

(c) any other matter the project proponent considers relevant.

(3) The project proponent must make the estimate clearly distinct from other measured records for consideration during auditing and must clearly document any approaches taken to derive any estimates.

(4) The project proponent must make all practicable efforts to minimise the non- monitored period during a reporting period.

(5) To avoid doubt, this section does not prevent the Working Body from taking action under the Carbon Farming Standard, or the requirements, in relation to the project proponent's failure to monitor a parameter as required by the monitoring requirements in this Division.

Note : Examples of action that may be taken include the following:

(1) if the failure constitutes a breach of a penalty provision in section 160 of the Carbon Farming Standard (which deals with project monitoring requirements), the Working Body may apply for a commercial arbitration in respect of the breach;

(2) if false or misleading information was given to the Working Body in relation to the failure, the Working Body may revoke the project's section 27 declaration under requirements or principles made for the purposes of section 38 of the Carbon Farming Standard.

116. Project monitoring—sustainable intensification strategy

(1) The project proponent must monitor the implementation of the sustainable intensification strategy in each project area.

(2) If a sustainable intensification strategy specifies additional steps to monitor a project in accordance with subparagraph 44 (1) (c) (ii), those requirements must be met.

117. Consequences of not meeting requirement to monitor certain parameters

(1) If, during a particular period (the ***non-monitored period***) in a reporting period, a project proponent for an PyCCS project fails, for a nominated accredited AWT facility for a source separation activity or subactivity, to monitor a parameter as required by the monitoring requirements, the value of the parameter for the purpose of working out the AWT facility for the reporting period is to be determined for the facility for the non-monitored period in accordance with the following table.

Consequence of not meeting requirement to monitor certain parameters

Item	Parameter	Determination of parameter for non-monitored period
1	Each of the following: (a) $Q_{EPCT,f}$ (see subsection 78(3)); (b) $Q_{F,i}$ (see subsection 72(3)); (c) $Q_{F,i,f}$ (see section 75); (d) $Q_{I,Rc,CEA}$ (see subsection 77(2)); (e) $Q_{IP,Rc,CEA}$ (see subsection 77(3)); (f) $Q_{F,i,f}$ (see section 75);	The project proponent must make a conservative estimate of the parameter having regard to: (a) any relevant measurement or estimation approaches or requirements that apply to the parameter under the Weights and Measures Codes of Practice; and (b) any relevant historical data for the project; and (c) any other data for the project that relates to the parameter; and (d) any other matter the project proponent considers relevant

(2) If, during the non-monitored period, the project proponent fails, for one or more of the project's source separation activities or subactivities, to monitor parameter $W_{EO,w}$ or $W_{EO,w,sa}$ as required by the monitoring requirements, the value of the parameter for the purpose of working out the AWT facility for the reporting period is to be determined for the activity or subactivity by making a conservative estimate of the parameter having regard to:

(a) any relevant measurement or estimation approaches or requirements that apply to the parameter under the Weights and Measures Codes of Practice; and

(b) any relevant historical data for the project; and

(c) any other data for the project that relates to the parameter; and

(d) any other matter the project proponent considers relevant.

(3) Subsection (2) does not apply if the Working Body determines that:

(a) either:

(i) the failure to monitor the parameter is likely to have only a minor or trivial impact on the value of $W_{EO,w}$ or $W_{EO,w,sa}$; or

(ii) alternative means have been applied to calculate a conservative estimate of the parameter; and

(4) The project proponent must make all practicable efforts to minimise the non-monitored period during a reporting period.

(5) In the absence of laboratory analytical data, the accredited AWT facility has had 10 consecutive applications of eligible waste treatment technology with biochar production systems temperatures in the monitoring and verification activities is high temperature and

H/C_{org} ratios typically less than 0.2, with a default value of 0.2, pyrometer should be calibrated in accordance with section 130.

(6) If, during a particular period in a reporting period, a project proponent for a PyCCS project fails to monitor a parameter as required by the monitoring requirements for a project area, the value of $Q_{Rc,WI,CEA,b}$ in equation 27 or $Q_{Rc,O/S,NCEA,b}$ in equation 28 for that reporting period is taken to be 0.

(7) To avoid doubt, this methodology does not prevent the Working Body from taking action under the Carbon Farming Standard, or requirements made under the Carbon Farming Standard, in relation to the project proponent's failure to monitor a parameter as required by the methodology.

Note : Examples of action that may be taken include the following:

(a) if the failure constitutes a breach of a liquidated damages clauses in section 160 of the Carbon Farming Standard (which deals with project monitoring requirements), the Working Body may apply for a commercial arbitration in respect of the breach;

(b) if false or misleading information was given to the Working Body in relation to the failure, the Working Body may revoke the project's section 27 declaration under requirements or rules made for the purposes of section 38 of the Carbon Farming Standard;

(c) if the giving of false or misleading information in relation to the failure led to the issue of BidCarbon removal units, the Working Body may require all or some of those units to be relinquished under section 76 of the Carbon Farming Standard.

Part 6—Dividing an PyCCS project

118. Operation of this Part

For subsection 65 (2) of the Carbon Farming Standard, this Part sets out requirements for dividing an PyCCS project that is an eligible offsets project.

119. Requirements for division of project

(1) The project may only be divided into parts if the project consists of 2 or more AWT facility.

(2) If an PyCCS project is divided into parts, each part must consist of at least one source separation activity and sustainable intensification.

Part 7—The requirements for data quality

120. Operation of this Part

Carbon Farming Standard for Waste and Resource Recovery Data and Reporting

(1) The data custodians must provide data to the Accredited Data Service Providers in a consistent and reliable manner in accordance with the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

Note : The Carbon Farming Standard for Waste and Resource Recovery Data and Reporting website was https://www.bidcarbon.org/methods-bcm001

Soil pH testing

(2) The following methods can be used two methods for pH determination:

Laboratory testing of pH

(a) It is imperative that the pH-H2O, pH-KCl and pH-CaCl2 methods for pH determination comply with the following requirements:

(i) The standard operating procedure for soil pH determination, as published by the Food and Agriculture Organization of the United Nations, must be adhered to; and

Note : The standard operating procedure for soil pH determination website was https://openknowledge.fao.org/server/api/core/bitstreams/6ad6862a-eadc-437c-b359-ef14cb687222/content

(ii) the requirements set out in Division 2 of Schedule 1 must be met.

Hand-held pH probe

(b) The manufacturer of the hand-held pH probe must be accredited by an ILAC Accredited laboratories, inspection bodies, proficiency testing providers and reference material producers issue calibration, testing, inspection, proficiency testing programmes or reference material certificates/reports; and

Note : The ILAC Accredited Laboratory or Inspection Body website was https://ilac.org/signatory-search/

(c) The Part D of the Supplement must be adhered to; and

(d) the requirements set out in Division 2 of Schedule 1 must be met.

Framework by capability

(3) An Accredited Data Service Provider must be used if the project involves complex data integration.

(4) Accredited Data Service Providers are required to follow the BidCarbon Project Services (BPS) Data Capability Framework Level 2 or Level 3 in their digital design of Part 5.

Note : The BPS Data Capability Framework website was https://www.bidcarbon.com/

Application for a confidentiality claim

(5) In the event that a data custodians believes that the release of data may identify them, they are entitled to submit a confidentiality claim. This is a request for an investigation to be conducted into the identifiability of the data in question. To submit a request or claim, please download the Confidentiality Request Form from the 'Claim' section of this Accredited Data Service Providers website.

User satisfaction surveys

(6) The user satisfaction surveys required in Subdivision B of Division 3 of Part 5 are part of the BidCarbon Data Quality Framework and must be accessed by telephone to the order recipient in the order management system in accordance with the Improving Respondent Cooperation for Telephone Surveys Methodology.

Note : The Improving Respondent Cooperation for Telephone Surveys website was https://publications.gc.ca/collections/collection_2011/tpsgc-pwgsc/P103-2-2007-eng.pdf

121. Units lifecycle

BidCarbon removal units will become public records 100 years from the date of issuance.

122. Data agreements

The charity and data custodians collaborated with stakeholders to develop a Multilateral Data Sharing Agreement (MDSA) that adopts and implements the Carbon Audit Agreement on data sharing. This streamlines the process for data custodians and simplifies linking new datasets and data reuse. The MDSA supports the development of the Carbon Data Asset (BDA) and the create of carbon data rights certificates.

123. Quality declarations

(1) Accredited Data Service Providers are required to develop a ***Quality Declarations*** in accordance with the requirements of Part 5 and the BidCarbon Data Quality Framework.

(2) Data quality declarations must contain the following quality latitudes:

(a) institutional environment/context;

(b) relevance;

(c) timeliness;

(d) accuracy;

(e) coherence;

(f) interpretability;

(g) accessibility.

Note : The BidCarbon Data Quality Framework website was https://www.bidcarbon.org/data-quality-framework

(3) The format of the quality declaration issued by the Statistical Committee of the Republic of Armenia must be adopted for the following fields:

(a) Agriculture, forestry, fishing and food security;

(b) Environment and energy.

Note : The Statistical Committee of the Republic of Armenia website was https://www.armstat.am/en/?nid=545

124. The measurement or quantity of AQS biochar

(1) The ***Average Quantity System*** (AQS) confirms the measurement or quantity of AQS biochar being sold by measure (weight, volume, length, area or number).

(2) AQS is based on recommendations developed by the OIML (OIML R 79 Labelling Requirements in Pre-packages and OIML R 87 Quantity of Product in Pre-packages).

Note 1: The OIML R 79 Labelling Requirements in Pre-packages website was https://www.OIML.org/en/files/pdf_r/r079-e97.pdf/view

Note 2: The OIML R 87 Quantity of Product in Pre-packages website was https://www.OIML.org/en/files/pdf_r/r087-e04.pdf/view

Labelling requirements

(3) The legislation does not allow a shortfall for 'desiccating' AQS biochar.

(4) The following requirements are met to ensure that the off-taker receives the correct information:

(1) The labelling requirements are detailed in the metrological laws enacted in the country where the sale takes place; and

(2) Part 3 of the Biochar Trade Requirements.

(5) All AQS biochar for sale must be marked with the net measurement (i.e. the weight of the contents without the packaging).

125. Weight or measure of biochar product deemed to be in accordance with stated quantity

(1) The weight or measure of the biochar product in the packaging shall fulfil section 1.41 of the Biochar Trade Requirements.

(2) However, the weight or measure of the biochar product in the package is deemed to be the same as that stated on the package or label if—

(a) the package meets the conditions prescribed by requirements made under paragraph 127 (1) (a); or

(b) the package is 1 package in a lot of packages that meets the conditions prescribed by requirements made under paragraph 127 (1) (b).

126. Earthworm survival rate

A sample of biochar types must be tested for toxicity once per year through Appendix C of the BidCarbon Standard Biochar for Soils.

127. Requirements for purposes of section 125

(1) The methodology may from time to time, on the recommendation of the Biochar Trade Requirements, make requirements for the purposes of section 125:

(a) prescribing the conditions that a package must meet in order for the weight or measure of the biochar product in the package to be deemed to be the same as that stated on the package or on a label attached to the package; or

(b) prescribing the conditions that a lot of packages must meet in order for the weight or measure of the biochar product in each package in the lot to be deemed to be the same as that stated on any package in the lot or on a label attached to any package in the lot.

(2) Requirements made under subsection (1) may, for the purposes of determining the conditions to be prescribed:

(a) prescribe:

(i) the statistical basis or method by which packages must be selected for counting, examining, measuring, or weighing; and

(ii) the statistical basis or method by which the minimum number of packages to be selected must be set; and

(iii) the circumstances, if any, in which the minimum number of packages to be selected may be varied; and

(b) prescribe the maximum amount of error allowed in the weight or measure of biochar product in a single selected package; and

(c) prescribe the maximum amount of error allowed in the weight or measure of biochar product in a group of selected packages examined at one time; and

(d) prescribe formulas to determine the weight or measure, and weighted values, of biochar product in a group of selected packages taken from a lot of packages. The formulas must be of such a kind as to ensure that all the packages in the lot of packages from which the group is taken contain, on average, the amount stated on any package in the lot or on any label attached to a package in the lot; and

(e) prescribe the number of packages that makes a group of packages for the purposes of paragraphs (c) and (d). The number may be a specified number or a number within a range of numbers.

128. Weighing instruments used in accredited AWT facility

(1) In this methodology, ***overseas weights and measures authority*** means a weights and measures authority of a country that is a full member of the OIML.

(2) Subsection (3) applies where the Working Body is satisfied—

(a) that the type, material and design of any weight, measure, or weighing or measuring instrument is approved by an overseas weights and measures authority, and that the instrument complies with the Biochar Trade Requirements; and

(b) that the overseas weights and measures authority, in giving that approval, acted in conformity with the International Recommendations of the OIML.

(3) The Working Body must approve a type of weight, measure, or weighing or measuring instrument if it is satisfied that:

(a) complies with the monitoring requirements of these methodology; and

(b) is suitable for use for trade; and

(c) will not facilitate fraud.

(4) The Working Body has approved that type of weight, measure, or weighing or measuring instrument under subsection (3), no further inquiry or testing is required.

(5) For the purpose of deciding under subsection (3) whether a type of weight, measure, or weighing or measuring instrument is suitable for use for trade and will not facilitate fraud, the Working Body may have regard to the International Recommendations of the OIML

(6) For the purposes of subsection (2), the fact that a weight, measure, or weighing or measuring instrument bears a mark of approval from an overseas weights and measures authority is sufficient evidence that it has been approved by that authority.

(7) A person must not use, or have in that person's possession for use, in any accredited AWT facility, any weighing instrument that does not indicate and record only the true weight of the biochar product being weighed.

(8) Calibration must be done with weights that are consistent with APMP.M.M-K6.1.

Note 1: The APMP.M.M-K6.1 website was https://www.apmpweb.org/

Note 2: The 50 kg stainless steel mass standard website was https://www.bipm.org/documents/20126/48150887/APMP.M.M-K6.1.pdf/ae20a250-cdb7-2dd7-e584-0b0aafc2c7ae

129. Develop a data inventory

Accredited Data Service Providers meet Part 5 requirements in accordance with the Guide to developing a data inventory.

Note : The guide helps PyCCS project identify project data holdings and maintain data inventories. The guide outlines six steps for developing, enhancing, or maintaining a project's data inventory. The Guide to developing a data inventory website was https://www.bidcarbon.com/

130. Pyrometer calibration

If used properly, pyrometer can be used to measure flame temperatures of small-scale technology units and it is recommended that pyrometer calibration be performed in accordance with Appendix II of the Cookstove Durability Protocol published by the Clean Cooking Alliance.

Note : The Cookstove Durability Protocol is on the website: https://cleancooking.org/binary-data/DOCUMENT/file/000/000/89-1.pdf

Schedule 1—Measurement-only approach to soil pH

Division 1—Preliminary

1. Simplified outline of this Schedule 1

This Schedule 1 provides a definitive method for calculating the change in soil pH between reporting periods for a carbon estimation area of a PyCCS project, using a measurement-only approach.

To determine this amount using a measurement-only approach, samples of soil must be collected and analysed in accordance with the requirements of Division 2 of this Schedule 1 and the Supplement.

In accordance with Divisions 2 of this Schedule 1, the sampling, analysis and calculations of this Schedule 1 need to be done separately for the upper soil layer (first 30 centimetres) and the entire soil profile (0-x centimetres).

2. Definitions

In this methodology:
0–30 cm layer of soil, means the soil layer measured from the soil surface to a soil depth of 30 centimetres.
0–x cm layer of soil, means the soil layer measured from the soil surface to a soil depth greater than 30 centimetres referred to as *x*.
30–x cm layer of soil, means the soil layer measured from the lower end of the 0-30 cm layer of the soil to the lower end of the 0-*x* cm layer of the soil.
composite sample—see paragraph 3 (1) (b) of this Schedule 1.
fine earth means soil material having a particle size ≤ 2 mm.
gravel means soil material having a particle size > 2 mm.
layer means a 0-30 cm layer, 30-*x* cm layer or a 0-*x* cm layer.
sample—see section 3 of this Schedule 1.
stratum means an area in a carbon estimation area.
sub-layer means a depth of soil within a layer that is less than the layer.
subsoil means a depth of below 10 centimetres.
surface soil means a depth of 0-10 centimetres.
whole soil means all material contained within a soil layer including gravel and fine earth.

3. What is a sample?

(1) In this Schedule 1 a ***sample*** may be:
  (a) an individual sample taken from a particular location; or
  (b) a composite sample (***composite sample***) which combines samples taken from a number of locations into a single sample consistent with any requirements in the Supplement.

(2) A sample shall be obtained and analysed in consistent with the requirements of section 8 of this Schedule 1.

Division 2—Operation of a PyCCS project using a measurement-only approach under this Schedule 1

4. Steps involved in accounting for a PyCCS project

(1) For each area of land included as part of a project area for a PyCCS project, the land must be mapped according to section 5 of this Schedule 1.

(2) The following must occur, for each carbon estimation area:

(a) a ***soil pH sampling round*** must be conducted for each carbon estimation area within the carbon estimation area:

(i) if the land is included in the project area when the section 27 declaration of the project is made—before the end of the first reporting period for the project; or

(ii) if the land is included in the project area as the result of a section 29 application for the project—before the end of the first reporting period for the project during which the land is included in the project area; and

(b) at least one subsequent sampling round must occur not later than every 5 years or more frequently after the previous sampling round for each carbon estimation area for the duration of the crediting period for the project.

Note : Sampling is not conducted on exclusion areas or emissions accounting areas.

(3) A subsequent sampling round is not required to be conducted for a carbon estimation area of a transferring project during the reporting period for which the project proponent may submit a transitional offsets report for the project.

(4) In this section, ***transitional offsets report*** means defined as a report submitted under section 52.A of the BidCarbon (Carbon Farming) Specifications.

(5) For each sampling round conducted for a carbon estimation area, the carbon estimation area must be divided into strata consistent with any requirements in the Supplement.

(6) Unless the Working Body agrees in writing that exceptional circumstances exist, a sampling round must meet any timing requirements specified in the Supplement.

Note : Exceptional circumstances may include poor weather conditions that inhibit site access or where the soil moisture is unsuitable for sampling at the planned time.

5. Carbon estimation areas (CEAs), exclusion areas and emissions accounting areas

(1) The project proponent must map land within a project area for the project into one or more ***carbon estimation areas*** (CEAs) such that:

(a) all the land in each carbon estimation area:

(i) is eligible land; and

(ii) is subject to the carrying out or maintenance of at least one project management activity until the end of the permanence obligation period for the project; and

(iii) is within a single State or Territory; and

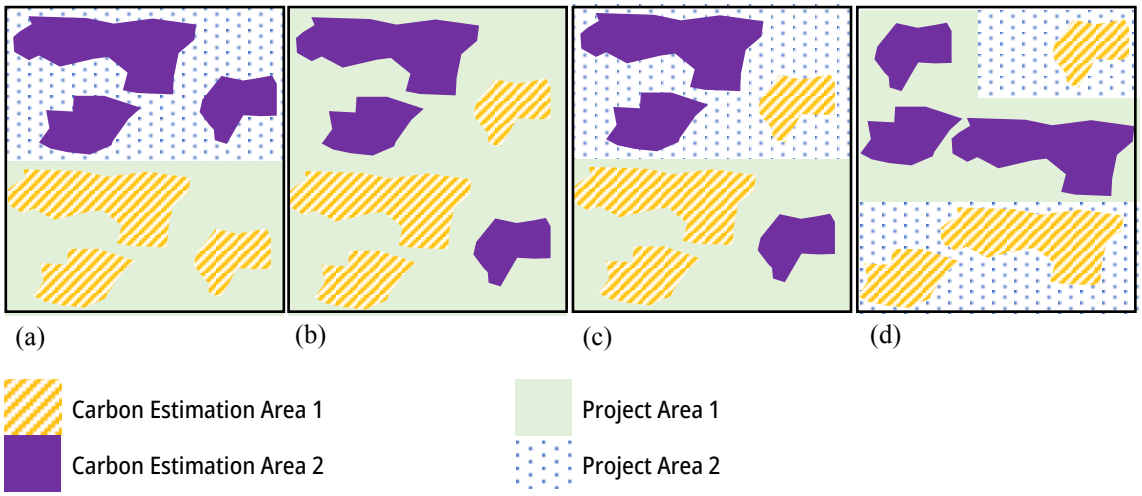
(iv) has identical responsible landholders; and

(b) the mapping is completed, and provided to the Working Body as required by the Supplement, prior to each soil pH sampling round for each carbon estimation area.

(2) The project proponent may map non-contiguous parts of a project area as a single carbon estimation area, where the furthest boundaries of non-contiguous areas do not exceed 10

kilometres in distance from each other within a singular carbon estimation area. Figure 1 includes two examples of carbon estimation area distributions which would be allowed (figure 1 (a&b)), and two examples of carbon estimation area distributions which would not be allowed (figure 1(c&d)).

Figure 1: Examples of the relationship between project areas and carbon estimation areas.



Note : In all examples carbon estimation area 1 and carbon estimation area 2 are made up of three non-contiguous parts: (a) shows each carbon estimation area is contained entirely within a contiguous project area; (b) shows two carbon estimation areas contained within 1 project area; (c) shows both carbon estimation areas have area across 2 project areas; (d) shows each carbon estimation area is contained entirely within a contiguous project area however, the project areas are non-contiguous.

(3) The boundaries of a carbon estimation area may be revised only to merge and split existing carbon estimation areas in accordance with requirements in the Supplement.

(4) The project proponent must not remove project areas which would remove part of a carbon estimation area, unless such removal is provided for in, and meets the requirements of, the Supplement.

(5) The project proponent may map other land within the project area for the project into one or more ***exclusion areas*** such that:

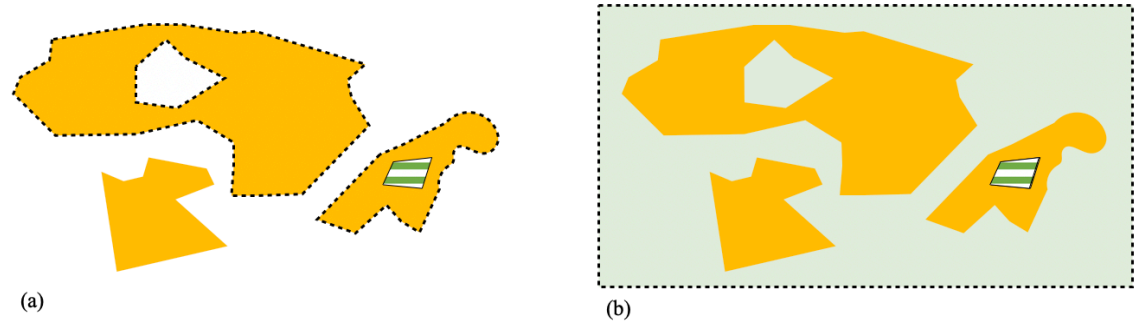
(a) no sustainable intensification or agricultural activities are to be conducted in the area; and

(b) none of the land is included in a carbon estimation area.

Note : Exclusion areas would generally be forests, dwellings, roads, dams or other infrastructure.

(6) Any part of the project area which is neither a carbon estimation area nor an exclusion area is an ***emissions accounting area.*** It is recommended where possible, to define your project areas as closely as possible to your carbon estimation areas (see figure 2(a)). project areas may be defined broadly, however, the area in which your emissions are accounted for (carbon estimation areas + emissions accounting areas) would be much larger (figure 2(b)).

Figure 2: Examples of the relationship between a project area, carbon estimation area exclusion zones and emissions accounting areas.



Note 1: Examples of the relationship between a project area, carbon estimation area, exclusion zones and emissions accounting areas with different strategies of defining project areas. (a) Defines the project area to closely match the carbon estimation areas; (b) defines the project area more broadly.

Note 2: The economy of agriculture under forests within the carbon estimation area within the emissions accounting area, where AQS biochar is applied for soil acidity management due to development needs, can be included in the calculation of the net abatement amount.

Note 3: emissions accounting areas are likely to include agricultural land which is not suitable or conducive to sampling (such as rocky outcrops) and densely forested land where project management activities are not applied.

(7) Subsections (8), (9) and (10) apply to a carbon estimation area that:
- (a) has been mapped in accordance with this section; and
- (b) includes land that is not eligible, or has ceased to be eligible, because it does not satisfy paragraph 18 (1) (b) of this methodology; and
- (c) has not been removed from the project area of the project.

(8) Despite subparagraph (1) (a) (i), ineligible land may remain in a carbon estimation area if:
- (a) less than the smaller of 1% or 5 hectares of the area of the carbon estimation area is covered by dwellings or other structures; or
- (b) the Working Body determines, in accordance with subsection (10), that the land can continue to remain in the carbon estimation area.

(9) If subsection (8) does not apply, land in carbon estimation areas that is ineligible land must be removed from the project area.

(10) The Working Body may determine that land can continue to be mapped as a carbon estimation area if:
- (a) the Working Body has consulted with the project proponent about making such a determination; and
- (b) the continued mapping of the carbon estimation area is unlikely to result in the crediting of non-genuine carbon abatement; and
- (c) the Working Body considers that the continued mapping of the carbon estimation area is appropriate, having regard to all the circumstances.

(11) Subsection (12) applies to a carbon estimation area that:
- (a) has been mapped in accordance with this section; and
- (b) includes land that is not eligible, or has ceased to be eligible, because it does not satisfy paragraph 18 (2) (a) of this methodology.

(12) The project proponent must remove the carbon estimation area from the project area.

(13) The mapping of each carbon estimation area, exclusion area or emissions accounting area must be done in accordance with the Supplement.

6. Sampling design

(1) Each sampling round must involve, consistent with any requirements in the Supplement:
  (a) the division of each carbon estimation area into at least three strata; and
  (b) taking at least three samples in each stratum.

(2) The sampling design must meet any requirements included in the Supplement.

(3) For each sampling round, the project proponent must submit to the Working Body, prior to undertaking any sampling, a sampling plan for each carbon estimation area meeting any requirements included in subsection 118 (2) and the Supplement.

7. Soil pH sampling

(1) The nominated soil depth for a carbon estimation area:
  (a) must be a surface soil; and
  (b) the subsoil must meet the requirements set out in the Supplement.
  (c) must be consistent across the carbon estimation area.

(2) The sampling undertaken must:
  (a) aim to achieve:
    (i) for a sampling round after the soil pH sampling round, the equivalent soil mass for the carbon estimation area as used for the previous sampling round; and
    (ii) the depth of soil disturbed by management activities plus 10 centimetres; and
    (iii) depths consistent with the requirements in the Supplement; and
  (b) if the sampling undertaken achieves a depth greater than 10 centimetres—obtain and analyse separate information for the 0–10 cm layer of the soil and the soil at depth greater than 10 centimetres (which may include sub-layer analysis); and
  (c) be undertaken by an independent person who:
    (i) has experience in the collection of soil pH samples; and
    (ii) has a good understanding of the sampling requirements of this methodology and the Supplement; and
    (iii) has no financial interest in the PyCCS project; and
    (iv) has failed to prepare or review a sustainable intensification strategy as required by subsection 44 (1); and
    (v) meets any requirements included in subsection 120 (2) and the Supplement; and

  Note 1: Being paid to undertake the sampling would not involve a breach of subparagraph (iii).

  Note 2: See also the requirement in paragraph 87 (4) (j) for the offsets report to include a written statement from the independent person.

  (d) take into account any recommendations in the Supplement; and
  (e) meet any requirements included in subsection 120 (2) and the Supplement.

8. Sample analysis

(1) The preparation of a soil pH sample and analysis of the soil pH sample must:
  (a) meet any requirements included in subsection 120 (2) and the Supplement; and
  (b) take into account any recommendations in subsection 120 (2) and the Supplement.

(2) The preparation of a soil pH sample must be undertaken by an independent person who meets the requirements set out in subparagraphs 7 (2) (c) (ii) to (iv) of this Schedule 1.

Note : Being paid to undertake sampling preparation would not involve a breach of subsection (2).

Schedule 2—Average quantity system (AQS) requirements

1. Simplified outline of this Schedule 2

The AQS applies a tolerance to the sample known as a '***tolerable shortfall***'. This is stated in section 3 of this Schedule 2 and is dependent on the actual net contents of the package under test. Packages are permitted to be equal to, or greater than, the stated quantity minus the tolerable shortfall specified in the requirements.

2. Sampling

(1) For the purposes of section 125 of this methodology, the weight or measure of the biochar product in a package is deemed to be the same as that stated on the package or label attached to the package if the package is one package in a lot of packages—
  (a) for which a sample has been selected under section 4 of this Schedule 2; and
  (b) the weighted average quantity of the packages in that sample is equal to, or greater than, the weight or measure of biochar product stated on the package or label; and
  (c) the number of non-standard packages in that sample is equal to, or less than, the number of non-standard packages permitted for the sample as determined in accordance with subsection (2); and
  (d) that sample contains no inadequate packages.

(2) The number of non-standard packages permitted for the sample,—
  (a) in the case of the minimum sample size being selected, is as set out in column 4 of table 2 of Schedule 2 of the Biochar Trade Requirements for the number of packages in the lot of packages as set out in column 1 of that table; or
  (b) in the case of more than the minimum sample size being selected, is as set out in column 2 of table 4 of Schedule 2 of the Biochar Trade Requirements for the sample size as set out in column 1 of that table.

3. Non-standard package

For the purposes of these methodology, a package is a non-standard package if it is a biochar product that contains less than the quantity stated on the AQS biochar or a label attached to it and the shortfall,—

(1) for quantities stated by mass or volume, is more than the amount of error set out in column 2 or column 3 of table 1 of Schedule 2 of the Biochar Trade Requirements, as appropriate, for the quantity stated on the package or on the label as set out in column 1 of that table, but not more than twice that specified amount of error; or

(2) for quantities stated by length, width, area, or number, is more than the amount of error set out in column 2 of table 3 of Schedule 2 of the Biochar Trade Requirements for the quantity type stated on the package or on the label as set out in column 1 of that table, but not more than twice that specified amount of error.

4. Inadequate package

For the purposes of these methodology, a package is an inadequate package if it is a package enclosing goods that contains less than the quantity stated on the package or a label attached to it and the shortfall,—

(1) for quantities stated by mass or volume, is more than twice the amount of error set out in column 2 or column 3 of table 2 of the Biochar Trade Requirements, as appropriate, for the quantity stated on the package or on the label as set out in column 1 of that table; or

(2) for quantities stated by length, width, area, or number, is more than twice the amount of error set out in column 2 of table 3 of the Biochar Trade Requirements for the quantity type stated on the package or on the label as set out in column 1 of that table.

5. Selection of sample

The sample must be in accordance with section 1.44 of the Biochar Trade Requirements.

6. Weighted average quantity

The weighted average quantity of packages by an accredited AWT facility during a reporting period in a sample must be determined in accordance with section 6.4 of the Sampling and Test Procedures for Prepackaged Products.

7. Shortfall

If a package is sampled and tested in line with subsection 3(2) of the Sampling and Test Procedures for Prepackaged Products and a ***shortfall*** is identified when the measured quantity of the package contents is less than the declared quantity shown on the packaging, it is a failure of a group of packages of the same kind.

Schedule 3—Value and costing of data asset development

1. Simplified outline of this Schedule 3

(5) All own-account production of data is considered as capital formation, and should be valued at the sum of costs.

(6) When valuing data assets using the cost approach, it is generally based on the ***replacement cost*** of the data assets (includes initial costs, direct costs, indirect costs, opportunity costs and relevant taxes).

(7) The value of the asset is determined by taking into account value adjustment factors such as inflation and depreciation.

(8) All materials purchased during a year must either leave the company as a product, as waste or emission or are stored on site.

2. Definitions

In this Schedule 3:

data asset has the meaning given by the Guide to developing a data inventory.

waste means a material which has been purchased and paid for but which has not been turned into a marketable product, the costs of wasted materials, capital and labour have to be added to arrive at total corporate environmental costs and a sound basis for further calculations and decisions.

materials include water and energy.

replacement cost has the meaning given by subsection 1(2) of this Schedule 3.

organic waste has the same meaning as in the Carbon Farming Standard for Waste and Resource Recovery Data and Reporting.

PyCCS project has the meaning given by section 5 of this methodology.

non-product output means as scrap, losses, waste and emissions.

material flow balance means an equation based on “what comes in must go out - or be stored”. In a material flow balance information on both the materials used and the resulting amounts of product, waste and emissions are stated.

Note 1: Personnel costs are not considered in a ***material flow balance***.

Note 2: All items (materials always comprising materials, water and energy input) are measured in physical units in terms of mass (kg, t), litres or energy (MJ, kWh).

Note 3: The purchased input is cross-checked with the amounts produced and sold as well as the resulting waste and emissions.

3. Replacement cost of data assets for the reporting period - Example template

Use the following formula (***equation SC1***) to calculate the value of each BidCarbon removal units for the reporting period:

$$\mathrm{UC} = \mathrm{SC_f} \div \mathrm{A}$$

where:

UC means the value of each BidCarbon removal unit for that reporting period.

SC_f means the sequestration value for an accredited AWT facility (f) during the reporting period, worked out using equation SC2.

A means the carbon dioxide equivalent net abatement amount for the reporting period, in tonnes CO_2-e, see section 50.

4. Sequestration value for the reporting period.

The sequestration value for the reporting period shall be calculated using the following formula (***equation SC2***):

$$SC_f = \text{Sequestration value}$$

where:

SC_f means the sequestration value for an accredited AWT facility (f) during the reporting period.

$\text{Sequestration value}$ means the replacement cost for an accredited AWT facility during the reporting period, see section 5 of this Schedule 3.

5. Cost-categories-oriented format

The following sample table demonstrates replacement cost accounting for the sequestration value of a carbon data asset—the PyCCS project.

Cost-categories-oriented format

Item	Cost-categories-oriented format	To do	Shown under item
1	Turnover/net sales	Determine actual quantities produced, sales figures, loss in storage, spoilage, returns etc. Establish actual product output and loss of products between production and sales	Items 1.4, 3, 4 of the table in sections 6 and 7 of this Schedule 3.
2	- Change in inventory	The quantities of non-product output between finished goods storage and sales department are posted at their material values (3), pro-rata production costs (4) and disposal costs (1.4)	
3	- Work performed and capitalized	May be relevant for production costs of in-house facilities for the removal, treatment and prevention of wastes and emissions	Items 1.1, 2.3 of the table in sections 6 and 7 of this Schedule 3.
4	Other operating income	Revenue from subsidies, grants and sales of non-product output	Item 5 of the table in sections 6 and 7 of this Schedule 3.

5	- Materials	Determine share of non-product output of raw, auxiliary and operating materials and assess at material purchase costs; Energy and water supply costs should also be shown in this category, but are often posted under “other operating expenditure”	Item 3 of the table in sections 6 and 7 of this Schedule 3.
6	- Services (other external costs)	External services for maintenance of treatment facilities and cleaner technologies, general environment research and consultancy services, auditors, seminars, external information and communication etc. are scattered across a variety of accounts	Items 1.3, 2.1 of the table in sections 6 and 7 of this Schedule 3.
7	- Personnel expenses	Determine work hours of staff in emission treatment facilities, cleaner technologies, general environmental management activities and labour pro rata cost for non-product output in the various phases of processing. Assessment is not derived from expense accounts of bookkeeping unit but according to work hour rates as established by the internal calculation procedures.	Items 1.3, 2.2, 4 of the table in sections 6 and 7 of this Schedule 3.
8	- Depreciation	Define waste and emission treatment equipment. Search cleaner technologies and determine if they have been significantly more expensive in relation to state of the art; Determine related pro rata production costs and pro rata administrative costs for non-product output	Items 1.1, 2.3, 4 of the table in sections 6 and 7 of this Schedule 3.
9	- Other operating expenses	Transport expenditure for wastes, disposal and collection fees, licenses, printing costs for environmental reporting, registration fees, eco-sponsoring, penalties, insurance premiums, provisions etc. are scattered across a variety of accounts. The checklists included in the annex are designed to assist the user in tracing and assessing costs; Also purchases of power, fuel and water can sometimes be found in this category, even though they belong under “materials”	Items 1.4, 1.5, 1.6, 1.7, 2.3 and 2.4 of the table in sections 6 and 7 of this Schedule 3.
10	- Other taxes	Environmental taxes, disposal and connection fees should be posted under this item	Item 1.4 of the table in sections 6 and 7 of this Schedule 3.

6. Checklists — Organic waste

Organic waste

Item	Environmental cost/expenditure category
1	**Waste and emission treatment**
1.1	**Depreciation for related equipment**
	Plants for waste separation, i.e., waste separation system, collection containers
	Investments in waste separation sites and their construction, i.e., caption tank, mesh collection boxes, receptacles, labeling, construction costs for waste collection points
	Plants for waste treatment, i.e., chemical and physical treatment plants, disinfection plants
	Drying plants for damp waste
	Biochar production systems
	Transport systems, i.e., proportionate depreciation for trucks, tractors, stacks for collection and disposal, including safety equipment
1.2	**Maintenance and operating materials and services**
	Operating materials and energy for plant in accordance with 1.1, continual operation to conduct inspections, maintenance servicing, and repairs
	Maintenance services provided externally
	External analysis and metrics costs
	External testing costs, control and monitoring costs
	Transport costs for vehicles, i.e. for delivery of waste to AWT facility or to be recycled
	Rent for waste collection containers and separation systems
1.3	**Personnel**
	Waste administrator
	Cleaning of waste collection locations
	Internal handling of waste such as, i.e., collection, compaction, drying, internal waste transport
	Internal analysis and metrics costs
	Internal testing, control and monitoring costs
	Self delivery of waste to AWT facility or to recycling
	Corporate training of waste separation and prevention

	Compliance with waste regulations and corporate specific requirements, i.e., creation of economic waste prevention plans
	Filing and record keeping for waste disposal
1.4	**Fees, taxes, charges**
	Disposal cost of organic waste including weighing charges, container rental, container destruction, etc.
	Waste disposal fees and charges (public waste disposal)
	Recycling costs for organic waste.
	Taxes for waste and clean-up of contaminated sites (as exists)
	Charges for municipal permits reporting waste management
	Payment of the various registration charges (includes charges paid to the registered charity)
1.5	**Fines and penalties**
	For neglecting to comply with waste-related regulations regarding separation, monitoring, transport and disposal
1.6	**Insurance for environmental liabilities**
	Insurance against the risk of accidents during transportation of waste
1.7	**Provisions for clean-up costs, remediation, etc.**
	Provisions for waste removal and recycling obligations
	Provisions for adaptation of eligible waste treatment technology to state-of-the-art technologies
	Greenhouse gas emission offsets
2	**Prevention and environmental management**
2.1	**External services for environmental management**
	Legal aid and external consultancy in the area of waste management
	Costs for training, literature and information materials, etc.
2.2	**Personnel for general environmental management activities**
	Meetings of the management committee, departmental managers, other employees and the environmental team reporting related environmental issues
	Continual or occasional control measures, internal audits
	Notification, reporting, monitoring/testing, studies/modeling, record keeping, inspections
	Waste-related administration processes, announcements and inquiries

	Internal and external education and training, including travel costs
	Emergency response planning and training with regard to emission
2.3	**Extra expenditure for pyrolysis technology**
	Provision for the adaptation of pyrolysis units in line with state-of-the-art technologies
2.4	**Extra expenditure for cleaner technologies**
	Additional costs in comparison to state-of-the-art technologies, in particular wastewater prevention processes
2.5	**Other environmental management costs**
	Costs for environmental advertisement and communication
	Costs for support of local community environmental activities, such as providing funds, seminars and information
3	**Material purchase value of non-product output**
3.1	**Raw materials**
	Material purchase value of raw materials ending up in waste
3.2	**Packaging**
	Material purchase value of packaging
3.3	**Auxiliary materials**
	Material purchase value of auxiliary materials ending up in waste
3.4	**Operating materials**
	Material purchase value of operating materials ending up in waste, as long as it is not already contained in 1.2
4	**Processing costs of non-product output**
	Manufacturing cost surcharge in accordance with treatment depth for personnel, depreciation, and operating materials of the non-product output
	∑ Environmental Expenditure
5	**Environmental revenues**
5.1	**Subsidies, awards**
	Construction costs and financing subsidies for AWT facility
	Awards for optimal waste management
5.2	**Other earnings**
	Earnings from the sales of by-products (biochar, bio-oil, etc.)

7. Checklists — Soil and groundwater

Soil and groundwater

Item	Environmental cost/expenditure category
1	**Waste and emission treatment**
1.1	**Depreciation for related equipment**
	Processes for the treatment of soil contamination
	Recultivation of land
	Reforestation measures
	Landscape design for industrial plants, power stations, etc.
	Protection measures for in-house disposal sites
1.2	**Maintenance and operating materials and services**
	Equipment for the processing of waste
	Operating materials and energy for the plants in accordance with 1.1, continual operation and for the conduction of inspections, maintenance servicing and repairs
	Maintenance services provided externally
	External analysis and metrics costs
	External testing costs, control and monitoring costs
1.3	**Personnel**
	Internal analysis and metrics costs
	Internal testing costs, control and monitoring costs
	Training for treatment and prevention
	Compliance with laws and specified corporate requirements
	Compliance with documentation and notification obligations
1.4	**Fees, taxes, charges**
1.5	**Fines and penalties**
1.6	**Insurance for environmental liabilities**
1.7	**Provisions for clean-up costs, remediation, etc.**
	Provisions for reforestation and recultivation
	Provisions for the clean-up of disposal sites and contaminated land
	Greenhouse gas emission offsets

2	**Prevention and environmental management**
2.1	**External services for environmental management**
	Legal aid and external consultancy
	Cost of training, literature and information materials, etc.
2.2	**Personnel for general environmental management activities**
	Meetings of the management committee, departmental managers, other employees and the environmental team reporting related environmental issues
	Notification, reporting, monitoring/testing, studies/modeling, record keeping, inspections
	Continual or occasional control measures, internal audits
	Administrative processes, announcements and inquiries
	Internal and external education and training including travel costs
2.3	**Research and development**
	Research, development and trailing costs for prevention measures
2.4	**Extra expenditure for cleaner technologies**
	Additional costs in comparison to state-of-the-art technologies specially dealing with the prevention of contaminated land
2.5	**Other environmental management costs**
	∑ Environmental Expenditure
3	**Environmental revenues**
3.1	**Subsidies, awards**
3.2	**Other earnings**
	∑ Environmental Revenues

8. Material flow balance on corporate level

(1) The basis of agroecology performance improvements is the recording of material flows in kilograms by an input-output analysis. The system boundaries can be on the corporate level, or further split up to sites, cost centres, processes and product levels.

(2) The input-output balance at the corporate level is drawn up on an annual or a monthly basis and is linked to the bookkeeping, cost-accounting, storage and purchase systems. All material flows should be listed with their values and amounts per year. The roll-over scheme for the material flow balance should therefore record the amounts in kilograms, the values and the corresponding accounts. In addition, it should indicate whether materials are registered by material stock number and whether there is inventory management. It should also indicate whether there is consumption based stock withdrawal according to cost centres. As the first step in setting up the materials input-output statement at the corporate level, quantitative data are collected from the accounting and stock-keeping systems. The accounting system offers annual data on input into the company as a whole, as well as some of the output (if it is paid for).

Tracking matrix for material flow balances

Item	Cost/expenditure categories	Amount in kg,, KWh, l	Purchase value	Account number	Material stock number	Stock-keeping	Production planning system	Direct costs	Overhead	Assigned to cost centre	Other records/measurements	Calculation/estimates
1	Raw materials	•	•	•	•	•	•	•		•	•	
2	Auxiliary materials	•	•	•	•	•	•	•		•	•	
3	Packaging	•	•	•	•	•	•	•		•	•	
4	Operating materials	•	•	•	•				•	•	•	
5	Energy	•	•	•					•	•	•	
6	Water	•	•	•					•		•	
7	Product	•	•	•							•	
8	Waste	•		•					•	•	•	
9	Wastewater	•		•					•		•	•
10	Air emissions	•							•		•	•