



Carbon Allowances management: perspective of an energy services company

Free allocation and short position management



Veolia' activies brief introduction

ABOUT US

OUR ACTIVITY AND KEY FIGURES

VEOLIA DESIGNS AND DEPLOYS CIRCULAR ECONOMY SOLUTIONS FOR **WATER**, **WASTE** AND **ENERGY** MANAGEMENT TO IMPROVE EFFICIENCY FOR CITIES, INDUSTRY AND CITIZENS.



€23,880
million revenue

179,000
employees
on 5 continents

6.8 M
tons equiv. CO₂
avoided and

15.3 M
tons equiv. CO₂
reduced


39.3 M
MWh of renewable or
alternative energy
consumed

34%
of the company's total
consumption

OUR ACTIVITIES

 **3,338**
wastewater treatment plants managed

 **4,455**
water production plants managed

 **59.6**
million people connected to wastewater systems

WATER

 **96**
million people supplied with water



 **52**
million MWh produced

 **2.4**
million collective housing units managed

 **529**
heating and cooling networks managed

 **1,802**
Industrial sites managed

42.8
million people provided with collection services on behalf of municipalities

31.3
million tons of waste recovered as materials or energy

730,000
business customers



655
waste-processing facilities operated

WASTE

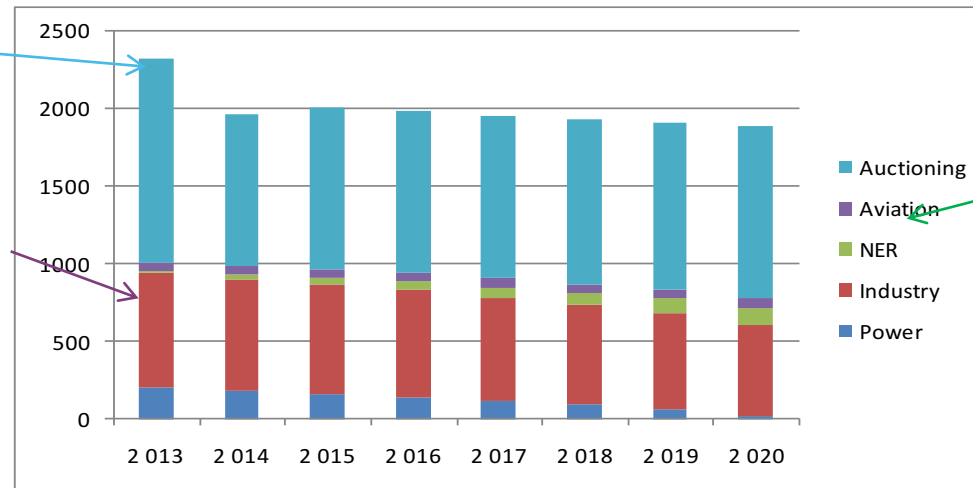
Veolia allowances

Quotas are either freely allocated or auctioned (and then bought on the secondary market)

- The end of free allocation by 2027 is foreseen by the Phase 3 Directive but the draft Phase 4 Directive would still grant 30% of benchmarked allocation up to 2030

Quotas sold at auction

Quotas allocated free of charge to manufacturers and heating producers

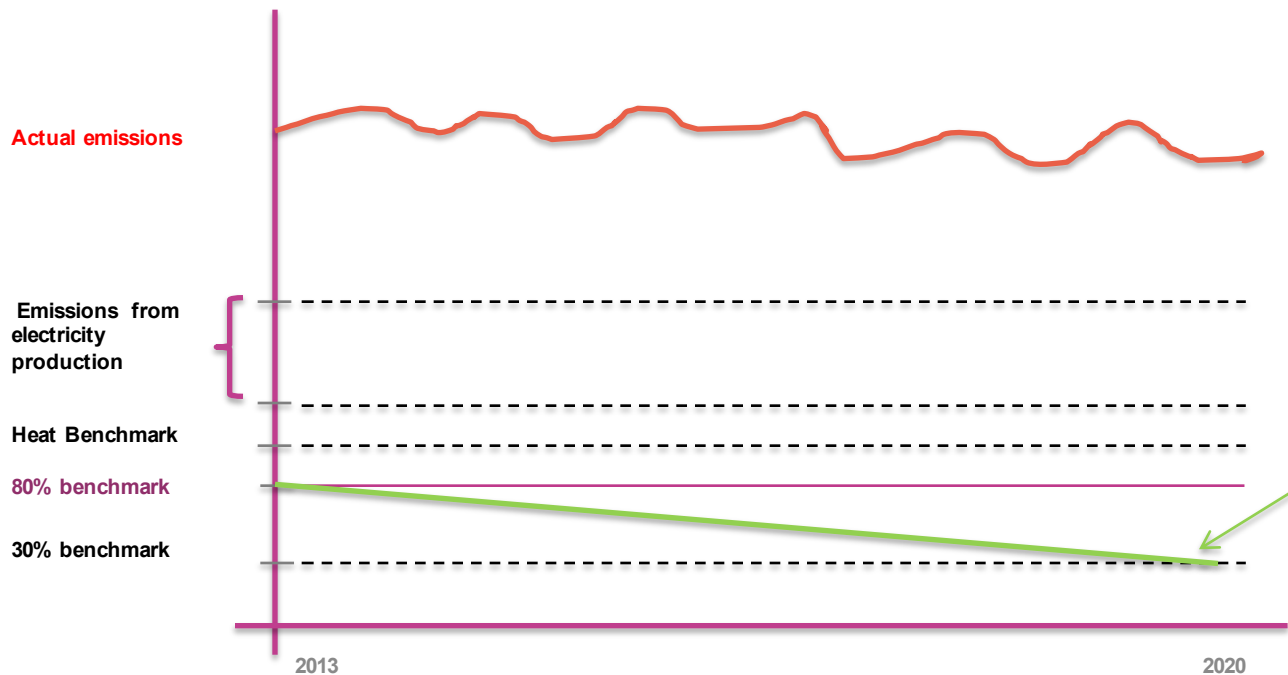


Reserve supply for new entrants and extensions

- However no quotas are allocated free of charge for electricity production and the quantity of free quotas for heating production (excluding manufacturers) fell sharply in 2013 (-70%) and continues to fall by around 10% a year
- Quota allocations are no longer based on past emissions (Phase 2) but historical production levels (irrespective of inputs and efficiency)

Heat and CHPs have specific free quotas allocation

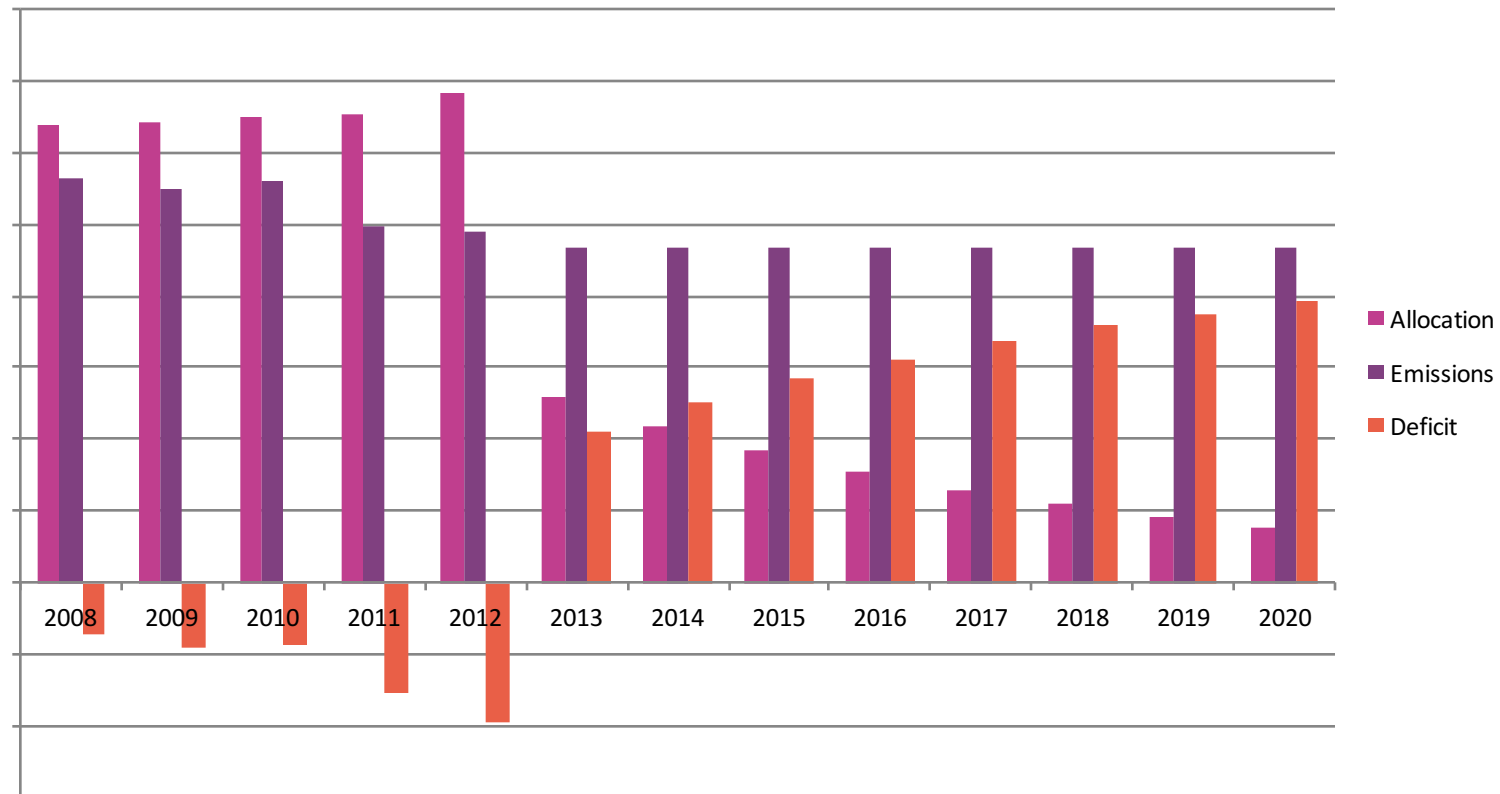
- Electricity does not receive free allocation except in 10 countries “in transition” (mainly Eastern Europe); BUT
- Free allocation is granted for heat generation;
- → electricity produced in CHPs has an advantage over separately produced electricity
- Allowances principle: allocation goes either to the heat producer if the installation receiving the supply is non ETS or to the heat consumer if the installation receiving the supply is in the ETS.



Heat allocation example for a CHP that either 1) supplies a non ETS site, or 2) consumes the heat within the ETS boundary (and where the consumer is not at risk of carbon leakage)

Veolia receives fewer free allowances every year

Emissions



Allowances management and compliance

In 2005 Veolia created a CO2 trading desk to optimize quotas allowances/buying/selling



Hedging strategy: how to define when buying/selling

1. Each installation receive its free allocation based on benchmark for heat and eventually for power each year over the period 2013-2020;
2. Trading desk conduct analysis to estimate market trends (prices, regulation, commodities, consumption...). The needed volume to be bought is then estimated for each year. A budget over which traders should not go is decided at the monthly committee;
3. Once the BU fixed the price, can calculate and optimise its production plan;
4. For power, the main objective is to hedge the clean dark spread (CHP)
 - Flexible production : CO2 fixed as the same as electricity (importance of time)
 - 'Must-run' production : CO2 bought according the hedging strategy (up to three years ahead) in line with Group Hedging Policy (depending on the contract with the client)
5. For heat :
 - If CO2 is covered under the regulated heat tariff: buying back-to-back with the government indexation (eg annual average)
 - If CO2 is not covered, establish trading strategy (eg stop loss & VaR approach) and buy all of the volume before 31 december year N-1

Recommandations and lessons learned for heat sector

- Importance of market analysis (regulation, trends, price...);
- Importance of having a high predictability on your production and regularly reporting → trading synergies for Group across countries ;
- Trying to establish a path for pass through rate towards your clients or at least « change in law clauses » in order to buy a significant part of your CO2 needs and fixing energy outputs at the same time;
- Invest in green technologies, (think forward, CO2 price could increase a lot and destroy your margin...).