Interoperability between the UNFCCC Reporting Tool and the IPCC Inventory Software

IPCC TFI TSU

SB 58

June 2023

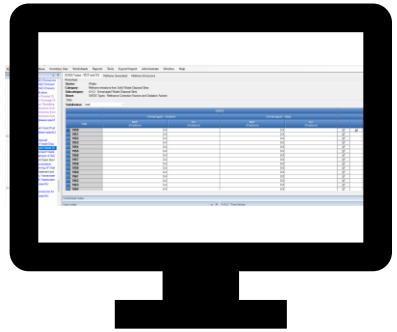
ipcc

INTERGOVERNMENTAL PANEL ON climate change

WMO UNEP

Outline

- ✓ Background
- ✓ What is interoperability and why is it important?
- ✓ UNFCCC and IPCC cooperation to achieve interoperability
- ✓ What can users expect to see in IPCC Inventory Software supporting interoperability?
- ✓ The road ahead



Background

- ✓ Beginning 31 December 2024, countries submit a **biennial transparency report (BTR)** consisting of a narrative document and reporting tables/ formats.

- ✓ Reporting must follow the **Modalities, Procedures and Guidelines (MPGs)** (decision 18/CMA.1).

- ✓ **Decision 5/CMA.3** mandates the UNFCCC to develop reporting tools for the electronic reporting of the tables and formats, specifically:
  - ✓ Common reporting tables (CRT) for GHG inventory (Annex I);
  - ✓ Common tabular formats (CTF) for tracking progress made in implementing/achieving NDCs (Annex 2);
  - ✓ CTF for financial, technology development and transfer and capacity-building support (Annex 3)

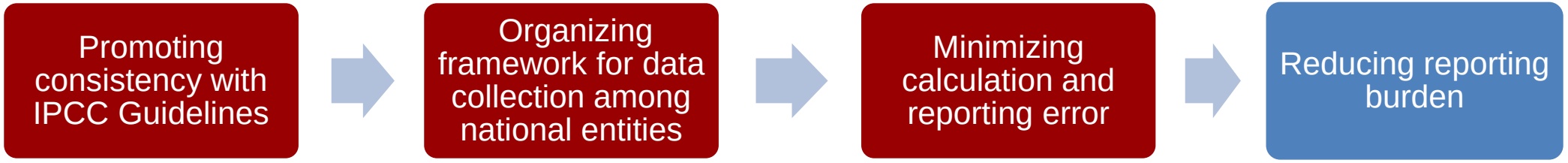
- ✓ Decision 5/CMA.3 requests the UNFCCC secretariat **to facilitate interoperability** between the reporting tools and the IPCC Inventory Software and invites the IPCC to participate in this effort.

Interoperability: What it is and why it is important?

Interoperability: *"The ability of computer systems or software to exchange and make use of information"* -Oxford Dictionary

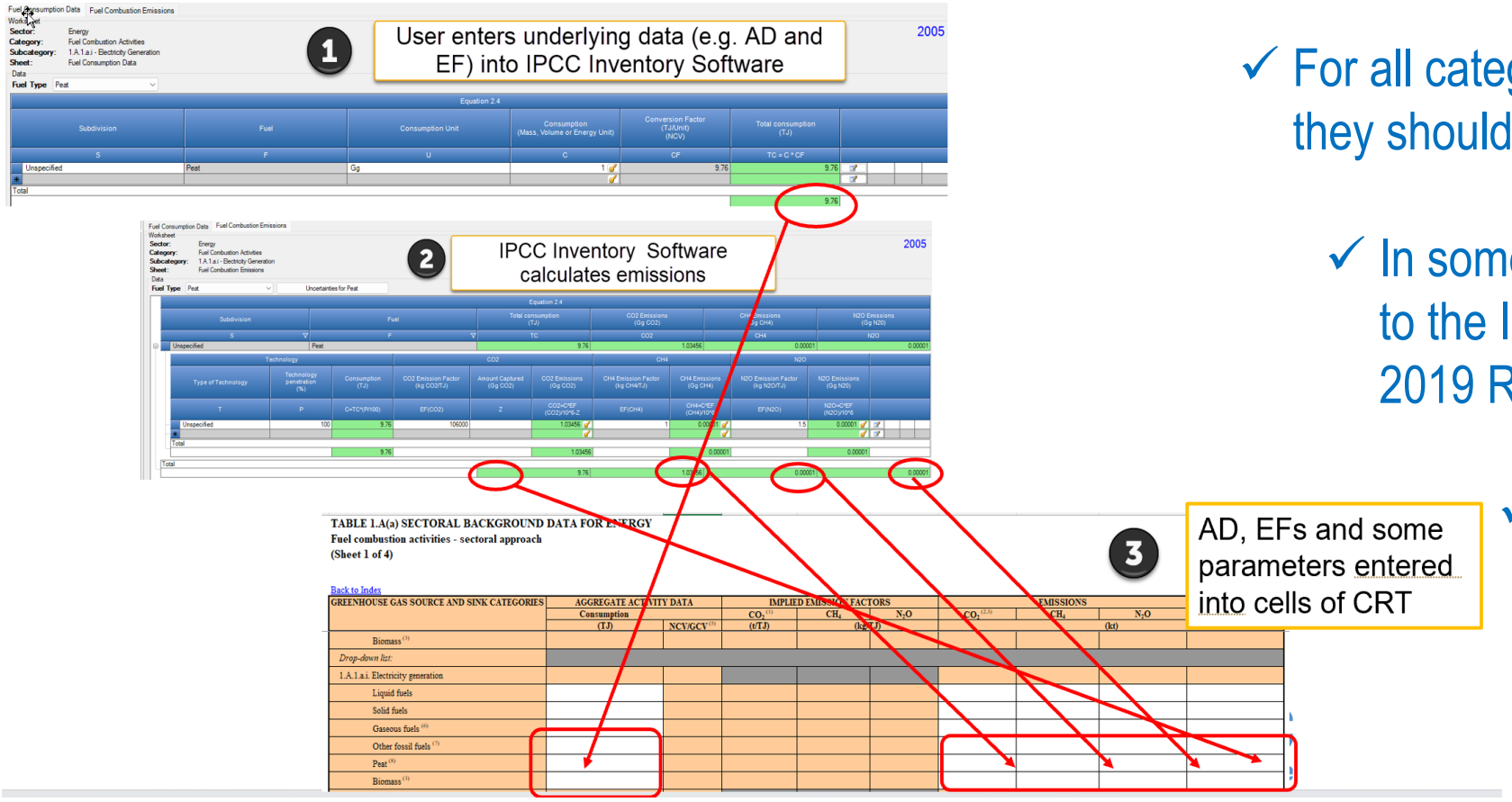
✓ In practice, the goal is to enable a country to use the IPCC Inventory Software to estimate its GHG emissions and removals in accordance with the 2006 IPCC Guidelines and generate a file that could be received and read by the UNFCCC reporting tool for CRT to facilitate the country's reporting to the Paris Agreement.

✓ Thereby, IPCC Inventory Software becomes a central component of a Party's institutional arrangements to facilitate meeting UNFCCC national reporting obligations.



UNFCCC and IPCC cooperation to achieve interoperability

Step 1: Mapping between IPCC Inventory Software and CRT



- ✓ For all categories, tiers and gases, map where they should appear in the UNFCCC CRT
- ✓ In some cases, this has required updates to the IPCC Inventory Software (e.g. 2019 Refinement, additional gases)
- ✓ Coordination with UNFCCC to ensure correct mapping

UNFCCC and IPCC cooperation to achieve interoperability

- **Step 2: Cell-by-cell mapping between IPCC Inventory Software and CRT, implementing visualization of CRT in IPCC Inventory Software**

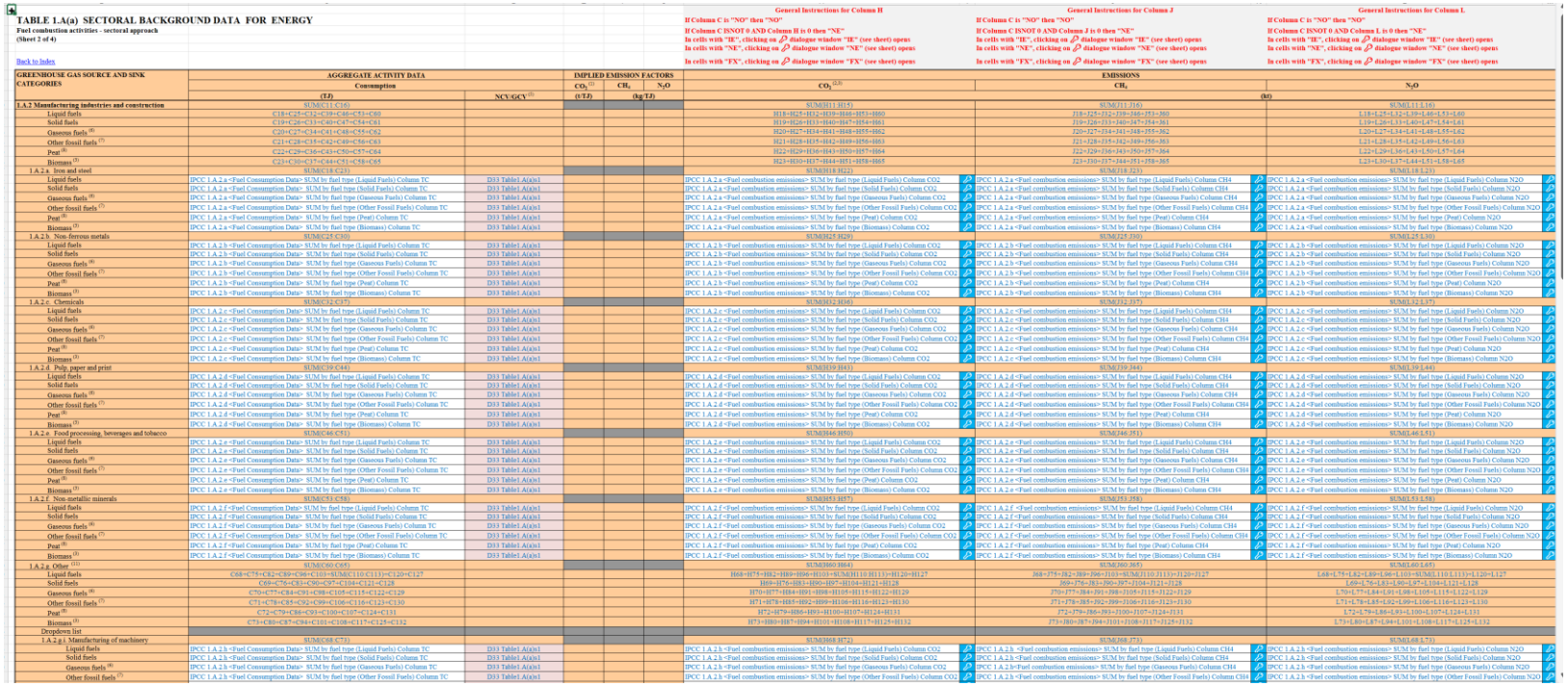


TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel combustion activities - sectoral approach
(Sheet 2 of 4)

Back to Index

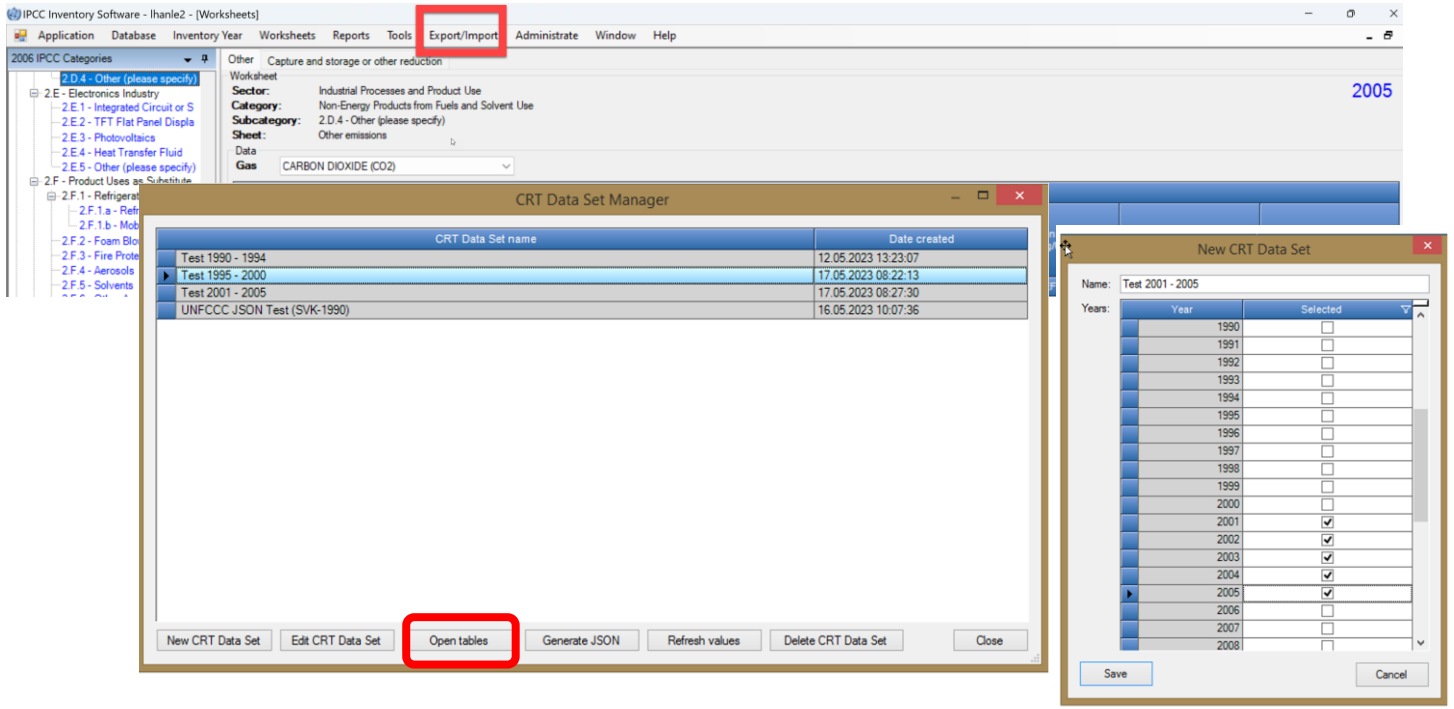
GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS		
	Consumption		CO_2 (1)	CH_4	N_2O	CO_2 (2,3)	CH_4	N_2O
	(TJ)	NCV/GCV (1)	(t/TJ)	(kg/TJ)			(kt)	
1.A.2 Manufacturing industries and construction	SUM(C11:C16)					SUM(I11:I16)	SUM(J11:J16)	SUM(L11:L16)
Liquid fuels	C18+C25+C32+C39+C46+C53+C60					I18+I25+I32+I39+I46+I53+I60	J18+J25+J32+J39+J46+J53+J60	L18+L25+L32+L39+L46+L53+L60
Solid fuels	C19+C26+C33+C40+C47+C54+C61					I19+I26+I33+I40+I47+I54+I61	J19+J26+J33+J40+J47+J54+J61	L19+L26+L33+L40+L47+L54+L61
Gaseous fuels (4)	C20+C27+C34+C41+C48+C55+C62					I20+I27+I34+I41+I48+I55+I62	J20+J27+J34+J41+J48+J55+J62	L20+L27+L34+L41+L48+L55+L62
Other fossil fuels (5)	C21+C28+C35+C42+C49+C56+C63					I21+I28+I35+I42+I49+I56+I63	J21+J28+J35+J42+J49+J56+J63	L21+L28+L35+L42+L49+L56+L63
Peat (6)	C22+C29+C36+C43+C50+C57+C64					I22+I29+I36+I43+I50+I57+I64	J22+J29+J36+J43+J50+J57+J64	L22+L29+L36+L43+L50+L57+L64
Biomass (7)	C23+C30+C37+C44+C51+C58+C65					I23+I30+I37+I44+I51+I58+I65	J23+J30+J37+J44+J51+J58+J65	L23+L30+L37+L44+L51+L58+L65
1.A.2.a. Iron and steel	SUM(C18:C23)					SUM(I18:I23)	SUM(J18:J23)	SUM(L18:L23)
Liquid fuels	IPCC 1.A.2.a <Fuel Consumption Data> SUM by fuel type (Liquid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CO2	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CH4	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column N2O
Solid fuels	IPCC 1.A.2.a <Fuel Consumption Data> SUM by fuel type (Solid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CO2	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CH4	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column N2O
Gaseous fuels (4)	IPCC 1.A.2.a <Fuel Consumption Data> SUM by fuel type (Gaseous Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CO2	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CH4	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column N2O
Other fossil fuels (5)	IPCC 1.A.2.a <Fuel Consumption Data> SUM by fuel type (Other Fossil Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CO2	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CH4	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column N2O
Peat (6)	IPCC 1.A.2.a <Fuel Consumption Data> SUM by fuel type (Peat) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Peat) Column CO2	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Peat) Column CH4	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Peat) Column N2O
Biomass (7)	IPCC 1.A.2.a <Fuel Consumption Data> SUM by fuel type (Biomass) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Biomass) Column CO2	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Biomass) Column CH4	IPCC 1.A.2.a <Fuel combustion emissions> SUM by fuel type (Biomass) Column N2O
1.A.2.b. Non-ferrous metals	SUM(C25:C30)					SUM(I25:I30)	SUM(J25:J30)	SUM(L25:L30)
Liquid fuels	IPCC 1.A.2.b <Fuel Consumption Data> SUM by fuel type (Liquid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CO2	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CH4	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column N2O
Solid fuels	IPCC 1.A.2.b <Fuel Consumption Data> SUM by fuel type (Solid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CO2	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CH4	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column N2O
Gaseous fuels (4)	IPCC 1.A.2.b <Fuel Consumption Data> SUM by fuel type (Gaseous Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CO2	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CH4	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column N2O
Other fossil fuels (5)	IPCC 1.A.2.b <Fuel Consumption Data> SUM by fuel type (Other Fossil Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CO2	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CH4	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column N2O
Peat (6)	IPCC 1.A.2.b <Fuel Consumption Data> SUM by fuel type (Peat) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Peat) Column CO2	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Peat) Column CH4	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Peat) Column N2O
Biomass (7)	IPCC 1.A.2.b <Fuel Consumption Data> SUM by fuel type (Biomass) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Biomass) Column CO2	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Biomass) Column CH4	IPCC 1.A.2.b <Fuel combustion emissions> SUM by fuel type (Biomass) Column N2O
1.A.2.c. Chemicals	SUM(C32:C37)					SUM(I32:I37)	SUM(J32:J37)	SUM(L32:L37)
Liquid fuels	IPCC 1.A.2.c <Fuel Consumption Data> SUM by fuel type (Liquid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CO2	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CH4	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column N2O
Solid fuels	IPCC 1.A.2.c <Fuel Consumption Data> SUM by fuel type (Solid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CO2	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CH4	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column N2O
Gaseous fuels (4)	IPCC 1.A.2.c <Fuel Consumption Data> SUM by fuel type (Gaseous Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CO2	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CH4	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column N2O
Other fossil fuels (5)	IPCC 1.A.2.c <Fuel Consumption Data> SUM by fuel type (Other Fossil Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CO2	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CH4	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column N2O
Peat (6)	IPCC 1.A.2.c <Fuel Consumption Data> SUM by fuel type (Peat) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Peat) Column CO2	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Peat) Column CH4	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Peat) Column N2O
Biomass (7)	IPCC 1.A.2.c <Fuel Consumption Data> SUM by fuel type (Biomass) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Biomass) Column CO2	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Biomass) Column CH4	IPCC 1.A.2.c <Fuel combustion emissions> SUM by fuel type (Biomass) Column N2O
1.A.2.d. Pulp, paper and print	SUM(C39:C44)					SUM(I39:I44)	SUM(J39:J44)	SUM(L39:L44)
Liquid fuels	IPCC 1.A.2.d <Fuel Consumption Data> SUM by fuel type (Liquid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CO2	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CH4	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column N2O
Solid fuels	IPCC 1.A.2.d <Fuel Consumption Data> SUM by fuel type (Solid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CO2	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CH4	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column N2O
Gaseous fuels (4)	IPCC 1.A.2.d <Fuel Consumption Data> SUM by fuel type (Gaseous Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CO2	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CH4	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column N2O
Other fossil fuels (5)	IPCC 1.A.2.d <Fuel Consumption Data> SUM by fuel type (Other Fossil Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CO2	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CH4	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column N2O
Peat (6)	IPCC 1.A.2.d <Fuel Consumption Data> SUM by fuel type (Peat) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Peat) Column CO2	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Peat) Column CH4	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Peat) Column N2O
Biomass (7)	IPCC 1.A.2.d <Fuel Consumption Data> SUM by fuel type (Biomass) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Biomass) Column CO2	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Biomass) Column CH4	IPCC 1.A.2.d <Fuel combustion emissions> SUM by fuel type (Biomass) Column N2O
1.A.2.e. Food processing, beverages and tobacco	SUM(C46:C51)					SUM(I46:I51)	SUM(J46:J51)	SUM(L46:L51)
Liquid fuels	IPCC 1.A.2.e <Fuel Consumption Data> SUM by fuel type (Liquid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CO2	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CH4	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column N2O
Solid fuels	IPCC 1.A.2.e <Fuel Consumption Data> SUM by fuel type (Solid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CO2	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CH4	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column N2O
Gaseous fuels (4)	IPCC 1.A.2.e <Fuel Consumption Data> SUM by fuel type (Gaseous Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CO2	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CH4	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column N2O
Other fossil fuels (5)	IPCC 1.A.2.e <Fuel Consumption Data> SUM by fuel type (Other Fossil Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CO2	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CH4	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column N2O
Peat (6)	IPCC 1.A.2.e <Fuel Consumption Data> SUM by fuel type (Peat) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Peat) Column CO2	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Peat) Column CH4	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Peat) Column N2O
Biomass (7)	IPCC 1.A.2.e <Fuel Consumption Data> SUM by fuel type (Biomass) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Biomass) Column CO2	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Biomass) Column CH4	IPCC 1.A.2.e <Fuel combustion emissions> SUM by fuel type (Biomass) Column N2O
1.A.2.f. Non-metallic minerals	SUM(C53:C58)					SUM(I53:I58)	SUM(J53:J58)	SUM(L53:L58)
Liquid fuels	IPCC 1.A.2.f <Fuel Consumption Data> SUM by fuel type (Liquid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CO2	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CH4	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column N2O
Solid fuels	IPCC 1.A.2.f <Fuel Consumption Data> SUM by fuel type (Solid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CO2	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CH4	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column N2O
Gaseous fuels (4)	IPCC 1.A.2.f <Fuel Consumption Data> SUM by fuel type (Gaseous Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CO2	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CH4	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column N2O
Other fossil fuels (5)	IPCC 1.A.2.f <Fuel Consumption Data> SUM by fuel type (Other Fossil Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CO2	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CH4	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column N2O
Peat (6)	IPCC 1.A.2.f <Fuel Consumption Data> SUM by fuel type (Peat) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Peat) Column CO2	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Peat) Column CH4	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Peat) Column N2O
Biomass (7)	IPCC 1.A.2.f <Fuel Consumption Data> SUM by fuel type (Biomass) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Biomass) Column CO2	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Biomass) Column CH4	IPCC 1.A.2.f <Fuel combustion emissions> SUM by fuel type (Biomass) Column N2O
1.A.2.g. Other (11)	SUM(C60:C65)					SUM(I60:I65)	SUM(J60:J65)	SUM(L60:L65)
Liquid fuels	C68+C75+C82+C89+C96+C103+SUM(C110:C113)+C120+C127					H68+H75+H82+H89+H96+H103+SUM(H110:H113)+H120+H127	J68+J75+J82+J89+J96+J103+SUM(J110:J113)+J120+J127	L68+L75+L82+L89+L96+L103+SUM(L110:L113)+L120+L127
Solid fuels	C69+C76+C83+C90+C97+C104+C121+C128					I69+I76+I83+I90+I97+I104+I121+I128	J69+J76+J83+J90+J97+J104+J121+J128	L69+L76+L83+L90+L97+L104+L121+L128
Gaseous fuels (4)	C70+C77+C84+C91+C98+C105+C115+C122+C129					I70+I77+I84+I91+I98+I105+I115+I122+I129	J70+J77+J84+J91+J98+J105+J115+J122+J129	L70+L77+L84+L91+L98+L105+L115+L122+L129
Other fossil fuels (5)	C71+C78+C85+C92+C99+C106+C116+C123+C130					I71+I78+I85+I92+I99+I106+I116+I123+I130	J71+J78+J85+J92+J99+J106+J116+J123+J130	L71+L78+L85+L92+L99+L106+L116+L123+L130
Peat (6)	C72+C79+C86+C93+C100+C107+C124+C131					I72+I79+I86+I93+I100+I107+I124+I131	J72+J79+J86+J93+J100+J107+J124+J131	L72+L79+L86+L93+L100+L107+L124+L131
Biomass (7)	C73+C80+C87+C94+C101+C108+C117+C125+C132					I73+I80+I87+I94+I101+I108+I117+I125+I132	J73+J80+J87+J94+J101+J108+J117+J125+J132	L73+L80+L87+L94+L101+L108+L117+L125+L132
Dropdown list								
1.A.2.g.i. Manufacturing of machinery	SUM(C68:C73)					SUM(I68:I73)	SUM(J68:J73)	SUM(L68:L73)
Liquid fuels	IPCC 1.A.2.h <Fuel Consumption Data> SUM by fuel type (Liquid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CO2	IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column CH4	IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Liquid Fuels) Column N2O
Solid fuels	IPCC 1.A.2.h <Fuel Consumption Data> SUM by fuel type (Solid Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CO2	IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column CH4	IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Solid Fuels) Column N2O
Gaseous fuels (4)	IPCC 1.A.2.h <Fuel Consumption Data> SUM by fuel type (Gaseous Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CO2	IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column CH4	IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Gaseous Fuels) Column N2O
Other fossil fuels (5)	IPCC 1.A.2.h <Fuel Consumption Data> SUM by fuel type (Other Fossil Fuels) Column TC	D33 Table1.A(a)s1				IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CO2	IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column CH4	IPCC 1.A.2.h <Fuel combustion emissions> SUM by fuel type (Other Fossil Fuels) Column N2O

- ✓ **For Sectoral / Background CRT,** AD and emissions map from IPCC Inventory Software to CRT; IEF and summary tables calculated in CRT
- ✓ **Additional explanatory information** can be added in IPCC Inventory Software (e.g. documentation boxes, user/ Party comments, method/EF information, notation key explanations, including confidentiality)

What can users expect for version with interoperability?

Step 1. User calculates annual/ time series of GHG Inventory in IPCC Inventory Software

✓ Interface will look the same as current version, with some updated categories/ gases to facilitate interoperability.



Step 2. Access CRT interface in the Main Menu of IPCC Inventory Software

- Create / name the CRT data set to be generated
- Select the year(s) for export to CRT
- Feed worksheet data into CRT visualized in IPCC Inventory Software

Note: Some images may be updated as we continue to finalize interoperability, taking into account comments received.

What can users expect for version with interoperability?

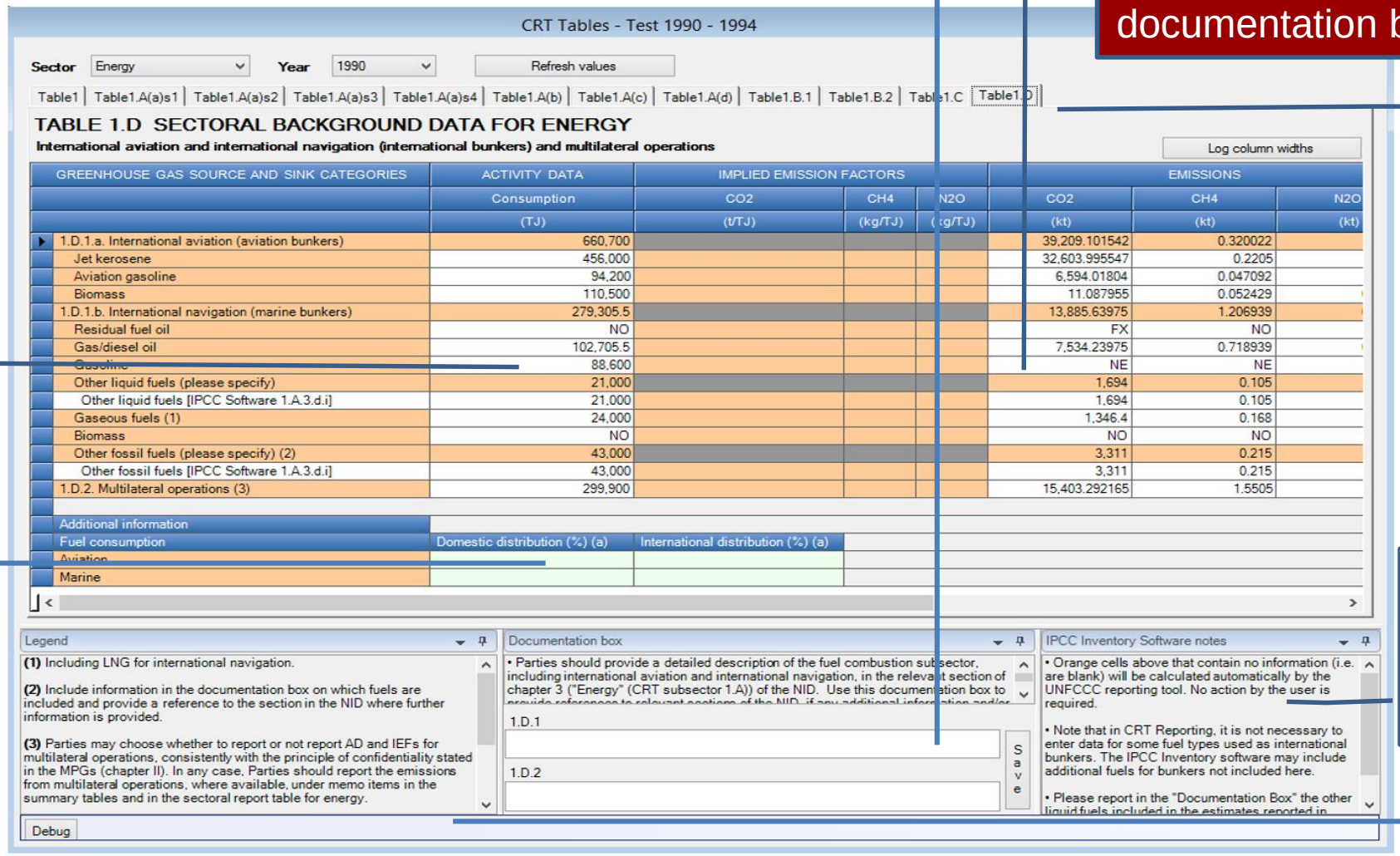
Step 3. Review visualized CRTs

Identify explanations needed (e.g. "NE" / documentation boxes)

Checks done for all tables / all years

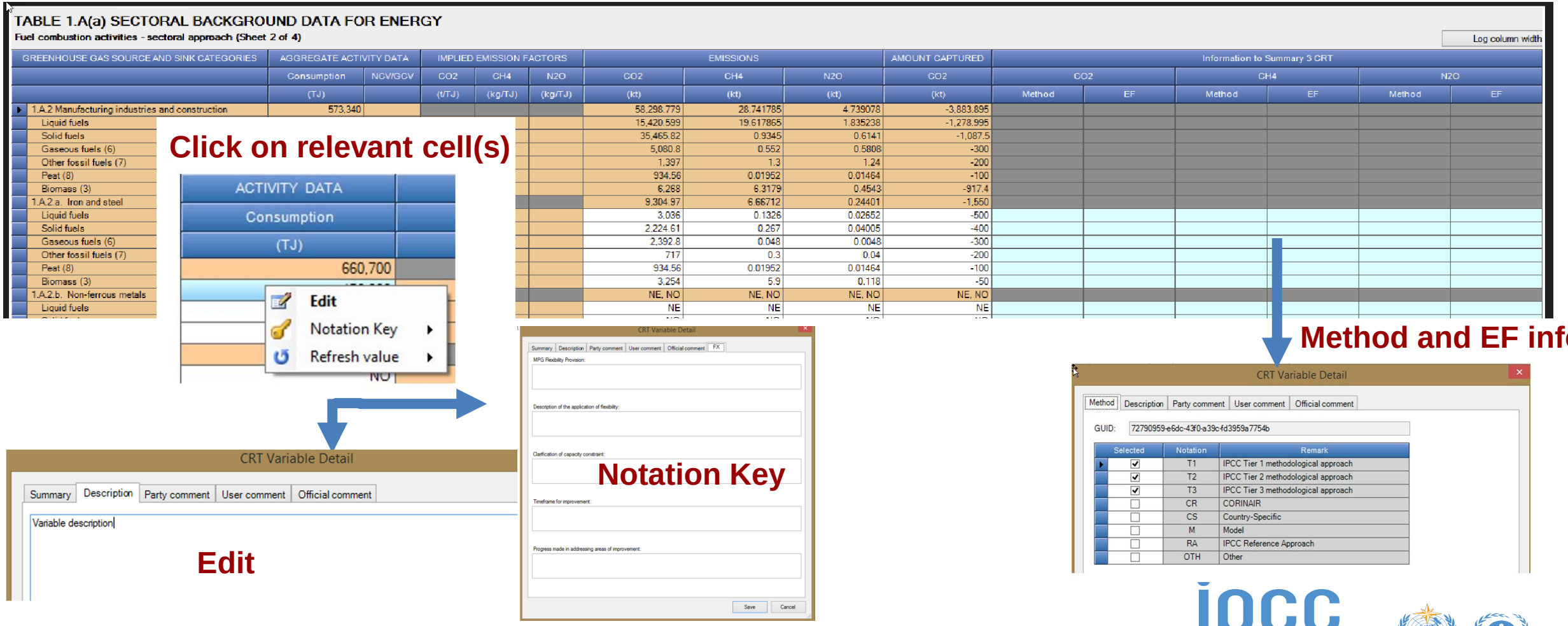
Review Values

Guidance available (CRT footnotes, and IPCC Inventory Software)



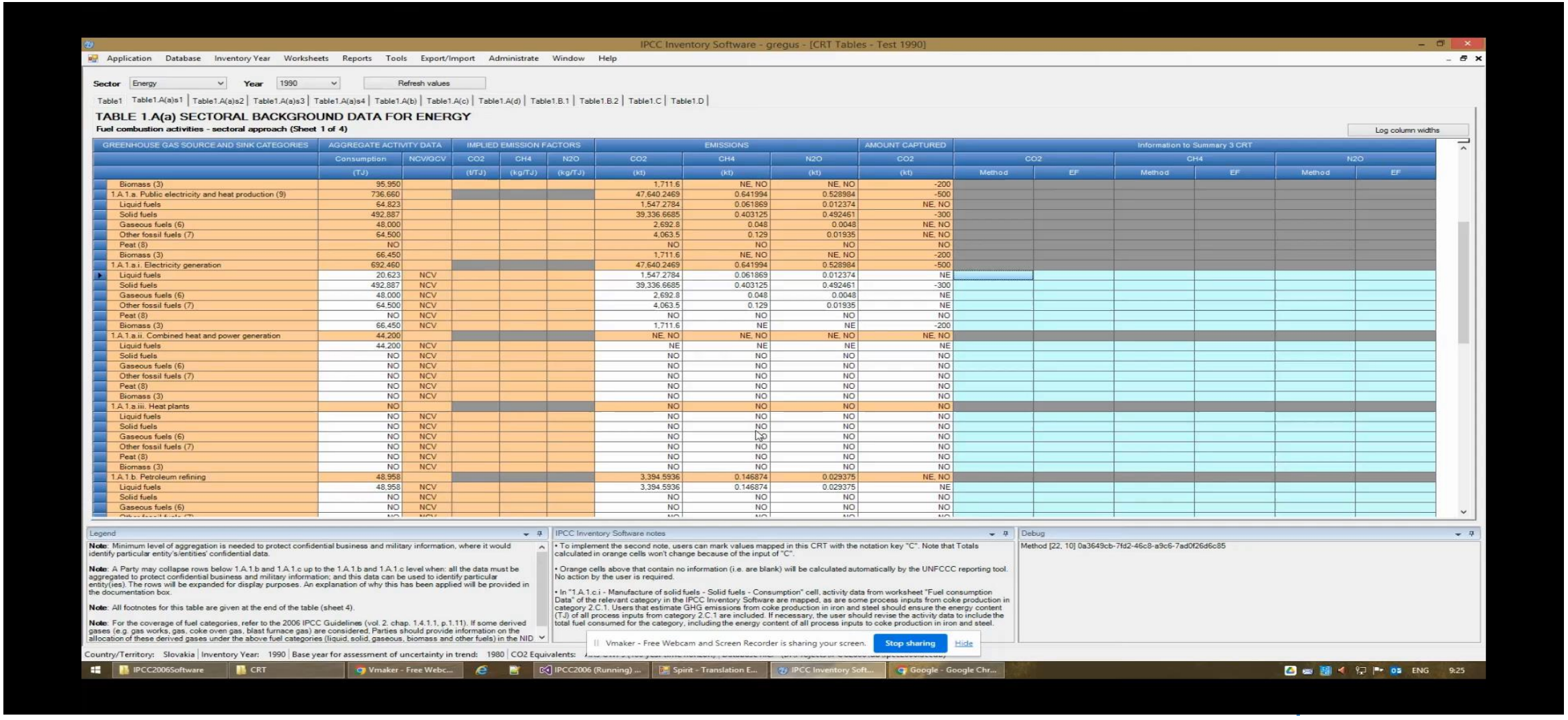
What can users expect for version with interoperability?

Step 4. Finalize information for export to CRT



What can users expect for version with interoperability?

Step 4. Finalize information for export to CRT



What can users expect for version with interoperability?

Step 4. Finalize information for export to CRT – treatment of confidential information

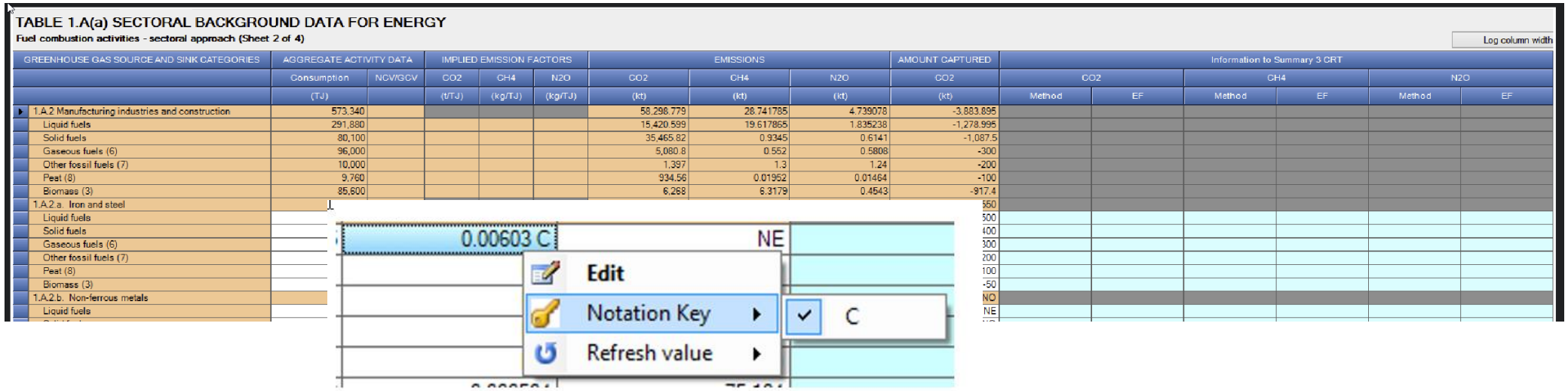


TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY

Fuel combustion activities - sectoral approach (Sheet 2 of 4)

Log column width

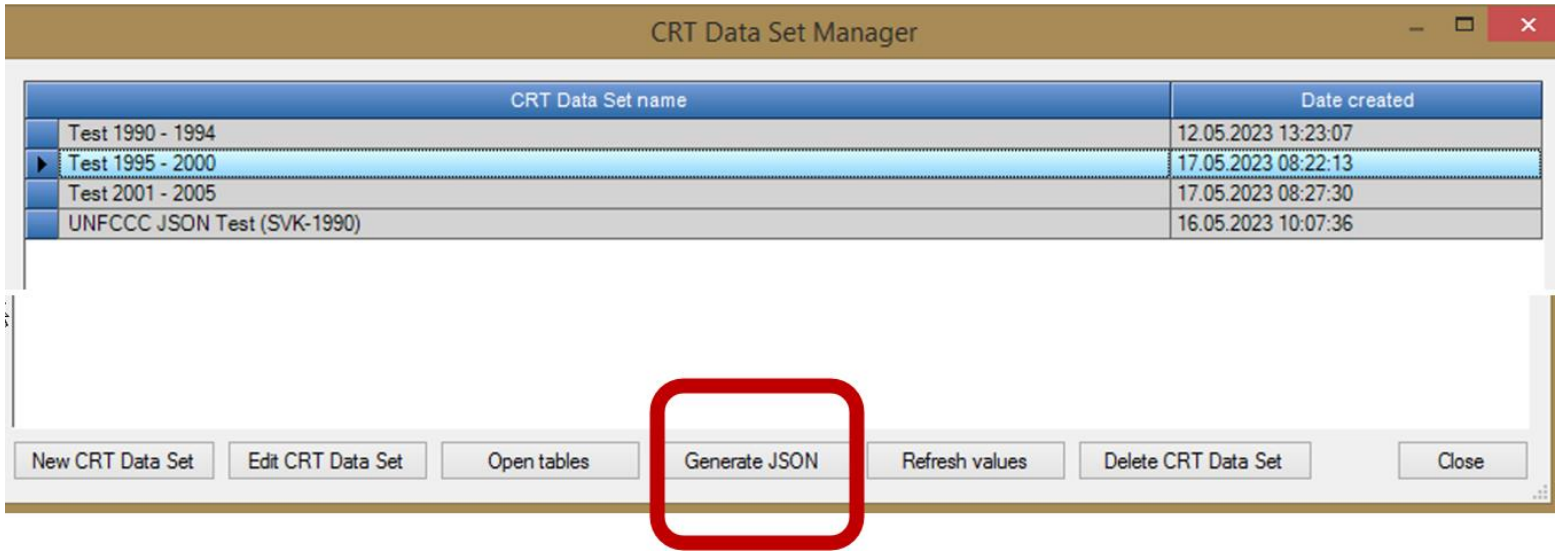
GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS			AMOUNT CAPTURED	Information to Summary 3 CRT					
	Consumption	NCV/GCV	CO2	CH4	N2O	CO2	CH4	N2O	CO2	CO2		CH4		N2O	
	(TJ)		(t/TJ)	(kg/TJ)	(kg/TJ)	(kt)	(kt)	(kt)	(kt)	Method	EF	Method	EF	Method	EF
1.A.2 Manufacturing industries and construction	573,340					58,298.779	28.741785	4.739078	-3,883.895						
Liquid fuels	291,880					15,420.599	19.617865	1.835238	-1,278.995						
Solid fuels	80,100					35,465.82	0.9345	0.6141	-1,087.5						
Gaseous fuels (6)	96,000					5,080.8	0.552	0.5808	-300						
Other fossil fuels (7)	10,000					1,397	1.3	1.24	-200						
Peat (8)	9,760					934.56	0.01952	0.01464	-100						
Biomass (3)	85,600					6.268	6.3179	0.4543	-917.4						
1.A.2.a. Iron and steel															
Liquid fuels															
Solid fuels															
Gaseous fuels (6)															
Other fossil fuels (7)															
Peat (8)															
Biomass (3)															
1.A.2.b. Non-ferrous metals															
Liquid fuels															

- ✓ In cells containing values, the only notation key is C (Confidential) allowing a user to mark that CRT Variable as "Confidential". A "C" flag is added as a suffix to the numeric value. While the value in the confidential cell is still visible in the software it will not be exported to CRT

- ✓ If issues are identified during the finalization phase, user may toggle to IPCC Inventory Software worksheets, and address issue. Selecting "Refresh value" will update view in CRT visualization tables

What can users expect for version with interoperability?

Step 5. Generate JSON file for export to CRT

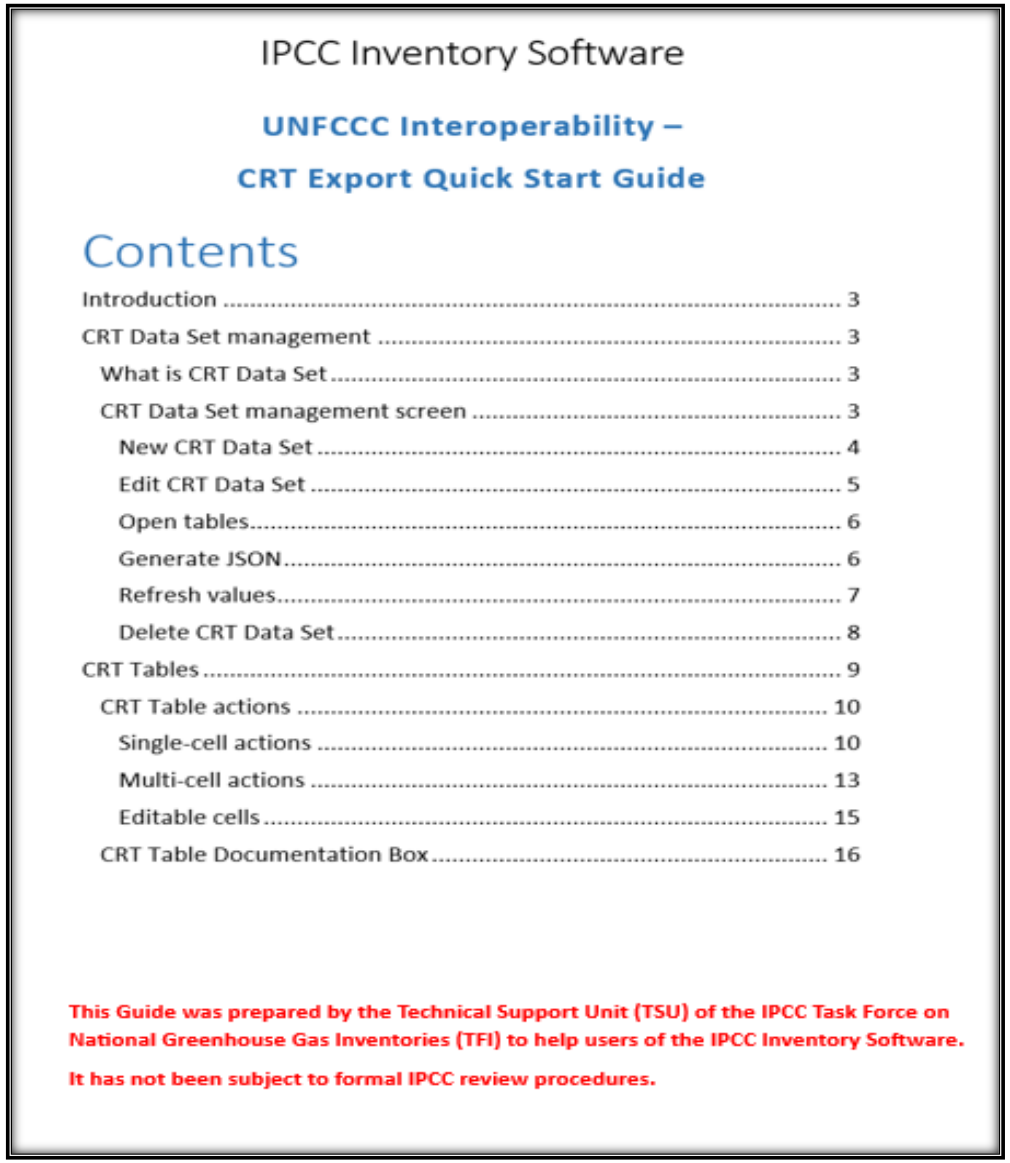


JSON file importable by UNFCCC electronic reporting tool

Step 6. User proceeds to conduct any QC checks in UNFCCC electronic reporting tool

IPCC Inventory Software: CRT Export Quick Start Guide

- First Iteration



IPCC Inventory Software

UNFCCC Interoperability –

CRT Export Quick Start Guide

Contents

This Guide was prepared by the Technical Support Unit (TSU) of the IPCC Task Force on National Greenhouse Gas Inventories (TFI) to help users of the IPCC Inventory Software.

It has not been subject to formal IPCC review procedures.

- Description of functionalities in IPCC Inventory Software to prepare data for generation of JSON file for use by UNFCCC electronic reporting tool.

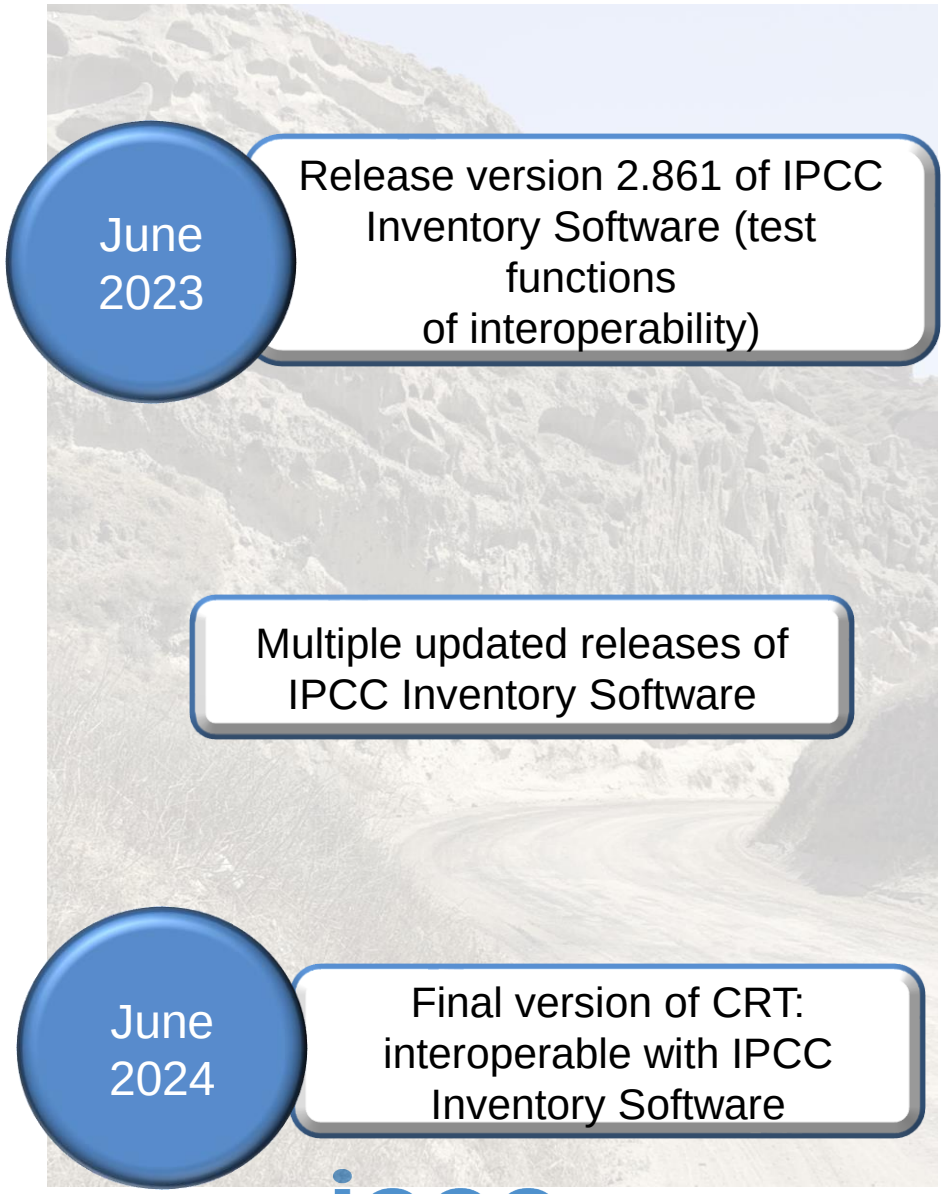
The Road Ahead

- ✓ Multiple releases between now and COP28, and beyond to June 2024, are expected.
- ✓ The best way for Parties to prepare for reporting under the ETF, is to start today.
- ✓ Learn more about IPCC Inventory Software and download the latest version:

  https://www.ipcc-nggip.iges.or.jp/software/index.html

- ✓ Please continue to support us through testing and reporting your findings to ipcc-software@iges.or.jp

In the 7th IPCC assessment cycle (from end of July 2023) the plan may be subject to changes, depending on consideration by the IPCC and the new Bureau of the Task Force on National Greenhouse Gas Inventories



Thank you

https://www.ipcc-nggip.iges.or.jp/index.html

ipcc
INTERGOVERNMENTAL PANEL ON climate change
WMO UNEP