

# CO2 reduction with IonSmoke

## Afterburner with Natural GAS in use for 4 x 2 cage smoke houses

With the usual "open" system of smoke chambers in most applications, a gas fired afterburner is necessary (in most regions required) to eliminate residual smoke and fine dust particles escaping into the atmosphere during and after every smoke step.

Once the IonSmoke system is installed, this extremely expensive way of "cleaning the exhaust air" is virtually eliminated since IonSmoke will ensure the eradication of residual smoke and fine dust particles.

Comparing the gas consumption and cost prior to and after the installation of the IonSmoke system did show significant improvements and cost reductions after the conversion.

### Afterburner with natural gas (before IonSmoke):

Average consumption per month	12000 m <sup>3</sup>
Average consumption per year	144000 m <sup>3</sup>
Average consumption per year	5085 MCF

### CO2 reduction with IonSmoke (according to EPA conversion):

Co2 reduction per year	<b>279 Tons of CO2</b>
CO2 reduction per smoke house/year	69.75 Tons of CO2

### Link to CO2 calculator:

<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

### More Links:

<https://rehabilitationrobotics.net/how-much-co2-is-in-a-cubic-meter-of-natural-gas/>

<https://www3.epa.gov/ttnchie1/ap42/ch09/final/c9s05-2.pdf>

# Electric power saving with IonSmoke

## 2 smoke truck electric smoke house

The electric heating for the smoke system (at 50°C) run one hour less when smoking bacon. This gives a total time reduction of 20%. From 5h to 4h.

Maximum heating capacity of the 2-truck system:	60 Kwh
Energy consumption for one hour (conservative estimate) *	20 Kwh
* Ambient temperature 15 °C (production), size of the chamber: 8m <sup>3</sup> , operating temp. 50°C.	

*In Switzerland, we measured electricity from a 1-truck system. Whereby we measured a consumption at 18 hours of 316.98 kWh. So, 17.61 per hour. A two-truck system should be higher. Conservatively, we use 20kwh.*

Average runs per week: **	15
**conservative: 3 batches each for 5 days. Usually, 6-7 days of 3 batches each	
Saved consumption for one week	300 Kwh
Savings per year (51 weeks)	15300 Kwh

### CO2 reduction with IonSmoke (according to EPA conversion):

CO2 reduction per year	<b>10.8Tons of CO2</b>
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