European Parliament

Quantitative assessment of European Added Value of EU legal framework to halt and reverse EU-driven global deforestation

Public Webinar

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Date: 10 September 2020

Outline

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Introduction

- Deforestation refers to changes in both natural and planted forest, as a result of human activities, including forestry practices such as timber harvesting, as well as natural causes such as disease, fire or storm damage (Global Forest Watch, 2020).
- Forests are defined as areas with a minimum threshold of 30% canopy cover (Global Forest Watch, 2020).
- The choice of commodities reflects the association of them with deforestation in the literature, the availability of data and of classifications within the modelling framework.

- Forest risk commodities in focus

Commodities	Main producers (% of global production)	Main Importers (% of global imports)
Beef	United States (19%) Brazil (15%) China (12%)	**EU (24%)** China (13%) United States (12%)
Soy	Unites States (34%) Brazil (33%) Argentina (16%)	China (65%) **EU (10%)**
Palm Oil	Indonesia (51%) Malaysia (32%)	**EU (20%)** India (19%) China (12%)
Maize	United States (36%) China (24%)	**EU (20%)**
Rapeseed	Canada (35%) China (23%) India (13%)	**EU (48%)** China (17%)
Sugar crops	Brazil (35%) India (15%)	**EU (14%)**

Source: FAOSTAT, 2017

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Policy options

There are several different policy options that could be introduced to reduce the level of deforestation from EU food and biofuel consumption.

We assess four of them in detail:

- mandatory due diligence for forest-risk commodities' supply chains;
- mandatory certification standards for forest-risk commodities;
- a combination of the two above; and
- mandatory labelling of products from forest-risk commodities' supply chains.

Timeline

- In 2021, it is assumed that the European Commission will present a proposal for an EU regulation.
- In 2023, policy measures will enter into force.
- The time horizon of the quantitative analysis is 2030.

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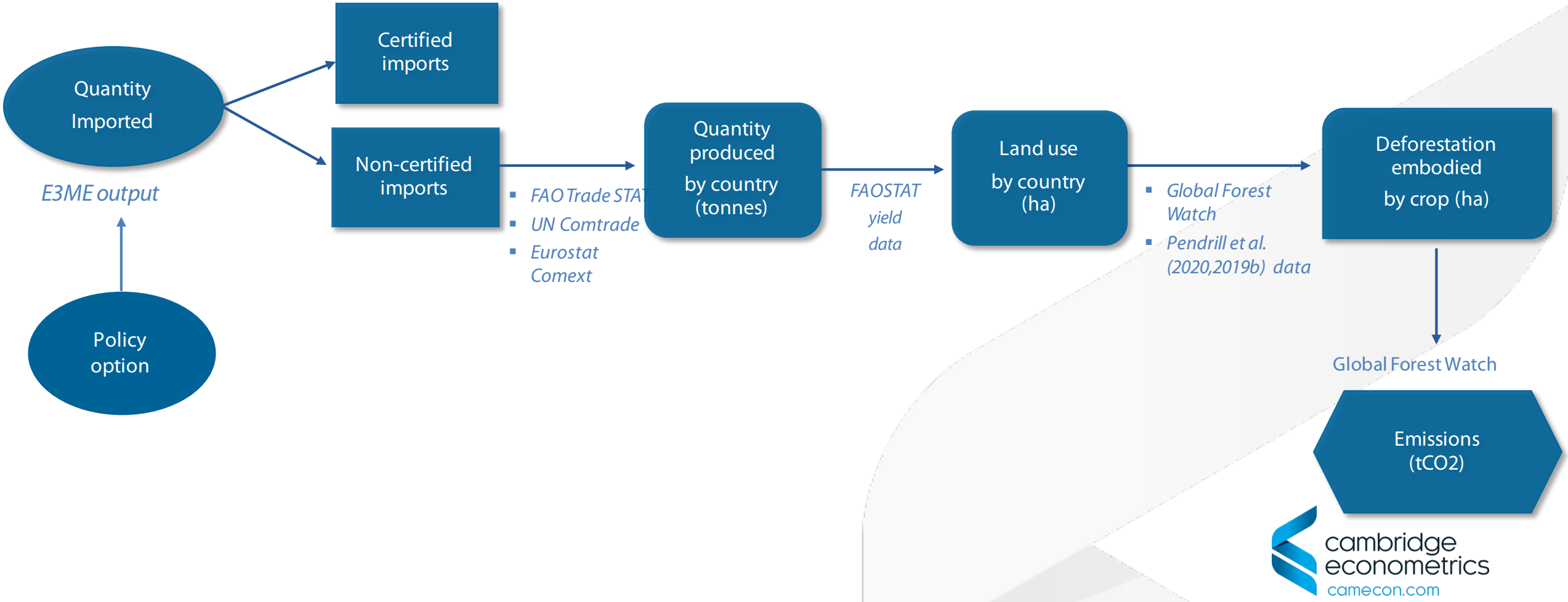
Our approach to modelling EU demand-induced deforestation and emissions



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Quantitative Assessment

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The baseline, i.e. current regulatory framework which includes Member State level actions

- GDP and employment in the EU

	Average annual growth (%pa, 2020-30)
Population ('000 people)	0.05
GDP (Million EUR)	1.35
Total employment ('000 people)	0.05

- Food demand by commodity in the baseline (thousand tonnes)

	Average annual growth (%pa, 2020-30)
Maize	-0.3
Soy	0.2
Rapeseed	0.3
Other oil crops (incl. palm oil)	0.4
Sugar crops	0.3
Beef	0.2

- Deforestation embodied in EU imports (ha) and related emissions (tCO2)

	Cumulative (2020-30)
Deforestation embodied in EU imports (hectares)	
Agricultural commodities (with constant share of certified imports)	258,219
Emissions linked to deforestation (tCO_2)	
Agricultural commodities (with constant share of certified imports)	73,795,232

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Scenario 1 – Mandatory due diligence policy option

- Economic impact (difference compared to the baseline), EU

	2021	2023	2030	2020-30
GDP (% difference)	-0.0005	-0.0007	-0.0009	-0.0011**
GDP (Million EUR)	-65.5	-93.8	-138.3	-829*
Total employment ('000 people)	-0.7	-1.1	-1.5	-11.2*
Total employment (% difference)	-0.0004	-0.0005	-0.0007	-0.0007**

Note: * Aggregated difference between the scenario and the baseline across the period; GDP values are discounted at 5% pa to make the EUR values comparable over time.
** Difference in growth in period 2020-30 between the scenario and the baseline, expressed in percentage points.

- Deforestation embodied in EU imports (hectares) and related emissions (tCO2) (absolute difference from the baseline)

	2021	2023	2030	Cumulative (2020-30)
Deforestation embodied in EU imports (hectares)				
Agricultural commodities (with constant certification over time)	-9	-16,367	-23,693	-160,197
Emissions linked to deforestation (tCO_2)				
Agricultural commodities (with constant certification)	-2,485	-4,678,474	-6,768,648	-45,775,855

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Scenario 2 – Mandatory certification

- Economic impact (difference compared to the baseline), EU

	2021	2023	2030	2020-30
GDP (% difference)	-0.0020	-0.0009	-0.0002	-0.0002**
GDP (Million EUR)	-261	-121	-27	-961*
Total employment ('000 people)	-3.6	-1.5	-0.7	-14.3*
Total employment (% difference)	-0.0018	-0.0007	-0.0003	-0.0003**

Note: * Aggregated difference between the scenario and the baseline across the period; GDP values are discounted at 5% pa to make the EUR values comparable over time.
** Difference in growth in period 2020-30 between the scenario and the baseline, expressed in percentage points.

- Deforestation embodied in EU imports (hectares) and related emissions (tCO2) (absolute difference from the baseline)

	2021	2023	2030	Cumulative (2020-30)
Deforestation embodied in EU imports (hectares)				
Agricultural commodities	-2,457	-23,378	-23,693	-197,500
Emissions linked to deforestation (tCO_2)				
Agricultural commodities	-754,057	-6,682,371	-6,768,648	-56,615,183

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Scenario 3 – Mandatory certification with due diligence

- Economic impact (difference compared to the baseline), EU

	2021	2023	2030	2020-30
GDP (% difference)	-0.0020	-0.0014	-0.0011	-0.0013**
GDP (Million EUR)	-261	-189	-163	-1,573*
Total employment ('000 people)	-3.6	-23	-2.0	-22.8*
Total employment (% difference)	-0.0018	-0.0011	-0.0010	-0.0010**

Note: * Aggregated difference between the scenario and the baseline across the period; GDP values are discounted at 5% pa to make the EUR values comparable over time.
** Difference in growth in period 2020-30 between the scenario and the baseline, expressed in percentage points.

- Deforestation embodied in EU imports (hectares) and related emissions (tCO2) (absolute difference from the baseline)

	2021	2023	2030	Cumulative (2020-30)
Deforestation embodied in EU imports (hectares)				
Agricultural commodities	-2,457	-23,378	-23,693	-197,500
Emissions linked to deforestation (tCO_2)				
Agricultural commodities	-754,057	-6,682,371	-6,768, 648	-56,615,183

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Scenario 4 – Mandatory labelling

- Economic impact (difference compared to the baseline), EU

	2021	2023	2030	2020-30
GDP (% difference)	0	-0.0003	-0.0009	-0.0010**
GDP (Million EUR)	0	-44	-125	-481*
Total employment ('000 people)	0.0	-0.6	-1.3	-7.3*
Total employment (% difference)	0.0	-0.0003	-0.0006	-0.0006**

Note: * Aggregated difference between the scenario and the baseline across the period; GDP values are discounted at 5% pa to make the EUR values comparable over time.
** Difference in growth in period 2020-30 between the scenario and the baseline, expressed in percentage points.

- Deforestation embodied in EU imports (hectares) and related emissions (tCO2) (absolute difference from the baseline)

	2021	2023	2030	Cumulative (2020-30)
Deforestation embodied in EU imports (hectares)				
Agricultural commodities	-73	-729	-2,035	-11,024
Emissions linked to deforestation (tCO_2)				
Agricultural commodities	-22,252	-199,976	-590,028	-3,151,639

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Summary of the results

- GDP and employment - cumulated difference from the baseline across the period 2020-30

	GDP (EUR millions)*	GDP (% difference)**	Employment (000s)	Employment (% difference)**
Due diligence	-829	-0.001	-11	-0.0007
Mandatory certification	-961	-0.0002	-14	-0.0003
Mandatory certification with due diligence	-1573	-0.0013	-23	-0.0010
Mandatory labelling	-481	-0.0010	-7	-0.0006

Note: * Aggregated difference between the scenario and the baseline across the period; GDP values are discounted at 5% pa to make the EUR values comparable over time.
** Difference in growth in period 2020-30 between the scenario and the baseline, expressed in percentage points.

- Deforestation embodied in EU imports of agricultural commodities (ha) and related emissions (tCO2)

Policy Option	Absolute difference from baseline in cumulative deforestation (2020-2030)	Difference from the baseline %	Absolute difference from baseline in cumulative CO_2 Emissions (2020-2030)	Difference from the baseline %
Due diligence with constant certification	-160,197	-62%	-45,775,855	-62%
Mandatory certification	-197,500	-76%	-56,615,183	-77%
Mandatory certification with due diligence	-197,500	-76%	-56,615,183	-77%
Mandatory labelling	-11,024	-4%	-3,151,639	-4%

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Conclusions

- The policy options were translated into a model-based narrative and four scenarios were constructed to capture the quantitative effects of each option.
- The modelling approach combines an existing macroeconomic model with a method to translate the imported quantities of FRCs into land use and deforestation linked to land use.
- The economic impacts of all four policy options are negative but small in magnitude (GDP and employment impacts is less than 0.01%, compared to the baseline).
- Overall, based on the cost assumptions that drive the price increase and other assumptions made in the analysis, the mandatory due diligence and certification policy options bring the largest benefits in terms of reductions in embodied deforestation (62-76%) and emissions linked to deforestation (62-77%) by 2030.
  - These two policy options entail a similar economic cost.

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Link to the study:
https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_STU(2020)654174

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