ANNEX 8

QC check tables

Inventory Lead Checklist: Detailed Checklist for the National Inventory Report

Activities	Task Completed	
	Name	Date
Front Section		
• Cover page has correct date, title, and contact address	Irena Malešič (IM)	19.-22.5.2014
• Tables of contents/tables/figures are accurate: titles match document, page #s match; numbers run consecutively and have correct punctuation	IM	19.-22.5.2014
• The Executive Summary and Introduction are updated with appropriate years and discussion of trends	IM	19.-22.5.2014
• Review that all chapters from the Annotated outline are included (see: annotated _nir_outline.pdf)	IM	26.5.2014
Tables and Figures		
• All numbers in tables match numbers in spreadsheets	IM	22.-23.5.2014
• Check that all tables have correct number of significant digits		
• Check alignment in columns and labels	IM	22.-23.5.2014
• Check that table formatting is consistent	IM	22.-23.5.2014
• Check that all figures are updated with new data and referenced in the text		
• Check table and figure titles for accuracy and consistency with content	IM	22.-23.5.2014
References		
• Check consistency of references, and that in text citations and references match		
General Format		
• All acronyms are spelled out first time and not subsequent times throughout each chapter		
• All fonts in text, headings, titles, and subheadings are consistent	IM	26.5.2014
• All highlighting, notes, and comments are removed from document		
• Size, style, and indenting of bullets are consistent	IM	26.5.2014
• Spell check is complete		
Other Issues		
• Check that each section is updated with current year (or most recent year that inventory report includes)	IM	22.5.2014

1A - Fuel combustion - General QC

QC Activity	Procedures	Check Completed			Corrective action		Supporting documents
		Date	Name	Errors Y/N	Date	Name	
Data Gathering, Input, and Handling Checks							
Check for transcription errors in data input and reference.	· Cross-check a sample of input data from each category for transcription errors.	16.12.2013	TMM	N			
Check that parameter and emission/removal units are correctly recorded and that appropriate conversion factors are used.	· Check that units are properly labeled in calculation sheets · Check that units are correctly carried through from beginning to end of calculations. · Check that conversion factors are correct. · Check that temporal and spatial adjustment factors are used correctly.	17.12.2013 17.12.2013 17.12.2013 17.12.2013	TMM TMM TMM TMM	N N N N			
Check for consistency in data between categories.	· Identify parameters (e.g., activity data, constants) that are common to multiple categories and confirm that there is consistency in the values used for these parameters in the emissions/removals	18.12.2013	TMM	Y	18.12.2013	TMM	*1A 1986-2012.xls*
Documentation Checks							
	· Check that manual of procedures is complete. · Check that assumptions and criteria for selection of activity data, emission factors and other estimation parameters are documented · Confirm that bibliographical data references are included in database for every primary data element · Randomly check bibliographical citations for transcription errors · Check that changes in data or methodology are documented	7.4.2014	TMM	Y	7.4.2014	TMM	*GHG emissions 1986-2012 April.xls*
Calculation Checks							
Check that emissions/removals are calculated correctly.	· Compare that emissions/removals calculated in the database are the same as calculated with the spreadsheets · If models are used, selectively mimic complex model calculations with abbreviated calculations to judge relative accuracy.	6.-8.1.2014	TMM	Y	6.-8.1.2014	TMM	*1 EE.ods*
Check that the movement of inventory data among processing steps is correct.	· Check that emissions/removals data are correctly aggregated from lower reporting levels to higher reporting levels when preparing summaries. · Check that emissions/removals data are correctly transcribed between different intermediate products.	19.12.2013	TMM	N			
Check methodological and data changes resulting in recalculations.	· Check for temporal consistency in time series input data for each category. · Check for consistency in the algorithm/method used for calculations throughout the time series. · Reproduce a representative sample of emission calculations to ensure mathematical						
Check time series consistency	· Check for temporal consistency in time series input data for each category. · Check for consistency in the algorithm/method used for calculations throughout the time series. · Check methodological and data changes resulting in recalculations. · Check that the effects of mitigation activities have been appropriately reflected in time series						
Check completeness	· Confirm that estimates are reported for all categories and for all years from the appropriate base year over the period of the current inventory. · For subcategories, confirm that the entire category is being covered. · Proved clear definition of 'Other' type categories. · Check that known data gaps that result in incomplete category emissions/removals estimates are documented, including qualitative evaluation of the importance of the estimate in relation to total	9.1.2014 9.1.2014 9.1.2014	TMM TMM TMM	N N N			
Trend checks	· Check current year estimates against previous years (if available) and investigate unexplained departures from trend · Check value of implied emission/removal factors across time series and investigate unexplained outliers · Check for any unexplained or unusual trends for activity data or other calculation parameters in time series	12. - 14.2.2014 12. - 14.2.2014 12. - 14.2.2014	TMM TMM TMM	N N N			

1A - Fuel combustion - Specific QC

QC Activity	Procedures	Task Completed		Corrective Measure Taken	
		Name/ Initials	Date	Supporting Documents (List Document Name)	Date
Assess the applicability of IPCC default factors	• Evaluate whether national conditions are similar to those used to develop the IPCC default factors	TMM	24.-26.3.2014		
	• Compare default factors to site or plant-level factors				
	• Consider options for obtaining country-specific factors	TMM	24.-26.3.2014		
	• Document results of this assessment	TMM	24.-26.3.2014	1A Verification.doc	24.-26.3.2014
Review country-specific factors	• QC the data used to develop the country-specific factor				
	• Compare country-specific factors to IPCC defaults; document any significant discrepancies	ML	27.3.2014	1A Verification.doc	27.3.2014
	• Compare country-specific factors to site or plant-level factors				
	• Compare to factors from other countries (using IPCC Emission Factor Database)				
	• Document results of this assessment				
Review national level activity data	• Determine the level of QC performed by the data collection agency. If inadequate, consider alternative data sources such as IPCC defaults and international data sets. Adjust the relevant uncertainty accordingly.				
	• Evaluate time series consistency				
	• Compare activity data from multiple references if possible Compare total of category fuel consumtion (AD and NCV) with data from JQ (energy ballance). Compare fuel consumtion (AD and NCV) with appropriate data from EU-ETS.	TMM	9.-12.12.2013	1A Fuel Consumption 2012. xls	12.12.2013
	• Check applicability of data				
	• Check methoddology for filling in time series for data that are not available annually				
Review site-specific activity data	• Determine if national or international (e.g., ISO) standards were used in estimates				
	• Compare aggregated site-specific data (e.g. production) to national statistics/data	TMM	24.-26.3.2014		
	• Compare data across similar sites				
QC uncertainty estimates	• Apply QC techniques to uncertainty estimates				
	• Review uncertainty calculations				
	• Document uncertainty assumptions and qualifications of any experts consulted				
Verify GHG estimates	• Compare estimates to other national or international estimates at the national, gas, sector, or sub-sector level as available				

5.B Cropland - General QC

QC Activity	Procedures	Task Completed		Corrective Measure Taken	
		Name/ Initials	Date	Supporting Documents (List	Date
Assess the applicability of IPCC default factors	• Evaluate whether national conditions are similar to those used to develop the IPCC default factors • Compare default factors to site or plant-level factors • Consider options for obtaining country-specific factors • Document results of this assessment	ZS, BM	17th January 2014	Report_on_expert_visit_ZS	March 2014
Review country-specific factors	• QC the data used to develop the country-specific factor • Compare country-specific factors to IPCC defaults; document any significant discrepancies • Compare country-specific factors to site or plant-level factors • Compare to factors from other countries (using IPCC Emission Factor Database) • Document results of this assessment	ZS	17th January 2014	Report_on_expert_visit_ZS	March 2014
Review national level activity data	• Determine the level of QC performed by the data collection agency. If inadequate, consider alternative data sources such as IPCC defaults and international data sets. Adjust the relevant uncertainty accordingly. • Evaluate time series consistency • Compare activity data from multiple references if possible • Check applicability of data • Check methoddology for filling in time series for data that are not available annually	ZS, LZK, BM	17th January 2014, May 2014	Report_on_expert_visit_ZS	March 2014, May 2014
Review site-specific activity data	• Determine if national or international (e.g., ISO) standards were used in estimates • Compare aggregated site-specific data (e.g. production) to national statistics/data • Compare data across similar sites	ZS	17th January 2014	Report_on_expert_visit_ZS	March 2014
QC uncertainty estimates	• Apply QC techniques to uncertainty estimates • Review uncertainty calculations • Document uncertainty assumptions and qualifications of any experts consulted	ZS	17th January 2014	Report_on_expert_visit_ZS	March 2014
Verify GHG estimates	• Compare estimates to other national or international estimates at the national, gas, sector, or sub-sector level as available	ZS, BM	November 2013, 17th January 2014	Report_on_expe	March 2014

5.B Cropland - Additional QC

QC Activity	Procedures	Check Completed			Corrective action		Supporting documents
		Date	Name	Errors Y/N	Date	Name	
Data Gathering, Input, and Handling Checks							
Check for transcription errors in data input and reference.	• Cross-check a sample of input data from each category for transcription errors.	12th December 2013	BM	N			
Check that parameter and emission/removal units are correctly recorded and that appropriate conversion factors are used.	• Check that units are properly labeled in calculation sheets	11th December 2013	BM	N			
	• Check that units are correctly carried through from beginning to end of calculations.	11th December 2013	BM	N			
	• Check that conversion factors are correct.	9th May 2014	LZK, BM	N			
	• Check that temporal and spatial adjustment factors are used correctly.	11th December 2013	BM	N			
Check for consistency in data between categories.	• Identify parameters (e.g., activity data, constants) that are common to multiple categories and confirm that there is consistency in the values used for these parameters in the emissions/removals calculations.	11th December 2013	BM	Y	12th December 2013	BM	Viri podatkov za izracun emisij_LULUCF_NIR2014.xls
Documentation Checks							
	• Check that manual of procedures is complete.						
	• Check that assumptions and criteria for selection of activity data, emission factors and other estimation parameters are documented	20th - 22nd May 2014	LZK, BM	N			
	• Confirm that bibliographical data references are included in database for every primary data element	20th - 22nd May 2014	LZK, BM	Y	26th May 2014	BM	VIRI_LULUCF.pdf
	• Randomly check bibliographical citations for transcription errors	20th - 22nd May 2014	LZK, BM	Y	26th May 2014	LZK	VIRI_LULUCF.pdf
	• Check that changes in data or methodology are documented	20th - 22nd May 2014	LZK, BM	Y	26th May 2014	LZK	QAQC_LULUCF.pdf
	•						
Calculation Checks							
Check that emissions/removals are calculated correctly.	• Compare that emissions/removals calculated in the database are the same as calculated with the spreadsheets	9th - 13th December 2013	BM	N			
	• If models are used, selectively mimic complex model calculations with abbreviated calculations to judge relative accuracy.						
Check that the movement of inventory data among processing steps is correct.	• Check that emissions/removals data are correctly aggregated from lower reporting levels to higher reporting levels when preparing summaries.	9th - 13th December 2013	BM	Y	16th December 2013	BM	AD_organic soil.xls
	• Check that emissions/removals data are correctly transcribed between different intermediate products.						
Check methodological and data changes resulting in recalculations.	• Check for temporal consistency in time series input data for each category.	21st May 2014	LZK, BM	N			
	• Check for consistency in the algorithm/method used for calculations throughout the time series.						
	• Reproduce a representative sample of emission calculations to ensure mathematical correctness.						
Check time series consistency	• Check for temporal consistency in time series input data for each category.	16th - 20th December 2013	BM				
	• Check for consistency in the algorithm/method used for calculations throughout the time series.	9th - 13th December 2013	BM	Y	16th December 2013	BM	Viri podatkov za izracun emisij_LULUCF_NIR2014.xls
	• Check methodological and data changes resulting in recalculations.	9th - 13th December 2013	BM	Y	16th December 2013	BM	Viri podatkov za izracun emisij_LULUCF_NIR2014.xls
	• Check that the effects of mitigation activities have been appropriately reflected in time series calculations.						
Check completeness	• Confirm that estimates are reported for all categories and for all years from the appropriate base year over the period of the current inventory.	9th - 13th December 2013	BM	N			
	• For subcategories, confirm that the entire category is being covered.	9th - 13th December 2013	BM	N			
	• Proved clear definition of 'Other' type categories.						
	• Check that known data gaps that result in incomplete category emissions/removals estimates are documented, including qualitative evaluation of the importance of the estimate in relation to total net emissions (e.g. subcategories classified as 'not estimated').	16th - 20th December 2013	BM	N			
Trend checks	• Check current year estimates against previous years (if available) and investigate unexplained departures from trend	9th - 13th December 2013	BM	N			
	• Check value of implied emission/removal factors across time series and investigate unexplained outliers						
	• Check for any unexplained or unusual trends for activity data or other calculation parameters in time series						