Man/days atribuition for GHG verification

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Man/days for GHG verification

- New Process
- Need of new solution
- Levelling of the market
- Higher quality of verification

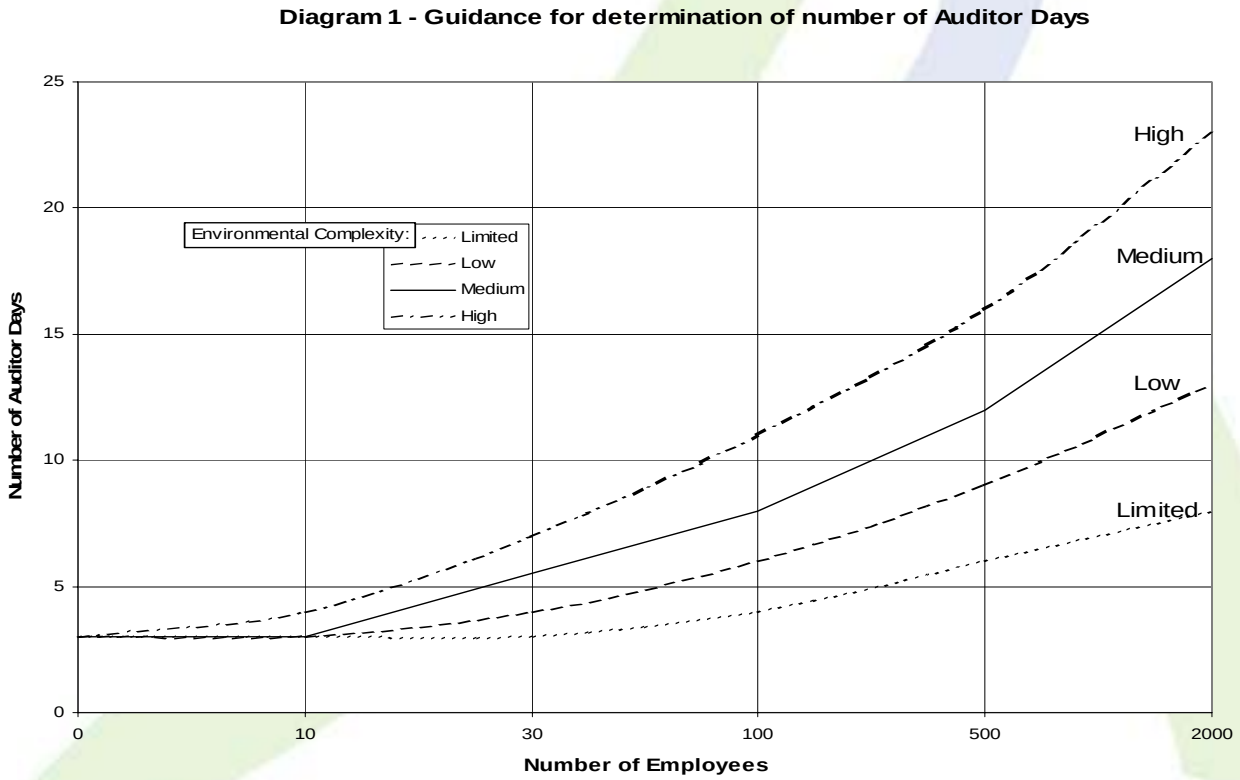
Man/days for GHG verification

Good old "classic" System

- Dimension/number of employee
- Complexity

Man/days for GHG verification

Complexity VS days (EMS)



Man/days for GHG verification

Man/day table

CONTINUUM Number of employees	High complexity	Medium complexity	Low complexity	Limited complexity
10	4 ± 1	3 ± 1	3 ± 1	3 ± 1
30	7 ± 2	6 ± 2	4 ± 1	3 ± 1
100	11 ± 3	8 ± 3	6 ± 2	4 ± 1
500	16 ± 5	12 ± 3	9 ± 3	6 ± 2
2000	23 ± 7	18 ± 5	13 ± 4	8 ± 2

Man/days for GHG verification

GHG verification

- Small doesn't necessarily means easy
- Dimension of the installation my be not relevant

Man/days for GHG verification

WHY?

- Clarity for the market
- Stop a biding war
- Try to focus on quality of verification process

Man/days for GHG verification

Factors to consider for the determination of days to impute to an installation in GHG verification process:

- Number of emission sources
- Number of fuels
- Structure of the data management system of the installation
- Monitoring level
- Emission level
- Type of fuel

Man/days for GHG verification

Cálculo para a duração da verificação CELE

AGÊNCIA PORTUGUESA DO AMBIENTE
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Tabela 1

Factors A e B (QT)	Measured value of factor A	Measured value of factor B
1	1	1
1 a 2	2	3
3 a 6	3	5
7 a 10	4	10
>10	5	25
		0

Factors to be consider:
A- Number of emission sources (table 1);
B - Number of fuels (table 1);
C - type of installations (table 2);
D - Monitoring level (table 3). the value to be consider shall be the highest evel indicated in the permit;
E - Confidance on the structure of data collection of the instalation (table 4);
F - type of fuel (table 5);

Table 2

Factor C - Instalações por valores anuais de emissão
small instalation (< de 50.000 ton CO_2/ano)
medium size installation - Natural Gas (>= 50.000 e < 500.000 ton CO_2/ano)
medium size installation (>= 50.000 e < 500.000 ton CO_2/ano)
CO_2/ano)
Big installations (>=500.0000 ton CO_2/ano)
Refinaries with "flares",crakers" and destilation units (>=500.0000 ton CO_2/ano)

Table 3

Factor D	Measured Value
Nível 1	2
Nível 2a	4
Nível 2b	6
Nível 3a	10
Nível 3b	18
Nível 4a	25
Nível 4b	35

Table 4

Factor E - Confidance on data system sructure of the operator
high confidance
parcial confidance
low confidance

Table 6. Nº of days = table1+ table 2+table 3+ table 4+ table 5

Measured values	7-15	16-37	38-55	56-75	76-100	>100
Days	1	2-3	4-5	6-7	8-9	10
Calculation						

Nota: o número de dias por verificador.

Table 5

Factor F - type of fuels
Natural gas or biomass
Liquid fuels + biomass ou natural gal
Combination (between liquid, solid or gas fuels)
Other combinations (fuels generated internaly or bought in the exterior)

Man/days for GHG verification

Table 1

	A- Number of emission sources (nº of points)	B –number of fuels (nº of points)
1	1	1
2-3	2	3
4 a 6	3	5
7-10	4	10
+10	5	25

Man/days for GHG verification

Type of installation – Table 2

Type of installation	(nº points)
Small installation (<50.000 ton CO_2/year	1
Medium installation - natural gas (>50.000 ton CO2/year e <500.000 ton CO2/year)	5
Medium installtion(<50.000 ton CO2/year	8
Medium installation with process emission (<50.000 ton CO2/year e <500.000 ton CO2/year)	12
Big installation <500.000 ton CO2/year	20
Refineries with several combustion installations, "*flares*", "*crakers*"	35

Man/days for GHG verification

Monitoring level – Table 3

Monitoring level	Nº points
level 1	2
level 2a	4
level 2b	6
level 3a	10
Level 3b	18
level 4a	25
level 4b	35

Man/days for GHG verification

Confidence on data system structure of the operator

Table 4

Data system structure of the operator	nº Points
High confidence	1
Medium confidence	5
Low confidence	10

Man/days for GHG verification

Type of fuels – Table 5

Type of fuels	nº points
Natural Gas /biomass	1
Liquid fuels + biomass or natural gal	3
Combination (between liquid, solid or gas fuels)	8
Other combinations (fuels generated internaly or bought in the exterior)	12

Man/days for GHG verification

Calculation method

Table 6

Number of days

Table 1 (A+B) + Table 2 + Table 3 + Table 4 + Table 5

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Man/days for GHG verification

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Thank you

- www.apambiente.pt

- http://www.apambiente.pt/portal/page?_pageid=73,408080&_dad=portal&_schema=PORTAL&docs=10139659

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