

## THE EU AND THE US INFLATION REDUCTION ACT: NO ROSE WITHOUT THORNS

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# Outline

- Inflation Reduction Act (IRA): overview
- Cost estimates
- Local content requirements (LCR): Lease loophole and tariff equivalent
- Competitiveness of EU



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## The Inflation Reduction Act: overview

- IRA: green subsidies, mostly tax credit, no carbon tax
- Tax credit = subsidy because transferable
- Open ended in amount and time for RES
- Simpler? Not for LCR
- Scattered Local Content Requirement (not WTO compatible)



# The Inflation Reduction Act: overview, sectors

Four sectors

1. EVs,
2. RES, renewables production (PTC, ITC),
3. Carbon capture and Storage
4. CCS,
5. H2 production)

First two attract most attention (LCR), but last two might create more problems in long run.



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## The IRA: slicing the cake

EVs subsidy:

\$7500 per car

Timing: until 2032

Two conditions: NA made + local batteries (plus income, etc.)

Renewables:

Production TC \$16.5 / MWh

Investment TC 30 % of investment cost

Timing: 2032 or until decarbonization goal of sector is reached (= emissions 1/4th of 2020 level) – could be 2040,



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# IRA fiscal cost estimates

**FIGURE 1.** Cost-estimates for clean vehicle tax credit



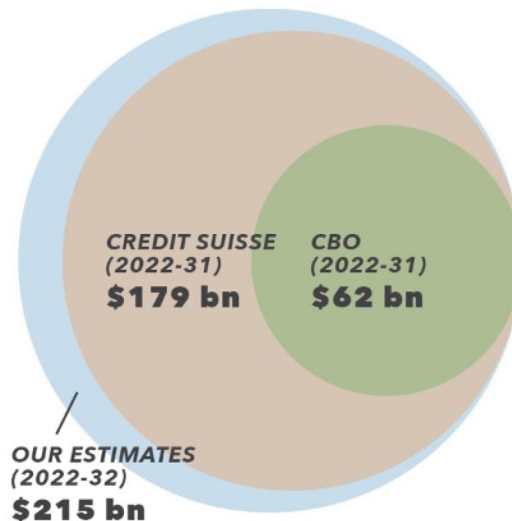
Source: CBO



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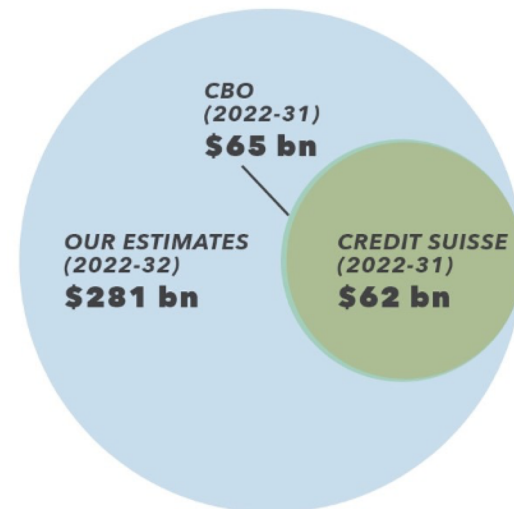
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**FIGURE 1.** Cost-estimates for Production Tax Credit (PTC)



Source: CBO, Treeprint Report (Credit Suisse)

**FIGURE 2.** Cost-estimates for Investment Tax Credit (ITC)



Source: CBO, Treeprint Report (Credit Suisse)

## Cost estimate IRA compared to EU actual

**Table 1: Illustrative projected US and EU green subsidy levels, 2022-2031**

Category	IRA	EU
Electric car purchases	\$7,500/car	€6,000 /car
Clean-tech manufacturing	\$37 billion	€35 billion
Renewable energy subsidies	\$208 billion	€800 billion

Sources: Bruegel; see notes to table in Annex III, and CBO (2022). Note. For comparability reasons, the table focuses on aid (grant, grant-equivalents and tax credits); EIB loans are excluded. For the EU, the category 'clean-tech manufacturing' refers only to non-EIB EU-level programmes, ie state aid is excluded, except for the IPCEIs. EU figures are based on the extrapolation of recent annual figures (see table in Annex III).

- EU (mostly national) subsidies many much larger than IRA
- E.g. RES PV € 400-500 / MWh in past (compared to \$16.5 under IRA).
- EU RES not technology neutral: e.g. PV subsidies per KWh 3-4 times higher than wind. EU (= DE, IT and SP mainly paying for past)



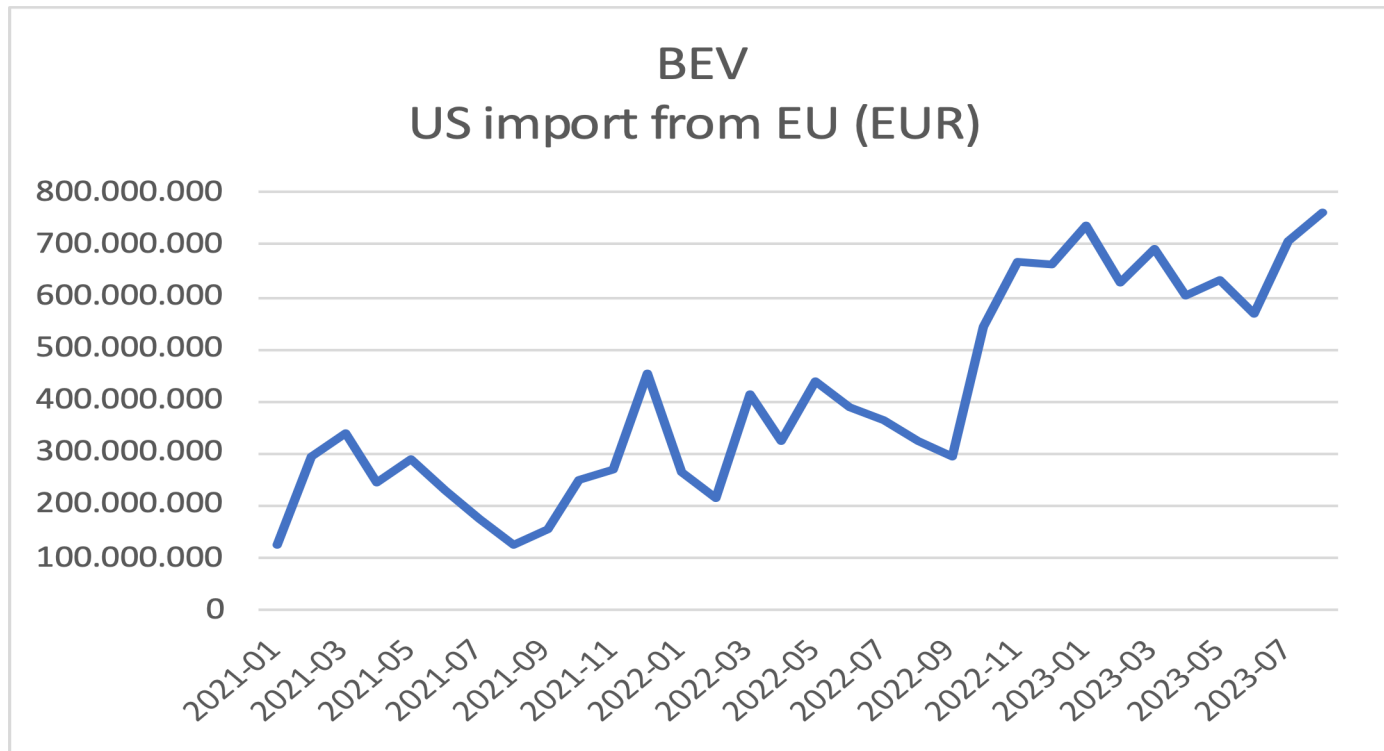
## Calculating the 'tariff equivalent' of LCR: EVs

- Cars  $\$7500/\$55000 = 13,6 \%$
- SUVs (large market share, key EU exports)  $7500/80000 = 9,5\%$
- LCR waived for **leased** vehicles, so effectively zero?
  
- \$7 500 not full advantage since satisfying LCRs implies additional costs that European producers do not have to sustain.
- EU imposes 10% on US EVs (pre-IRA US 2.5% on EU)
- US import duty on Chinese cars: 27 % + exclusion from IRA benefits (foreign entities of concern)
- IRA increases market and relative advantage of EU producers over China.

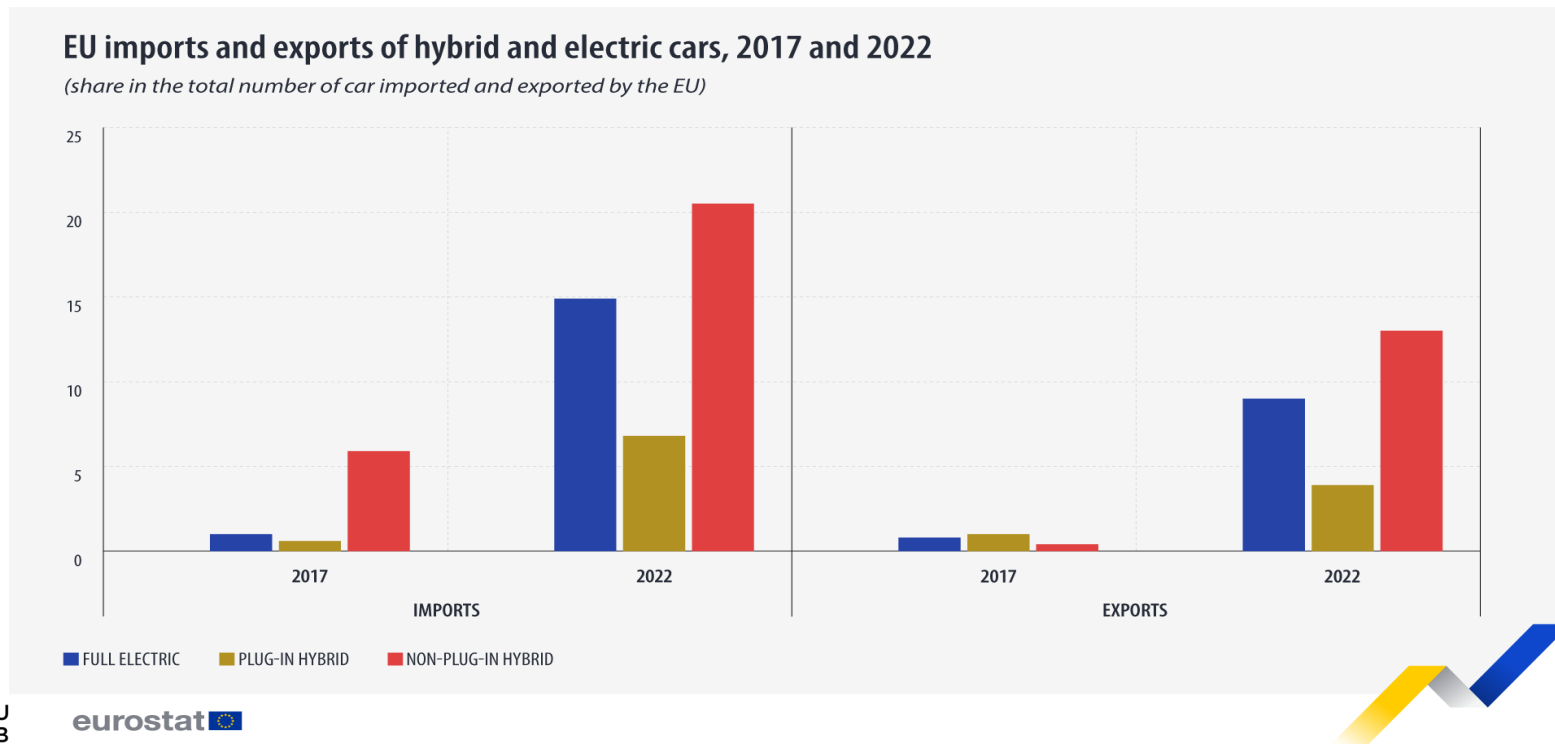




# Proof of the pudding? EU exports of BEV (battery electric vehicles) to the US are booming (EU imports from US negligible)



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## Calculating the 'tariff equivalent' of LCR, RES

- PTC: subsidy increased by 10 % if LCR met
- E.g. PTC =  $\frac{1}{2}$  of cost, US producers will meet LCR only if price disadvantage < 5%
- **PTC tariff equivalent < 10%**
- ITC: LCR of 40 % (=initial threshold) already mostly fulfilled. LCR irrelevant?
- ITC: subsidy increased by 10 pp (30% to 40%) if LCR met
- **ITC tariff equivalent ~ 17%**
  
- EU imposes duties between 4-8% on US renewable components (6-digit HS)
- EU market is not fully exposed to US competition either!



## EVs producers: relocating to the US?

- Our take: No reason to reduce investment in EU, but US investment might increase by more, hence EU investment might decrease in *relative*, not absolute terms
- For EVs keep min EU tariff of 10% vs 2.5% by US, and leasing loophole.
- Takes more than 3.5 years to build a plant, EV subsidies until 2032
- Almost 30% of automobiles produced in the US already come from EU-owned plants (ACEA, 2018)



## Renewables producers: relocating to the US?

- New plants in the US?
- Historical evidence: US Corporate Income Tax 35% to 21%. No increase in inward FDI
- Uncertainty: IRA fiscal cost + future administrations
- Survey evidence: unlikely that firms will relocate in response to the IRA (Gründler et al. 2023), except FRA and DEU
- Further EU FDI in the US could create bottle-necks in the inputs market in the short run, this will slow down project implementation (so far mainly announcements).



## Will the IRA *benefits* EU producers?

LCR versus market growth, which factor wins?

Depends on elasticity of demand.

Model based calculation of % growth in market size necessary to offset LCRs

		Own-price demand elasticity		
		0.82	1.72	8.4
Tariff equivalent	5%	4%	9%	42%
	10%	8%	17%	84%
	15%	12%	26%	126%

		EVs	Renewables (solar+wind)
	<b>Biden Target</b>	600%	345%
	<b>Brookings (2023)</b>	500%	100%
	<b>Larsen, et al. (2022)</b>	170%	70%

— Right hand table: Projected % change in market size due to IRA



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## Conclusions

- IRA mostly positive for EU industry
- LCR mostly more nuisance than real trade barrier
- IRA fiscal cost much larger than anticipated
- IRA not ‘massive’ compared to EU green spending, which is mostly for past (at very high rates).
  
- EU should not engage in a subsidy race
- China remains the main “competitor” the EU should worry about, EU imports from China increasing, good to have US market protected.



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## Technical annex: Will the IRA *benefits* EU producers?

X: demand for EU exports in the US

K: market size

$$X = Kp^{(-\varepsilon)}$$

Elasticity:  $\varepsilon > 0$ ,

Tariff equivalent of the LCR:  $t$

EU industry indifferent to produce in EU vs US post-IRA:

*proportional increase in exports = proportional increase in market*  $-\varepsilon t$



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