



# České tlusté kočky: jak může systém emisního obchodování pomoci průmyslu investovat více do nízkouhlíkových technologií?

## The Czech ETS fat cats: how to help the industry invest more in low-carbon technologies?

### Shrnutí

Systém emisního obchodování (EU ETS) – vlajková loď evropské klimatické politiky – byl spuštěn v roce 2005. V tuto chvíli rozhodují politici o jeho reformě pro čtvrté obchodovací období (2021–2030). Systém má motivovat přibližně 11 tisíc energetických a průmyslových podniků k investicím do nízkouhlíkových technologií tím, že podniky musejí platit za vypouštění uhlíkových emisí. Ovšem ve skutečnosti obdržely firmy bezplatné povolenky na emise v mnohem větším množství, než bylo původně v plánu.

Standardní metodou distribuce povolenek ve třetím obchodovacím období (2013–2020) je prodávání povolenek v aukcích. Rozdávání bezplatných povolenek mělo být pouze dočasným opatřením v případě tzv. ohrožení únikem uhlíku (tj. rizika, že se vlivem EU ETS podnik přestěhuje za hranice EU)<sup>1</sup> nebo pomoci státům, jako je Česká republika, s transformací energetického sektoru. Ostatní účastníci obchodování s emisemi si musejí nakupovat povolenky v aukcích.<sup>2</sup>

Seznam sektorů, které jsou ohroženy únikem uhlíku, byl však kvůli obavám ze ztráty evropské konkurenceschopnosti sestaven příliš velkoryse v porovnání s tím, které sektory jsou skutečně ohrožené. Emise v rámci systému EU ETS klesaly průměrně o 3,0 % ročně (uvažujeme-li roky 2011–2015, kdy se ekonomika stabilizovala po finanční krizi)<sup>3</sup>, výsledky za jednotlivé sektory však byly velmi nevyrovnané. Energetický sektor snižoval emise o 4,5 % ročně, zatímco emise

průmyslových podniků klesaly o pouhých 0,7 % ročně. Podobný nepoměr platí i pro Českou republiku, kde emise průmyslových podniků v posledních letech dokonce lehce rostly.

Během právě probíhajícího vyjednávání o reformě systému politici dosud zamítli všechny návrhy, které by udílení povolenek zdarma omezily na sektory, jež budou po následující desetiletí únikem uhlíku nejvíce ohroženy. Seznam tzv. tlustých koček, tedy firem, které mají největší přebytky zdarma získaných povolenek, se od naší poslední [analýzy z roku 2011](#) změnil, ale problém nadměrné alokace zůstává. Mimo jiné sektor výroby cementu – jedna z největších českých „tlustých koček“ – je na cestě k vytvoření kumulativního přebytku v hodnotě více než 540 milionů korun v roce 2020.<sup>4</sup>

Naše modely pro čtvrté obchodovací období ETS ukazují chmurný obrázek, ve kterém většina přealokovaných průmyslových firem bude i nadále chráněna před účinkem ceny povolenek. To bude důsledek příliš štědrých pravidel, o jejichž reformě politici právě vyjednávají. Je na čase zvážit zavedení účinnějších forem ochrany průmyslu, jako například tzv. Import Inclusion System (známý také jako Border Tax Adjustments), podle kterého by firmy z vybraných odvětví dovážející zboží do EU musely nakupovat povolenky k pokrytí emisí dováženého zboží. Takové opatření spolu s navýšením celkové ambice EU ETS a s vyřešením přebytku povolenek v systému by vrátilo důvěru v systém emisního obchodování a zvýšilo by cenu povolenek

## Executive summary

The Emissions Trading System (ETS), the EU's flagship climate policy, was introduced in 2005. Legislative reforms are currently being decided for its fourth phase (2021-2030). By putting a price on carbon for some 11,000 power and industrial installations, the ETS is intended to incentivise its participants to invest in low carbon technologies to avoid emissions costs. In practice, free emission allowances are being handed out in the EU ETS far more than originally intended.

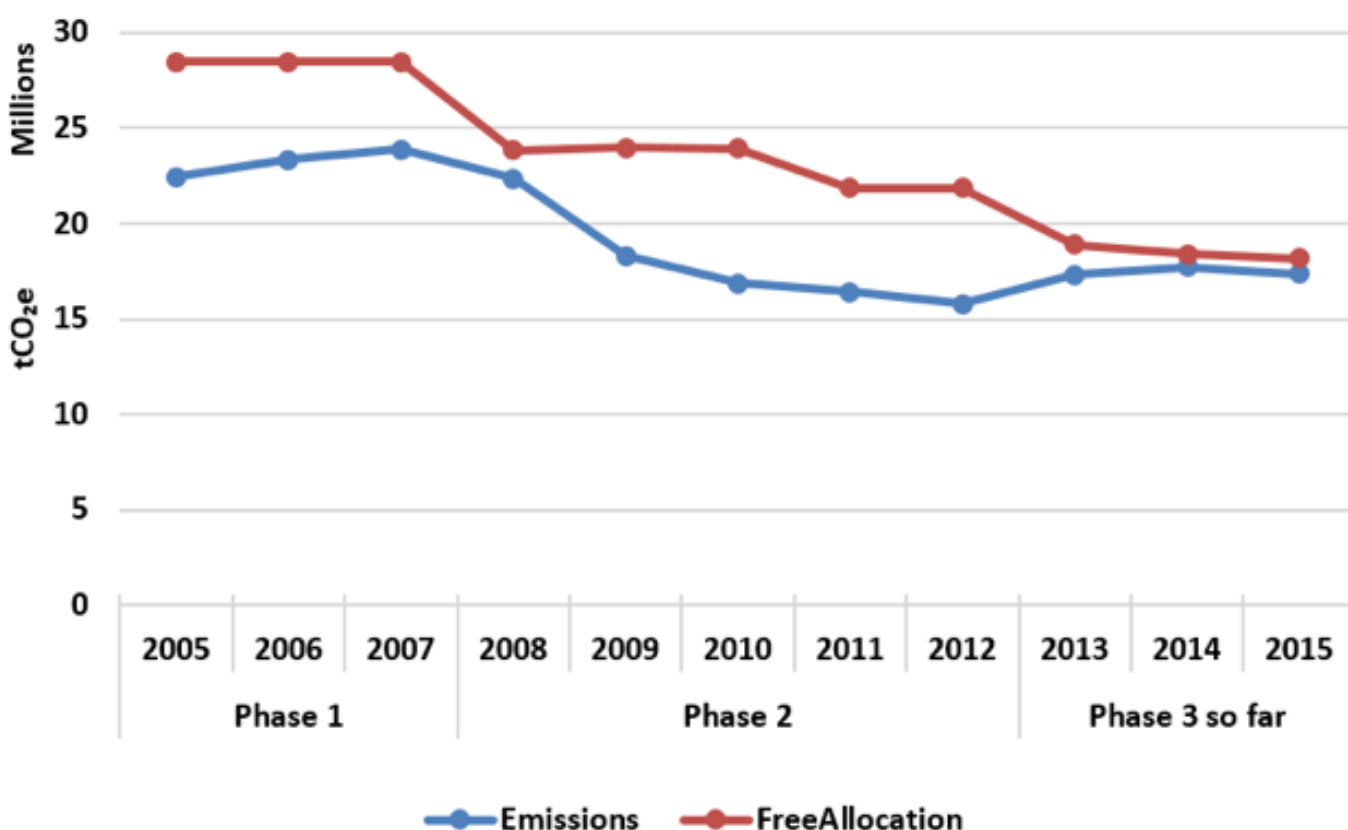
The default method of allowance distribution to the EU emissions trading market should be auctioning for Phase 3, 2013-2020. Free allocation of allowances to the emitting sectors is a temporary measure, justified only to avoid carbon leakage<sup>5</sup> and to help Member States, such as the Czech Republic, to support a power sector in transition. All other participants must buy their allowances at auctions.<sup>6</sup>

Lists of sectors considered at risk of carbon leakage have been too inclusive, when compared with those genuinely at risk, due to fears around competitiveness. While on average, emissions across the whole EU ETS reduced by 3.0% per year as the European economy began to stabilise after the financial crisis (2011-2015); the effort levels were greatly skewed across sectors. Power emissions fell by 4.5%

per year, while industrial emissions fell by only 0.7% per year.<sup>7</sup> This trend has been reflected in the Czech Republic, where industrial emissions even registered points of growth over recent years.

The latest EU ETS reform process has so far rejected proposals to target free allocation primarily towards the sectors most exposed to carbon leakage in the coming decade. The list of Czech fat cats has changed since our [2011 report on Czech Fat Cats](#), but our investigations show that the problem of overallocation has prevailed. Among others, the cement sector - one of the biggest Czech fat cats - is on track to build up cumulative surpluses translating to a windfall profit above 20 million by 2020.<sup>8</sup>

Our modelling for Phase 4 of the EU ETS paints a grim picture in which most over-allocated industries are very likely to continue to be shielded from the impact of a carbon price in result of applying current EU ETS reform options for free allocation. It's time to consider the introduction of more effective forms of protection to the industry, such as an Import Inclusion System (IIS), also known as Border Tax Adjustments, under which importers would need to purchase allowances to cover the carbon content of their imports. Such a measure, together with raising the overall ambition of EU ETS and addressing the surplus of allowances would restore faith in the system and increase the carbon price.



## A look into the past – how did this over-allocation start?

Most sectors covered by the system have largely been insulated from the impact of the carbon price by being allocated carbon allowances for free since the onset of the system. The ETS cap was set up too generously, and during the first two phases many countries chose to allocate excessive numbers of free allowances to their industries, with allowances handed out during 2008-2012 valid for compliance in later phases. The economic recession, together with the availability of cheap offsets for compliance, has led to a huge build-up of cumulative allowance surpluses for most sectors, as well as to the persistently low carbon price with little relevance for business decisions. Finally, after 2013 Industrial sectors considered at risk of carbon leakage are currently allocated 100% of their benchmarked free allocation applications.<sup>9</sup> Sandbag analysis revealed that there is almost universal carbon leakage protection in Phase 3.<sup>10</sup>

### Country profile

The Czech Republic is the 8th largest emitter in the system among all EU Member States. Whilst the Czech Republic has decoupled its overall economic growth from carbon emissions,<sup>11</sup> this success cannot be attributed to carbon price signals from the EU ETS. The chart at left illustrates how, in aggregate, industry in the Czech Republic has been sheltered from the carbon price as the number of allowances handed out for free has remained above actual emissions levels even after 2013. ETS participants can save surplus allowances in anticipation of future shortfalls or can sell them to gain windfall profits from the system.<sup>12</sup>

### The Czech industrial fat cats

The following table shows the industrial sectors with the highest cumulative balances in the Czech Republic. The amount of surplus varies from sector to sector, but for all but one of these top surplus sectors, the surplus has continued to grow since 2011.

We estimate that, even at the current low market prices of around EUR 5/tonne, the 2015 cumulative surplus for these Czech industrial participants would be worth

EUR 144 million (CZK 3,9 billion). Even if we reduce the surpluses for the iron and steel and coke oven sectors considerably (to take into consideration allowance transfers related to waste gas transfers)<sup>14</sup> windfall profit to Czech industry from the ETS exceeds EUR 115 million<sup>15</sup> (CZK 3,1 billion). If Czech industry had chosen to save its surplus for future compliance, rather than sell it, we estimate it could be insulated from the carbon price well into the decade after 2020, when the current EU ETS Phase 3 finishes.

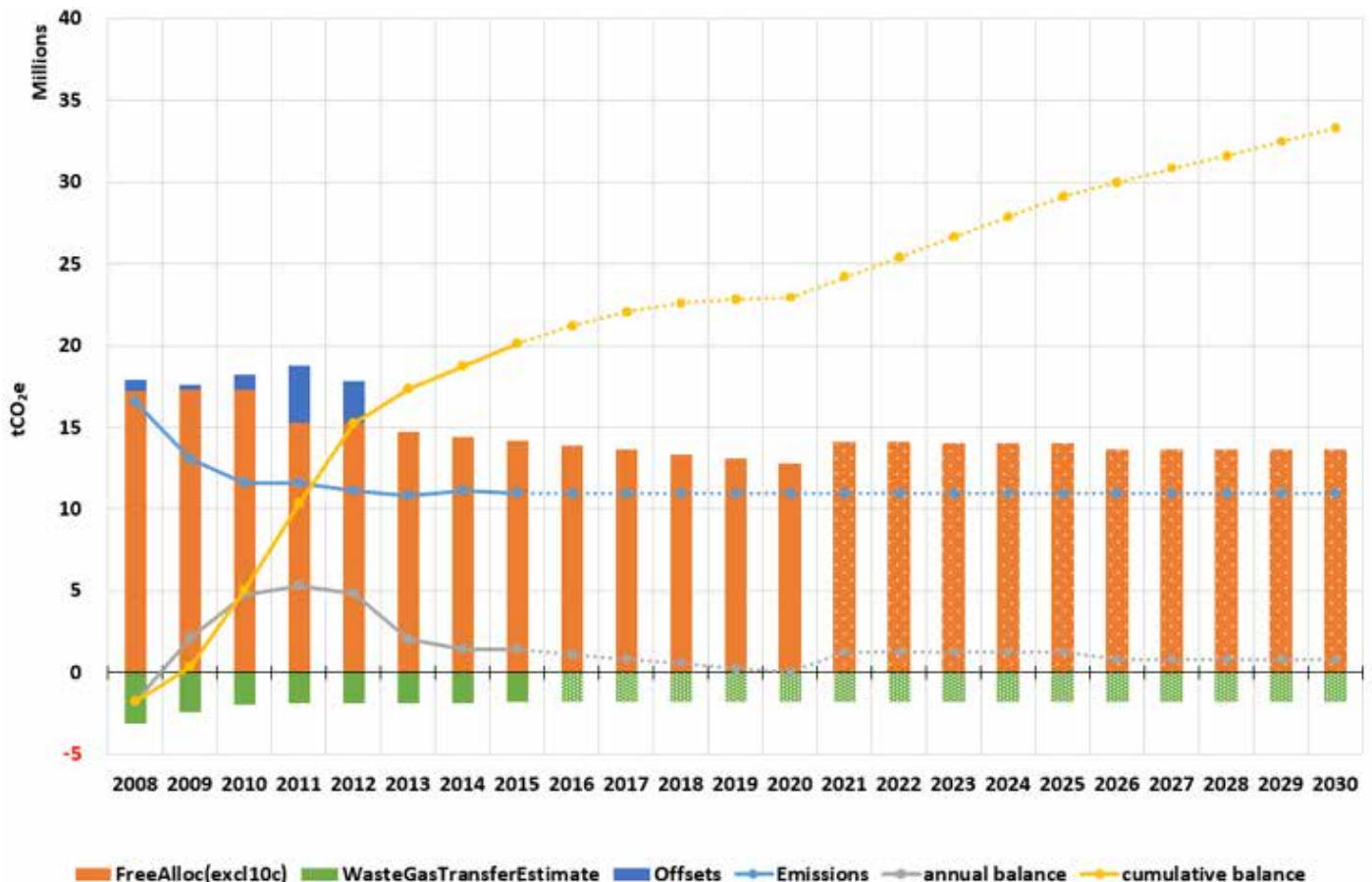
More worryingly, under the options for the reform of the EU ETS system currently being negotiated, some of the Czech fat cat sectors are about to get fatter with the free allocation that will be made available to them after 2021. Even though free allocation is only supposed to be a temporary derogation from full auctioning, industrial stakeholders have seized upon the ongoing reform as an opportunity to 'reverse' the steady tightening in their free allocation during Phase 3.

The chart below illustrates the continued cumulative surplus for the sectors shown in the following table. It assumes ongoing industrial emissions continue at current levels, and applies Sandbag modelling for post-2020 free allocation, with parameters set to the European Parliament reform position.<sup>16</sup>

Czech Republic sectors with most surplus (non-power)		2015 cumulative balance** (tCO <sub>2</sub> e)	2015 emissions (tCO <sub>2</sub> e)	Number of years of emissions covered by 2015 cumulative balance (at 2015 levels)	value of surplus (at EUR 5/t)
24.10	iron & steel*	20,415,939	5,725,163	3.6	102,079,695
23.51	cement	2,630,065	2,290,218	1.1	13,150,325
23.32	bricks, tiles & construction products, in baked clay	1,193,112	153,670	7.8	5,965,560
23.11	flat glass	1,034,560	305,492	3.4	5,172,800
17.12	paper & paperboard	873,216	445,503	2.0	4,366,080
19.10	coke oven products*	793,894	102,065	7.8	3,969,470
28.15	bearings, gears, gearing & driving elements	647,435	69,731	9.3	3,237,175
19.20	refined petroleum products	486,212	925,482	0.5	2,431,060
23.52	lime & plaster	391,282	895,486	0.4	1,956,410
20.13	other inorganic basic chemicals	383,576	81,951	4.7	1,917,880
	rest	-35,700	6,376,795	-0.0	-178,500
	total	28,813,591	17,371,556	1.7	144,067,955

\* these sectors may have allowance transfers thus reducing their cumulative balances

\*\* cumulative balance = total free allocation from 2008 to 2015 - total emissions from 2008 to 2015



Build-up of cumulative surplus since 2008 for the top surplus sectors in Table 1 (taking account of 2008-2012 offset use and with waste gas transfer estimated)

## Cement: the ultimate victim of the EU ETS over allocation

As in the rest of Europe, the cement industry in the Czech Republic has built up a fat layer of cumulative surplus, while its need for protection from carbon leakage is questionable.<sup>17</sup> The chart on page six illustrates how the four multinational cement companies operating in the Czech Republic are faring and projects their surpluses out to 2020 (assuming emissions remain at 2015 levels). At current carbon prices, these 2020 cumulative surpluses translate to a windfall profit of over EUR 20 million (CZK 540 million).

Previous analysis by Sandbag has revealed how, far from encouraging abatement investment for avoided cost and trading advantage, the approach for carbon leakage assessment so far, combined with cement's clinker based benchmark and the current thresholds for reducing free allocation following partial cessation of activities, has instead resulted in increased exports of high emission intensity cement.<sup>18</sup>

Four multinational cement companies operate in the Czech Republic. There are five integrated cement plants and one grinding plant. In 2015 the production of cement in the Czech Republic was 3.8 Mt, of which 3.7 Mt was consumed domestically, while the amount of exported cement was 0.5 Mt and the amount of imported cement was 0.4 Mt.

Our modelling for Phase 4 indicates that under the proposals currently on the table for trialogues, cement companies in the Czech Republic will mostly likely continue to build up even larger surpluses throughout the phase. This cannot be the intention of this reform.

An amendment to replace free allocations to sectors with high emissions intensity but low trade intensity with an Import Inclusion System (IIS) did not pass the Parliament vote. This amendment, under which importers would need to purchase and surrender allowances to cover the carbon content of their imports, would most likely have excluded cement from free allocation due to its relatively low trade intensity. Carbon leakage protection would have been provided via the IIS instead.

## Policy implications

In Phase 3, the total number of allowances available for free allocation to industry under the cap does not cover the total benchmarked free allocation applications. So, a uniform Cross-Sectoral Correction Factor (CSCF) is applied and this steadily increases throughout the phase. It reaches just over 82% by 2020 (a significant and very unpopular squeeze on free allocation).

In Phase 4, benchmarked free allocation applications are less likely to exceed the maximum number of allowances available for free allocation due to the following factors influencing the calculations:

- activity level change<sup>20</sup>
- benchmark reductions<sup>21</sup>
- carbon leakage assessment change<sup>22</sup>
- auction share reduction<sup>23</sup>
- augmentation of the effective Phase 4 cap<sup>24</sup>

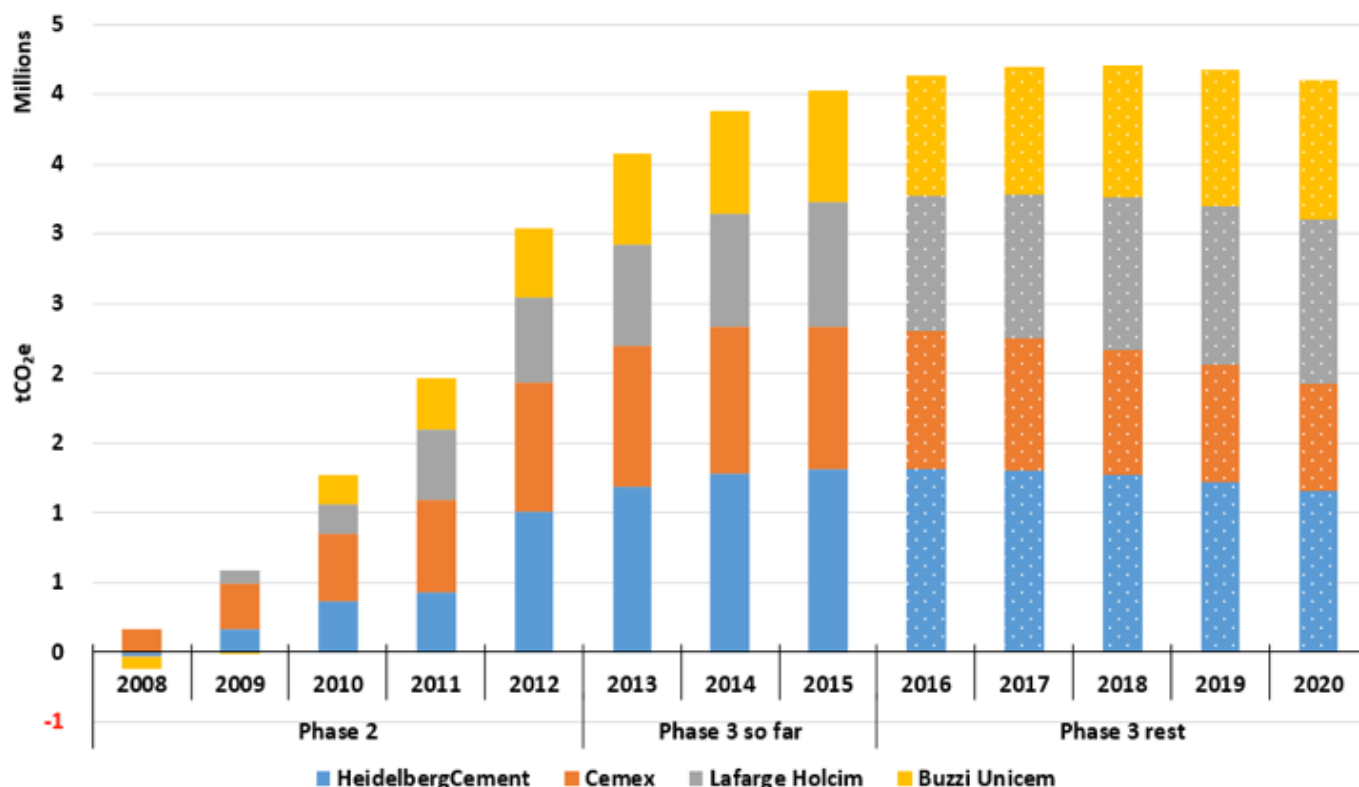
Under the current reform positions on the table for trialogue negotiations, unless there is significant EU-wide activity growth from current levels, a CSCF is not likely to be required until after the start of the phase, if at all. This means that free allocation to several highly emitting industrial sectors is likely to increase at the start of Phase 4 compared to the end of Phase 3.

Czech fat cats are very likely to continue to be shielded from the impact of whatever carbon price emerges after the reform negotiations. Continued coverage under the scope of the ETS also potentially shelters them from more effective emissions reductions policies. Furthermore, transferring auction share to free allocation to avoid a CSCF will have a direct impact on the number of allowances available to the Czech Republic for auctioning. The Czech Republic also stands to lose out on auction revenues if excessive free allocation to industry reduces market demand for allowances and depresses market prices.

Perhaps it's time to consider introduction of more effective forms of protection to the industry, such as an Import Inclusion System (IIS) also known as Border Tax Adjustments, under which importers would need to purchase and surrender allowances to cover the carbon content of their imports.



## Czech Republic cumulative surplus for cement sector (NACE 23.51)



Cumulative surplus to 2015 and projected to 2020 by company for cement sector (NACE 23.51)<sup>19</sup>

## Policy Recommendations

The current negotiations of legislative reforms must tackle a wide range of problems affecting the functioning of the ETS: policy makers must solve the current surplus of allowances and elevate the currently low carbon price. A higher carbon price could become an economic opportunity for the Czech Republic, generating substantial auction revenues and incentivising inward investment in innovative low carbon technologies, but only if the overall allocation to the industry diminishes.

### For Phase 4, Sandbag and the Centre for Transport and Energy recommend:

- Continue support on annual cancellation from the Market Stability Reserve (MSR) and increase the MSR withdrawal rate. An even better alternative would be to remove surplus from the market quickly by rebasing the cap to the real-world level of emissions.
- Support maintaining the 57% auction share in Phase 4.
- More abatement-effective methods to protect industry from carbon leakage risk should be encouraged rather than continuing the current free allocation approach, such as Import Inclusion System (commonly referred to as a Border Tax Adjustment Mechanism).

## Notes

1. Riziko přesunu průmyslové činnosti do oblastí mimo systém EU ETS, kde nejsou uhlíkové emise zpoplatněny, se označuje jako riziko úniku uhlíku
2. Výjimku podle článku 10c Směrnice o EU ETS tvoří některé země EU, které směřují rozdávat povolenky energetickému sektoru zdarma výměnou za investice do čistých technologií. Platí i pro Českou republiku
3. Viz publikace Sandbagu [Energy Transition in the Power Sector in Europe 2016](#), str. 29-31 a jeho novější verze s daty EUTL za rok 2016 [zde](#).
4. Při současné ceně povolenky.
5. Potential for displacement of industrial activity to regions outside the scope of the ETS without equivalent carbon prices is referred to as carbon leakage risk
6. Except for Article 10c derogations from auctioning which allows some free allocation to power sector participants for member states with power sectors in transition including the Czech Republic in exchange for investments.
7. See Sandbag's report [Energy Transition in the Power Sector in Europe 2016](#), pp. 29-31 and an update using new EUTL data release [here](#).
8. At current carbon prices.

9. Other industrial sectors receive 80% in 2013, gradually decreasing to 30% in 2020. Benchmarks reflect the average performance of the 10% most efficient installations in a sector or subsector in the EU in the years 2007-2008
10. See Sandbag's report [Slaying The Dragon](#) from 2014, p. 36 for analysis on the coverage of carbon leakage protection for Phase 3
11. BP data on emissions and World Bank data on GDP shared via Carbon Brief [here](#) shows how Czech Republic emissions decreased by 14% between 2000-2014 whereas GDP increased by 40%
12. Surplus allowances from Phase 1 were not bankable to use for compliance in future phases (hence they are excluded from the cumulative surplus balance) but they could have been sold before their value crashed to zero at the end of the phase
13. Emissions reductions between 2008 and 2011 happened mainly due to economic downturn. Data from EUTL extracted July 2016; in-house mapping of installations as power or non-power (installations are mapped as power if they belong to power sector NACE codes, are combustion installations with no free allocation in Phase 3, receive Article 10c free allocations or are otherwise known to be power installations)
14. Part of the free allocation given to the steel industry covers emissions from its waste gases. These gases can be burnt as fuel to generate power and some are transferred to third party power generators. Allowances are also transferred with the waste gases.
15. This is a very conservative estimate as participants could have chosen to sell their surpluses in previous years when prices were higher.
16. NER from Ph4; 300 million Innov Support from FA; binary CL at 100% & 0% but with 30% FA for district heating; min BM red -0.3% for Iron and steel & Refined petroleum, -1.5% for Paper and paperboard & Fertilisers, -1% rest; auction share red to 55% to avoid a CSCF; additional SME small emitters excluded from post 2020 FA
17. More than 4 million tonnes by the end of 2015 which represents a windfall profit of more than EUR 20 million even at the current low EUR 5/tonne price
18. See our 2016 report '[Cement - The Final Carbon Fatcat](#)' available here
19. Data from EUTL extracted July 2016; assume 2015 emissions level post 2015; balance = free alloc + offsets – emissions
20. Likely lower for Ph4 (pre-recession activity levels influenced calculations for Ph3)
21. Minimum and maximum benchmark reduction percentages per sector are still to be negotiated during Trialogue
22. Fewer sectors expected on carbon leakage list post 2019 (Council position keeps current list for 2020)
23. Commission position -> no reduction; Council position allows for up to 2% reduction; Parliament position allows for up to 5% reduction
24. By diverting allowances that would normally be destined for the MSR (differing amounts for Commission, Council and Parliament positions)

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