Regione marche, test del Carbon calculator GECO2, piattaforma di mercato e gestione delle transazioni

PROGETTO GECO2
Fase WP4.3 – Pilot project implementation

Giovedì 21 Aprile 2022

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PO Monitoraggio Suoli Servizio Politiche Agroalimentari Regione Marche
Treia (MC)

Fasi di lavoro

- Test per il calcolatore di CO_2 equivalente:
  - Format inserimento dati aziende creditrici
  - Format inserimento dati aziende debitrici
  - Eseguibile di calcolo
- Test della piattaforma di mercato
  - Il venditore
  - Il compratore
  - L'amministratore

Servizio Politiche Agroalimentari

Test per il calcolatore di CO2 equivalente

Arpae ER - Servizio Idro Meteo Clima

Agenzia regionale per la prevenzione, l'ambiente e l'energia dell'Emilia-Romagna

Autore Antonio Volta

https://github.com/ARPA-SIMC/carbonCalculator/wiki

Why GitHub? Team Enterprise Explore Marketplace Pricing

ARPA-SIMC / carbonCalculator Public

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voltAntonio edited this page on 26 Oct · 47 revisions

Carbon Calculator is a kit to compute the carbon budget in cropland at field level, developed in the framework of IT-HR GECO2 project.

Installation

- Windows: carbonCalculator_WIN64.zip
- MacOS: carbonCalculator_MACOS.zip
- unzip files on your local path, for example in `C:\carbonCalcul`

Prepare the data (credits)

- data for credits computation can be entered in this CREDITS f

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Output

- the output will be saved in the directory `carbonCalculator\data`
- output file is a SQLite database, download https://sqlitebrowser.org/ to manage data
- see the table `carbon_dynamics` in order to assess the detailed calculation of carbon sequestration and emission based on the implemented conservative practices.
- see the table `carbon_budget` in order to get the field credits and in order to assess the budget at both,hectare and field scale. Budget of aboveground biomass is computed separately and then aggregated to get the carbon credits.

Authors

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License

`carbonCalculator` has been developed in the framework of IT-HR GECO2 project under contract issued by ARPAE Hydro-Meteo-Climate Service, Emilia-Romagna, Italy

The code is released under the GNU GPL-3.0 License

Prepare the data (debts)

- data for debts computation can be entered in this DEBTS form
- you can find information about how to fill out the form at the following link:

  Vademecum_Buyers_English;
- when the form is complete you can save the data as csv file at this link:

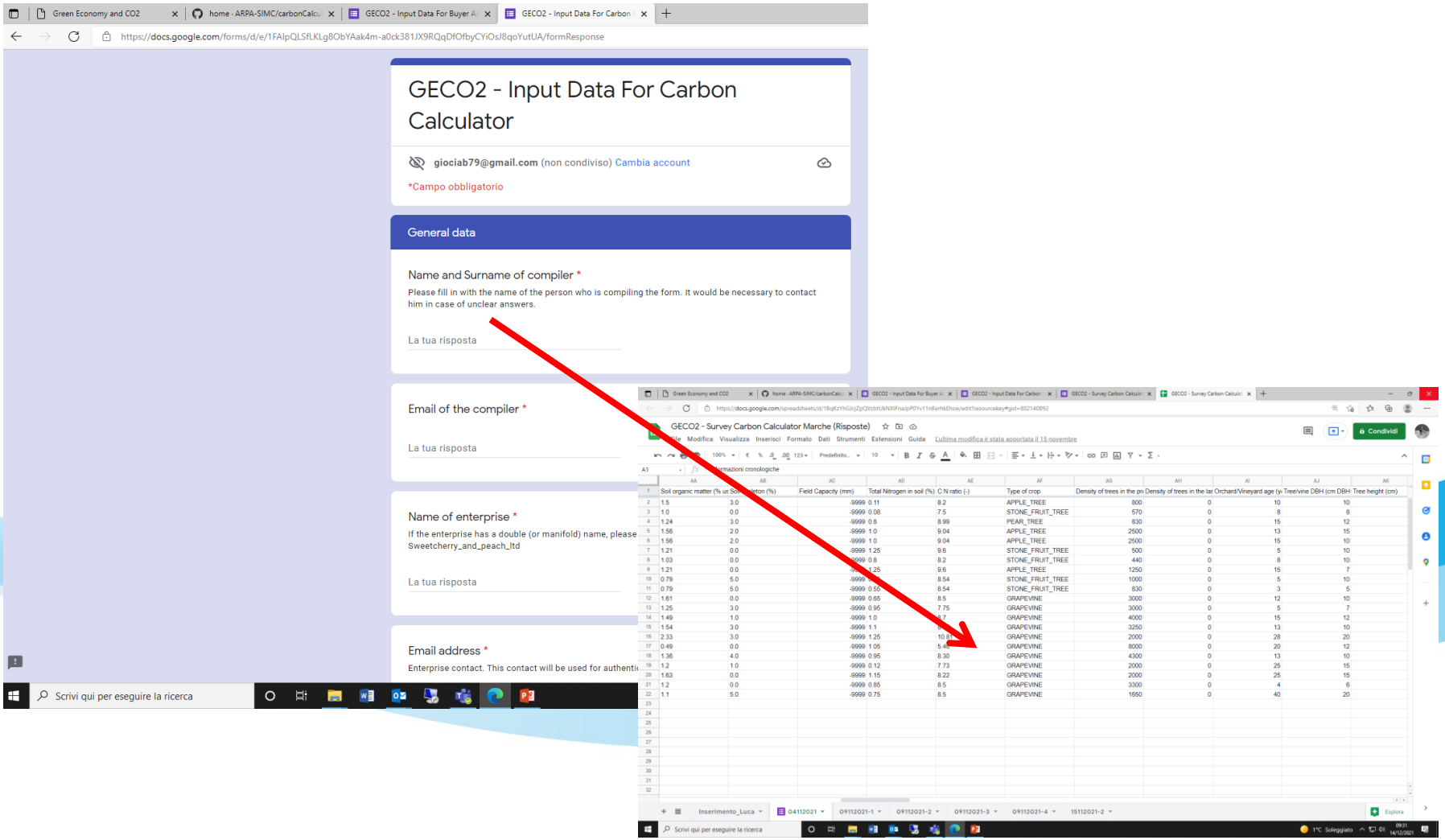
download debts data risposte --> visualizza risposte in fogli --> file --> scarica --> valori separati da virgole (.csv)

- put your csv files in the directory `carbonCalculator\data`
- in the distribution you can find a test input file (testInputDebts.csv)

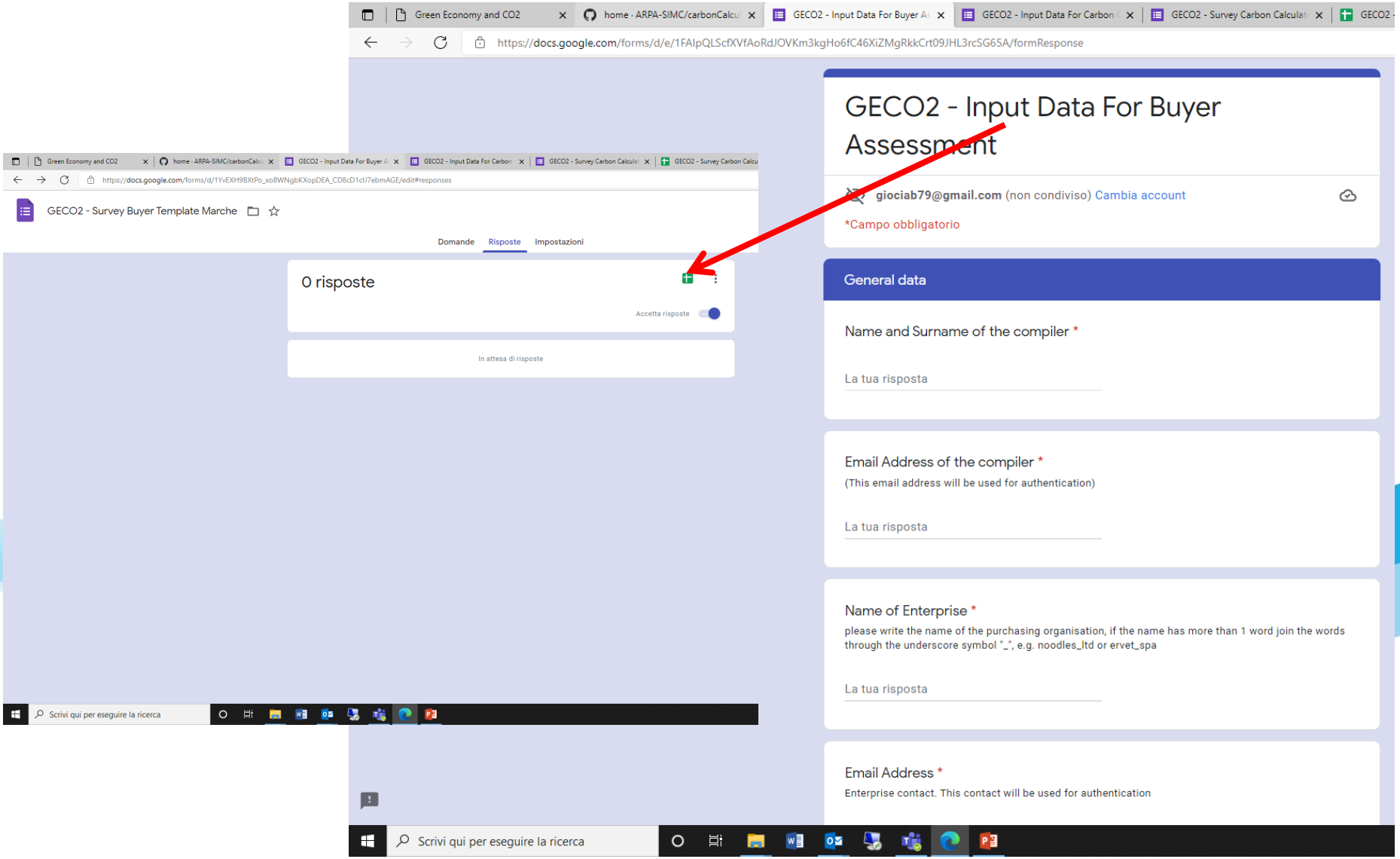
Run calculator

- run `carbonCalculator\bin\carbonCalculator.exe` (`carbonCalculator.app` on Mac)
- only on Mac: select the path of file `DATA\carbonCalculatorParameters.db`
- load credits or debts csv files with the `File` menu
- compute credits or debts with the `Run` menu
- please insert a name for the output db that identify your area (for example: GECO2_ER.db)
- warning and error messages warn you if any data is wrong
- for each field a synthetic summary is provided: the carbon budget in CO2eq and if the credits satisfy the GECO2 specifications

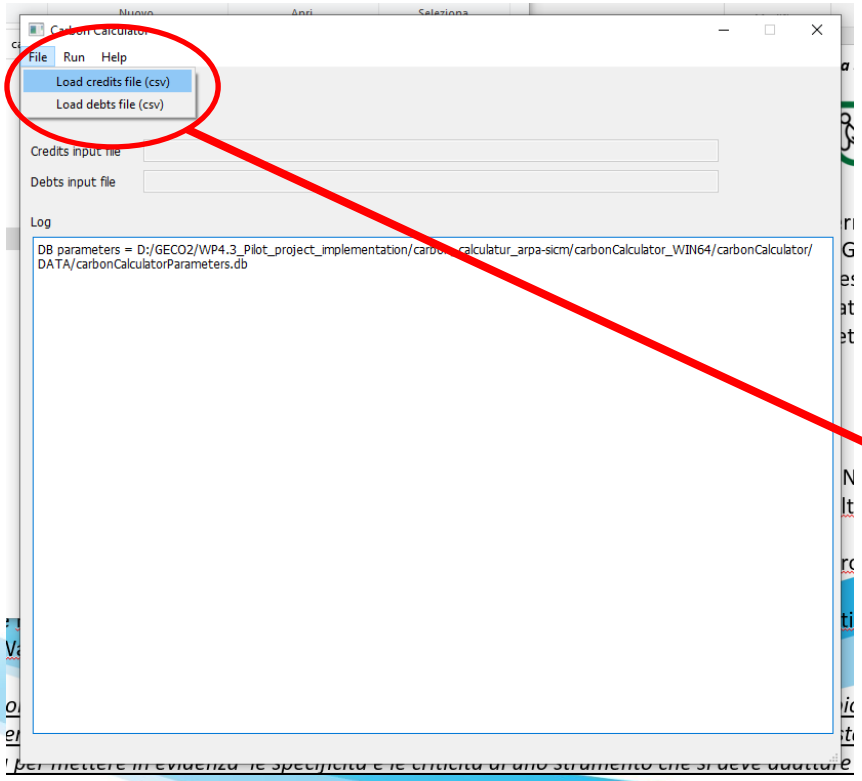
Format inserimento dati aziende creditrici

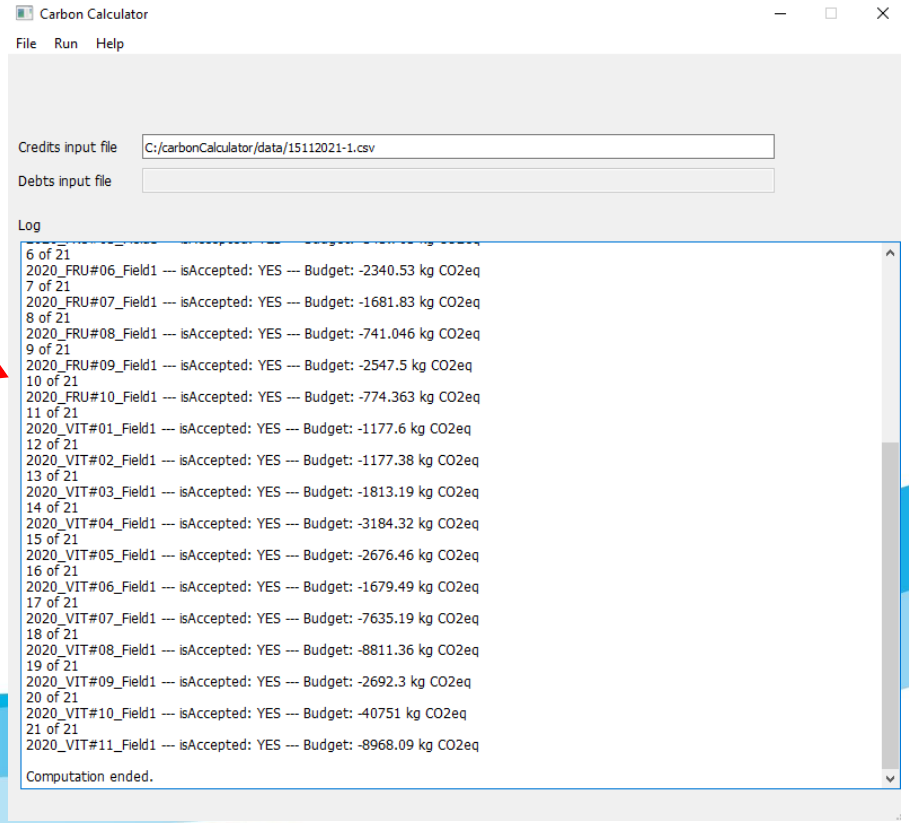


Format inserimento dati aziende debitrici



Eseguibile di calcolo





Output del calcolatore

DB Browser for SQLite - C:\carbonCalculator\data\15112021-1.db

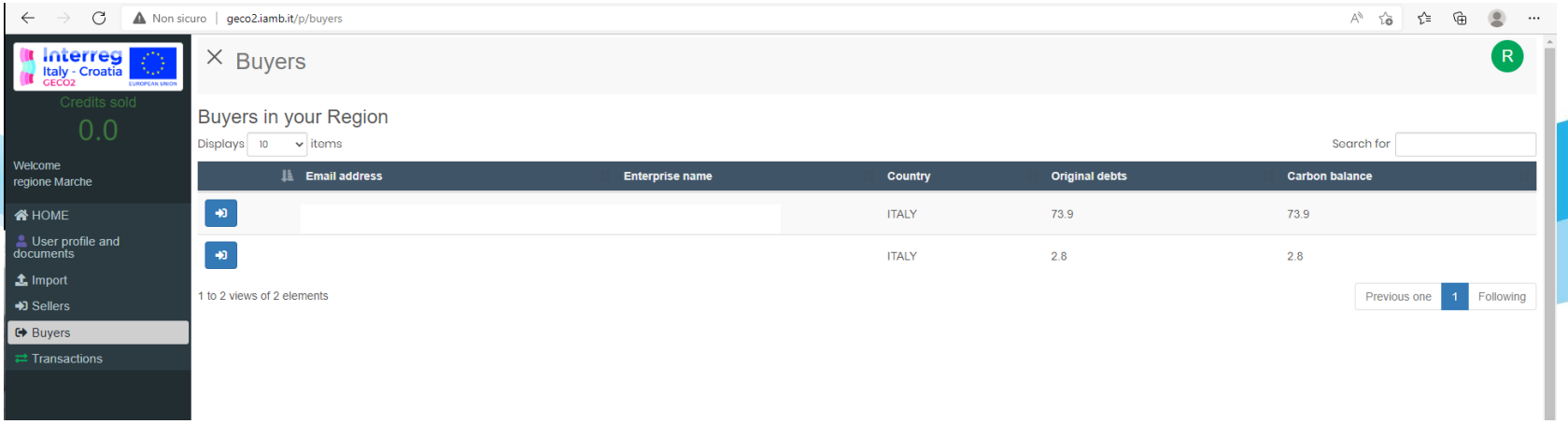
Tabella: carbon_budget

	otprint	biomass_carbon_budget_hectare	biomass_carbon_budget_field	biomass_carbon_hectare	biomass_carbon_field	biomass_carbon_footprint	nr_sustainable_practices	isAccepted	credits_per_hectare	credits
		Filtro	Filtro	Filtro	Filtro	Filtro	Filtro	Filtro	Filtro	Filtro
1	18.3086	-1080.0	-6480.0	-13500.0	-81000.0	-72.0	4	1	-1118.77	-6712.62
2	62.567	-1388.0	-1388.0	-13880.0	-13880.0	-92.5333	5	1	-503.155	-503.155
3	97.9365	-1080.0	-1080.0	-20250.0	-20250.0	-72.0	6	1	-2171.11	-2171.11
4	14.7866	-1080.0	-3240.0	-17550.0	-52650.0	-72.0	3	1	-726.233	-2178.7
5	26.0742	-1080.0	-1080.0	-20250.0	-20250.0	-54.0	6	1	-543.705	-543.705
6	35.4252	-1388.0	-1388.0	-8675.0	-8675.0	-92.5333	7	1	-2340.53	-2340.53
7	72.2326	-1388.0	-1388.0	-13880.0	-13880.0	-173.5	5	1	-1681.83	-1681.83
8	30.2565	-1080.0	-1080.0	-20250.0	-20250.0	-135.0	4	1	-741.046	-741.046
9	19.7344	-1388.0	-4164.0	-8675.0	-26025.0	-55.52	5	1	-849.167	-2547.5
10	41.2667	-1388.0	-1388.0	-5205.0	-5205.0	-99.1429	6	1	-774.363	-774.363
11	78.5065	-2000.0	-2000.0	-30000.0	-30000.0	-222.222	8	1	-1177.6	-1177.6
12	91.2788	-2000.0	-2000.0	-12500.0	-12500.0	-250.0	7	1	-1177.38	-1177.38
13	116.453	-2000.0	-4000.0	-37500.0	-75000.0	-222.222	7	1	-906.596	-1813.19
14	162.546	-2000.0	-2000.0	-32500.0	-32500.0	-200.0	7	1	-3184.32	-3184.32
15	128.83	-2000.0	-6000.0	-70000.0	-210000.0	-250.0	8	1	-892.152	-2676.46
16	19.0292	-2000.0	-2000.0	-50000.0	-50000.0	-285.714	9	1	-1679.49	-1679.49
17	16.0356	-2000.0	-8000.0	-32500.0	-130000.0	-250.0	7	1	-1908.8	-7635.19
18	139.525	-2000.0	-6000.0	-62500.0	-187500.0	-200.0	6	1	-2937.12	-8811.36
19	-109.58	-2000.0	-2000.0	-62500.0	-62500.0	-200.0	6	1	-2692.3	-2692.3
20	123.912	-2000.0	-28000.0	-10000.0	-140000.0	-181.818	6	1	-2910.78	-40751.0
21	174.578	-2000.0	-6000.0	-100000.0	-300000.0	-250.0	7	1	-2989.36	-8968.09

Risultati per le marche

Settore	*n. aziende*	*ha coinvolti*	*dimensione media terreni*
Frutticolo	10	19	1,9
Viticolo	11	34	3,09
Totale test Marche	21	53	2,52

Settore	*Crediti di CO_2 equivalente generati*	*Crediti di CO_2 equivalente per ettaro*
Frutticolo	-20,19	-1,144
Viticolo	-80,56	-2,041
Totale test Marche	-100,76	-1,614



Test della piattaforma di mercato

http://geco2.iamb.it/

Sviluppato da

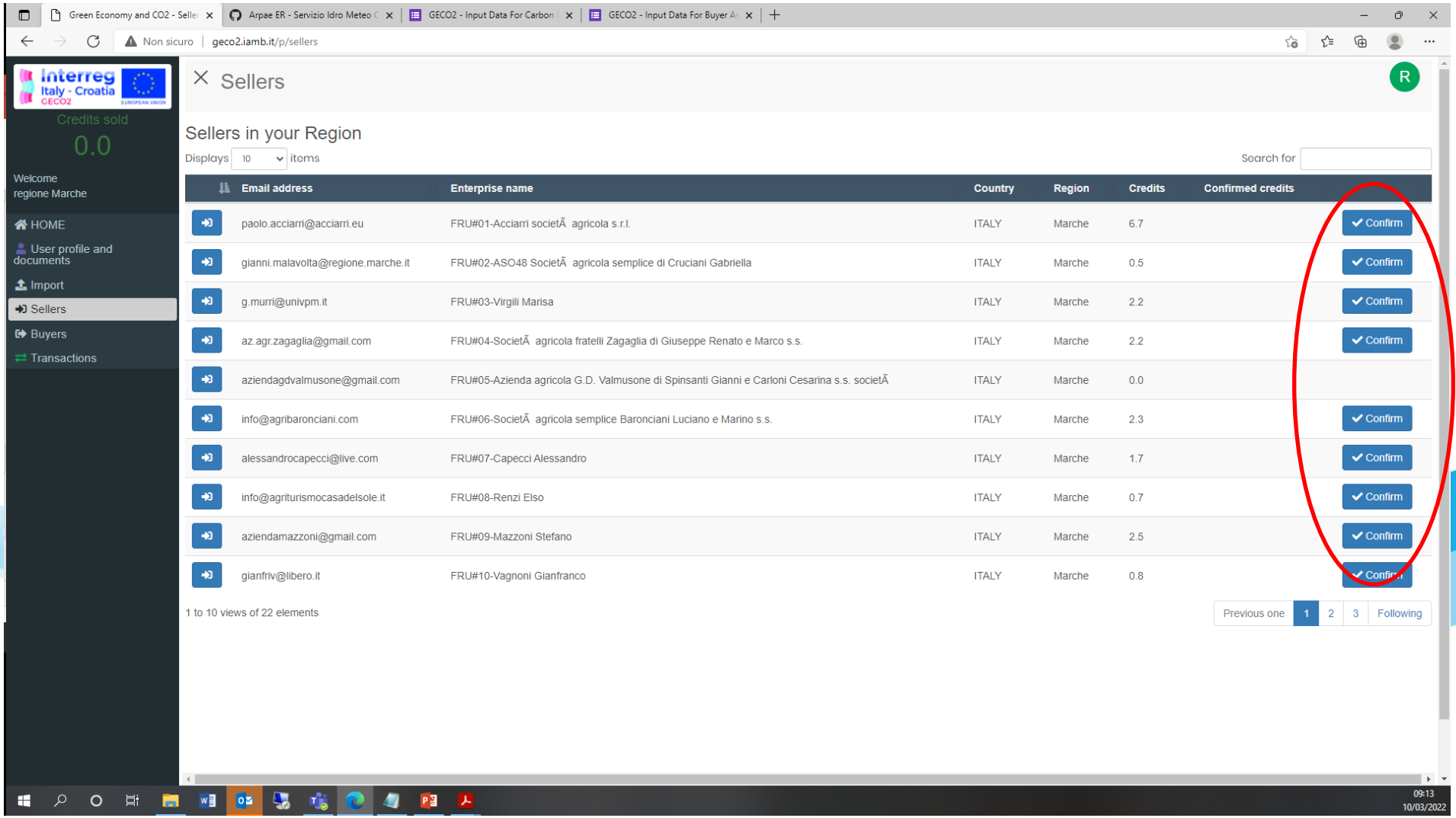
CIHEAM Bari - Mediterranean Agronomic Institute of Bari

Autori

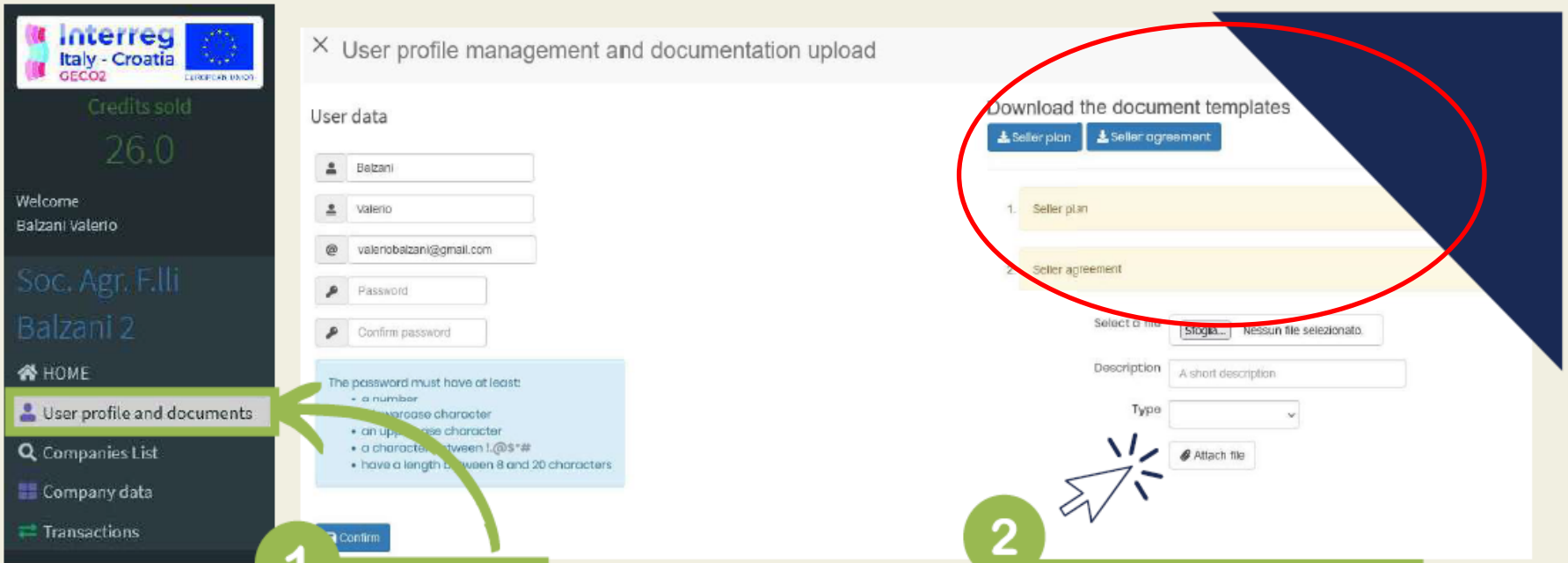
Giorgio Marti

Roberto Greco Marzano

Test della piattaforma di mercato: partner > amministratore mercato



Test della piattaforma di mercato: Il creditore (azienda agricola) «Seller»



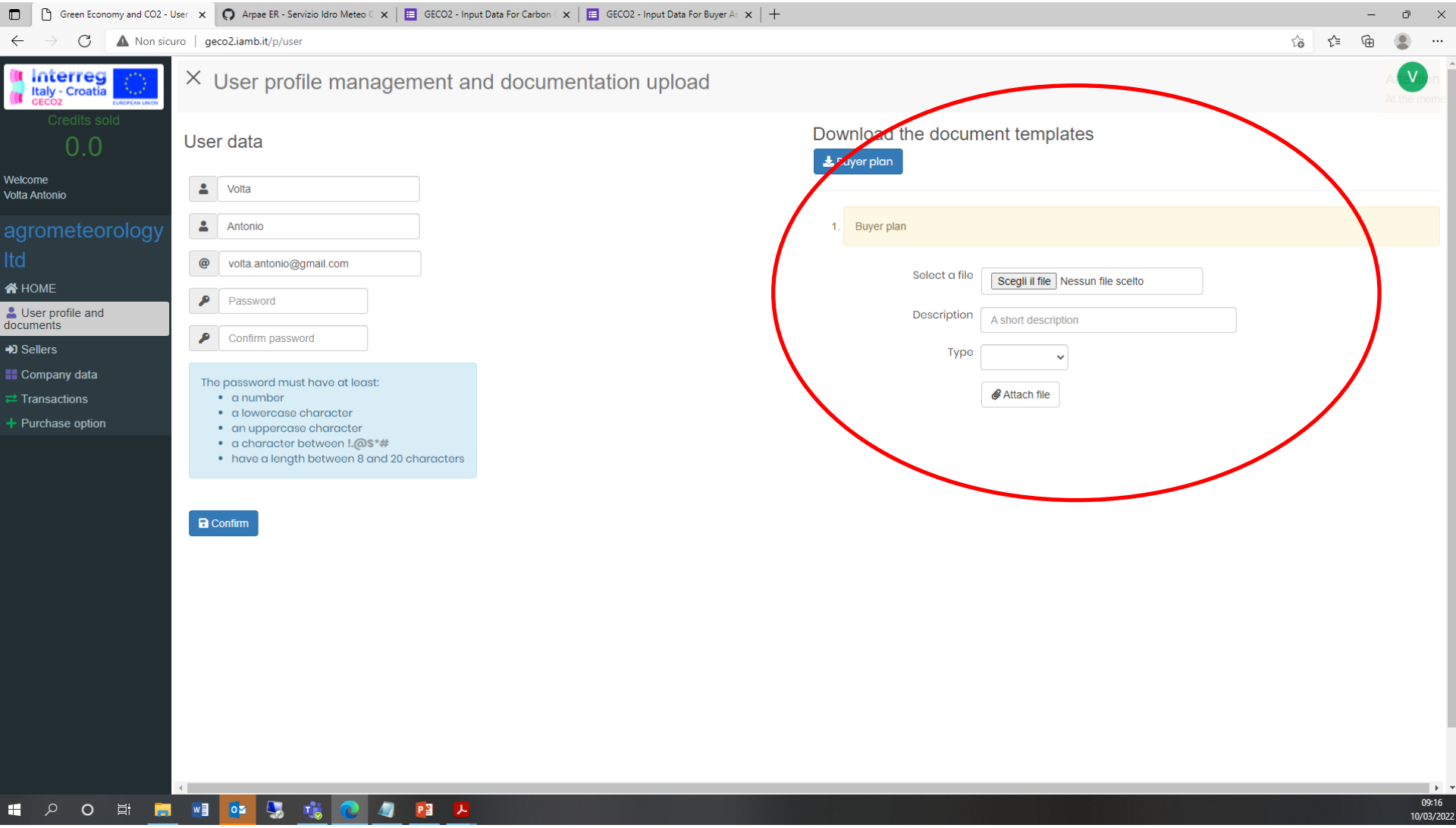
1 Go to User profile and documents page

2 Choose the file, set Type and click on **Attach file** button

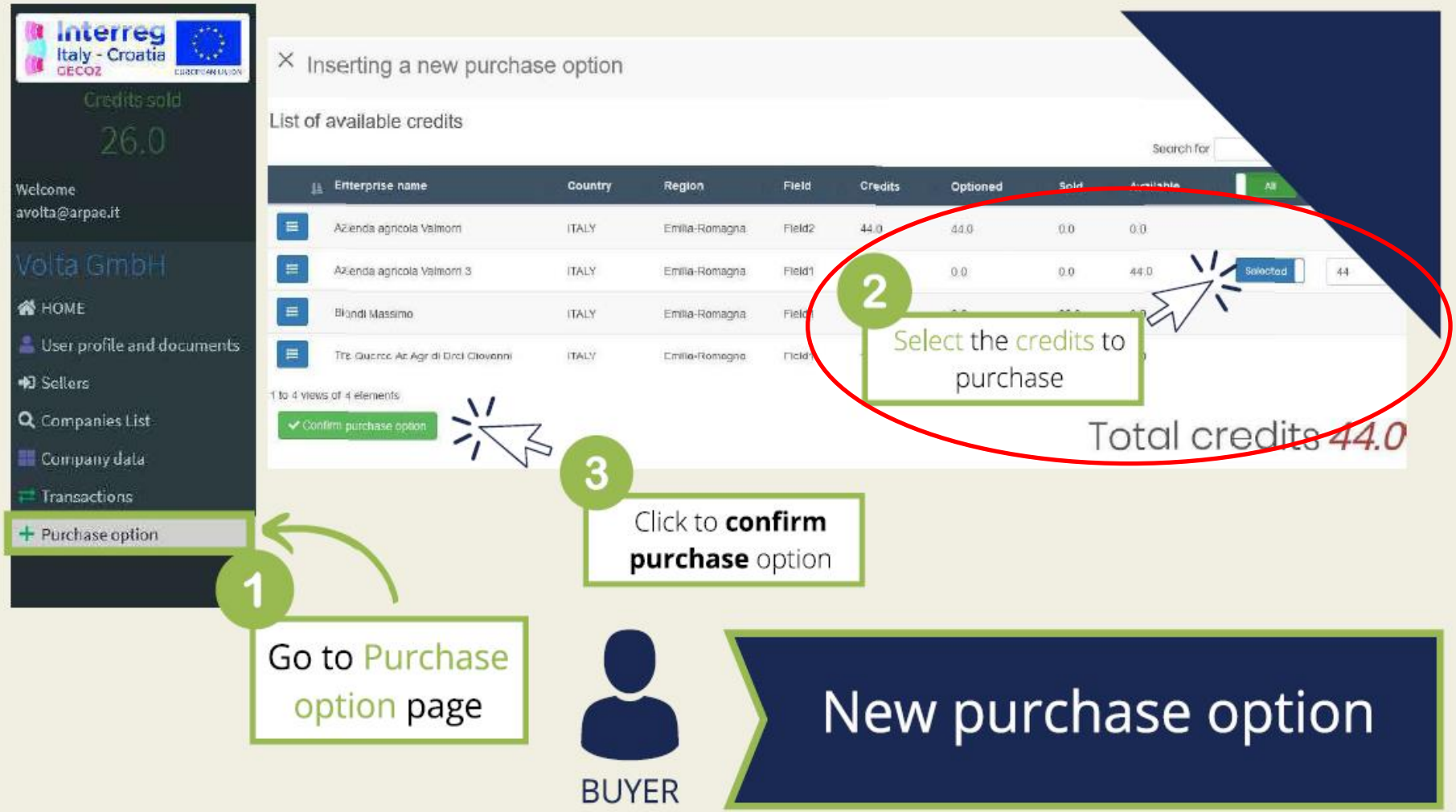
FARMERS

Upload documents

Test della piattaforma di mercato: Il debitore (azienda agricola/altro) «buyers»



Test della piattaforma di mercato: Il debitore (azienda agricola/altro) «buyers»



Acquisto crediti, rilascio certficazione

CO2 FREE

GECO2 APPROVED

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