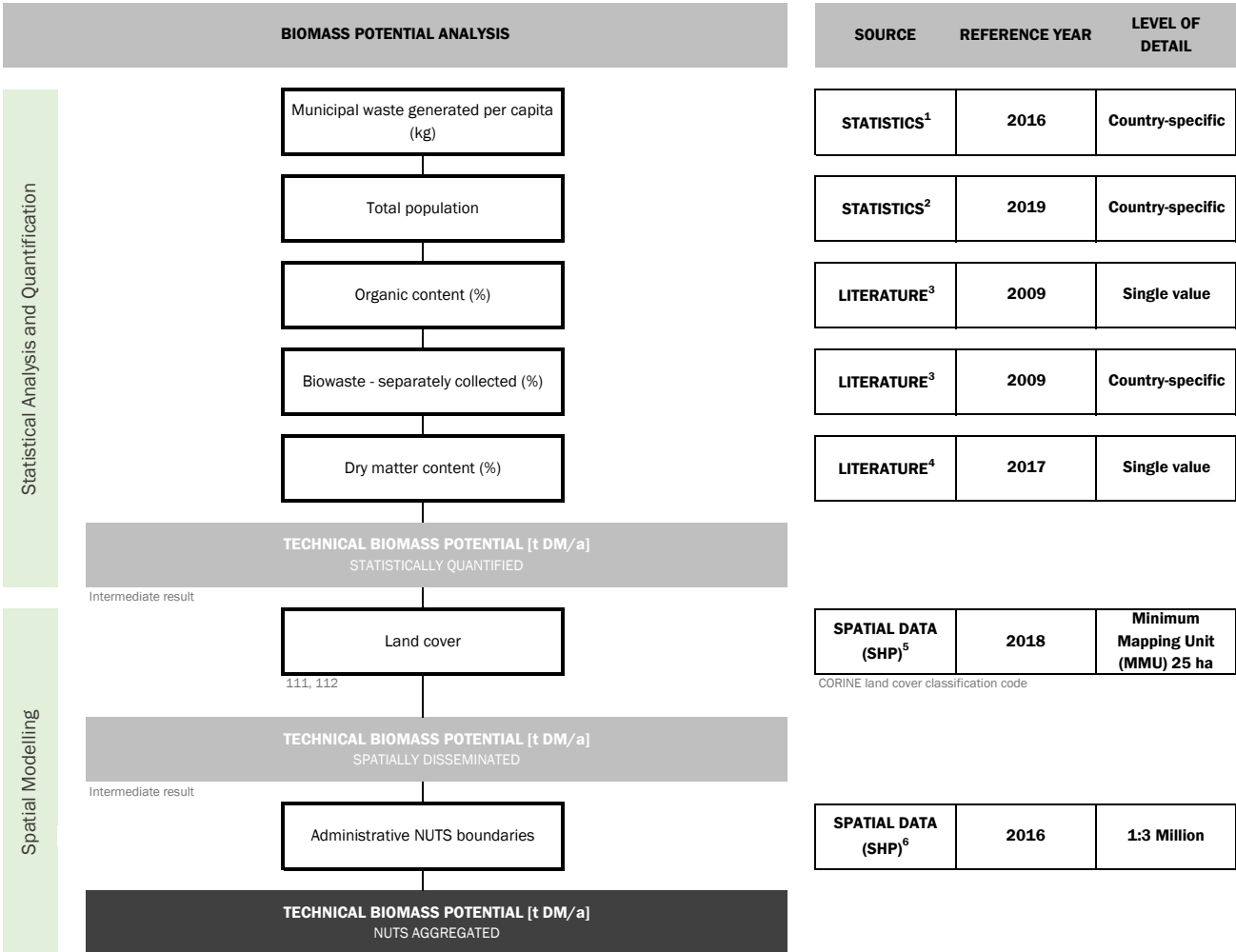


Quantification of European Biomass Potentials

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BIOMASS..... Biowaste - separately collected
 CODE..... BIO
 RAW MATERIAL..... Food and plants
 DEFINITION..... Biowaste that is separately collected by the refuse collection
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

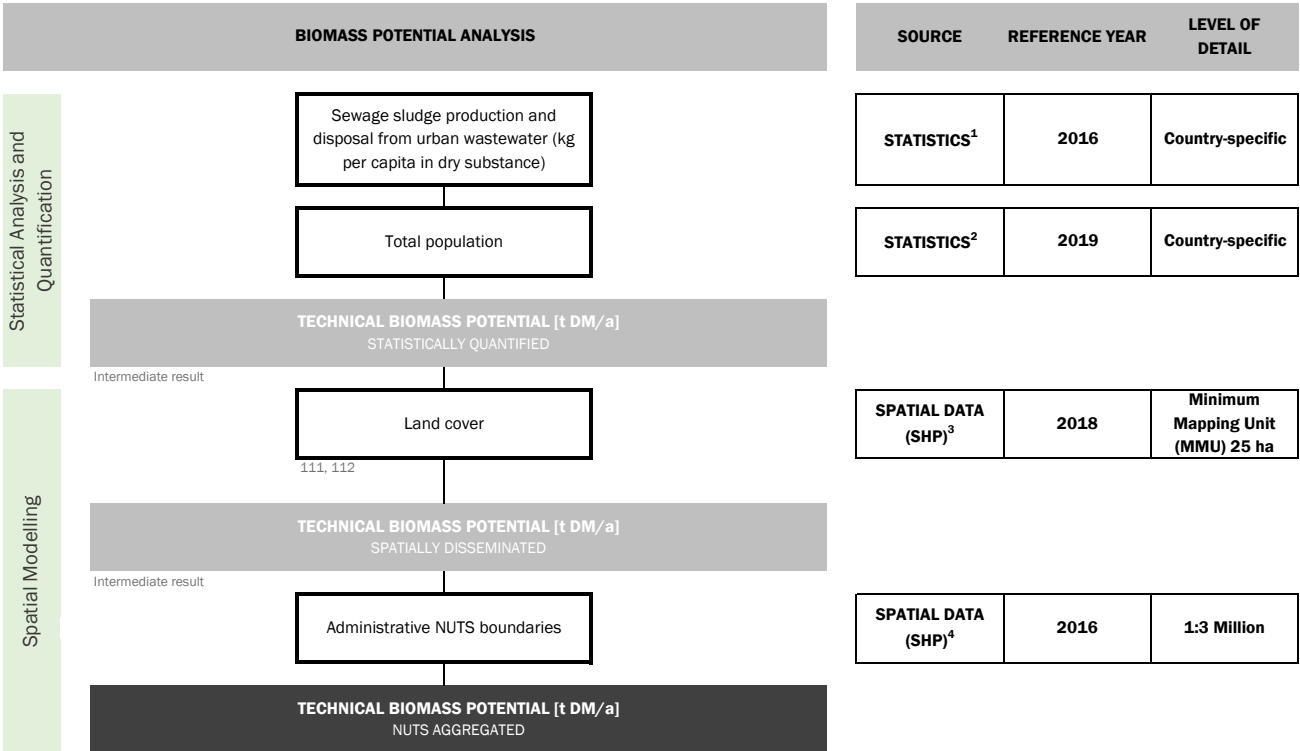
- (1) Eurostat. Retrieved from: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_wasmun
- (2) Statista. Europäische Union: Gesamtbevölkerung in den Mitgliedsstaaten im Jahr 2019. Retrieved from: <https://de.statista.com/statistik/daten/studie/164004/umfrage/prognostizierte-bevoelkerungsentwicklung-in-den-laendern-der-eu/>
- (3) Frankcx L, van Acoleyen M, Hogg D. Assessment of the options to improve the management of biowaste in the European Union – Annex A: baseline scenarios. Retrieved from: https://ec.europa.eu/environment/pdf/waste/compost/ia_biowaste%20-%20ANNEX%20A%20-%20baseline%20scenarios.pdf
- (4) Dees, M., Elbersen, B., Fitzgerald, J., Vis, M., Ramirez-Almeyda, J., Glavonjic, B., Staritsky, I., Verkerk, H., Monti, A., Datta, P., Schrijver, R., Lindner, M. & Diepen, K. (2017): Roadmap for regional end-users on how to collect, process, store and maintain biomass supply data. Project Report. S2BIOM – a project funded under the European Union 7th Framework Programme for Research. Grant Agreement n° 608622. Chair of Remote Sensing and Landscape Information Systems, Institute of Forest Sciences, University of Freiburg, Germany. 80 p
- (5) CORINE Land Cover. Retrieved from: <https://land.copernicus.eu/pan-european/corine-land-cover/clc2018?tab=download>
- (6) Eurostat GISCO. Retrieved from <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Sewage sludge
 CODE..... SSM
 RAW MATERIAL..... Domestic wastewater
 DEFINITION..... Sewage Sludge from public wastewater treatment plants
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

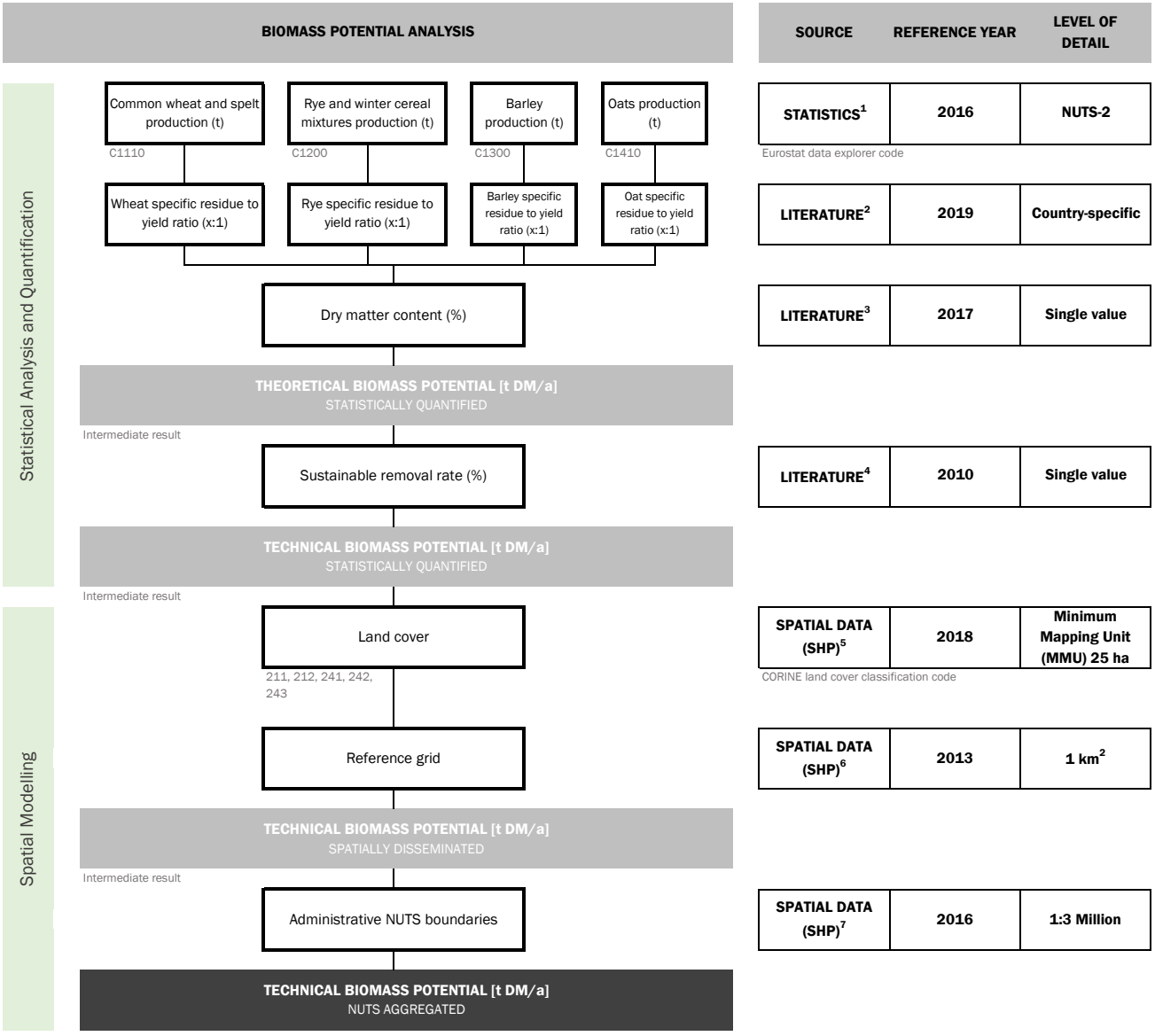
- (1) Eurostat. Sewage sludge production and disposal from urban wastewater. Retrieved from: <https://data.europa.eu/euodp/data/dataset/hzWkcfKt5mxEaFijeoA>.
- (2) Statista. Europäische Union: Gesamtbevölkerung in den Mitgliedsstaaten im Jahr 2019. Retrieved from: <https://de.statista.com/statistik/daten/studie/164004/umfrage/prognostizierte-bevoelkerungsentwicklung-in-den-laendern-der-eu/>
- (3) CORINE Land Cover. Retrieved from: <https://land.copernicus.eu/pan-european/corine-land-cover/clc2018?tab=download>
- (4) Eurostat GISCO. Retrieved from <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Cereal straw
 CODE..... CST
 RAW MATERIAL..... Common wheat, spelt, rye, winter cereal mixtures, barley, oats
 DEFINITION..... Cereal straw as agricultural residue
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

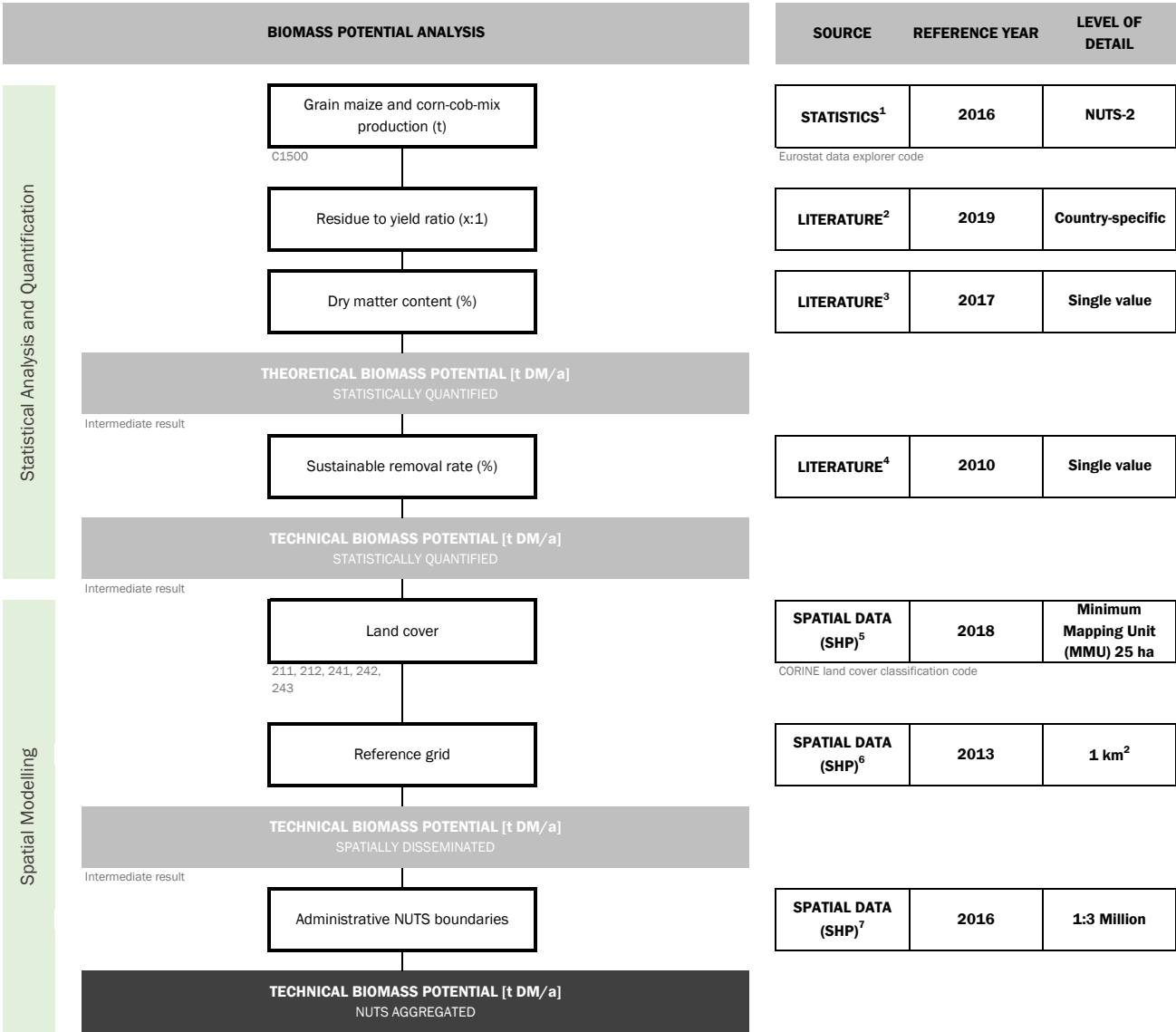
- (1) Eurostat. Retrieved from: <https://ec.europa.eu/eurostat/web/main/data/database>
- (2) Scarlat, N., Fahl, F., Lugato, E., Monforti-Ferrario, F. and Dallemand, J., Integrated and spatially explicit assessment of sustainable crop residues potential in Europe, BIOMASS and BIOENERGY, ISSN 0961-9534, 122, 2019, p. 257-269, JRC105336
- (3) Verordnung über die Anwendung von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln nach den Grundsätzen der guten fachlichen Praxis beim Düngen. Düngeverordnung vom 26. Mai 2017 (BGBl. I S. 1305): DÜV; 2017
- (4) Scarlat N, Martinov M, Dallemand JF. Assessment of the availability of agricultural crop residues in the European Union: potential and limitations for bioenergy use. Waste Manag. 2010 Oct;30(10):1889-97. doi: 10.1016/j.wasman.2010.04.016. Epub 2010 May 21. PMID: 20494567.
- (5) CORINE Land Cover. Retrieved from: <https://land.copernicus.eu/pan-european/corine-land-cover/clc2018?tab=download>
- (6) European Environment Agency (EEA). Retrieved from: <https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>
- (7) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Grain maize (corn) stover
 CODE..... MST
 RAW MATERIAL..... Grain maize and corn-cob-mix
 DEFINITION..... Grain maize stover as agricultural residue
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

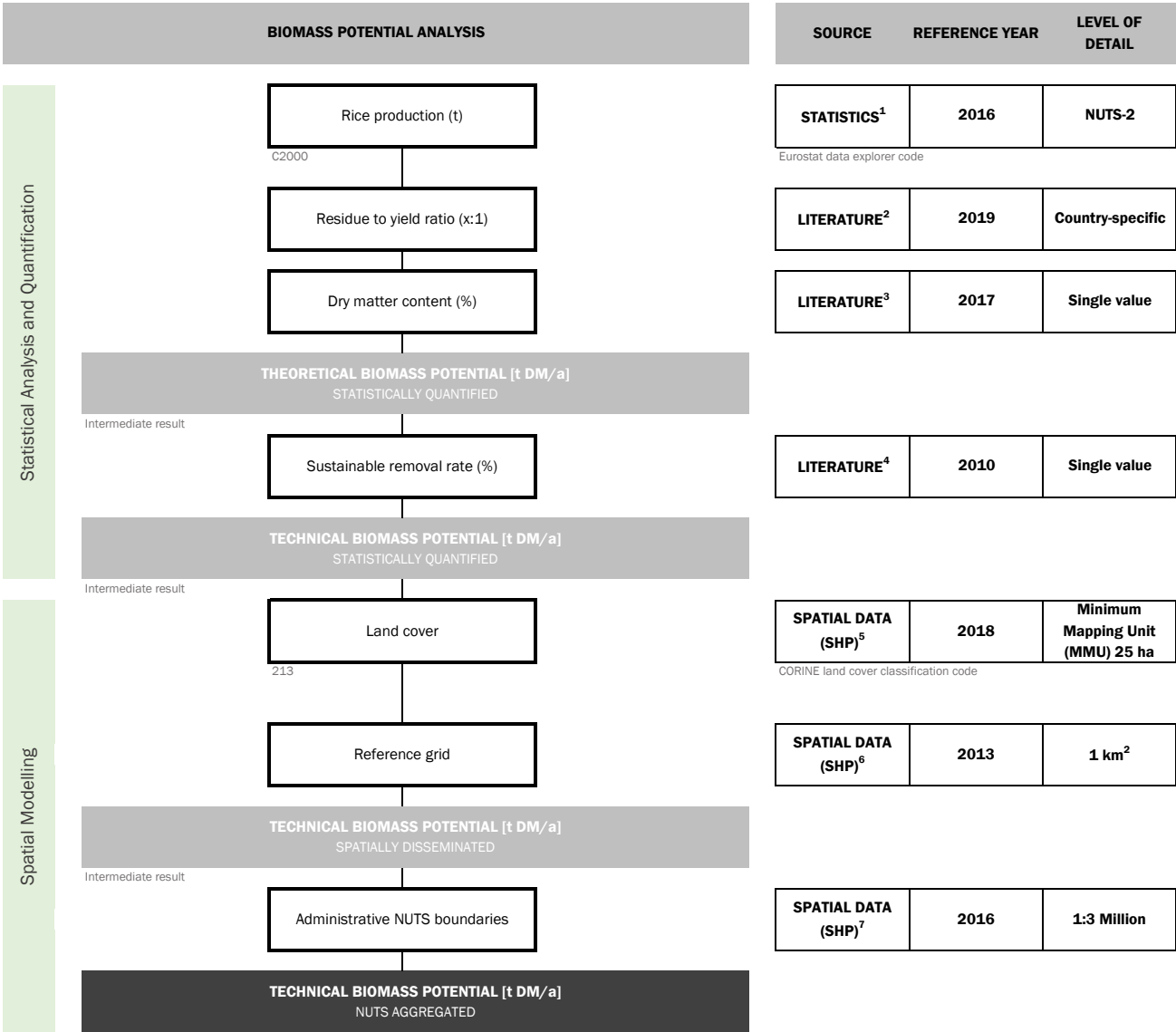
- (1) Eurostat. Retrieved from: <https://ec.europa.eu/eurostat/web/main/data/database>
- (2) Scarlat, N., Fahl, F., Lugato, E., Monforti-Ferrario, F. and Dallemand, J., Integrated and spatially explicit assessment of sustainable crop residues potential in Europe, BIOMASS and BIOENERGY, ISSN 0961-9534, 122, 2019, p. 257-269, JRC105336
- (3) Verordnung über die Anwendung von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln nach den Grundsätzen der guten fachlichen Praxis beim Düngen. Düngeverordnung vom 26. Mai 2017 (BGBl. I S. 1305): DüV; 2017
- (4) Scarlat N, Martinov M, Dallemand JF. Assessment of the availability of agricultural crop residues in the European Union: potential and limitations for bioenergy use. Waste Manag. 2010 Oct;30(10):1889-97. doi: 10.1016/j.wasman.2010.04.016. Epub 2010 May 21. PMID: 20494567.
- (5) CORINE Land Cover. Retrieved from: <https://land.copernicus.eu/pan-european/corine-land-cover/clc2018?tab=download>
- (6) European Environment Agency (EEA). Retrieved from: <https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>
- (7) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Rice straw
 CODE..... RIS
 RAW MATERIAL..... Rice
 DEFINITION..... Rice straw as agricultural residue
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

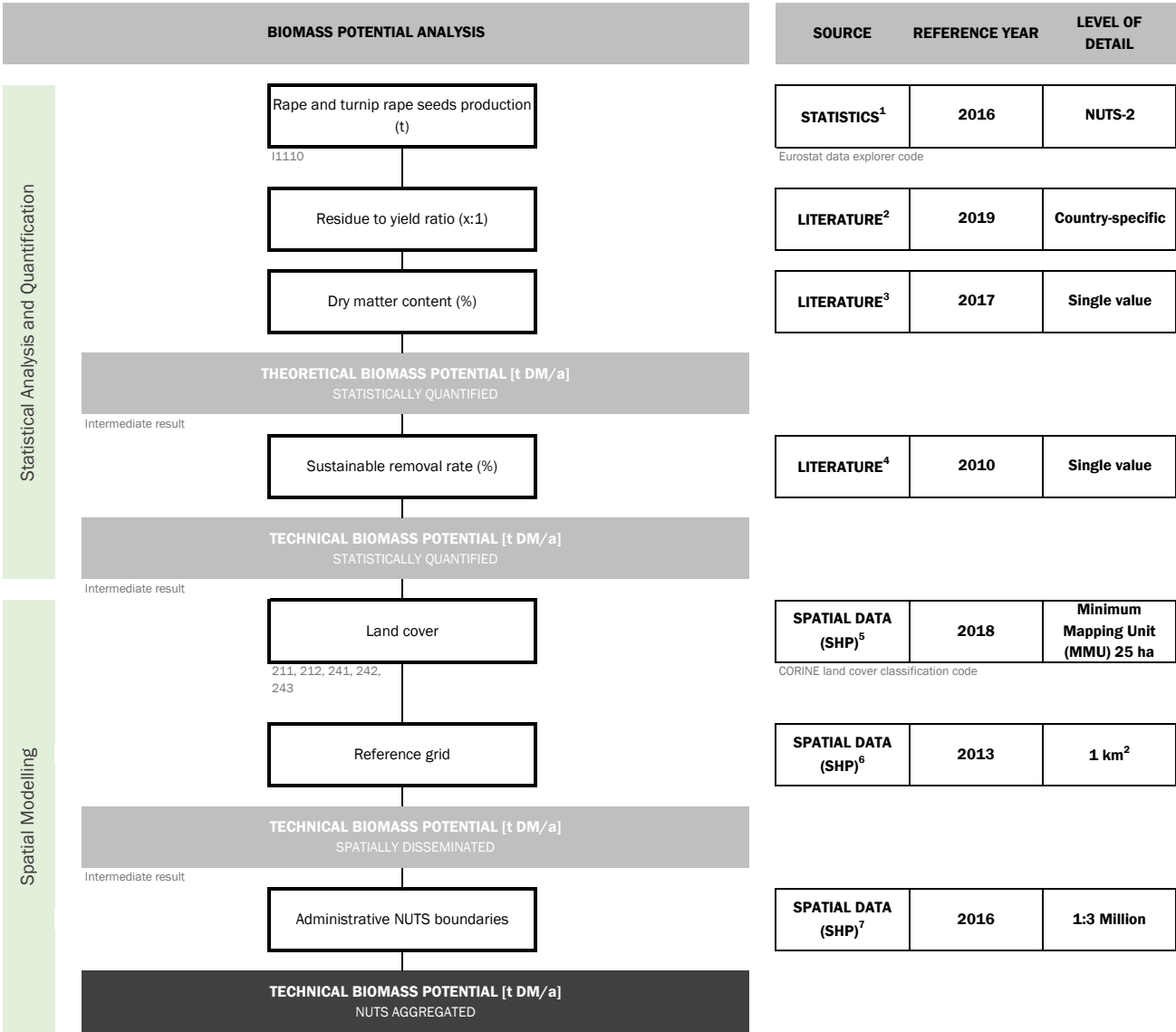
- (1) Eurostat. Retrieved from: <https://ec.europa.eu/eurostat/web/main/data/database>
- (2) Scarlat, N., Fahl, F., Lugato, E., Monforti-Ferrario, F. and Dallemand, J., Integrated and spatially explicit assessment of sustainable crop residues potential in Europe, BIOMASS and BIOENERGY, ISSN 0961-9534, 122, 2019, p. 257-269, JRC105336
- (3) Dees, M., Elbersen, B., Fitzgerald, J., Vis, M., Ramirez-Almeyda, J., Glavonjic, B., Staritsky, I., Verkerk, H., Monti, A., Datta, P., Schrijver, R., Lindner, M. & Diepen, K. (2017): Roadmap for regional end-users on how to collect, process, store and maintain biomass supply data. Project Report. S2BIOM – a project funded under the European Union 7th Framework Programme for Research. Grant Agreement n° 608622. Chair of Remote Sensing and Landscape Information Systems, Institute of Forest Sciences, University of Freiburg, Germany. 80 p
- (4) Scarlat N, Martinov M, Dallemand JF. Assessment of the availability of agricultural crop residues in the European Union: potential and limitations for bioenergy use. Waste Manag. 2010 Oct;30(10):1889-97. doi: 10.1016/j.wasman.2010.04.016. Epub 2010 May 21. PMID: 20494567.
- (5) CORINE Land Cover. Retrieved from: <https://land.copernicus.eu/pan-european/corine-land-cover/clc2018?tab=download>
- (6) European Environment Agency (EEA). Retrieved from: <https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>
- (7) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Rapeseed straw
 CODE..... RST
 RAW MATERIAL..... Rape and turnip rape seeds
 DEFINITION..... Rapeseed straw as agricultural residue
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

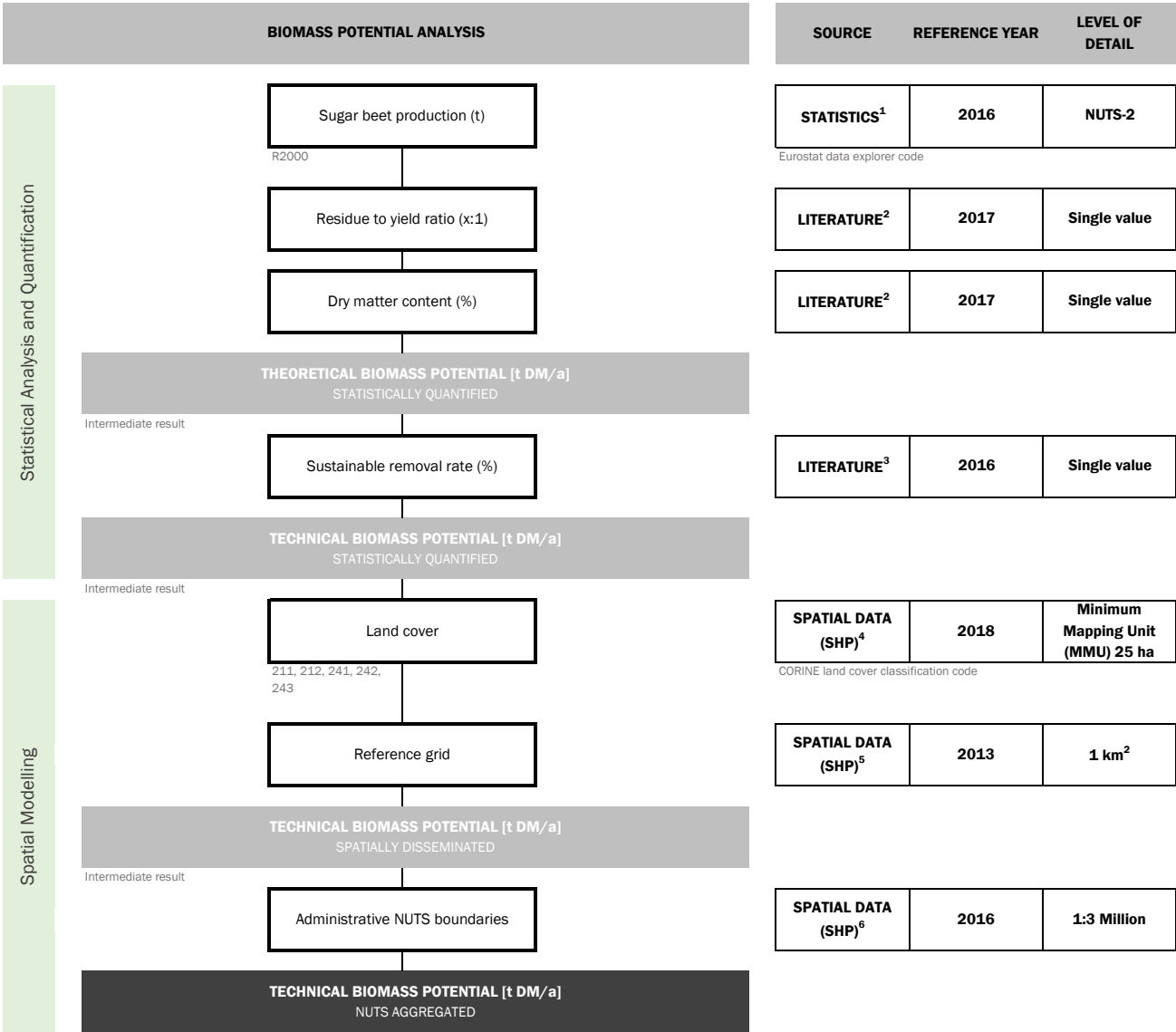
- (1) Eurostat. Retrieved from: <https://ec.europa.eu/eurostat/web/main/data/database>
- (2) Scarlat, N., Fahl, F., Lugato, E., Monforti-Ferrario, F. and Dallemand, J., Integrated and spatially explicit assessment of sustainable crop residues potential in Europe, BIOMASS and BIOENERGY, ISSN 0961-9534, 122, 2019, p. 257-269, JRC105336
- (3) Verordnung über die Anwendung von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln nach den Grundsätzen der guten fachlichen Praxis beim Düngen. Düngeverordnung vom 26. Mai 2017 (BGBl. I S. 1305): DüV; 2017
- (4) Scarlat N, Martinov M, Dallemand JF. Assessment of the availability of agricultural crop residues in the European Union: potential and limitations for bioenergy use. Waste Manag. 2010 Oct;30(10):1889-97. doi: 10.1016/j.wasman.2010.04.016. Epub 2010 May 21. PMID: 20494567.
- (5) CORINE Land Cover. Retrieved from: <https://land.copernicus.eu/pan-european/corine-land-cover/clc2018?tab=download>
- (6) European Environment Agency (EEA). Retrieved from: <https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>
- (7) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Sugar beet leaves
 CODE..... SBL
 RAW MATERIAL..... Sugar beet (excluding seed)
 DEFINITION..... Sugar beet leaves as agricultural residue
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

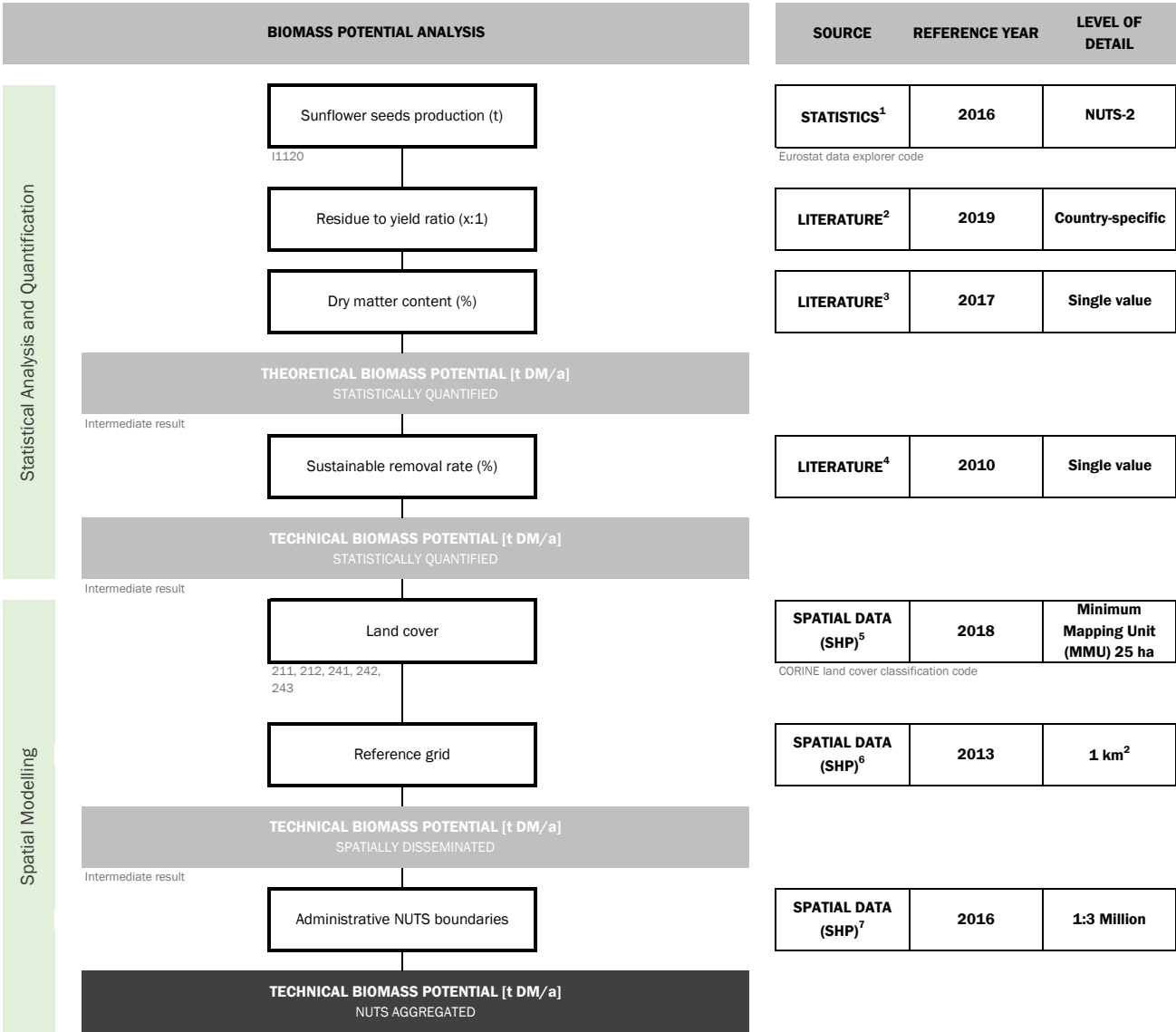
- (1) Eurostat. Retrieved from: <https://ec.europa.eu/eurostat/web/main/data/database>
- (2) Verordnung über die Anwendung von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln nach den Grundsätzen der guten fachlichen Praxis beim Düngen. Düngeverordnung vom 26. Mai 2017 (BGBl. I S. 1305); DÜV; 2017
- (3) Iqbal, Y.; Lewandowski, I.; Weinreich, A.; Wippel, B.; Pforte, B.; Hadai, O.; Tryboi, O.; Spöttle, M.; Peters, D. Maximising the Yield of Biomass from Residues of Agricultural Crops and Biomass from Forestry; Ecofys: Berlin, Germany, 2016.
- (4) CORINE Land Cover. Retrieved from: <https://land.copernicus.eu/pan-european/corine-land-cover/clc2018?tab=download>
- (5) European Environment Agency (EEA). Retrieved from: <https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>
- (6) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Sunflower straw
 CODE..... SST
 RAW MATERIAL..... Sunflower seed
 DEFINITION..... Sunflower straw as agricultural residue
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

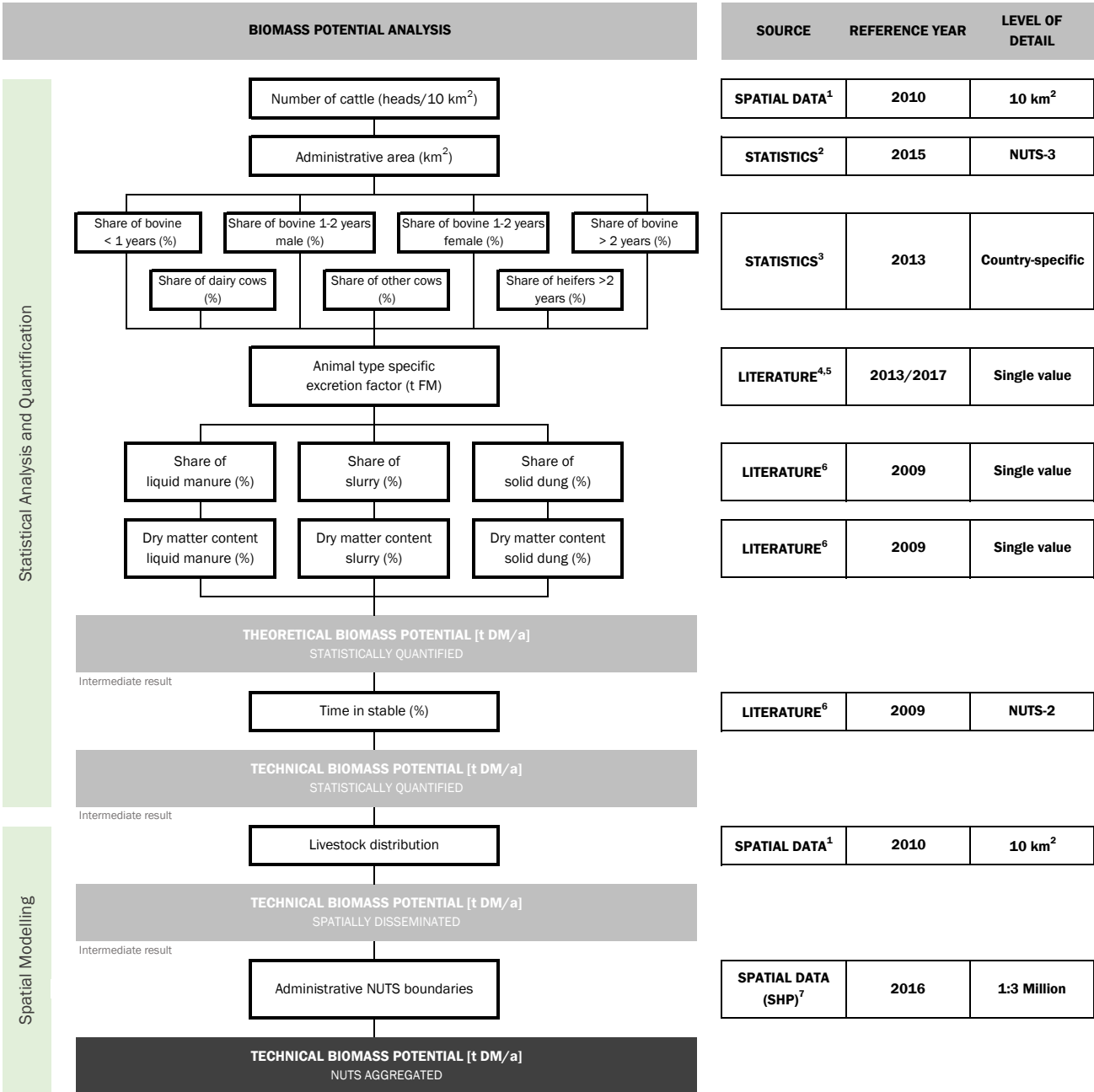
- (1) Eurostat. Retrieved from: <https://ec.europa.eu/eurostat/web/main/data/database>
- (2) Scarlat, N., Fahl, F., Lugato, E., Monforti-Ferrario, F. and Dallemand, J., Integrated and spatially explicit assessment of sustainable crop residues potential in Europe, BIOMASS and BIOENERGY, ISSN 0961-9534, 122, 2019, p. 257-269, JRC105336
- (3) Verordnung über die Anwendung von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln nach den Grundsätzen der guten fachlichen Praxis beim Düngen. Düngeverordnung vom 26. Mai 2017 (BGBl. I S. 1305): DüV; 2017
- (4) Scarlat N, Martinov M, Dallemand JF. Assessment of the availability of agricultural crop residues in the European Union: potential and limitations for bioenergy use. Waste Manag. 2010 Oct;30(10):1889-97. doi: 10.1016/j.wasman.2010.04.016. Epub 2010 May 21. PMID: 20494567.
- (5) CORINE Land Cover. Retrieved from: <https://land.copernicus.eu/pan-european/corine-land-cover/clc2018?tab=download>
- (6) European Environment Agency (EEA). Retrieved from: <https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>
- (7) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Cattle manure, slurry, solid dung
 CODE..... CAX
 RAW MATERIAL..... Cattle excretions
 DEFINITION..... Liquid manure, slurry and solid dung from cattle farming
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

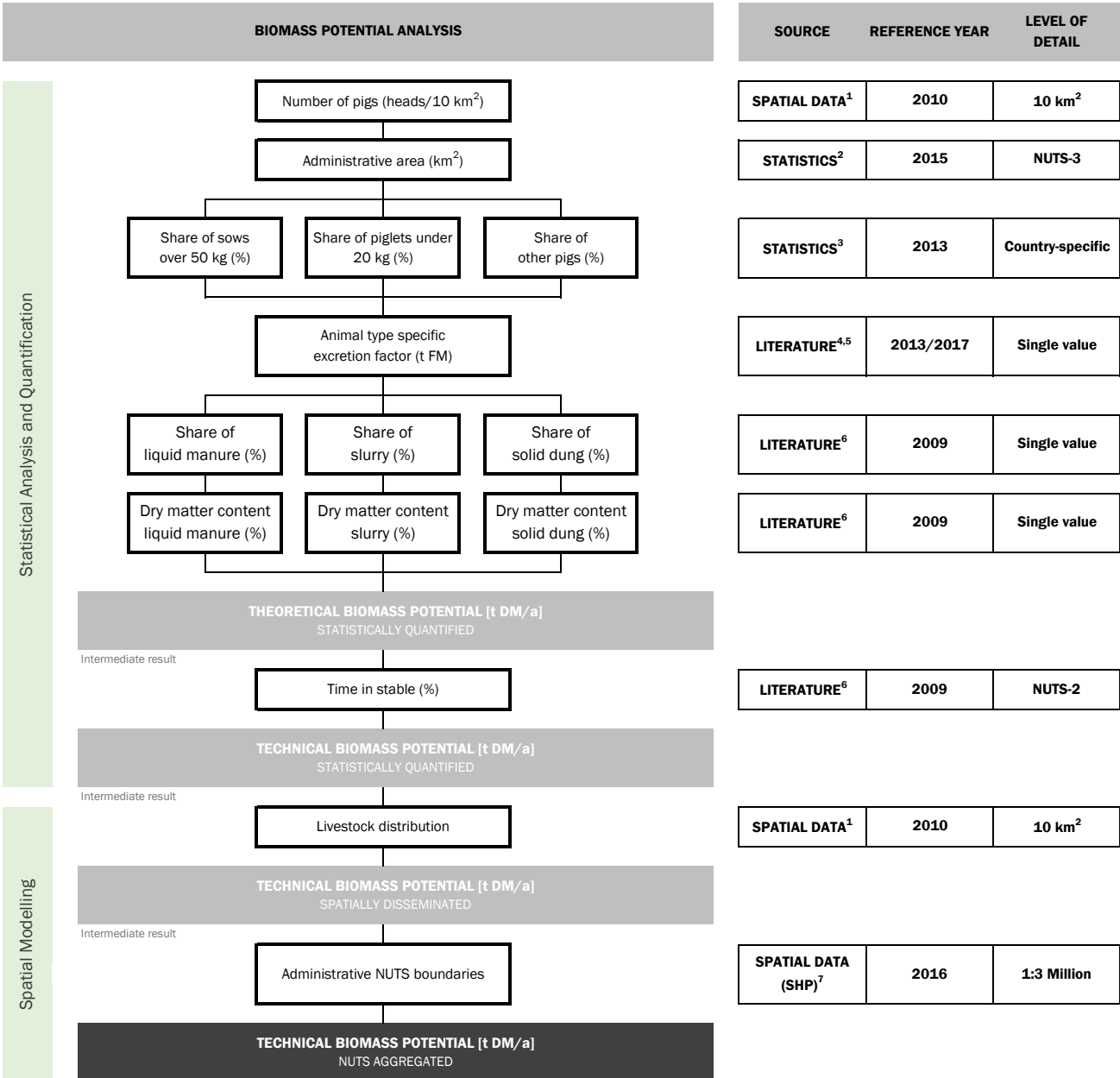
- (1) Gilbert, M., Nicolas, G., Cinardi, G. et al. Global distribution data for cattle, buffaloes, horses, sheep, goats, pigs, chickens and ducks in 2010. *Sci Data* 5, 180227 (2018). <https://doi.org/10.1038/sdata.2018.227>
- (2) Eurostat. Area by NUTS 3 region. Retrieved from: <https://data.europa.eu/euodp/en/data/dataset/XSW3zzHg7yQg9742y55ukw>.
- (3) Eurostat. Livestock: number of farms and heads of animals by livestock units (LSU) of farm and NUTS 2 regions. Retrieved from: <https://data.europa.eu/data/datasets/bn40ovsfgc2iq2gc9ei1g?locale=en>
- (4) Bayerische Landesanstalt für Landwirtschaft. Basisdaten. Retrieved from: https://www.lfl.bayern.de/mam/cms07/iab/dateien/basisdaten_2013.pdf.
- (5) Verordnung über die Anwendung von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln nach den Grundsätzen der guten fachlichen Praxis beim Düngen. Düngeverordnung vom 26. Mai 2017 (BGBl. I S. 1305): DÜV; 2017
- (6) Bioteau T, Burton C, Guizou F, Martinez J. Qualitative assessment of manure management in main livestock production systems and a review of gaseous emissions factors of manure throughout EU27: Studies in support of the European project GGLES. Retrieved from: http://www.clrtap-tfrn.org/sites/clrtap-tfrn.org/files/documents/EPMAN%20Documents/CEMEGREF_Survey_31Aug2009_.pdf
- (7) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts/nuts16>

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BIOMASS..... Pig manure, slurry, solid dung
 CODE..... PIX
 RAW MATERIAL..... Pig excretions
 DEFINITION..... Liquid manure, slurry and solid dung from pig farming
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

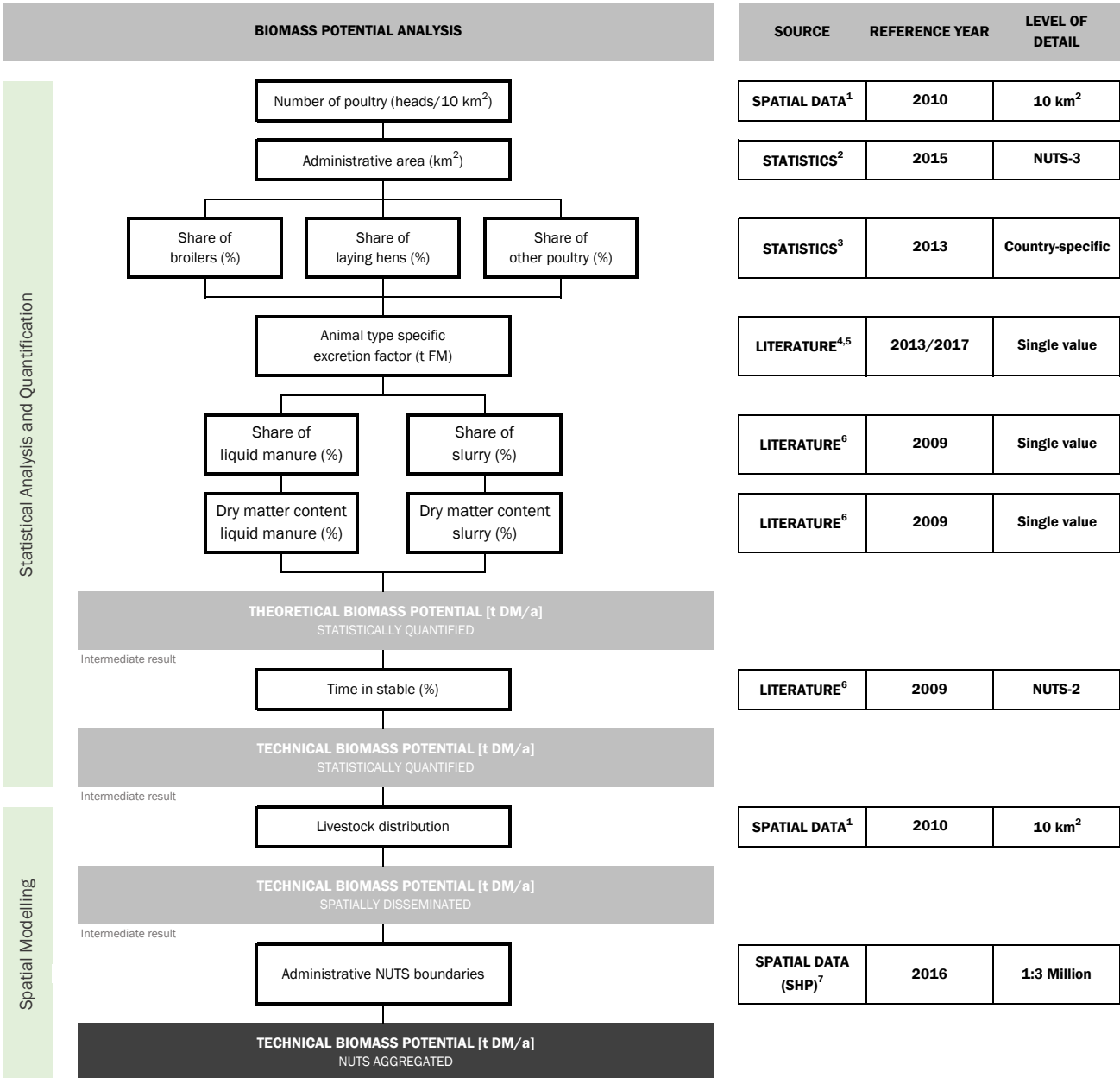
- (1) Gilbert, M., Nicolas, G., Cinardi, G. et al. Global distribution data for cattle, buffaloes, horses, sheep, goats, pigs, chickens and ducks in 2010. *Sci Data* 5, 180227 (2018). <https://doi.org/10.1038/sdata.2018.227>
- (2) Eurostat. Area by NUTS 3 region. Retrieved from: <https://data.europa.eu/euodp/en/data/dataset/XSW3zzHg7yQg9742y55ukw>.
- (3) Eurostat. Livestock: number of farms and heads of animals by livestock units (LSU) of farm and NUTS 2 regions. Retrieved from: <https://data.europa.eu/data/datasets/bn4oovsffgc2iq2gc9ei1g?locale=en>
- (4) Bayerische Landesanstalt für Landwirtschaft. Basisdaten. Retrieved from: https://www.lfl.bayern.de/mam/cms07/iab/dateien/basisdaten_2013.pdf.
- (5) Verordnung über die Anwendung von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln nach den Grundsätzen der guten fachlichen Praxis beim Düngen. Düngeverordnung vom 26. Mai 2017 (BGBl. I S. 1305): DüV; 2017
- (6) Bioteau T, Burton C, Guiziou F, Martinez J. Qualitative assessment of manure management in main livestock production systems and a review of gaseous emissions factors of manure throughout EU27: Studies in support of the European project GGLES. Retrieved from: http://www.clrtap-tfm.org/sites/clrtap-tfm.org/files/documents/EPMAN%20Documents/CEMEGREF_Survey_31Aug2009_.pdf
- (7) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>

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BIOMASS..... Poultry manure and slurry
 CODE..... POX
 RAW MATERIAL..... Poultry excretions
 DEFINITION..... Liquid manure and slurry from poultry farming
 METHODOLOGY..... Spatial modelling and quantification based on intersection of statistical, literature and geographic information
 TEMPORAL RESOLUTION..... Single year, not harmonized
 SPATIAL RESOLUTION..... National (NUTS-0) up to district (NUTS-3) level
 GEOGRAPHIC EXTENT..... EU27 + UK



SOURCES

- (1) Gilbert, M., Nicolas, G., Cinardi, G. et al. Global distribution data for cattle, buffaloes, horses, sheep, goats, pigs, chickens and ducks in 2010. *Sci Data* 5, 180227 (2018). <https://doi.org/10.1038/sdata.2018.227>
- (2) Eurostat. Area by NUTS 3 region. Retrieved from: <https://data.europa.eu/euodp/en/data/dataset/XSW3zzHg7yQg9742y55ukw>.
- (3) Eurostat. Livestock: number of farms and heads of animals by livestock units (LSU) of farm and NUTS 2 regions. Retrieved from: <https://data.europa.eu/data/datasets/bn4oovsffgc2iq2gc9ei1g?locale=en>
- (4) Bayerische Landesanstalt für Landwirtschaft. Basisdaten. Retrieved from: https://www.lfl.bayern.de/mam/cms07/iab/dateien/basisdaten_2013.pdf.
- (5) Verordnung über die Anwendung von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln nach den Grundsätzen der guten fachlichen Praxis beim Düngen. Düngeverordnung vom 26. Mai 2017 (BGBl. I S. 1305): DüV; 2017
- (6) Bioteau T, Burton C, Guizou F, Martinez J. Qualitative assessment of manure management in main livestock production systems and a review of gaseous emissions factors of manure throughout EU27: Studies in support of the European project GGLES. Retrieved from: http://www.clrtap-tfm.org/sites/clrtap-tfm.org/files/documents/EPMAN%20Documents/CEMEGREF_Survey_31Aug2009_.pdf
- (7) Eurostat GISCO. Retrieved from: <https://ec.europa.eu/eurostat/de/web/gisco/geodata/reference-data/administrative-units-statistical-units/nuts#nuts16>