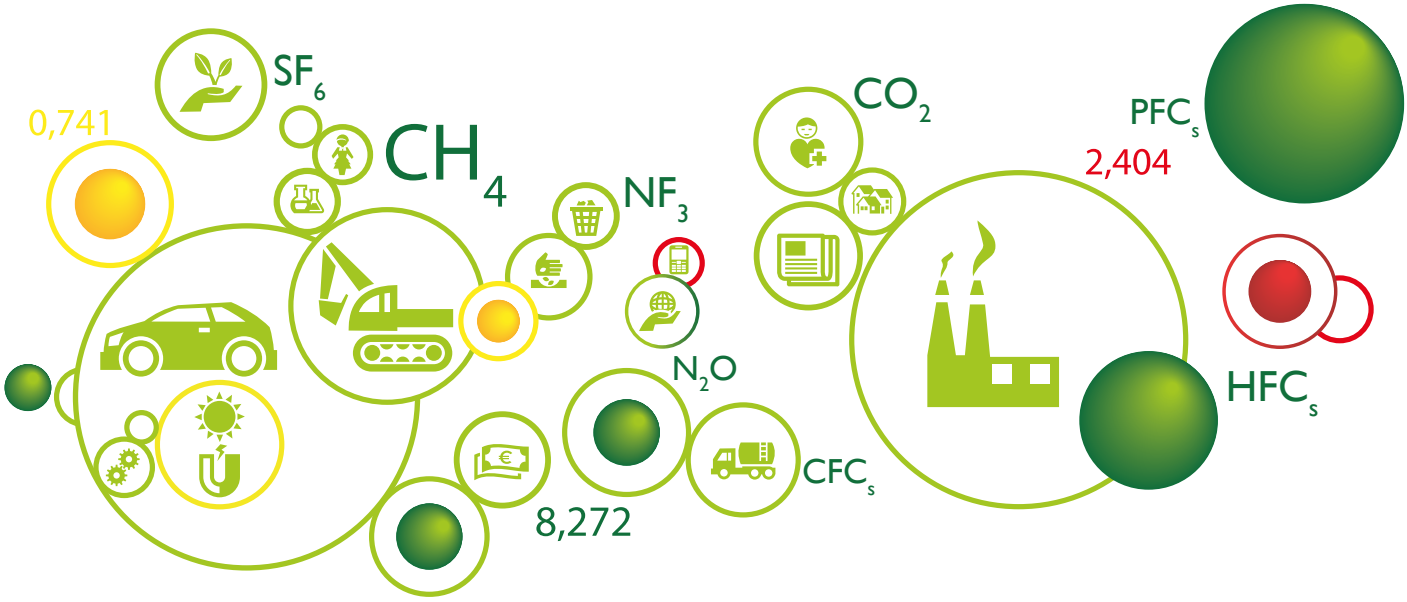
KEYS TO ACTION

GUIDE FOR THE CONSTRUCTION, IMPLEMENTATION AND MONITORING OF GHG EMISSION REDUCTION ACTION PLANS

NOV. 2017



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Bilans GES
Bilans gaz à effet de serre

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FOREWORD

This document is intended to facilitate the success of the greenhouse gas (GHG) emission reduction action plans of organisations. In particular, it is based on the analysis of the content of different reference documents, as well as on experience feedback from organisations, and the contributions of participants in the ADEME working group on greenhouse gas emissions assessment (GT BEGES).

It provides an operational method showing the steps to follow for the construction, implementation and monitoring of a reduction action plan of the greenhouse gas emissions, both direct (Scope 1) and indirect (Scope 2 and 3), related to the activities of an organisation. “Carbon compensation” actions are outside of the scope of this guide.

This guide is solely devoted to the reduction of the emissions of greenhouse gases, and each organisation is invited to reflect on the other impacts associated with its activities and, where appropriate, to combine the management of these impacts with management of GHG emissions. The targets of this document are organisations with the following profiles:

- Organisations having carried out an evaluation of their GHG emissions and wishing to draw up and implement a GHG emission reduction action plan;
- Organisations which have not carried out an evaluation of their GHG emissions, but nonetheless wish to implement a GHG emission reduction action plan.

Within the context of the European project LIFE Clim’Foot (http://www.climfoot-project.eu/) on the implementation of public policies to calculate and reduce the carbon footprint of public and private organisations, a project coordinated by ADEME, it was suggested that this document should be made available to all of the partners via a translation into English.

For this, some adjustments of the original text were made in order to make the items of discussion more general and to make the content comprehensible to actors who are not familiar with the French legislative context.

0. DEFINITIONS

GHG emission reduction action plan (or just "action plan): all of the actions aiming to reduce GHG emissions generated directly (Scope 1) and indirectly (Scope 2 and Scope 3) by the activities of an organisation within its operational scope.

Organisational scope: depending on the complexity of their structure, organisations may contain one or more branches, which in turn may own or control different assets or be involved in different activities. Every asset or activity may contain one or more sources of GHGs. The inventory of this organisation constitutes the definition of the organisational scope, i.e. "What are the assets and activities concerned?"

Operational scope: after having determined its organisational scope, the organisation needs to define its operational scope, i.e. "Which are the operations generating emissions within the organisational scope?"

Direct emission of GHGs (or Scope 1): emission of GHGs from greenhouse gas sources, fixed and mobile, controlled by the legal entity.

Indirect emission of GHGs associated with energy (or Scope 2): emission of GHGs coming from the production of electricity, heat or steam imported or consumed by the legal entity for its activities.

Other indirect emission of GHGs (or Scope 3): emission of GHGs, other than the indirect emissions of GHGs associated with energy, which is a consequence of the activities of the legal entity, but which comes from sources of GHGs controlled by other entities.

Quick win: this term generally designates actions producing a quick, easy gain. They generally require little or no financial investment.

Hot spot: in the analysis of a life cycle or in an evaluation of emissions of greenhouse gases, hot spots are the stages, sources or activities which are the origin of the main environmental impacts of the value chain or the organisation.

1. CONTEXT AND OBJECTIVE

The participants of the *Groupe de Travail Bilan d'Émissions de Gaz à Effet de Serre* (GT BEGES, working group on greenhouse gas emissions assessment) of ADEME believed that it was important to provide a methodological aid to organisations wishing to put in place action plans to reduce their GHG emissions. This guide does not contain regulations, and is public.

This guide is intended to facilitate the success of the GHG emission reduction action plans of organisations. It is intended to be oriented towards "project management", constituting an operational method recommending the steps to follow for the construction, implementation and monitoring of a GHG emission reduction action plan. It is based on the analysis of reference documents on the subject, experience feedback from organisations and the contributions of the members of GT BEGES. The actors having participated in the realisation of this guide are listed in **annexe 1**.

2. INTRODUCTION

Like every action plan, a GHG emission reduction action plan defines all of the means necessary to attain certain objectives, in this case the reduction of the emissions required for the activities of an organisation. It is therefore a full process which is based on a dynamic and iterative approach.

The items presented in this guide are to be considered as a process to follow. It consists of a number of necessary steps aiming to promote the success of GHG emission reduction action plans.

Every organisation which wishes to do so is invited to use this guide as a source of inspiration, selecting the items which seem the most relevant to it with respect to its business-related issues, its motivations and its level of maturity. Experience shows that an approach aiming to reduce GHG emissions needs to be centred on business-related issues in order to succeed.

Depending on its maturity, each organisation is invited to construct its own reduction approach, applying the principle of progressiveness. In this way it may continuously improve its management of GHG emissions. Hence the action plan defined may be part of a system of management of GHGs (e.g. the *Système de Management des Gaz à Effet de Serre* (SM-GES, greenhouse gas management system) of *Association Bilan Carbone* (ABC, the carbon balance association)), or may integrate perfectly in an existing management system, whether it relates to the environment (e.g.: ISO 14001), energy (e.g.: ISO 50001) or quality (e.g.: ISO 9001).

This guide presents the 4 major stages during the lifetime of an action plan:

- **The definition of the framework of the action plan (upstream)**
- **The construction of the action plan**
- **The implementation of the action plan**
- **The monitoring of the action plan**

At each of these stages, the steps to carry out are summarised in the form of a table which answers the following 3 questions:

- **"What?"**
- **"Why?"**
- **"How?"** investigating the following 3 key issues:
  - **"Operational issue":** actions to be carried out relating to the business-related issues of the organisation
  - **"Backing issue":** actions to be carried out relating to the governance of the action plan (with the executive committee)
  - **"Communication issue":** actions to be carried out within the framework of internal and/or external communication (optional depending on the issues) relating to the action plan

  Note that the communication issue in this guide is essentially directed towards internal communication. Each organisation is responsible for the dissemination of its GHG emission reduction action plan in accordance with its own external communication policy.

In addition to these 3 questions, the proponent of the action is invited to reflect, for each of the steps to be carried out, on the question of "when" – in other words, to properly define the project management timetable.

3. ISSUES ASSOCIATED WITH AN ACTION PLAN

An action plan cannot succeed without a minimum level of commitment on the part of the management.

In order to gain this commitment, certain key principles, which have emerged from experience, must be applied:

- Have an approach which is in line with the overall strategy of the company in order to present the associated opportunities. Depending on organisations, these may be:
  - Preparing for progression in energy prices;
  - Reducing operating costs;
  - Innovating/differentiating;
  - Adapting the commercial offer;
  - Doing the same as others;
  - Improving image;
  - Acting for the planet and the climate;
  - Anticipating new constraints;
  - Motivating teams;
  - Constructing new partnerships.
- Integrate the approach into teams' activities, while avoiding increasing the workload.
- Embed the action plan in the framework of creation of shared values, whether it is for the employees, the clients, the suppliers or the shareholders. Even though the value creation is not exclusively economic, it will often be necessary to carry out a complete economic analysis (speak in euros rather than in tonnes of CO_2e).
- Do not get lost in overly technical language.
- Emphasise the unifying aspect of this kind of approach.

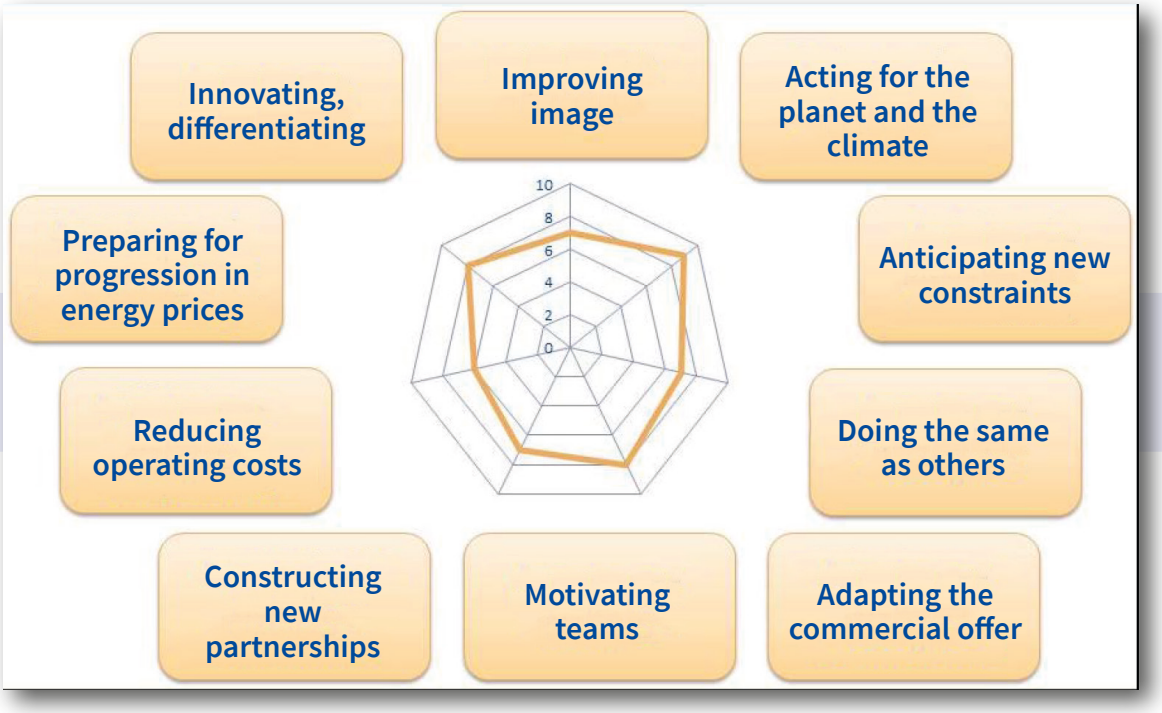

FIGURE 1
Examples of reasons for carrying out an action
(source: BEGES training provided by FNAM, the French national federation of merchant aviation)

4. DEFINITION OF THE FRAMEWORK OF THE ACTION PLAN

Before embarking on the definition of an action plan, it is important to define a framework for a certain number of subjects: governance, the external factors at the outset, as well as the objective(s) to attain. It is very important to precisely define the main motivation of the GHG emission reduction action plan. This is the question “Why”: environmental policy of the company, response to a regulatory obligation?

Moreover, the definition of the organisational scope of the action plan is very important (cf. step 4 of table 1). Is the action plan defined for a single company of the SME kind (industrial and non-industrial), or for all or part of the subsidiaries constituting a group?

The points listed below have the objective of establishing a framework within which the action plan is embedded.

STEP	WHAT?	WHY?	HOW?		
			Operational issue	Backing issue	Communication issue
1	Define the steering committee of the action plan	In order to mark the launch of work on the action plan In order to provide governance for the action plan			
2	Designate a single responsible person for the management of the whole of the action plan	To legitimise the role of the contact person to manage the action plan	Choosing him for his project management competences relating to GHGs and his ability to unite people	Appointing him in the executive committee	Introducing him in a document available to all the employees
3	Identify the items to be considered at the outset	To clearly define the context in which the action plan is embedded, and to capitalise on what already exists. To answer the question “Why implement a GHG emission reduction action plan?”	Carrying out an inventory of what already exists, in particular: - GHG evaluation(s) realised, - Applicable regulations, - Voluntary commitments made, - Other approaches with which the action plan needs to be coordinated (CSR, environment, quality, etc.), -Already existing actions		
4*	Define the organisational and operational scopes to which the action plan will apply	To clearly define the targets of the action plan	Defining them based on “items to be considered at the outset” (cf. point 3.)		
5	Define an overall objective of reduction of the carbon footprint (1)	In order to fix a general cap	Defining the correct indicator(s) of the carbon footprint	Validating it at the executive committee	Presenting it in a document which is available for all of the employees
6	Defining a time frame	In order to fix a period of short-term, medium-term and long-term action	Following the normal rhythms of other action plans of the organisation (e.g.: 3 to 5 years)	Validating it at the executive committee	Presenting it in a document which is available for all of the employees

* For the organisations of the “group” type, point 4 proves to be decisive in order to clarify the scope of the action plan:
- **Is it defined in a macroscopic manner for the whole group?**
- **Is it defined more precisely for one or more operational entities?**

A large amount of work needs to be carried out by the organisation in question in order to produce coherence between these two levels of action.

TABLE 1
Steps for the definitions of the framework of the action plan

Experience feedback: It is advantageous to include in the steering committee the actors of the organisation who will be involved at the following different stages: company management for the stages of validation of the plan and its financing, HR for the preparation of actions which have a lot to do with behaviour, and the technical department for the technological actions, etc.

(1) HOW SHOULD THE OVERALL OBJECTIVE OF CARBON FOOTPRINT REDUCTION BE PROPERLY DEFINED?

The overall objective of carbon footprint reduction fixes the cap to be attained by the action plan. It is directly linked to an indicator of the overall performance of the action plan (2).

The overall objective of carbon footprint reduction is defined:

- For a target year,
- With relation to a reference year (which therefore needs to be before the year in question) for which the organisation has estimated its GHG emissions within the defined operational scope.

This objective is fixed simultaneously in a "top-down manner", reflecting sectorial, national and international objectives as defined by the scientific community, and in a "bottom-up manner" based on the opportunities for reductions which are available within the organisation.

It is therefore advised to embed one's objective within a roadmap document, with respect to major commitments, in order to give it sense, and to use the opportunities available in order to motivate it and increment it with intermediary targets. It should not be forgotten that in certain cases, objectives which seem unattainable today will be potentially conceivable tomorrow (technological breakthroughs, new regulations, strategic repositioning, etc.). The difficulty of the exercise is knowing how to remain realistic while at the same time being ambitious and placing one's actions in the perspective of future global issues.

Indeed, according to the GIEC, the best chance to limit global warming to 2°C by 2100 is to stabilise the concentration of GHGs at 450 ppm of CO_2e by 2100. This implies that global emissions of greenhouse gas will reach their peak in 2020 at the latest, that by 2050 they will be reduced by at least 50% compared to 1990 levels, and that they will continue to diminish subsequently[1]. A short-term objective on the European level is to reduce emissions by 2020 by 20% with respect to 1990 levels. The 2030 Climate and Energy Framework commits Europe to a reduction objective by 2030 of 40 % with respect to 1990 levels, an improvement in energy efficiency of 27 %, and a 27% increase in the share of renewable energies within the energy consumption of the EU[2].

(2) HOW SHOULD THE OVERALL PERFORMANCE INDICATOR OF THE ACTION PLAN BE PROPERLY DEFINED?

The indicator of the overall performance of the action plan makes it possible to monitor the overall effect of the action plan. It is a ratio between:

- the emissions of GHGs within the operational scope defined by the organisation, in tCO_2e, and
- a figure which is representative of the activity of the organisation (e.g.: number of employees, turnover in Euros, number of units sold, etc.)

The use of such a ratio makes it possible to be free from economic effects which may have an effect on the emissions of GHGs such as an increase or a reduction in the activity of the organisation.

In general an overall performance indicator is monitored annually.

1 5th report of the IPCC: *http://www.ipcc.ch/report/ar5/*

2 Climate Action, 2030 climate and energy framework: *https://ec.europa.eu/clima/policies/strategies/2030_en*

5. CONSTRUCTION OF THE ACTION PLAN

Identification of the actions to implement

Once the framework of the action plan has been properly determined, it is important to broadly identify the reduction actions which can be put in place. This work cannot be carried out without constituting a steering committee and providing a minimal outline using the definition of principal lines of action. Here this issue is to combine a comprehension of the carbon issues with the knowledge of the organisation and of its business. It is then important to carry out a broad consultation in order to define a first list of possible actions.

STEP	WHAT?	WHY?	HOW?		
			Operational issue	Backing issue	Communication issue
1	Assemble a steering committee for the action plan	In order to gather the necessary competences	Identifying all of the managements/departments which need to be involved Identifying the resource persons on the subject for these managements / departments Defining the format of work and work calendar Relying on volunteers	Defining it and having it validated in the executive committee	Presenting it in a document available to all the employees Communicate very early on the assembly of the steering committee in order to attract the volunteers
2	Define the lines of reduction	In order to structure the action plan and explain the strategy of reduction	Concentrating on the items which have the highest emissions (e.g. transport, purchases, etc.) Concentrating on the emission items for which the organisation has the greatest leverage	Involving the steering committee	Present the issues to the works council and the occupational safety council CHSCT
3	Define the types of actions	In order to structure the action plan and act on different levels	Identifying the issues associated with the action plan[3] (e.g.: physical actions, organisational, behavioural and regulatory actions)		
4	Define a broad list of possible actions	Define a broad list of possible actions	Exploiting synergies with other progressive approaches already underway, and upgrading/formalising the actions which are already in place which could be replicated. Involving the employees of the organisation as much as possible Associating external stakeholders as much as possible Not putting any limits on number, type or originality		Exploiting synergies with other progressive approaches already underway, and upgrading / formalising the actions which are already in place which could be replicated. Involving the employees of the organisation as much as possible Associating external stakeholders as much as possible Not putting any limits on number, type or originality

TABLE 2
Steps for the identification of actions which may be implemented

3 See annexe 3

Experience feedback: For the first exercise of formalisation of the GHG emission reduction action plan, it may prove interesting to focus on existing practices. The principal objective is then to centralise what has succeeded locally, and then to share it with all of the organisation when it is reproducible.

In doing so, the action plan makes it possible to fully motivate the teams, as it is experienced as a way of capitalising on already existing good practices, structuring an approach which can be subsequently padded out.

Selection of the actions to implement

Once a long list of reduction actions has been defined, it is necessary to select the actions which will actually be implemented. This work requires the definition of selection criteria and their weighting. In order to be able to evaluate the actions, it is also important to pre-evaluate the effects expected from these actions. Once this work has been done, it will be the task of the executive committee to carry out the selection of the actions which will be implemented.

It is very often the gain produced by the action, in terms of both reduction of emissions and creation of value for the company, which will direct the choice. In certain cases it may be necessary to estimate **the cost of inaction,** according to the practice in quality, security or environmental management.

The points listed below are intended to aid with this selection.

STEP	WHAT?	WHY?	HOW?		
			Operational issue	Backing issue	Communication issue
1	Define/identify the human and financial means available for the action plan	To be aware of the means available	Specifying the origin of this financing: what budget has been allocated? Which sources of financing needs to be sought?	Defining them and validating them in the executive committee	
2	Define and weight the criteria for the selection of actions (e.g.: financial requirements, human requirements, time of return on investment, reduction potential, image, etc.)	To be able to characterise the actions		Carrying out this definition and weighting in the executive committee	Communicating these criteria in such a manner as to rationalise and lend credibility to the choices in communication with those responsible for the deployment
3	Evaluate *a priori* the reduction actions with respect to the criteria formerly defined	In order to be able to prioritise the actions in view of the selection criteria	Characterising the actions with respect to the criteria defined (this requires a "rough" analysis of the needs and expected effects of the actions)		
4	Identify a potential proponent of the action for each action	In order to ensure that the action will be implemented and monitored over time	Identifying the resource person the most able to lead the action (access to data, decision-making power, technical skills/expertise, necessary means, etc.)		
5	Select and validate the reduction actions which will be put in place	In order to constitute the GHG emission reduction action plan	Using the previous prioritisation as a basis	Selecting them in the executive committee; officially acknowledging this choice	Communicating on the commitment of the management relating to the actions selected
6	[If necessary] Review the overall objective of reduction of carbon intensity	In order to have a consistent approach	Comparing the expected effect of actions selected to the objective initially defined	Validating it in the executive committee	Presenting it in a document made available to all of the employees

TABLE 3
Steps to follow for the selection of actions to implement

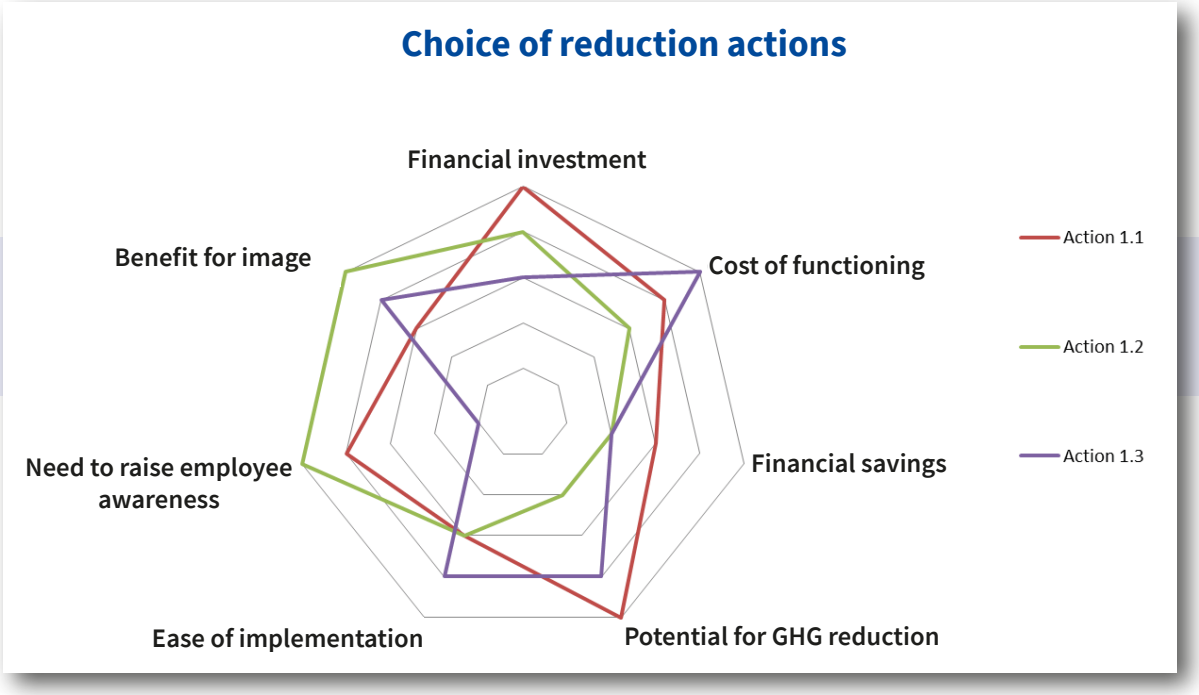

FIGURE 2
Example of a matrix for the selection of reduction actions
(GHG management system tool for the choice of reduction actions V1, Association Bilan Carbone, 2013)

Experience feedback 1: It is important to find the happy medium between actions which seem relevant to the Sustainable Development team at the headquarters but which do not motivate the operational team on the one hand, and on the other hand actions which motivate the operational team but which are not considered by the Sustainable Development team as being of strategic importance.

Hence, it is important to have actions which have a high reduction potential, but without neglecting those with a lower reduction potential but a strong mobilising power on the teams. It may occur that a project which is considered as "medium in terms of impact" led by highly motivated individuals proves to be more effective than a project considered to be "very good" but which has not succeeded in gaining the support of the operational staff.

Finally, it is preferable to avoid getting lost in all the different actions, and instead to focus on just a few actions at the beginning.

Experience feedback 2: In the elaboration of a first action plan, it may be advantageous to focus on a number of restricted actions which are easily applicable (the "quick wins"), linked with the activity and the business of the organisation as well as its overall development strategy. The action plan will then be seen as a very positive experience, which will be a basis for developing it more ambitiously in the future.

Experience feedback 3: An action plan without a proponent of the action is a plan which will not work. It is therefore important to identify sufficiently early the resource person who will be responsible for the action. Indeed, if the action is selected, it is necessary to ensure that the resource person is available, is motivated by the action, and has the competences, authority and means necessary to ensure its implementation and monitoring.

Experience feedback 4: It is very useful to categorise the actions by time frames in order to hierarchise them in terms of the time frame of results (short, medium and long term). In the same way, actions can be categorised by level of backing (management, branches, business unit, national, international, etc.), in particular to identify the levels of responsibility which are necessary for their success.

Specification of each of the actions

Once the actions have been selected by the executive committee, it is necessary to specify each of them in order for them to be implemented operationally.

The points listed below are intended to help with this specification.

STEP	WHAT?	WHY?	HOW?		
			Operational issue	Backing issue	Communication issue
1	Establish a file for each of the actions (3)	In order to clearly define each action	Describing the actions as fully as possible based on the matrix below	Identifying the responsible person for the action	Presenting it in a document available to all of the employees Communicate very early on the constitution of the steering committee in order to attract volunteers
2	Have each of the files validated by the contact persons/ responsible persons for the actions and the executive committee	In order to record each of the actions	Having them validated by the contact persons of each of the actions	Having each of the files validated in the executive committee	
3	[If necessary] Review the overall objective of reduction of carbon intensity	In order to have a consistent approach	Comparing the expected effect of actions selected to the objective initially defined	Validating it in the executive committee	Presenting it in a document made available to all of the employees

TABLE 4
Steps to follow for the specification of actions to implement

(3) WHAT SHOULD AN ACTION FILE CONTAIN?

The following matrix may help to define precisely each of the reduction actions selected:

- Presentation :
  - Title
  - Line of action concerned
  - Type of action
  - Criterion of hierarchisation
  - Clear, precise description
  - Targets of the action
- Possible facilitators and obstacles
- Stakeholders to involve
- Details of the implementation:
  - Contact person
  - Calendar
  - Costs
- Objective(s) and indicators:
  - Objective(s) to attain (in the areas of reduction (4) and of financial savings)
  - Indicator of monitoring (5)
  - Associated results indicator (6) for a group of actions

This list is solely an indication, and must be modified in order to adapt as far as possible to the common internal practices of each organisation.

Experience feedback: some actions may need to be tested on a small scale before being generalised, or necessitate a prior feasibility study. The objective of an action may precisely be a test.

(4) HOW SHOULD THE REDUCTION POTENTIAL OF AN ACTION BE ESTIMATED?

The quantification of the GHG impact of a reduction action is complex and is not limited to the mere difference between the emissions observed before and after the implementation of the action. By definition, the GHG impact is calculated based on the comparison, over the period of observation considered, between the GHG emissions of the baseline scenario (without action) and those of the scenario with action.

This quantification will be all the more complicated to carry out since the emission reduction actions are not necessarily independent. Hence two actions bearing on the same source of emissions are likely to interfere with each other, for instance: replacement of a part of the heavyweight tractor fleet, along with the implementation of automatic gears and training of the drivers how to drive ecologically. Consequently the GHG impact of the sum of these actions may be different from the sum of the GHG impacts of each action considered separately. All of these items are detailed in the method presented hereafter.

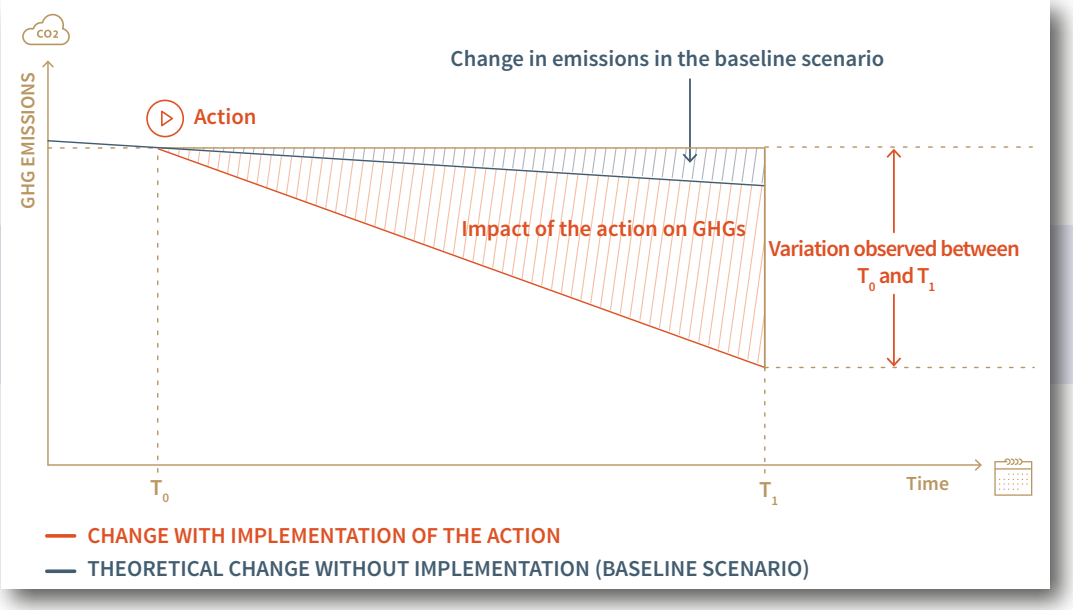

FIGURE 3
Impact of an action on GHGs
(Quantifying the impact of an emission reduction action on GHGs, ADEME, 2016)

Faced with the existing methodological deficiencies, and following strong demand from actors in the field, ADEME elaborated a method for the quantification of the GHG impact of an emission reduction action[4]. It is a practical step-by-step approach which helps the user to characterise the planned action, to establish the consequence tree of the action, and then to lay out and carry out the calculations allowing quantification. It suggests following 8 stages in order to effectively quantify the GHG impact in view of the needs of the exercise. The 8 stages are schematised below. For more details, the reader is invited to read the methodology available in the ADEME resource centre (*http://www.bilans-ges.ademe.fr/*).

4 *http://www.ademe.fr/quantifying-the-impact-of-an-emission-reduction-action-ghgs*

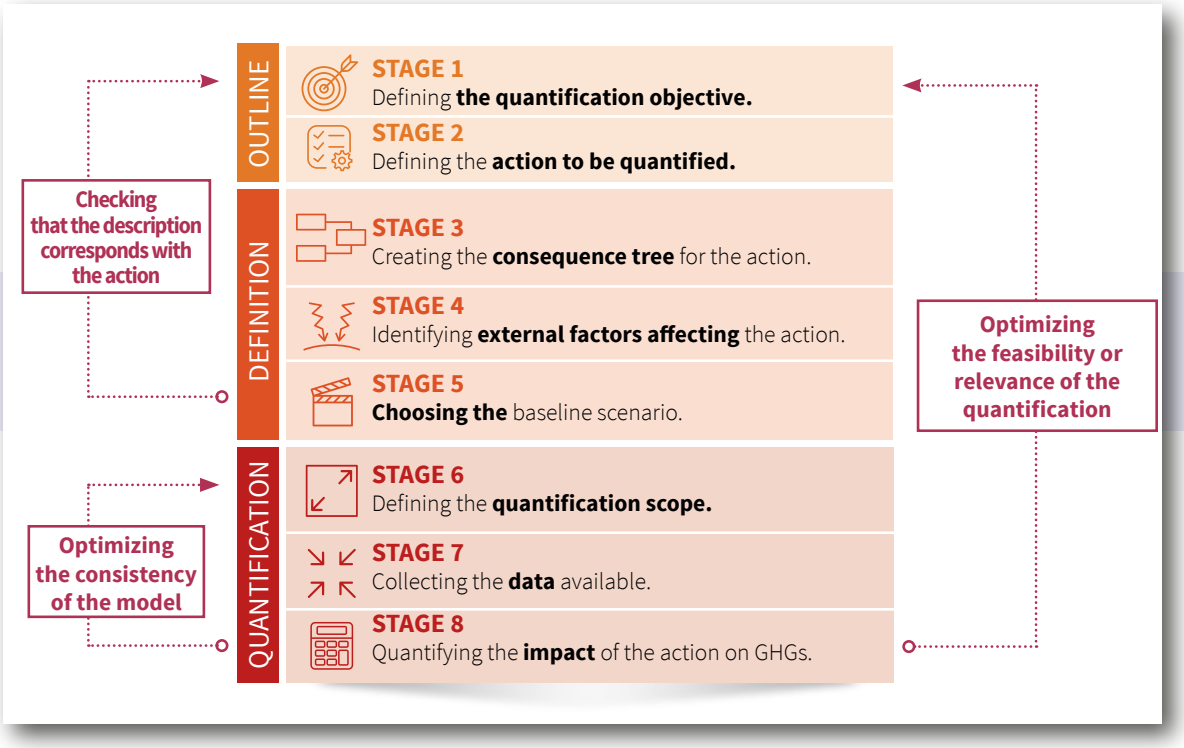

FIGURE 4
Flowchart summarizing the quantification process stage by stage
(Quantifying the impact of an emission reduction action on GHGs, ADEME, 2016)

(5) HOW CAN THE REDUCTION POTENTIAL OF AN ACTION BE MEASURED?

The correct implementation of reduction actions necessitates continuous and detailed monitoring, in the form of complementary adapted indicators which can be grouped in a dashboard.

First, it must be remembered to verify that the indicator does not already exist within the organisation, in order to create synergy rather than a duplicate.

A monitoring indicator makes it possible to measure the progress of an action over time, and in this way to allow the actors of the approach to plan towards the action, making it more comprehensible.

This kind of indicator must therefore take into account an operational reality. It will then be systematically defined in the functional unit which is the most appropriate, given the action which it is used to monitor.

Examples of monitoring indicators:

- *Energy: kWh/m², % of renewable energy in the energy mix, % m² of buildings certified*
- *Purchases: % of suppliers selected according to carbon criteria, % of paper bought which is recycled*
- *Transport: rate of loading of vans,% intermodal transport for the outbound transportation of products, % of quantities transported by plane for transport "upstream of products"*
- *Travel: rate of car-sharing, km travelled in electric vehicles, % of employees using a non-motorised mode of transport for home-work travel, litres consumed per km travelled, litres consumed per passenger km*
- *Waste: % waste sorted, % recycling of waste*

FOCUS

Example of the construction of a monitoring indicator

Planned action:

Any business trip which takes less than 4 hours must be made on the train (not using the car or the plane); every exception must be approved by the person in charge

Indicator of the monitoring of the action

- Not begun (nothing has been done)
- Begun (the travel policy has been modified without any communication to the employees)
- Implemented but not evaluated (the travel policy has been modified and the employees have been notified of the change)
- Implemented and evaluated – or in the process of continuous improvement (a measure of the indicator of performance below is regularly taken, for instance monthly)

Indicators of the monitoring of carbon performance:

- Total annual number of kilometres travelled for business trips in the plane, in the train and in the car
- Kilometres in the plane as a proportion of total km on business trips; GHG emissions linked with business trips in the plane

FIGURE 5
Example of the construction of a monitoring indicator
(Tertiary non-market sector guide, ADEME, 2012)

Experience feedback: For a first exercise, it may be interesting to content oneself with the construction of monitoring indicators, with initially no improvement objective, but as a simple measure of change in the short term. This is intended to make the organisation familiar with an action plan approach (particularly in SMEs), to adjust the choice of indicators and subsequently to formulate consistent and realisable reduction objectives.

(6) HOW SHOULD A RESULT INDICATOR BE PROPERLY DEFINED?

Result indicators make it possible to measure the performance, the most frequently of a group of actions, with respect to the objective: reducing the carbon intensity of the organisation.

They are defined by topic area and, depending on the topic area and the issues associated for the organisation, are expressed in operational units or in GHGs.

In general a result indicator is monitored annually.

Examples of result indicators:

- *Energy: t CO_2e, t CO_2e / m^2, kWh / m^2*
- *Purchases: t CO_2e, % of materials purchased which are recycled*
- *Freight: t CO2e, t CO_2e / kg transported*
- *Business trips: t CO_2e, t CO_2e / km travelled*
- *Waste: t CO_2e, tonnes of waste*

6. IMPLEMENTATION OF THE ACTION PLAN

Once the actions have been defined, it is time to implement them. In particular this necessitates validating their financing and communicating widely in order to help the contact persons of these actions in their work.

The points listed below are intended to help in this task.

STEP	WHAT?	WHY?	HOW?		
			Operational issue	Backing issue	Communication issue
1	Validating the financing of the action plan	To give the contact persons of each action the means to implement them. To make commitments concrete and to facilitate the real deployment of the actions		Validating it in the executive committee	Communicating this item in order to reinforce the commitment of the management towards the employees and even towards external stakeholders
2	Communicating the action plan to all of the departments / managements of the organisation	So that everyone becomes familiar with it, not only the contact persons of the actions			Introducing it directly to the individuals in charge of the different departments / managements. Circulating it very widely internally to all of the employees
3	Defining and implementing a process of monitoring of the action plan, with information needing to be exchanged frequently with an associated steering tool	In order to give oneself the means to properly carry out the monitoring of the action plan	Constructing it and validating it with the referents of the different actions Integrating the indicators in the dashboards of the managers of the actions		

TABLE 5
Steps for the implementation of the action plan

Experience feedback 1: It is important to communicate with all the departments of the organisation on the launch of the action plan once it has been validated by the management, not just with the environmental correspondents concerned, in order to mobilise the largest number of employees possible.

7. MONITORING OF THE ACTION PLAN

When the actions are implemented, it is necessary to monitor their realisation over time. This monitoring may be carried out at different levels (operational, semi-global, global, etc.) depending on objectives. These different levels of monitoring require different frequencies of monitoring which need to be managed.

The points listed below are intended to help in the monitoring of the action plan.

STEP	WHAT?	WHY?	HOW?		
			Operational issue	Backing issue	Communication issue
1	Carry out periodic monitoring of actions launched based on the monitoring indicators	In order to regularly monitor the progress of the action plan and potentially implement corrective actions	Periodically exchanging with the contact persons of the different actions		Communicating regularly on the progress of action plan, placing an emphasis on the successes, in such a way as to make others experience the dynamism of the action plan
2	Carry out the annual monitoring of the actions launched based on the result indicators		Consolidating the information transmitted by the contact persons of the different actions	Presenting this monitoring in the executive committee (management review)	Communicating on the results in such a way as to make others experience the dynamism of the action plan
3	Analyse the effect of the action plan by comparing: - the update of the balance of the GHG emissions within the operational perimeter defined by the organisation, in order to monitor the indicator of the overall performance of the action plan, and - the sum of the quantifications of effects of the different actions implemented	In order to be able to take stock on the overall effect of the action plan and potentially corrective actions	Collecting the information necessary (the method of quantification of the actions of ADEME may aid on this second point (4)) Identifying and highlighting the additional benefits of the actions implemented.	Presenting these results in the executive committee Having corrective actions validated by the executive committee	Presenting these results in the executive committee Having corrective actions validated by the executive committee

TABLE 6
Steps for the monitoring of the action plan

8. CONCLUSION

Apart from full backing by the management, the success of the GHG emission reduction action plan will depend on the value that the plan creates for the organisation. This value may of course be directly environmental and economic (reduction of emissions and production costs), but will not be exclusively so. It may also be materialised in R&D and innovation, improved relations with clients or suppliers, a better image, an anticipation of future regulations, better working conditions, time for employees to reflect, reinforced team cohesion, etc.

Experience feedback tends to show that a GHG emission reduction action plan is drawn up on the basis of the carbon footprint, which made it possible to identify the GHG “hotspots” of the organisation as much as on actions which already exist or are being deployed in another context than GHGs. In the latter case, the GHG perspective may redynamise practices and/or confirm and/or question past choices. In any case, it is necessary to ensure a good balance between actions which have a strong reduction potential and actions which provide high mobilisation.

In order to be effective, the action plan necessitates annual monitoring and contact persons / proponents of the action. The appropriation of the action plan by the organisation will depend on the way in which the latter is embedded in the jobs which make it up.

Finally, it must be admitted that it is possible to be wrong, and that if this happens it is preferable to analyse the causes of error in order to correct matters as soon as possible. “Errare humanum est, perseverare diabolicum.”

Annexe 1 - Actors having participated in the creation of the guide

TYPE OF STRUCTURE	ENTITY	SURNAME	FIRST NAME
Association	ABC	DELY	Simon
Public establishment	ADEME	POIVET	Romain
Public establishment	ADEME	GOURDON	Thomas
Association	AFEP	BOQUET	Nicolas
Association	ANIA	FARRANT	Laura
Association	APCC	NEVEU	Guillaume
Association	ASTEE	MAUGENDRE	Jean-Pierre
Consultancy company	CARBONE 4	COTTENCEAU	Jean-Baptiste
Federation	CINOV	KATHRADA	Idriss
Association	CITEPA	SERVEAU	Laetitia
Company	DECATHLON	AUBRY	Emilie
Ministry	DGCIS	NARDOT	Isabelle
Ministry	DGEC	CROQUETTE	Gilles
Federation	FEDENE	CASSOWITZ	Laura
Federation	FNAM	DAUPHIN	Mildred
Association	ORSE	GERARDI	Anne
Association	PERIFEM	GILLIER	Sophie
Company	RATP	BONDEUX	Sandrine
Professional organisation	SERVICE COOP DE FRANCE	ROUGET	Kristell
Company	SOLVAY	PERROT	Jean Philippe
Company	TRANSALLIANCE	CROUAN	Sébastien
Professional organisation	UIC	LENAIN	Yves

TABLE 7
List of the members of GT BEGES having participated in the creation of the guide

Moreover the testimonies of the following companies, whom we thank, also provided material for the production of this work

ENTITY	SURNAME	FIRST NAME
BOUYGES BATIMENT ILE DE FRANCE	GAL	Frédéric
CASINO	PACQUET	Éric
POCHECO	DRUON	Emmanuel
POCHECO	FRANCO	Kevin
RATP	BONDEUX	Sandrine
RENAULT	BAUDOUIN	Olivier
RENAULT	BEAULIEU	Juliette
SOCIETE GENERALE	MARTINEZ	Emmanuel
TRANSALLIANCE	CROUAN	Sébastien

TABLE 8
List of testimonies

Annexe 2 - Reference documents

Management system for greenhouse gases – version 2 of 5 January 2015, Association Bilan Carbone, 2015

Method for carrying out greenhouse gas emission balances – version 4 – October 2016 - Ministry of the environment, energy and the sea

Quantifying the impact of an emission reduction action on GHGs – Version N°2, ADEME, November 2016

Tertiary non-market sector: Sector guide for carrying out a balance of greenhouse gas emissions, ADEME, 2012

2011 Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Annexe 3 - Typologies of actions

PHYSICAL ACTIONS	**Change in equipment or systems** ***These actions are generally linked to an investment***
Technology	Use relevant and appropriate equipment or technology, reducing energy consumption and/or GHG emissions. *Examples: Replacement of an oil-fired boiler with a gas boiler, high efficiency motors, electronic speed variation system for induction motors, solar dryer etc.*
Infrastructure	Develop relevant, appropriate infrastructure to reduce GHG emissions. *Examples: Multimodal platform, navigation channel, peri-urban parking, cycleways etc.*
Process	Optimize the company's industrial production processes. *Examples: Change the organization of a production chain, modify the temperature of a chemical reaction etc.*
ORGANIZATIONAL ACTIONS	**Change in organizational processes.** ***Altering the way things are done***
Sustainable/Long-term procurement policy	Incorporate "sustainable development" criteria into the organization's procurement policies. *Examples: specific GHG requirements when defining a need, specifications, execution conditions etc.*
Research & development	Research, develop and experiment with products, practices, materials and technologies reducing GHG emissions in their production methods and/or use. *Examples: ecodesign, simplified cultural techniques, no-till sowing etc.*
Development strategy	Reposition or develop a business or region in markets or actions helping to reduce GHG emissions. *Example: expand a range of local shops accessible using "soft" transport, expand an offering of ecodesigned products, increase availability of positive energy housing etc.*
Flow optimization	Optimize/reduce flows of materials, people and merchandise with a view to decreasing the grey or direct energy relating thereto. *Examples: using "non-road" modes of transport, optimization of journeys, loads, goods transport in built-up areas, reduction of raw material offcuts, suiting working hours to public transport timetables etc.*
BEHAVIOURAL ACTIONS	**Change in day-to-day behaviour**
Information and awareness-raising	Inform and raise awareness among employees, customers, suppliers, users and the general public to make the adoption good habits more widespread. *Examples: information campaigns, B2B information, promotion of best practice, public transport timetables.*
Commitment or voluntary agreement	Convert the voluntary reduction of emissions into a contractual commitment. *Examples: reduce greenhouse gas emissions from public buildings by 50% in 10 years (Circular of 16/01/2009), "Grenelle" agreement Hospital federation status*
Training	Enable different protagonists to assimilate best practices that promote energy savings. *Example: training personnel in eco-driving*
REGULATORY ACTIONS	**Changes to rules**
Obligation/prohibition	Implement rules and regulations promoting the decrease of GHG emissions. *Examples: GHG reporting obligation with action plans, energy audit, use of train for a trip of under three hours.*
Taxation	Introduce tax penalties/incentives for certain practices to encourage the use of alternative solutions. *Examples: implement a carbon tax, urban toll system, tax on air tickets (may be internal to a company) etc.*
Market mechanisms	Limit emissions by specific sources/sectors by allocating permits or quotas, possibly tradable, corresponding with maximum authorized emission levels. *Examples: Clean Development Mechanism, joint implementation, European Emissions Trading System (EU ETS), California Cap-and-Trade Program etc.*
Economic incentive	Offer financial incentives to encourage the adoption of best practice and/or the use of efficient technologies. *Examples: energy savings certificates (ESCs), reimbursement of "soft" transport receipts, motor bonus/penalty system, drop in insurance premiums etc.*

TABLE 9
TYPE OF EMISSION REDUCTION ACTION
(Quantifying the impact of an emission reduction action on GHGs, ADEME, 2016)

ABOUT ADEME

The French Environment and Energy Management Agency (ADEME) is active in the implementation of public policy in the areas of the environment, energy and sustainable development. The Agency provides expertise and advisory services to businesses, local authorities and communities, government bodies and the public at large, to enable them to establish and consolidate their environmental action. As part of this work ADEME helps finance projects, from research to implementation, in the areas of waste management, soil conservation, energy efficiency and renewable energy, raw materials savings, air quality, noise abatement, circular economy transition and food wastage abatement.

ADEME is a public agency under the joint authority of the Ministry for an Ecological and Solidary Transition and the Ministry for Higher Education, Research and Innovation.

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KEYS TO ACTION

GUIDE FOR THE CONSTRUCTION, IMPLEMENTATION AND MONITORING OF ACTION PLANS TO REDUCE GREENHOUSE GAS EMISSIONS

The guide has the objective of facilitating the success of action plans to reduce the greenhouse gas (GHG) emissions of organisations. It proposes an operational method recommending the steps to follow for the construction, the implementation and the monitoring of an action plan for the reduction of GHG emissions, both direct (Scope 1) and indirect (Scope 2 and 3), linked with the activities of an organisation. “Carbon compensation” actions are outside of the scope of this guide.

This guide is solely devoted to the reduction of the emissions of GHGs, and each organisation is invited to reflect on the other impacts associated with its activities and, where appropriate, to coordinate the management of these impacts with that of the emissions of GHGs.

The guide is addressed at organisations having carried out an evaluation of their GHG emissions and wishing to construct and implement an action plan for the reduction of their GHG emissions. It is also relevant for organisations not having carried out an evaluation of their GHG emissions, but nonetheless wishing to implement an action plan for the reduction of their GHG emissions.

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