Trade and Energy

Looking beyond hydrocarbons

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Executive Summary

The Transatlantic Trade and Investment Partnership (TTIP) is a proposed free-trade agreement (FTA) between the European Union (EU) and the United States (US) that, if completed, would be the largest bilateral FTA in the world, and transform transatlantic commerce.

Whereas trade volumes between the EU and US are very high, energy remains an important exception, largely due to the US ban or limit on crude oil and liquefied natural gas (LNG) exports.

Unsurprisingly the focus of EU negotiators is to end these limitations, claiming that this will 'strengthen European energy security, invigorate the transatlantic energy market, and drive down energy prices'.[i] But if the hope of cheap energy is one side of the coin, there is another: cheaper fossil energy means higher carbon emissions from increased consumption while crowding out renewable sources, all of which runs counter to the EU's '40/27/27' climate and energy targets for 2030.

The 'old style' energy trade liberalisation that is being proposed in TTIP, will be hugely detrimental to the environment, because the only forms of energy that are realistically traded across the Atlantic are the equally 'old style' carbon-intensives ones: coal, oil and gas, as well as biomass/fuel. Renewable energy – by far the energy carrier with the highest sustainability share and potential – cannot be traded *across the pond*.

Global leadership has been a key part of the TTIP debate; if taken seriously, this should include the responsibility to create a forward-looking energy chapter. As the chapter is still being drafted, both the EU and the US can seize the opportunity to develop a 'new style' energy chapter that not only supports the EU's 2030 energy objectives but promotes global decarbonisation at UNFCCC COP in Paris this year.

Any further opening of markets for hydrocarbon energies needs to be accompanied by actions that create a true level playing field and anything that distorts the market, such as fossil fuel subsidies, need to end. So, instead of focusing on 'old energies', TTIP should create a sustainable energy market that tackles energy security and diversification with renewable technologies and energy efficiency.

Since TTIP would increase CO_2 emissions from transatlantic shipping and aviation, it also has a special responsibility to address these emissions. TTIP should include transatlantic agreement for serious policies to reduce emissions from these sectors; these should include putting a price on the carbon they emit.

Table of Contents

1. Introduction

The proposed Transatlantic Trade and Investment Partnership (TTIP) currently being negotiated by the European Union (EU) and the United States (US), claims to be the most ambitious Free Trade Agreement (FTA) to date. The agreement will attempt to tackle issues ranging from tariff, to trade in vehicles and energy and raw materials.

Negotiations in trade in energy are still a rather new occurance, in comparison to other sectors and have not been a traditional feature of FTA. The EU only included this chapter for the first time in 2014 in the EU-Ukraine association agreement. The EU ambition around the chapter is fuelled by a desire for cheap US crude oil and liquefied natural gas (LNG). However this desire comes with a high environmental price which has the potential to significantly impact other European aims and targets such as the 2030 climate and energy targets or indeed international agreements such as the one that could be concluded in Paris at the end of 2015 during the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP).

Any trade liberalisation of energy and raw materials between Europe and the United States will not be the silver bullet that will solve all of Europe's energy problems – high prices, security and diversity. An approach should be adopted that will not only complement Europe's overall aim of greater decarbonisation but that will create a whole new market focused on renewable energy.

There is an urgent need to fundamentally rethink what a 'new style' energy chapter in trade deals should look like. This paper underlines the problems with the current approach towards the TTIP energy chapter. It proposes a way forward that would bring the EU's agreed 2030 objectives closer to realisation: in the first section we argue that any greater EU-US market integration for hydrocarbons must mean an end to fossil fuel subsidies (FFS); the second section debunks some of the false confidence surrounding biofuels; the third section argues for mitigating measures against an inevitable increase in international transport from TTIP; the fourth explores how efficiency gains will provide greater energy security; and the final section presents options to encourage a greater share for renewable energy.

2. True liberalisation requires an end to fossil fuel subsidies

Energy security has long been a priority for Europe, and has gained more attention as traditional supplies appear uncertain. Faced with this instability, the EU has sought new energy partners. The US – historically close and strategically aligned with the EU – is seen as a solution to Europe's energy insecurity. Transatlantic trade in energy, however, remains heavily distorted by American licensing restrictions on LNG and a ban on crude oil exports enacted under the 1975 Energy Policy and Conservation Act (EPCA). Energy insecurity has made it an imperative that EU policymakers seek preferential LNG export-licensing – automatically accorded to all US FTA partners – and a repeal of the EPCA as part of an ambitious TTIP energy chapter.[ii]

There is weak appetite for lifting the EPCA in the US, where artificially-lowered prices for petroleum-based products are popular with consumers and manufacturers. However, oil producers – ever-adept at interest group politics and Congressional lobbying – have gained momentum recently in calling for the lifting of the export ban, as they seek to benefit from higher prices outside the US. In October 2015, the US Congress passed a bill to repeal the EPCA[iii]. It remains uncertain whether the Senate will vote to lift the ban, and if it did, whether President Obama would veto or not. The President's recent decision to reject the Keystone XL Pipeline[iv], due to its lack of economic merit and detrimental impact on the environment, is perhaps an indication that he would also reject the lifting of the ban.

Lifting the US export restrictions will have significant environmental and public health impacts. OilChange International estimates that a $10 increase in crude oil prices corresponds to 126 MT of CO_2 emissions *per*

annum – a figure equal to 3% of the EU's CO_2 emissions in 2012. A repeal of the EPCA would raise profits and increase production, especially of fracked oils that have been classified as "unburnable", derailing global climate goals for 2050.[v]

Even if the US does decide that it is economically, environmentally and socially beneficial to lift the export ban – via TTIP or any other mechanism – does lifting the ban really ensure an open and free market?

Lifting the export ban might diversify Europe's fossil fuel imports, but is unlikely to reduce its exposure to global price volatility[vi] or reduce prices for European industry.[vii] It also does not tackle the elephant in the room – fossil fuel subsidies or FFS. Any liberalisation of oil and gas trade between the EU and the US should fully abolish FFS in both markets. A sustainable transatlantic energy market can only work if conditions are equal on both sides – to ensure a level playing field for all actors in the market.

Resource misallocation and price incentives have attracted the attention of the International Energy Agency (IEA), the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), and the World Bank.[viii] Even the Group of 20 (G20), and the European Commission[ix] have called for the support to phase out FFS. To date, no action has taken place.

The difficulty with removing FFS is the lack of a commonly-agreed upon definition, which complicates data collecting, reporting, and standard-setting. This is most evident in the divergence between OECD and IMF data. The OECD shows that EU FFS are three times higher than those in the US; on the other hand the IMF estimates that US FFS are three times higher than in the EU.[x] The lack of clear a definition of a subsidy has undermined efforts to apply existing frameworks like the WTO's provisions on Subsidies and Countervailing Measures (SCM).[xi]

	OECD (2011)	**IMF**
EU	26.6	83.6
US	9.5	303.5

Table 1) Diverging IMF & OECD FFS Estimates, Billions of Euros

TTIP therefore presents an excellent opportunity to break this pattern of inaction through the establishment of FFS definitions and reporting standards, and commitment to subsequent phase-out. The latter could focus on reduction targets for each region, to be actioned by EU member states and US states, however sub-federal objectives could be tricky to implement – especially in the US – where tensions over fossil fuels are high. Instead, the TTIP framework could identify sectors where FFS create significant price distortions across the Atlantic, and establish phase-out schedules.

2.1. Policy recommendation

Any liberalisation of the US crude oil and gas market needs to be linked to the creation of a level playing field by phasing out FFS. This will require establishing a definition to ensure accurate data reporting and monitoring and a definitive FFS phase-out timeframe.

3. The other (un)burnable carbon: biomass

The idea of biofuels as a large and sustainable source of energy is faced with the reality of deforestation, CO_2 emissions and food price volatility. The EU's Renewable Energy Directive (RED) requires member states to supply 10% of transport energy from renewable sources to reduce CO_2 emissions and diversify sources in the transport sector. However, this policy has failed to account for Indirect Land-Use Change (ILUC)[xii], thus overselling biofuels without achieving major GHG savings. This shortcoming applies equally to the Fuel Quality Directive (FQD), as both have identical sustainability criteria.

Regulatory frameworks on biofuels in the EU and US are guided by different policies, each based on specific market dynamics. The US is one of the biggest producers and consumers of corn-based ethanol, while the EU is a major consumer of vegetable-oil or animal-fat-based biodiesel. This had led to different regulations in the US[xiii] and the EU[xiv]. The table below broadly summarises some of these differences:

	EU – RED & FQD	**US – RFS2**
Lifecycle Assessment of GHG Savings	35% Minimum	20% Minimum
How are Targets Measured?	Percentage Based	Output Based
Base line comparison	Average lifecycle emission of fossil fuel.	2005 US Crude Mix
ILUC	No	Yes
Other Sustainability criteria	Yes	No

The crucial discrepancies between the EU FQD & RED and the US Energy Independence and Security Act (RFS2) are the development, calculation and application of ILUC and other sustainability safeguards. RFS2 only addresses environmental impact[xv], whereas the RED[xvi] requires implementation of International Labour Organization (ILO) principles and other international conventions on endangered species and biotechnology risks. Further incompatibilities arise from the Commission's decision to stop specific targets for biofuels after 2020 for member states, limiting the role for first-generation biofuels.[xvii]

98% of US biomass exports were delivered to the EU market.[xviii] The lack of sustainability criteria for the production of biomass, with significant impact on carbon emissions and biodiversity loss,[xix] implies that US biomass used in the EU benefits from a zero-GHG rating under the EU Emissions Trade Scheme (ETS). This error represents 4% to 7% of overall emissions allowances, equal to EU subsidies of €0.6-1bn each year.[xx]

3.1. Policy recommendation

Any increased trade flows of biofuels and biomass must be accompanied by definitions, enforcement mechanisms and lifecycle emissions assessments (LCA) that include indirect land-use change, in order to develop a truly sustainable transatlantic bioenergy market.

4. Addressing additional energy and emission from additional transatlantic trade

The increased trade volumes expected from TTIP will lead to additional increases in energy use and emissions from transatlantic aviation and shipping. If TTIP is to serve as an example of a new-generation trade deal, it should take responsibility for addressing emissions from these sectors.

Addressing international aviation and shipping emissions has been an uphill struggle for the United Nations Framework Convention on Climate Change (UNFCCC), as well as the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) – the UN bodies in charge of climate, shipping and aviation, respectively. It has also been overlooked by governments on both sides of the Atlantic.

Unfortunately, over the last two decades both the IMO and ICAO have been unable to advance discussions and take meaningful measures, partly due to the fundamental question of who actually bears responsibility for emissions. Even though the IMO and ICAO were handed the responsibility to limit and reduce emissions in both sectors, as per the 1997 Kyoto Protocol,[xxi] they have achieved nothing in terms of

decreasing GHGs over the last 18 years – except for the IMO adopting a measure on ship efficiency that has been shown not to be effective[xxii].

The combined EU and US share of international aviation emissions is 44%[xxiii] and – including domestic sector operations – amounts to over half of global aviation CO_2 emissions.[xxiv] Domestic aviation in the US is subject to a very modest 1.2 $ct/litre (4.4 $ct/gal)[xxv] fuel tax. Intra-EU aviation is included in the EU ETS which at October 2015 CO_2 prices equates to 2.1 €ct/litre (€8.5/t CO_2).[xxvi] However low these prices are on domestic flights, transatlantic aviation is fully exempt from any CO_2 price or fuel tax. The table below demonstrates the comparison in €ct/litre and $ct/gal.

	EU	**US**
€/litre	0.021	0.011
€/tCO_2	8.5	4.5*

The EU and the US should work together in the IMO and ICAO to set meaningful reduction targets consistent with 1.5/2 degrees and adopt measures to implement them.[xxvii] The EU and US should commit to global market-based measures, through the ICAO, in order to reduce CO_2 emissions from aviation. Currently the ambition level is very low, with a carbon offset regime for emissions above 2020 levels as the best possible outcome. The price of carbon offsets currently stands at a few *cents* per tonne of CO_2 – two orders of magnitude below the already modest €8.5/t CO_2 in the EU ETS.[xxviii]

The global share of GHG emissions from transatlantic shipping is enormous, and neither the EU or the US have any policies in place to reduce emissions. Discussions in the IMO are stalled; TTIP should be the platform to launch a serious initiative leveraging trade liberalisation with emissions reduction targets, improved design, operational efficiency, and carbon pricing in maritime shipping.

4.1. Policy recommendation

The increase in transatlantic trade flows must be accompanied by bilateral cooperation and domestic plans to reduce aviation and shipping emissions. If the EU and the US want TTIP to showcase what responsible Western leadership means to the rest of the world, they should include a strong agreement where partners accept their responsibility to introduce effective measures for the reduction of shipping and aviation emissions. The first step would be to agree on who is responsible for what. Responsibility could be split on the basis of either departing or arriving flights/voyages, or through each flight/voyage being split 50:50. A second step should be mitigation, which includes ending the absence of any carbon pricing regime for transatlantic flights or shipping.

5. Using trade in energy-efficient goods to ensure energy security

In combination with encouraging renewable energy, TTIP can be a direct framework for expanding the market of energy-efficient goods. The argument for including energy efficiency provisions in TTIP is based on the simply principle of 'substitution'. In Europe every 1% of energy saving reduces gas imports by a multiplier of 2.6.[xxix] A good example of this is the Energy Performance of Buildings Directive (EPBD), which requires member states to reduce energy consumption by 5-6% – equal to a 13% reduction in gas imports.[xxx] Cambridge Econometrics[xxxi] even notes that a shift towards reduced consumption through more energy-efficient cars can potentially create a million jobs in Europe, due to the displacement of spending from oil imports towards new productive uses.

Manufacturers are adopting labelling mechanisms that create a positive differentiation for their products, particularly through government-sponsored schemes. This is supported in conclusions reached by an Energy Label Directive study[xxxii] and a report on resource efficiency requirements.[xxxiii]

The European energy-labelling scheme has a seven-colour-coded band system which gives broad incentives for improvement of efficiency; in contrast, the US 'Energy Star' is a pass/fail system that gives few incentives once a product has passed. In turn, the US vehicle labelling system is superior to the EU one; it displays an estimated annual fuel cost for the vehicle and the expected savings or increased costs for that particular vehicle compared to the average new vehicle[xxxiv]. Both jurisdictions have lessons to learn.

5.1. Policy recommendation

The EU and US should engage in regulator-to-regulator dialogue to address weaknesses in energy efficiency design and implementation, and initiate a race to the top. The aim should be to reduce unnecessary energy manufacturing and imports, while increasing energy security through efficiency measures.

6. Encouraging renewable energy

The EU consumed 15% of its energy from renewable sources in 2014, less than half of which came from non-biomass sources. The share of renewable energy consumed in the US reached 9.5% during the first half of 2014. [xxxv] Europe has set a target to achieve a 27% share of renewable energy by 2030; ideally, the target will largely be met by renewables such as solar, wind, tidal and wave electricity, and geothermal heat. These emit no carbon and do not depend on non-renewable resources, which biomass and first-generation biofuels do.

Both the US Department of Energy and the American Council on Renewable Energy have found that sustainable energy generation costs are decreasing simultaneously as the sector attracts more public and private capital[xxxvi] – in contrast with biomass and biofuels where prices rise when demand increases. However, there remains chronic underinvestment in the infrastructure necessary to store, deliver, and manage fluctuations in energy demand.

The EU and US should focus on eliminating tariffs applied to products and services that *already* enhance environmental protection and where reduction will help increase renewable energy uptake. These include:

1. Renewable electricity generation equipment including for solar, wind, wave and tidal as well as geothermal heat;
2. Items that improve energy efficiency such as heat pumps and electric vehicles (including trains and electric two-wheelers);
3. Renewable energy storage, interconnection and demand management of renewable electricity.

These categories of products both directly and indirectly create environmental benefits. They also reduce imports of fossil fuels and liberate capital to spend on more sustainable projects, thus creating new, skilled jobs in the process. In the US, there are already 2.5 million more green energy jobs than exist in the coal, oil, and gas industries.[xxxvii]

Tariff barriers to trade between the EU and US in renewable energy equipment are generally low – zero percent for solar technologies; 2.7 and 1.25% on wind technologies applied by the EU and US, respectively. Furthermore, the EU and US are currently negotiating the plurilateral Environmental Goods Agreement, which seeks to ultimately eliminate tariffs on environmental goods and services. TTIP should avoid duplication of the multilateral liberalisation of environmental goods.

But the most important renewable energy priority in TTIP must be the dismantling of non-tariff barriers (NTBs) [xxxviii] which, coupled with a FFS phase-out, would set an important precedent for what subsequent

forward-looking energy markets might resemble. The manufacturing of renewable energy equipment has largely reached a maturity whereby continued protectionism is difficult to justify.

A TTIP energy chapter should also advance the decarbonisation of transport through e-mobility, which will have the dual-effect of reducing energy dependence, cutting oil imports while creating new jobs and economic growth based on fuel industry innovation.

6.1. Policy recommendation

The US and EU could jointly address infrastructure and storage issues through a voluntary, best-practice and technology sharing forum. This forum should provide for public and civil society accessibility. The energy chapter should also tackle core tariff and non-tariff barriers to encourage the trade in renewable generation equipment and tackle local content requirement. Finally, TTIP should enhance e-mobility's competitiveness by setting conditions for innovative research and practical applications for sustainable transport.

7. Conclusion

Global leadership has been a key part of the TTIP debate and includes the responsibility to create a forward-looking energy chapter. But the current key EU ambition is to gain access to US oil and LNG resources, lowering the world price of both, which jeopardises the EU's '40/27/27' carbon, renewables and efficiency targets for 2030.

As the TTIP energy chapter is still being drafted, both the EU and the US can seize the opportunity to develop a 'new style' energy chapter that supports, not jeopardises, the EU 2030 objectives.

Lifting the US export ban on gas and oil will undoubtedly result in commercial opportunities but also a direct increase in CO_2 emissions. Any further integration of transatlantic fossil fuel markets needs to go hand in hand with actions that create a true level playing field between fossil and renewable energies. Anything that distorts the market – including significant yet often overlooked fossil fuel subsidies, but also still-existing tariffs on renewable electricity technologies – needs to end. Furthermore, sectors that benefit from the huge increase in transatlantic trade – aviation and shipping – have to be made carbon accountable. These sectors also include traded biomass and biofuels. Without these measures, we will continue to be locked into our addiction to fossil fuels and incentives to move to less carbon-intensive technologies will be undermined.

Annex 1

For the OECD estimates, individual data was taken from the dedicated web resources at http://www.oecd.org/site/tadffss/ "OECD-IEA Fossil Fuel Subsidies and Other Support". The figures in the table below are part of the OECD "Inventory of Estimated Budgetary Support and Tax Expenditures" which mainly comprise production subsidies. IEA estimates are available for consumption-based subsidies but these focus on developing nations and hence are outside the current scope.

Several limitations are pointed out by the OECD on the use for comparisons of their figures. Since not all countries have uniform tax systems (either at the national sublevel or in relation to levels of taxation regimes) the majority of indicators used that correspond to tax exemptions will produce different values based on the national benchmark tax treatments used. This means that, for example, a country with high overall indirect taxes but with lower rates for fossil fuels, might have a higher value for fossil fuel subsidies than a country with uniform indirect taxation but actual real higher subsidy levels. On top of this, unavailable data and individual country measurement tools do place a further hurdle for comparing the information. That being said, as the purpose of this exercise is to showcase the different approaches and challenges in measuring fossil fuel subsidies across methodologies, aggregate values are a valuable tool in pointing to these challenges.

Values for Bulgaria, Cyprus, Latvia, Lithuania, Latvia and Romania are taken from a complementary study by the Institute for Environmental Studies and the University of Rotterdam commissioned by DG Environment and published in January 2013[xxxix] as a complement to the OECD data. As data is presented in their national currency, certain countries needed conversion values. These were calculated on the basis of available data at http://www.x-rates.com/ on calculated averages of monthly average exchange value for 2011.

Table A-1

OECD Data on Types of Subsidies in Million Euros by Energy Source

	Petroleum	Electricity	Natural Gas	Coal	Currency Value vs Euro average for 2011	Totals in Mil. Euros
Austria	109.00	n.a	213.00	70.00		392.00
Belgium	2067.40	n.a	71.00	n.a		2138.40
Bulgaria	70.00	n.a	0.20	n.a	0.51	35.87
Croatia	n.a	n.a	n.a	n.a		0.00
Cyprus	20.00	n.a	n.a	n.a		20.00
Czech Rep.	2401.20	n.a	1572.00	2663.20	0.04	265.46
Denmark	5482.70	n.a	n.a	1835.00	0.13	951.30
Estonia	71.00	n.a	n.a	3.50		74.50
Finland	1529.70	n.a	106.90	156.20		1792.80
France	2477.90	n.a	273.00	3.00		2753.90
Germany	2017.40	n.a	579.60	2498.20		5095.20
Greece	199.30	n.a	8.20	0.80		208.30
Hungary	37.00	n.a	37.00	20.00	0.003	0.28
Ireland	n.a	n.a	n.a	78.00		78.00
Italy	2064.00	n.a	60.00	n.a		2124.00
Latvia	49.10	n.a	25.30	n.a	1.42	105.65
Lithuania	18.30	n.a	157.20	n.a	0.29	50.90

Lux.	4.00	n.a	n.a	n.a		4.00
Malta	n.a	n.a	n.a	n.a		0.00
Netherlands	228.00	n.a	111.30	n.a		339.30
Poland	720.00	n.a	n.a	2534.10	0.245	797.25
Portugal	n.a	n.a	n.a	n.a		0.00
Romania	299.30	n.a	n.a	371.60	0.235	157.66
Slovak Rep.	n.a	n.a	50.00	114.80		164.80
Slovenia	83.60	n.a	18.00	38.80		140.40
Spain	1229.40	n.a	n.a	635.80		1865.20
Sweden	16923.70	n.a	1318.10	828.20	0.112	2135.84
UK	539.00	n.a	3631.10	85.00	1.15	4893.37
USA	6024.30	n.a	5127.40	1994.60	0.73	9596.80
					EU Total	26584.38
					US Total	9596.80

The data for the IMF values is taken from the 2013 publication "Energy Subsidy Reform: Lesson and Implications"[xl]. As the data in the report is presented as a percentage of the country's GDP, World Bank data on GDP value in 2011 was used to calculate the monetary value of the subsidies[xli]. The World Bank values are presented in US Dollars and hence exchange rate values were calculated in the same manner as explained before.

There is a significant possibility that considerable deviation from the table values exist in light of incomplete data, currency exchange values and intrinsic study comparability. However, as these apply across the spectrum of data utilised, these should not affect the overall results pointing to the significant difficulties and diverging values found when calculating fossil fuel subsidies.

	Pretax Subsidies in Percent of GDP for Petroleum Products, Electricity, Natural Gas, and Coal, 2011				Posttax Subsidies in Percent of GDP for Petroleum Products, Electricity, Natural Gas, and Coal, 2011						
	Petroleum	Electricity	Natural Gas	Coal	Petroleum	Electricity	Natural Gas	Coal	Total GDP %	GDP in billions	US billions
Austria	0.03	n.a	n.a	n.a	0.04	n.a	0.17	0.2	0.41	429.09	1.76
Belgium	0.58	n.a	n.a	n.a	0.58	n.a	0.29	0.11	0.98	528.24	5.18
Bulgaria	0	n.a	n.a	n.a	0	n.a	0.38	2.91	3.29	55.76	1.83
Croatia	0	n.a	n.a	n.a	0	n.a	0.45	0.29	0.74	62.24	0.46
Cyprus	0	n.a	n.a	n.a	0.09	n.a	n.a	0.01	0.10	24.85	0.02
Czech	0	n.a	n.a	n.a	0	n.a	0.37	1.75	2.12	227.30	4.82
Denmark	0	n.a	n.a	n.a	0	n.a	0.11	0.22	0.33	341.50	1.13
Estonia	0	n.a	n.a	n.a	0	n.a	0.21	3.34	3.55	22.80	0.81
Finland	0	n.a	n.a	n.a	0	n.a	0.11	0.42	0.53	273.67	1.45
France	0.01	n.a	0	n.a	0.01	n.a	0.14	0.08	0.23	2862.68	6.58
Germany	0.01	n.a	0	0.07	0.01	n.a	0.19	0.56	0.76	3752.11	28.52
Greece	0.09	n.a	n.a	0	0.09	n.a	0.11	0.58	0.78	288.80	2.25
Hungary	0	n.a	n.a	0	0	n.a	0.78	0.39	1.17	139.44	1.63
Ireland	0	n.a	n.a	0.05	0	n.a	0.19	0.27	0.46	237.77	1.09

Italy	0	n.a	n.a	n.a	0	n.a	0.31	0.14	0.45	2278.23	10.25
Latvia	0	n.a	n.a	n.a	0	n.a	0.58	0.14	0.72	28.48	0.21
Lithuania	0	n.a	n.a	n.a	0	n.a	0.55	0.14	0.69	43.08	0.30
Luxem	0	n.a	n.a	n.a	2.62	n.a	0.17	0.03	2.82	58.95	1.66
Malta	0	n.a	n.a	n.a	0	n.a	n.a	n.a	0.00	9.30	0.00
Nether	0	n.a	n.a	n.a	0	n.a	0.42	0.2	0.62	893.76	5.54
Polan	0	n.a	n.a	0.14	0	n.a	0.26	2.33	2.59	524.36	13.58
Portu	0	n.a	n.a	0	0	n.a	0.17	0.19	0.36	244.89	0.88
Roma	0	n.a	n.a	n.a	0	n.a	0.58	0.74	1.32	182.61	2.41
Slovak	0	n.a	n.a	0.01	0	n.a	0.5	0.79	1.29	97.52	1.26
Sloven	0	n.a	n.a	0.02	0	n.a	0.13	0.64	0.77	51.25	0.39
Spain	0	n.a	n.a	0.03	0	n.a	0.18	0.21	0.39	1494.60	5.83
Sweden	0	n.a	n.a	n.a	0	n.a	0.02	0.09	0.11	563.11	0.62
UK	0.01	n.a	0.01	n.a	0.01	n.a	0.32	0.28	0.61	2591.85	15.81
USA	0.07	n.a	0.02	0	1.58	n.a	0.36	0.78	2.72	15517.9	422.09
										EU Total	116.28
										US Total	422.09
				Average Yearly Exchange Rate US$ to Euro, 2011				0.719		EU Total in Euros	83.61
										US Total in Euros	303.48

End notes

[i] "EU - US Transatlantic Trade and Investment Partnership: Raw Materials and Energy, Initial EU Position Paper" (European Commission: DG Trade, July 2013), http://trade.ec.europa.eu/doclib/docs/2013/july/tradoc_151624.pdf.
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