

SCOPING REVIEW OF EVALUATIONS OF VOLUNTARY AGREEMENTS BETWEEN GOVERNMENT AND BUSINESS

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EXECUTIVE SUMMARY

This scoping review was carried out by the Policy Research Unit in Policy Innovation Research (PIRU) in order to support the development of the evaluation of the Public Health Responsibility Deal in England. The review identified, reviewed and synthesised the findings of evaluation studies or other relevant papers presenting evidence on other voluntary agreements between business and government in relation to public policy goals, providing a picture of the types of agreements that exist, how they work in practice, conditions for success and different approaches to evaluation.

A total of 47 papers met the inclusion criteria. A range of examples of voluntary agreements were found, from agreements that had targets chosen by businesses and low-cost incentives for participating to those with substantial financial disincentives for non-participation and very costly sanctions for non-compliance, usually relating to the introduction of legislation or a tax.

From these papers a number of reasons for developing voluntary agreements were identified, with governments often believing it to be quicker and cheaper than introducing new or revised legislation, and often acting in response to pressure from businesses keen to avoid mandatory controls. Voluntary agreements may help to improve relationships between government and business, and can help both parties come to a reasonable position with regards to target-setting and sharing of data. They may also be useful as an exploratory exercise, with governments using the experience obtained from implementing such agreements to help develop subsequent legislation.

If properly implemented and monitored, voluntary agreements can be an effective policy approach for governments to take to persuade businesses to take actions, although there is very little evidence on whether voluntary agreements are more (cost-) effective than compulsory approaches. In any event, a wide range of factors should be considered when developing or refining an agreement in order to ensure its credibility and the achievement of targets. In particular, targets should be ambitious and clearly defined, and a robust monitoring system should be in place, ideally with independent verification. The role of public perceptions of agreements can be very important, both to encourage participation and to ensure compliance. It is important to note that some of the most effective voluntary agreements are those which can be seen as less 'voluntary', with substantial disincentives for non-participation and sanctions for non-compliance, and many countries are moving towards these more formal and legally-binding approaches to voluntary agreements.

INTRODUCTION

Background

The Public Health Responsibility Deal (RD), launched in March 2011, is one strand of the Government's public health programme. It aims to bring together public sector, academic, commercial and voluntary organisations to help meet public health goals. The Deal builds on previous Conservative Party policy and early policy of the Coalition Government. Central to the approach is the development of collaborative relationships between business, the voluntary sector and government. The RD was described as follows by the Department of Health (1):

“The Public Health Responsibility Deal tap[s] into the potential for businesses and other organisations to improve public health and tackle health inequalities through their influence over food, alcohol, physical activity and health in the workplace... Partners signing up ... have committed to take action to improve public health. This action is expressed as a series of pledges covering food, alcohol, physical activity and health at work. These pledges are not intended to replace Government action.”

In his foreword to the launch report (2), the Secretary of State for Health also stated that:

“By working in partnership, public health, commercial and voluntary organisations can agree practical actions to secure more progress, more quickly, with less cost than legislation”.

A plenary group chaired by the Secretary of State for Health oversees the development of the Responsibility Deal, and five networks have been established to develop the pledges. The networks cover: food, alcohol, physical activity, health at work and behaviour change. Each of the networks is supported by a Member of Parliament.

The Responsibility Deal includes three forms of commitments:

- **Core commitments:** These set the foundation of the commitment to the RD (see Box 1)
- **Collective and individual pledges:** Collective pledges are actions collectively agreed by a network. All parties have signed up to at least one collective pledge. By contrast, individual pledges are specific to a particular organisation or subgroups within a network. Pledges are designed by the network or a subgroup/organisation and are approved by the network chair and the Department of Health.
- **Supporting pledges:** These define the operating principles and processes of the RD (see Box 2).

Box 1: The core commitments

Signatories to the Public Health Responsibility Deal will work in support of the following core commitments in relation to their customers and staff, where relevant.

1. We recognise that we have a vital role to play in improving people's health.
2. We will encourage and enable people to adopt a healthier diet.
3. We will foster a culture of responsible drinking, which will help people to drink within guidelines.
4. We will encourage and assist people to become more physically active.
5. We will actively support our workforce to lead healthier lives.

The networks for food, alcohol, physical activity and health at work lead the development of collective and individual pledges. The behaviour change network has a different remit – rather than developing pledges, it seeks to contribute behaviour change expertise to the other four networks.

Box 2: The supporting pledges

- a) We will support the approach of the Public Health Responsibility Deal and encourage other organisations to sign up.
- b) We acknowledge that the Deal's strength comes from organisations of different types across varying sectors working together to improve people's health.
- c) We will contribute to the monitoring and evaluation of progress against the pledges.
- d) Where we offer people information to help make healthier choices, we will use messages which are consistent with Government public health advice.
- e) We will broaden and deepen the impact of the Public Health Responsibility Deal by working to develop further pledges in support of the five core commitments.

Each of the networks undertakes monitoring and self-evaluation to varying degrees. This will be supplemented with an independent evaluation to assess the initiative as a whole. However, the RD is a highly complex, multi-factorial intervention, involving dozens of pledges across four very different networks, with a wide range of potential outcomes and processes, and with a range of health and non-health aims and objectives. There are other complexities which make an evaluation challenging, including the fact that not all pledges are at the same stage of development and the fact that the evaluation of the RD as a whole is likely to be a very different task from evaluating individual pledges. The RD is a mechanism which aims to bring about partnerships to produce specific pledges. This means that the ostensibly simple evaluation question of whether the RD “works” or not is far more difficult to define and answer. Initially, the “researchable questions” need to be established.

As a contribution to the process of defining the most informative research questions for evaluation together with identifying what an evaluation of the RD might comprise, the Policy Research Unit in Policy Innovation Research (PIRU) at the London School of Hygiene and Tropical Medicine (LSHTM) was commissioned to conduct a programme of preliminary work on voluntary agreements. This comprises three strands:

1. A scoping review to identify relevant literature from health and other sectors on the operation and evaluation of voluntary agreements between government and business, and its implications for the development of the RD and its evaluation;
2. An assessment of the ‘evaluability’ of the current RD pledges; and
3. Early stakeholder interviews to inform the development of a draft logic model for the RD, which could be reviewed and updated over time and which would guide the specification of a formal evaluation.

The rest of this document reports on the findings of the first of these, the scoping review.

What are voluntary agreements?

We adopted the following definition of a voluntary agreement for the purposes of the review – “a contract between the government and industry, or negotiated targets with commitments and time schedules on the part of all participating parties” (3).

Voluntary agreements have been common in the environment sector where they have been seen as a cost-effective and cooperative approach to reduce conflicts between policy makers and industry so as to meet environmental targets quickly. Here, industry participation is induced mainly by positive incentives, or by threatening the introduction of legislation (4). Environmental voluntary agreements may be targeted at one or a small number of industry sectors, but are often open to all industry sectors.

The scoping review

The scoping review was conducted in order to identify evidence from previous studies (and other papers presenting relevant evidence) of voluntary agreements between governments and businesses, within any sector, similar to the RD. The aims of the scoping review were to use the lessons learned from other voluntary agreements to inform the development of the next stage of the RD and to inform the development of an evaluation. The findings may also be used to inform any modelling of the likely impact of the RD as it evolves. The questions which the scoping review sought to answer are in Box 3.

Box 3: Review questions

1. What are the different types of voluntary agreements?
2. Why do governments develop voluntary agreements?
3. Why do businesses help to develop, or choose to join, voluntary agreements?
4. How are voluntary agreements received by those who participate and those who do not?
5. What are the potential problems with voluntary agreements?
6. Which businesses join voluntary agreements?
7. Are voluntary agreements effective?
8. What are the secondary and unintended outcomes of voluntary agreements?
9. Are voluntary agreements worthwhile (do benefits exceed costs)?
10. How have voluntary agreements been evaluated?

Examples of the operation of other voluntary agreements, including where, why and how they were implemented, may give pointers to ways in which the RD could be changed or implemented differently to enable it to operate more effectively and attract more organisations. The effectiveness and cost-effectiveness of voluntary agreements, including unintended outcomes, should give insight into conditions for success of the RD and other outcomes which should be considered in any evaluation. Identifying approaches to the evaluation of other voluntary agreements will help inform the development of the RD evaluation, in particular useful methodological approaches.

METHODS

The scoping review identified, reviewed and synthesised the findings of evaluation studies and other relevant papers which had presented evidence on the processes and/or outcomes of voluntary agreements (henceforth referred to as “studies”). The main inclusion criteria were based on the type of study and the type of voluntary agreement. Studies evaluating the process or outcomes of voluntary agreements were included, and these could be either primary or secondary analyses of a single voluntary agreement or a series of related agreements. Voluntary agreements between governments or government bodies and individual businesses or industry groups were included, where there was a transparent signing-up process and where businesses agreed to carry out specific actions or to achieve specific outcomes.

There were four stages in selecting studies for inclusion: (i) Identification of studies from bibliographic databases and references; (ii) Screening of titles and abstracts; (iii) Review of full papers to identify eligibility; and (iv) In-depth review and narrative synthesis of the final set of included papers. Eleven databases were searched by an Information Scientist at the Centre for Reviews and Dissemination. Only English language papers were included. 4589 references were identified after duplicates were deleted. Industry sectors were classified using an amended version of the Office for National Statistics’ Standard Industrial Classification of Economic Activities (5).

A review of the abstracts identified 71 papers for more detailed review. A data extraction form was piloted using a small number of studies, refined accordingly and used subsequently to extract data from all full papers and books. Data were extracted from each paper on the study characteristics (e.g. methods), the voluntary agreement characteristics (e.g. industry sector) and on aspects related to the main research questions. Forty-seven papers were found to meet the inclusion criteria, and their findings were synthesised into themes within sections addressing each of the main research questions.

It was not intended that this would be a full systematic review, as such a review would be likely to take much longer to complete than the time available, given the volume of literature and the fact that it would not be limited to specific sectors. Nevertheless, the current scoping review was informed by systematic review methods. In particular, the searches were conducted systematically to ensure that a wide range of literature was identified for potential inclusion without necessarily claiming to be comprehensive.

FINDINGS

1. Overview of the evidence

Forty-seven papers met the inclusion criteria, covering evaluations of 36 different voluntary agreements. Table 1 provides a brief description of these studies and their related papers. No description of study methods is included since many papers did not provide adequate information. Over half of the papers were from Europe (Table 2), and most were on agreements that had been introduced in the last 20 years (Table 3). Half of the papers were on general environmental agreements (e.g. improving energy efficiency), and only one related to a topic included in the RD (on alcohol labelling) (Tables 1 and 4).

2. What are the different types of voluntary agreements?

Voluntary agreements can be categorised based on the extent to which they are linked to regulations or taxes and, therefore, the extent to which they are truly 'voluntary'. A review of environmental programmes suggested that there are three categories of voluntary agreements (6).

- I. **Voluntary agreements that are completely voluntary.** Businesses have a totally free choice on whether to join these agreements and there is usually some form of targets and a monitoring system in place, but no sanctions for non-compliance. The government typically provides low-cost incentives, such as public recognition or training schemes. For example, the Greenhouse Challenge is an Australian agreement on reducing greenhouse gas emissions (7). Instead of having specific targets, businesses set their own actions for reducing emissions. Participating businesses are allowed to use a logo in their marketing. A monitoring system is in place that includes independent verification, but there are no sanctions for non-compliance.

Case study 1: Greenhouse Challenge (Australia)

The Australian government launched the Greenhouse Challenge in 1995 to reduce greenhouse gas emissions (7). Participating businesses are allowed to use a logo in their marketing. A monitoring system is in place that includes independent verification, but there are no sanctions for non-compliance. Instead of having specific targets, businesses set their own actions for reducing emissions. The government did achieve its participation target, but it was found that many businesses had not joined the agreement because they were unaware of their emissions or did not view them as being significant. This agreement helped to place the reduction of greenhouse gas emissions explicitly onto business agendas, and led to the development of expertise on emissions reduction and monitoring. However, there were criticisms that businesses joined mainly in order to improve their public image, and it was found that most of the projects implemented by businesses were low-cost projects with very short payback periods, or projects that businesses would have implemented anyway.

- II. **Voluntary agreements that use the threat of future regulations or taxes as a motivation to participate.** These agreements usually provide greater incentives for businesses to join, which are usually related to a promise by the government not to introduce a new regulation or tax subject to compliance with the agreement. For example, a Belgian agreement on the collection and recycling of batteries was signed by the battery industry in order to avoid an eco-tax that was being brought in for other

industries (8). If targets were not met, the eco-tax would be brought in for all products the following year.

Case study 2: Battery recycling (Belgium)

In 1997, the government signed a voluntary agreement with the battery industry on establishing a collection and recycling scheme (8). An eco-tax was being brought in for other industries, and the battery industry argued that this would primarily have a negative impact on consumers. The industry commissioned a study which concluded that a voluntary system would be more effective and this helped to influence the government's position. There were costly sanctions for non-compliance – if targets were not met, the tax would be brought in for all products the following year and a fine would also have to be paid. The targets were based on national collection percentages, helping to ensure that most eligible businesses took part. The targets were always achieved or nearly achieved, and the number of batteries collected for recycling increased every year.

- III. **Voluntary agreements implemented in conjunction with an existing tax policy or strict regulations.** These agreements usually include well-specified targets, comprehensive monitoring systems and sanctions for non-compliance. The financial disincentives for non-participation in these agreements are often so costly for businesses that they may not be seen as truly 'voluntary'. For example, UK Climate Change Levy agreements offered businesses an 80% rebate on a carbon tax if they agreed to take certain environmental actions (9). If businesses were found to be non-compliant, they would lose their tax rebate for at least two years, which would have a large financial impact.

Case study 3: Climate Change Levy (United Kingdom)

The UK Government launched a Climate Change Levy in 2001, which was a tax on energy consumption by industry (9). Businesses were offered an 80% rebate if they agreed to take certain environmental actions. This provided a very costly disincentive for non-participation and all eligible industry sectors chose to join an agreement. If businesses were not compliant, their tax rebate would be lost, having a huge financial impact. These agreements had an 88% compliance rate during the first period.

The RD seems to be based on a combination of these approaches. The current pledges on physical activity and health at work could be included under the first category, whereas the pledges on food and alcohol could be included under the second category. Although there is no specific threat of legislation for the food and alcohol industries, there is an understanding among many stakeholders that there are alternative options – legislation has been identified as a potential policy approach by public health groups and has been introduced in other countries.

3. Why do governments develop voluntary agreements?

There are a range of reasons why governments choose to develop a voluntary agreement. These reasons are often inter-related and should be considered within the specific political and legislative context at the time. In all cases of voluntary agreements found in the review, the overall policy aims are stated as being in the best interest of the population or the environment (such as to protect children from tobacco advertising or to improve recycling rates). Governments were often persuaded to make these policies a priority for action through public, media and political pressure. A decision was then taken by governments on the way in which they would take action on the relevant policy area. Voluntary agreements with businesses were usually chosen as an alternative policy approach to legislation. A government's rationale for taking action through a voluntary agreement was described in two-thirds of the included studies, and the findings are outlined below:

- **As a perceived cheaper alternative** to introducing, monitoring and enforcing legislation (10, 11).
- **As a perceived quicker alternative** to developing new legislation. In a set of agreements on reducing pollution in Japan, introducing legislation was seen as a slower and more complex process in which multiple parties (businesses, different government agencies, different levels of government and residents) would have to be satisfied in order to avoid sub-optimal legislation. In this case, the seriousness of the problem and the need for immediate action resulted in voluntary agreements being viewed as the preferable alternative to a slower legislative process (12). A government may also wish to take relatively rapid action on a controversial policy issue in order to be able to publicly demonstrate that it is taking action, such as at international environmental negotiations (7, 13).
- **To protect the economic interests of the country.** In an agreement in Germany on decreasing landfill from old cars, there was substantial pressure from the ministry of economic affairs to attempt a voluntary approach, in order to avoid any potentially negative economic impacts of proposed regulation (14). Conflict within government may indicate a lack of a credible threat of legislation, thus resulting in a stronger negotiating position for businesses. Governments may be concerned that legislation could reduce consumer choice by reducing the number of products entering the market – for example, because of strict alcohol labelling standards (10). In addition, industry may encourage a government to introduce a voluntary agreement by arguing that proposed legislation would primarily have a negative impact on consumers, resulting in fewer sales and a fall in employment in the industry, as was argued during negotiations for a Belgian agreement on battery recycling (8).
- **In response to pressure from industry** to attempt a voluntary approach before considering the introduction of any new regulation. In the Belgian agreement on recycling batteries, industry commissioned a study which concluded that a voluntary system would be more effective and this helped to influence the government's position (8). Pressure from industry may have a greater influence on government in situations where the specific industry group has a lot of political power – for example, when an agreement relates to the primary industry in a region (15). Industry may also encourage a government to introduce a voluntary agreement by arguing that public pressure will be enough to ensure that businesses take voluntary actions (16).
- **To improve relationships with industry.** In an agreement on reducing the use of CFCs (chlorofluorocarbons) in France, civil servants were keen to co-operate with

industry on defining reasonable targets (17). They also wanted to guide industry towards a more positive and co-operative attitude towards taking actions consistent with public policy goals, as was also found in an environmental agreement in Italy (18). Governments may also wish to join forces with industry to promote widespread improvement in societal attitudes, such as in an agreement on making workplaces more inclusive (19).

- **To access industry data**, for example on environmental activities and emissions (18, 20).
- **As an exploratory approach to policy**, particularly in situations where a policy area is relatively new or underdeveloped. A voluntary agreement was developed in Germany to gradually reduce the levels of acrylamide (a potentially carcinogenic chemical) in food products (21). Evidence of harm was available for this substance, but there were not enough data available at the time to be able to set specific regulated limits. In an agreement in France on decreasing landfill from old cars, it was difficult to define the operational elements of potential legislation, partly because of the large range of materials found in cars (22). A voluntary agreement may also be introduced in order to help develop subsequent legislation and to help businesses prepare for this. For example, an Italian agreement on improving the quality of petrol tested the ability of businesses to achieve certain targets, which were then seen as achievable and realistic and were subsequently imposed on other businesses through legislation (20).
- **As part of a wider policy package**. A policy issue may be complex and multi-faceted, requiring a range of actions – for example, a UK agreement on alcohol labelling was seen as part of a wide-ranging campaign to raise awareness on alcohol-related harm (10). A voluntary agreement may also be introduced to support other government actions or legislation, such as an agreement tackling online cigarette sales in the United States that were seen as undermining government efforts to reduce smoking through cigarette excise taxes (23). A voluntary agreement may be introduced in order to reduce political and industry pressure relating to legislation. For example, a carbon tax on businesses was proposed in Denmark with protests from industry and politicians. The government pushed forward with the tax but introduced a voluntary agreement as part of the policy package, by which businesses could have a tax rebate if they agreed to take certain actions to improve energy efficiency (24). In Germany, the government refrained from introducing comprehensive legislation on reducing landfill from old vehicles but developed a voluntary agreement with businesses (14). In addition to the voluntary measures, a certification scheme was established to license shredder and dismantling businesses as part of a 'lean ordinance' introduced to support the agreement and ensure its effective implementation.

Case study 4: Reducing landfill from old vehicles (Germany)

The German government introduced a voluntary agreement on reducing landfill from old vehicles in 1998 (14). The government had been planning to introduce comprehensive legislation, but car manufacturers agreed to be liable for recycling costs in exchange for control of the sale of wrecks and of the networks for dismantling the vehicles. The voluntary agreement was introduced alongside a certification scheme to license shredder and dismantling businesses, as part of a 'lean ordinance' introduced to support the implementation of the agreement. However, it was found that independent experts who were certifying businesses were sometimes poorly qualified and not supervised sufficiently, resulting in a large number of certified businesses not fully meeting the standards required. The number of businesses operating decreased considerably as a result of this scheme, as many did not apply for, or did not receive, certification. Part of the reason for this was because dismantling businesses had to make an average investment of approximately £155,000 each to be able to comply with the certification standards. An industry group claimed that the agreement targets were being achieved, but only gave examples of achievements in its monitoring report, not specific figures for the whole industry.

- **As a preferred alternative, or supplement, to weak national legislation.** Local-level environmental agreements in Japan and China were introduced in order to achieve improvements as the national standards had been set at low, politically feasible levels (12) and enforcement of national legislation was seen as weak (25). Voluntary agreements may also be developed to encourage businesses to comply with existing legislation. This was the case in Mexico where agreements were introduced as supplements to environmental legislation because the regulatory infrastructure was weak (15) and because there was limited political will for strict enforcement of the legislation (26) .

4. Why do businesses help to develop, or choose to join, voluntary agreements?

Businesses often agree with government on the importance of a specific policy issue, but may differ in their views on the policy approach to be taken (14). The initial proposal to develop a voluntary agreement often comes from industry, particularly when there is a real threat of legislation (7, 27). The reasons why businesses help to develop, or choose to join, a voluntary agreement were described in over half of the studies. These reasons are often inter-related and are outlined below.

- **To avoid mandatory actions, or prepare for compliance if necessary.** Businesses may believe that legislation reduces their choice of possible strategies to tackle a problem (14, 20), thus reducing their flexibility and potentially preventing the continued development of innovative techniques and processes (22). Businesses may be more receptive to negotiating a voluntary agreement when there is an immediate and tangible threat of legislation. For example, state-level agreements on newspaper recycling in some states in the United States were developed with businesses in response to legislation having been recently introduced in neighbouring states (27). During

negotiations, governments may explicitly promise that no new legislation will be introduced during the period of a voluntary agreement (28). If it is likely that legislation will be introduced in the future, businesses may use voluntary agreements to help prepare for compliance with legislation, for example, by allowing them to plan ahead and choose the most efficient way of reducing environmental emissions (20).

- **To avoid or reduce the financial costs related to legislation.** Although participating in a voluntary agreement may have some financial cost for a business, it may be preferable to the mandatory cost related to legislation. There may be financial penalties for non-compliance with legislation (29) and implementation costs could place a disproportionate burden on small businesses (10). Depending on the content, proposed legislation could have a much greater financial impact on businesses than a voluntary agreement. For example, in a French agreement on reducing landfill from old cars, a voluntary agreement was negotiated as an alternative to a proposed tax on new cars (22). Although there were some costs to businesses in participating in the agreement, the costs would have been much greater if the government had introduced the legislation. There may also be situations where proving compliance is less costly under a voluntary code than proving the same to the satisfaction of a statutory inspectorate. In some cases, participation in a voluntary agreement may not be seen as particularly 'voluntary' by businesses if the financial impact of non-participation is extremely high. For example, two agreements (in Denmark and the UK) offered businesses a substantial discount on a carbon tax if they agreed to take certain environmental actions (9, 24), and a Belgian agreement on recycling batteries was signed by the battery industry to avoid an eco-tax that was being brought in for other industries (8).
- **To develop reasonable targets through improving shared understanding.** Through negotiating a voluntary agreement, businesses may be able to help governments better understand which actions and targets are achievable and which are not. In an Italian agreement on improving the quality of petrol, businesses used the negotiation process to inform the government about the technical limitations of their production processes, resulting in a voluntary agreement with achievable targets rather than legislation that was regarded by the industry as not feasible (20).
- **As an accepted approach to a shared problem.** In an industry where there is already widespread co-operation between individual businesses, such as car manufacturers (22), the development of a voluntary agreement may be seen as a widely acceptable approach to a shared problem.
- **To achieve recognition for actions already being taken.** Businesses may be willing to negotiate a specific target if they have concluded that the target is achievable and are already working towards it. In a UK agreement on energy efficiency, a chemical industry association had already signed up to the same target as part of a European voluntary programme and, by the time the negotiations began, their members had already achieved half of the target (13).
- **To negotiate compensation for strict measures.** Businesses may consider proposed legislation to be very strict and potentially harmful. However, even if a government is keen to push ahead with these strict measures and retain them within a voluntary agreement, businesses may be able to negotiate compensatory measures. For example, in a German agreement on reducing landfill from old vehicles, car manufacturers agreed to be liable for recycling costs in exchange for control of the sale of wrecks and of the networks for dismantling the vehicles (30).
- **To improve their public image.** Businesses may join a voluntary agreement for marketing purposes, especially if they have a poor public image (11, 17) or if there is

increasing pressure from the public or from lobby groups (12, 31). Businesses may also join a large, well-known voluntary agreement as they do not want to be seen as a non-participating business that may be perceived as not interested in making positive changes (7). Participating in a voluntary agreement may also be seen by the public as better than being 'forced' to take action through legislation (7). The importance of marketing in voluntary agreements is particularly clear when businesses have already achieved a target by the time they join an agreement – for example, 99.4% of employees were already being paid a living wage before their companies pledged to pay their employees a living wage as part of a city-wide voluntary agreement in the United States (32). Some voluntary agreements explicitly offer public recognition as an incentive to businesses, for example, by allowing businesses to use a logo on products or promotional material (7), by publishing a list of participants (32) or by offering awards for outstanding achievements (11).

Case study 5: Living wage (United States)

In 1999, the mayor of the city of Tucson, Arizona introduced a Good Business Partnership program, in which local businesses were encouraged to pledge to pay their workers a living wage (32). Participating businesses could use a logo for marketing purposes. Only 111 businesses out of 18,632 eligible businesses joined this agreement, and 99.4% of their employees were already being paid a living wage. Around two-thirds of participating businesses supported the continuation of the agreement, but many could see no benefits to participating and few tangible outcomes. A list of participants was not published as promised and many businesses were dissatisfied with the lack of publicity.

- **To improve their relationship with government.** Participating in a voluntary agreement may help businesses to improve their relationship with a regulator. For example, 83% of businesses that signed up to an environmental agreement in Chile agreed that this allowed them to develop a constructive relationship with the government authorities (33).
- **To take advantage of other incentives offered.** Governments may offer other specific incentives up front to businesses to persuade them to join an agreement. For examples, governments have offered an expensive environmental audit of a business (34), have conducted workshops and provided an information exchange to facilitate the sharing of information and learning between businesses and the regulatory agency, (11) and have offered exclusive access to advantageous business locations, such as a well-developed industrial zone in return for businesses participating in a voluntary agreement (12). In an environmental agreement in Mexico that was designed as a supplement to existing legislation, the government offered participating businesses a two-year period during which they would not be penalised for non-compliance with legislation if they agreed to take certain actions. It is clear that non-compliant businesses were more likely to take advantage of this incentive, as those that had received a non-compliance fine in the previous four years were three times more likely to sign up to the agreement than those that had not been fined (26).

5. How are voluntary agreements received by those who participate and those who do not?

Nine studies investigated how voluntary agreements were received by interested parties, including those directly involved in a voluntary agreement (governments and businesses) and those outside an agreement such as non-governmental organisations and the public. These studies usually involved interviews or surveys of interested parties, or the analysis of media stories.

5.1 Studies presenting data on the opinions of those directly involved in a voluntary agreement

- **Positive opinions.** Five studies of those directly involved in a voluntary agreement (governments and businesses) viewed the agreements positively (7, 16, 18, 32, 35). For example, a Canadian minister commented on an agreement to reduce vehicle emissions: “This is a good deal for the economy, the environment and consumers” (35). In an environmental agreement in Italy, all actors involved in the agreement were reported to have positive opinions, but businesses had originally viewed the co-operative approach with suspicion and considered the agreement to be part of a “green politics” approach (18). In an agreement on living wages in the United States, it was found that the majority of businesses involved in the agreement (63%) supported its continuation, but over one-third were either unsure or would not support its continuation (32). This was mainly because they could see no benefits to participating and few tangible outcomes. In this instance, almost all businesses had already achieved the living wage pledge before signing up and there were problems with publicity of the agreement.

Negative opinions. The consultation by the Department of Health in England, the Scottish Government, the Welsh Assembly Government and the Northern Ireland Department of Health, Social Services and Public Safety in 2010 on options for improving information on the labelling of alcoholic drinks found that the vast majority of respondents favoured a mandatory requirement to display health and unit information on bottles and cans, if implementation of the 2007 voluntary agreement on labelling remained slow (by 2009 the industry was only 15% compliant with the labelling regime). (10). In the official response to the consultation, the Devolved Administrations made it clear that they had significant doubts about the credibility and viability of renewing the voluntary agreement and were keen for firm legislation to be introduced across the UK in order to achieve consistent health and alcohol unit information on all alcohol labels. The view in England favoured a continuation of the voluntary approach. Given that there was no consensus amongst the UK administrations in favour of legislation and that there were clear advantages for both consumers and the industry from a UK-wide approach to labelling of alcohol products, both the Northern Ireland Department of Health, Social Services and Public Safety and the Scottish Government were prepared to consider a strengthened self-regulatory option. The Welsh Assembly Government preferred a legislative option and reserved its right to introduce regulation in the future. However, in the circumstances, the Welsh Assembly Government was also prepared to accept a strengthened self-regulatory scheme dependent on the delivery of a new agreement by the alcohol industry for the UK. On this basis, it was decided to postpone any moves towards legislation on labelling and to proceed with delivery and monitoring of the strengthened self-regulatory scheme.

5.2 Studies presenting data on the opinions of those not directly involved in a voluntary agreement

- **Positive opinions.** Two studies found that environmental organisations held positive opinions about agreements (28, 35). In a Canadian agreement on reducing vehicle emissions, environmental organisations praised the agreement and had positive views of its potential effectiveness (35). In a Dutch agreement to reduce environmental emissions, environmental organisations had initially doubted whether businesses would make any changes but, after monitoring data were published, they subsequently accepted that considerable progress had been made (28).
- **Negative opinions.** Three studies found doubts and concern expressed by those outside a voluntary agreement (7, 13, 29). In a South African agreement to reduce ethnic inequalities in access to financial services, there was reported to be growing scepticism from the public (29). In a UK agreement on energy efficiency in the chemical industry, doubts had been expressed as to whether the targets represented a real improvement (13). This was because the businesses involved had already achieved half of the target by the time they negotiated the agreement. In an Australian environmental agreement, participating businesses were concerned about the lack of public recognition because environmental organisations and the public had been critical of the “cosy relationship between government and industry”, believing that businesses had joined mainly in order to improve their public image and would have taken the actions anyway (7). These criticisms were confirmed in interviews with businesses, as some indicated that they would have taken many of the actions anyway and that public image was an important reason for joining the agreement.

Case study 6: Financial Sector Charter (South Africa)

A South African agreement to reduce ethnic inequalities in access to financial services was signed in 2002 by all partners in the National Economic Development and Labour Council, which included non-governmental organisations (29). This agreement was partially successful – half a million small savings accounts were opened during the first year but progress was slow in implementing many of the other goals, with growing scepticism from the public. There were goals to encourage training for shareholders but no specific targets. There was also a target to increase the number of black senior managers, but the agreement experienced problems with ‘fronting’, where some businesses placed black managers in senior positions but gave them no real decision-making powers, thus undermining the effectiveness of the agreement.

6. What are the potential problems with voluntary agreements?

Over two-thirds of studies provided some evaluation of the agreement process. Potential issues identified were on the content of the agreement, the signing-up process, the targets agreed, incentives, sanctions, monitoring of compliance, management of the agreement and government support for implementation. The issues identified with the process aspects of voluntary agreements are outlined below.

6.1 Content of the agreement

- **Does the agreement adequately address the policy issue?** Some agreements may be limited by not including all important measures to address a policy issue or by focusing only on one aspect of a problem (14, 23, 29, 36, 37). A UK agreement on tobacco advertising only focused on restricting poster advertising, even though shop-front advertising was more prevalent (36, 37). An agreement on internet tobacco sales in the United States did not address the policy concerns of age verification or tax collection (23). A German agreement to reduce landfill from old vehicles was criticised for focusing on waste management rather than on long-term waste prevention (14). Although a voluntary agreement may not include all important measures to address a specific policy issue, it may be viewed as a significant development which can be subsequently built upon (29).

6.2 The signing-up process

- **Does the signing-up process ensure the commitment of businesses?** Although it is not usual, some voluntary agreements are based on legally binding contracts between the government and participating businesses (24, 33). If an agreement does not involve a strong commitment, its achievement depends solely on the good will of businesses to take the actions as agreed (19, 29). Some agreements may purposely be based on weak commitments if there is a national culture of 'gentlemen's agreements', as was found in a Dutch agreement on increasing green electricity sales (38). Requiring senior managers to sign an agreement may help to ensure an organisation's commitment to achieving the targets (7). However, this is only the case if senior managers are keen to follow-up with the agreement measures and to support the staff members implementing the changes, which does not necessarily happen (34).
- **Are individual businesses committed to an agreement signed by an industry association?** Some voluntary agreements are signed by industrial associations, which may result in a risk of communication issues and non-compliance for individual businesses, especially if there is no attempt to allocate the target to individual businesses (13). In an Italian environmental agreement signed by local industrial associations, only 22% of businesses had heard of it and even fewer knew what was included in the agreement (18).

6.3 Targets of the agreement

- **Are the targets ambitious enough?** Some agreements may not aim to achieve a particularly large or important change (17, 39), whereas other agreements have targets that are seen as being difficult for businesses to achieve and will require significant actions (14). There may be practical reasons for setting unambitious targets, for example, if an agreement is targeted at small and medium enterprises (39). Some agreements set targets purposely low at first to allow a settling-in period and then make them more stretching (27). Some agreements may gradually introduce new measures, allowing potentially harmful business practices to continue for a period of time. For example, a UK voluntary agreement on tobacco advertising allowed businesses to continue to use old health warning signs even though new warning signs had been developed (40). Businesses may have different opinions on the ambitiousness of targets. For example, a Danish agreement on energy efficiency focused on implementing existing technologies to achieve its aims (24). This had a large impact on

poorly performing businesses, but those already performing well were not challenged to go further and adopt innovative initiatives.

- **Are the targets meaningful?** An agreement may be criticised for focusing on targets relating to processes rather than outcomes. A UK agreement to reduce the environmental impacts from pesticides was criticised for lacking a target to reduce the level of pesticide use, but proponents argued that the focus was on encouraging best practice which would inevitably result in less use (16).
- **Are the targets achievable and realistic?** In an agreement to reduce pollution in Mexico, the deadlines for achieving the targets were considered to be extremely challenging (15). In an Italian environmental agreement signed by local industrial associations, individual businesses felt that the targets were unrealistic (18). A feasibility study at the beginning of negotiations may help to assure businesses and other interested parties that the targets are attainable and reasonable, which was done for a voluntary agreement on newspaper recycling in the United States (27). In a UK agreement on energy efficiency, a chemical industry association had already concluded that the target was achievable as they were already working towards it under a different voluntary programme and had already achieved half of the target by the time the negotiations began (13).
- **Are the agreements clearly defined?** Precise and detailed targets and obligations allow evaluation of progress and may contribute towards the good performance of all parties (8), whereas a lack of clearly defined targets may be seen as a lack of commitment to the proposed actions. This was the case in a South African agreement with the financial sector where there were overall goals to encourage training for shareholders, but no specific targets (29). In a UK agreement on energy efficiency, the industry group involved was keen to negotiate well-specified targets in order to improve the credibility of the agreement with external stakeholders (13). Some agreements may be complex or ambiguous, making it difficult to ascertain whether the targets have been achieved. Due to this problem, it was argued that even the monitoring agency for a UK agreement on tobacco advertising was not clear as to what constituted a breach in the agreement (36, 41). In a Canadian agreement on reducing vehicle emissions, the target was poorly defined and was based on an estimate of future performance, resulting in confusion and leaving any achievements open to differing interpretations – depending on how the baseline and targets were measured, it was theoretically possible for the target to have been ‘achieved’ without implementing any new measures (35). Another potential issue identified was targets that were not quantifiable or lacked time frames, making it extremely difficult to assess achievement (14, 18, 29, 34). Despite the importance of clearly defined targets, it was found that businesses participating in a Swedish energy efficiency agreement appreciated having vague goals, as they were able to adapt targets and measures to local circumstances (34). In this instance, a government representative expressed a belief that the risk of a bad public image would be enough to encourage compliance.
- **Would businesses have carried out the actions anyway?** Some voluntary agreement targets may represent minimal actions, particularly if they have been suggested by businesses. This was a criticism of an Australian environmental agreement, where businesses set their own targets and admitted in interviews that they would have been taking most of the actions anyway (7). In a UK agreement on energy efficiency, it was found that the main driving factors for improvement would still have existed without the agreement, including the fact that businesses were already working towards the target under a different voluntary programme (13).

- **Does the target baseline allow businesses to have already made progress?** Some agreements have a target baseline that is substantially earlier than the start date of the agreement, giving businesses the opportunity to agree to a target that they are already on their way to achieving. For example, a UK agreement on energy efficiency started in 1997, but had a target baseline of 1990, and businesses had already achieved half of the target by the start of the agreement (13).
- **Does the target specification allow businesses to circumvent the agreement?** Voluntary agreements may omit important aspects and allow businesses and individuals to circumvent the measures. A payment ban on internet tobacco sales in the United States only applied to credit cards and not to personal cheques, allowing internet companies to continue selling tobacco (23). A South African agreement with the financial sector included a target to increase the number of black senior managers, but it was found that some businesses were placing black managers in senior positions while giving them no real decision-making powers (29).

6.4 Benefits and sanctions

- **Are the benefits large enough to encourage good performance?** Some agreements offer benefits to encourage businesses to take actions and achieve the targets, such as awards for outstanding achievements (11, 34), whereas others may not offer valuable benefits (7, 14). In an Italian environmental agreement, co-financing was offered to businesses for a specific initiative, but it seems that this was not seen as beneficial enough to outweigh the remaining costs as only one firm applied for co-financing (18). If businesses are not offered any benefits for taking bold or innovative actions, they may only make minimal changes (7). If there are any benefits offered by a government as part of a voluntary agreement, these need to be clearly specified to help ensure that businesses are aware, and can take advantage, of them (25).
- **Are there sanctions for non-compliance?** Some agreements may include sanctions for individual businesses, or for entire industries, if they do not achieve the targets, often involving a concrete threat of legislation. Sanctions for non-compliance are closely linked to the issue of whether an agreement is legally binding. Two environmental agreements (in UK and Denmark) included tax rebates for participating businesses, which would be lost if they were not compliant. This would have had a huge financial impact for the businesses (9, 24). If targets were not met in a Belgian agreement on recycling batteries, a tax would have been brought in for all products the following year and a fine would also have to be paid for products that were not recycled during the period of the voluntary agreement (8). This provided an almost-immediate penalty for non-compliance and helped to ensure the success of this agreement. In a city-level environmental agreement in Japan, instances of substantial non-compliance had implications for renewal of operating licenses by the city government, or on the ability of the business to expand its operations (12). For less serious transgressions, a first instance of non-compliance would result only in a warning, whereas a second instance would result in a public announcement of non-compliance. This example indicates clear links between sanctions for non-compliance, public image as a benefit to participating in a voluntary agreement and publicly-available monitoring data. There is a risk that agreements without any sanctions at all (7, 13, 17), or with no credible threat of legislation to encourage compliance (15), may allow businesses to gain the benefits of participation (such as an improved public image) whilst permitting them to make little effort to achieve the targets, potentially resulting in a lack of credibility of the agreement.

6.5 Monitoring of the agreement

- **Is the monitoring system adequate?** Some agreements have strong monitoring systems in place, usually with a combination of self-reporting and regular independent verification checks (9, 13). In some cases, businesses may be keen to ensure independent assessments in order to improve the credibility of the agreement (7, 13). Other agreements have limited or no monitoring systems in place (18, 34). In a French agreement to reduce the use of CFCs, businesses committed to provide data to an independent intermediary organisation, but no steering committee was established to monitor progress towards the targets (17).
- **Is monitoring data forthcoming and of adequate quality?** Businesses usually have to provide their own self-reported monitoring data in a voluntary agreement. If these data are not forthcoming or are of poor quality, the credibility of their actions within the agreement may be questioned. Two examples were found where adequate monitoring data were being provided by most businesses. In a UK energy efficiency agreement, monitoring data was provided by 92.9% of sites, although this was less than the 100% coverage committed to by the industry group (13). In an Australian environmental agreement, 70% of businesses were found to have monitoring data of adequate quality (7). However, there were two examples where businesses were not providing adequate monitoring data. In a large Dutch environmental agreement, some industry sectors had difficulties in meeting their commitments to provide monitoring data (28). In a German agreement to reduce landfill from old vehicles, an industry group claimed that agreed targets were being achieved, but only gave examples of achievements in its monitoring report, not specific figures for the whole industry (14).
- **Are monitoring data available to the public?** If the agreement process is not transparent and monitoring data are not published, there is a risk that the credibility and success of the agreement will be questioned (17, 18). In a French voluntary agreement on reducing the use of CFCs, the government stated that monitoring data were collected, but these data were never published (17). In a Japanese environmental agreement, a sanction for non-compliance was based on a warning that monitoring data would be made publicly-available – a first instance of non-compliance would result only in a warning, whereas a second instance would result in a public announcement of non-compliance (12).

6.6 Government management

- **Is there adequate management of the agreement by the government?** Strong management of a voluntary agreement by the government, with adequate capacity for monitoring progress and supporting compliance, can help to ensure its success. For example, a Japanese environmental agreement was supported by around 80 city government officials, including those carrying out monitoring visits (12). However, other agreements were less well managed. In a Swedish energy efficiency agreement, there were reports that the government relied heavily on temporary staff with little guidance or understanding of the agreement procedures, which resulted in a lack of continuity, poor documentation, misunderstandings and a delay in implementation of the agreement measures (34). In another example, a key aspect of a Mexican agreement to reduce pollution was the relocation of businesses to authorised industry zones, but the step of actually defining these zones did not occur until seven years into the agreement period and, even by this stage, it was still not clear who would pay for the relocation (15).

- **Are there any issues with how the government is supporting implementation?** In a Danish agreement on energy efficiency, government-approved consultants carried out energy audits for businesses to use in developing action programmes under a voluntary agreement (24). It was found that the consultants identified generally small projects based on equipment changes, but were very dependent on the expertise and knowledge of the company's staff to identify large projects related to processes. In one business, the projects identified directly through the audit were expected to amount to a reduction in emissions that was 20-40 times smaller than the reductions expected from projects identified separately by the business. In a German agreement on reducing landfill from old vehicles, it was found that independent experts who were certifying businesses were sometimes poorly qualified and not supervised sufficiently, resulting in a large number of certified businesses not fully meeting the standards required (14).

6.7 Involvement of third parties

- **Was a third party involved in the agreement?** Non-governmental organisations (NGOs) may play a key role in the negotiation and implementation of a voluntary agreement. Involving third parties in a voluntary agreement generally increases its credibility. Only one example was found of an agreement in which NGOs were explicitly involved. A South African agreement on reducing ethnic inequalities in access to financial services was signed by all partners in the National Economic Development and Labour Council, including NGOs, and an independent council was set up to oversee the implementation of the agreement, which also included representatives from NGOs (29). However, there were other examples of agreements in which non-governmental organisations were consulted during the development stage, but were not signatories to the agreement (16, 27).

7. Which businesses join voluntary agreements?

Voluntary agreements differ in the number and coverage of businesses that choose to participate, and there may be important differences between participating and non-participating businesses. Almost half of studies provided an evaluation of participation rates or analysed differences between businesses.

Some agreements achieved wide coverage of eligible businesses, in terms of the number of businesses, or in terms of market share, or share of emissions. Agreements signed with industry groups or closely linked to large, prominent national schemes appear to have high participation rates and/or coverage. A UK agreement on reducing scrapie, a fatal neurodegenerative disease in sheep, achieved the participation of 80% of breeding flocks (42). This agreement was part of a national disease control programme, fully funded by the government. An energy efficiency agreement signed with a chemicals industry group accounted for 85% of sector energy consumption, as membership of the industry group was heavily weighted towards large companies (13).

High participation rates were also found for agreements that offered a reduction in, or avoidance of, a costly tax. Although participation in these agreements was technically voluntary, the substantial financial disincentives for non-participating businesses raises the

question of how truly 'voluntary' these agreements were. A Belgian agreement on recycling of batteries established a national collection scheme, and achieved a 90% participation rate among battery producers and distributors, covering 95-98% of all batteries sold in Belgium (8). In this case, the agreement was signed by the whole battery industry in order to avoid an eco-tax, with an understanding that this tax would be brought in if targets were not met. The targets were based on national collection percentages, helping to ensure that most eligible businesses took part in the national collection scheme established as part of this agreement. In a UK energy efficiency agreement that offered an 80% carbon tax rebate for participating businesses, all eligible industry sectors chose to participate, although 3% of businesses subsequently left the agreement (9). In a similar agreement in Denmark, the number of participants decreased when the tax discount was reduced and the obligations of participating businesses were tightened (43). When the tax discount was subsequently increased, the number of participants also increased.

Some agreements encountered difficulties persuading businesses to sign up. A UK agreement to reduce the environmental impacts from pesticides was developed and signed by an industry association, but experienced problems with farmer participation (16). Agreements signed with leading companies in a sector may exclude a large part of the market – for example, an Italian agreement on improving the quality of petrol was signed with the leading Italian oil company, but this only represented 30% of the market (20). However, this agreement helped the government to test the ability of businesses to achieve certain targets, which were subsequently imposed on other businesses through legislation. A UK agreement on alcohol labelling was unsuccessful in recruiting some of the major alcohol producers, resulting in limited market coverage and problems with achieving the target which was based on a percentage of market share (10). In a city-level voluntary agreement in the United States, only 111 businesses out of 18,632 eligible businesses pledged to pay their employees a living wage (32). Almost all participating businesses had already achieved the target before joining the agreement, which was not representative of businesses in the city, where 40% of all jobs paid less than a living wage. In this case, even participating businesses argued that the agreement did not have adequate incentives or publicity. Although businesses participating in an environmental agreement in Australia only represented a small percentage of all eligible businesses, the government did achieve its participation target of 500 businesses by 2000 and was close to achieving its target of 55% coverage of greenhouse gas emissions (7). Many businesses apparently had not joined the agreement because they were unaware of their emissions or did not view them as being significant.

Some studies investigated differences in participating and non-participating businesses. A voluntary agreement on pollution prevention in the United States had limited success with the total number of participants, as only a small percentage of the invited businesses in any one industry chose to sign up (11). However, those businesses that did participate were responsible for a large percentage of their industry's emissions, so the reduction in pollution levels as a result of the agreement could be substantial. In this agreement, large businesses, those with high advertising expenditures (high levels of contact with consumers), those with small market shares (many competitors), those in industries with strong associations that stressed the importance of environmental measures and those already participating in other voluntary environmental programs were most likely to participate. In another environmental agreement in the United States, participating businesses were generally large businesses in carbon-intensive industries (44). In an environmental agreement in Mexico that was designed as a supplement to existing legislation, the government offered participating businesses a two-year period during which they could not be penalised for non-compliance with legislation (26). Businesses that had received a non-compliance fine in the previous four years were three times more likely to sign up to the agreement. In a Chinese voluntary agreement pilot project on energy efficiency, two businesses were selected to participate (25). These businesses already had

good management and monitoring systems, as well as high levels of social responsibility, resulting in the achievement of agreement targets even though there were no significant incentives offered for good performance.

8. Are voluntary agreements effective?

All voluntary agreements include goals, based on implementing processes (e.g. introducing a recycling system) and/or achieving outcomes (e.g. reducing emissions). Agreements with vague, unquantifiable goals are difficult to evaluate in terms of their achievements, whereas those with well-specified targets and robust monitoring systems allow for a better evaluation of achievements. Most studies found had attempted to evaluate the effectiveness of voluntary agreements, and some examples are given below.

8.1 Achievement of targets

Some voluntary agreements were considered to be effective, with businesses achieving or exceeding the agreed targets (11, 20, 27). Some evaluations of achievement were based on independent monitoring (21), whereas others were based only on self-reported progress (16). Voluntary agreements that offered a reduction in, or avoidance of, a carbon tax, were generally successful in achieving their targets. Businesses participating in a Belgian agreement on battery recycling always achieved or nearly achieved their targets, and the number of batteries collected for recycling increased every year (8). A UK energy efficiency agreement with a reduced carbon tax had an 88% compliance rate during the first period (9). Participating businesses seem to have invested in early actions as the emission reductions already achieved during the first period were substantial compared to the final target. A modelling study was carried out for a similar agreement in Denmark, comparing the reduction in energy use achieved through the agreement with the reduction expected if there had been no agreement and businesses had paid the full carbon tax (43). This study found that the agreement was likely to have been more effective than a full carbon tax, and concluded that the threat of legislation had a stronger effect than the legislation itself.

Other voluntary agreements achieved partial success. A South African agreement on improving access to financial services resulted in half a million small savings accounts being opened during the first year, but progress had been slow in implementing many of the other goals (29). A German agreement to reduce the levels of acrylamide (a potentially carcinogenic chemical) in food products achieved reductions in some product groups but not in others (21). A study of a series of Dutch agreements to reduce the amount of packaging used found that absolute targets (e.g. percentage decrease in volume of packaging materials) resulted in a greater improvement than relative targets (e.g. volume of packaging relative to GDP growth) (45).

Some voluntary agreements had difficulties with achieving their targets (10, 38, 46, 47). For example, several studies found non-compliance with a UK agreement on tobacco advertising, with businesses sponsoring events particularly appealing to young people (46) and with adverts breaching one or more of the agreement rules (36, 37). A UK agreement on alcohol labelling only resulted in 15% compliance compared to a target of 50% of labels (10). This was mainly due to the non-participation of some major alcohol producers, but there was also variation in the content and quality of labels within the agreement. Targets were never achieved in a Dutch agreement on increasing sales of green electricity, and it

was concluded that a lack of formal commitment, interest and enforcement resulted in low compliance (38).

A number of studies were unable to evaluate the effectiveness of voluntary agreements. For example, official monitoring data were not available for a French voluntary agreement on the reduction of CFCs and the agreement took place at the same time as the introduction of European and international regulations, making it very difficult to evaluate the contribution of the agreement (17). In a Swedish energy efficiency agreement, businesses reported improvements but the targets of the agreement had not been clearly defined, making it almost impossible to evaluate the effectiveness of the agreement (34).

In general it appears that those agreements that include appreciable sanctions for non-compliance and/or credible monitoring with publicity are more likely to be effective than those without (see the next paragraph).

8.2 Sustainability of achievements

A study of an environmental agreement in Mexico found that the effects of the agreement were temporary (26). This agreement was designed as a supplement to existing legislation, and the government had offered participating businesses a two-year period during which they could not be penalised for non-compliance with legislation if they agreed to take certain actions. Although businesses were more likely to join the agreement if they had previously been fined for non-compliance with regulation, there was no significant reduction in fines for participants after the certificates had expired, indicating that the effects of the agreement were temporary and that at least some businesses reverted to their levels of environmental performance before the agreement.

8.3 Undermining the effectiveness of voluntary agreements

Examples were found of businesses using loopholes to circumvent a voluntary agreement or basing their actions on unclear definitions in an agreement, so that the effectiveness of agreements was undermined. A South African agreement with the financial sector included a target to increase the number of black senior managers, but this agreement experienced problems with 'fronting', where some businesses placed black managers in senior positions but gave them no real decision-making powers (29). An agreement on internet tobacco sales in the United States was generally effective in achieving its aims, but an increase was found in vendors offering non-banned payment options, such as personal cheques (23).

8.4 Fulfilment of promised government actions

Governments failed to fully carry out their obligations in some agreements. In a Swedish energy efficiency agreement, many businesses were appreciative of the free environmental audits and training sessions provided (34). However, not all businesses received an audit due to lack of funding, and promises to promote the agreement and give it a high profile were not carried out, resulting in disappointment among businesses. In an agreement on living wages in the United States, a list of participants was not published as promised and many businesses were unhappy with this lack of publicity (32). In a series of environmental agreements in Mexico, education initiatives were not developed due to financial problems and a manual on dealing with hazardous waste was delayed. It was concluded that a weak regulatory infrastructure contributed to the poor performance of the agreements (15).

9. What are the secondary and unintended outcomes of voluntary agreements?

Voluntary agreements may result in secondary or unintended outcomes, which may be positive or negative. These outcomes may be a result of the agreement process itself or a result of actions taken as part of the agreement. Almost half of studies in this scoping review reported on secondary or unintended outcomes of voluntary agreements.

9.1 Positive outcomes

- **Positive impact on expected subsequent outcomes.** A voluntary agreement may have certain goals to achieve, but with the aim of contributing to a wider improvement outside the scope of the agreement. For example, an agreement with credit card and shipping companies in the United States successfully reduced payment and shipping options for internet tobacco sales, which resulted in a subsequent decrease in visitors to the major tobacco sales websites (23).
- **Improved relationship.** Voluntary agreements may help to strengthen relationships between governments and businesses (13, 16, 28). For example, the chair of a UK voluntary agreement on pesticides insisted that the “real success” of the agreement had been the establishment of a partnership approach (16).
- **Positive impact on attitudes.** Voluntary agreements may improve the attitude and awareness of businesses of a specific issue (7, 16, 34). For example, an Australian environmental agreement helped to place the reduction of greenhouse gas emissions explicitly onto business agendas, with management and cultural changes reported in many businesses (7), and a Swedish energy efficiency agreement resulted in increased environmental awareness among employees of participating businesses (34).
- **Increased competitive advantage.** Businesses may find that participating in a voluntary agreement may subsequently increase their competitive advantage over non-participants. For example, an Italian agreement on improving the quality of petrol indirectly benefitted the participating business as there had been a shift in the market competition to technological and environmental considerations, in which this business was now a leader (20).
- **Related business improvements and innovations.** Businesses participating in an agreement may benefit in other important ways from improvements made within the agreement. For example, businesses participating in an environmental agreement in Chile adopted innovative systems and techniques more often than non-participants, which made participating businesses better able to achieve the environmental improvements within the agreement (33). A Swedish agreement on energy efficiency helped several participating businesses to achieve certification under an international environmental accreditation scheme (34).
- **Improved shared understanding.** Through working together on a voluntary agreement, governments and businesses may both benefit from an improved expertise and shared understanding on a specific issue. For example, a UK energy efficiency agreement helped to improve understanding of some technical and measurement issues (13) and an Australian environmental agreement led to the development of expertise on how to identify, monitor, manage and report greenhouse gas emissions (7).

- **Improved government access to industry data.** Some governments may be keen on gaining access to industry data through voluntary agreements. For example, one of the reasons for developing an Italian environmental agreement was because the government lacked complete information on business activities and environment impacts, and this situation was improved through the voluntary agreement (18).
- **Spill-over effects.** A voluntary agreement may have an effect on non-participating businesses and on products or activities not included in the agreement. For example, an evaluation of a large, national agreement on reducing the use of toxic chemicals in the United States found that non-participating businesses also achieved a reduction (11). This may have been due to increased availability of environmentally friendly products and chemical substitutes as a result of the agreement, making it easier for even non-participants to reduce their emissions. In addition, participating businesses reduced their use of other toxic chemicals not included in the agreement, indicating that the agreement may have encouraged businesses to take actions on other chemicals.

9.2 Neutral or mixed outcomes

- **Reduction in the number of businesses.** A German agreement on reducing landfill from old vehicles was introduced alongside a certification scheme to license shredder and dismantling businesses, as part of a 'lean ordinance' introduced to support the implementation of the agreement (14). The number of businesses operating decreased considerably as many did not apply for, or did not receive, certification. This may be seen as an indication of the increasing professionalism of the industry and a rise in environmental standards. However, there is likely to have been a disproportionate impact on small businesses that could not afford to make the investments needed to achieve certification, resulting in job losses.
- **Violations of regulations.** Participation in a voluntary agreement may have an impact on a business' compliance with related regulations. For example, a study of a pollution prevention agreement in the United States found that participating businesses reduced their subsequent violation rate for environmental regulations in three industries, but increased their violation rate in two industries (31). Agreement measures that focused on improving operating procedures were more effective in reducing violations than measures that involved equipment changes, and it was concluded that the adoption of these measures may help to increase environmental consciousness within a business.
- **Employee wellbeing.** Participating in a voluntary agreement may have an effect on the morale and wellbeing of employees. An agreement in the United States on introducing a living wage for employees was found to have had no substantial effect on worker morale, absenteeism or turnover (32). However, given that almost all participating businesses were already paying a living wage before signing the agreement, this is unsurprising.

9.3 Negative outcomes

- **No impact on expected longer-term outcomes.** A voluntary agreement may have certain goals to achieve, but with the aim of contributing to a wider improvement outside the scope of the agreement. However, this may not occur if the agreement is unsuccessful. For example, a UK voluntary agreement on child-resistant medication containers found continuing use of non child-resistant containers and, therefore, found

no subsequent reduction in hospital admissions for accidental medication poisoning (47).

- **Businesses may use other methods to compensate for the potential impact of the agreement.** Businesses may participate in a voluntary agreement which addresses a certain issue, but subsequently increase activities that are not included within the agreement in order to maximise profits. For example, a South African agreement banning television advertising of tobacco resulted in a large increase in radio advertising (which reaches a greater proportion of the population) and sponsorship of sporting events, including those broadcast on television (48). A UK agreement on tobacco advertising on posters resulted in a substantial increase in shop-front tobacco advertising that was likely to appeal to children (36, 37).
- **Decrease in stock price.** It is generally assumed that there will be a business case for participation in a voluntary agreement, although this may not be directly related to increasing profits. A study of an environmental agreement in the United States found that businesses experienced a decline in their stock price (-0.9% average) when they joined the agreement, and again (-1.3%) when a specific target was announced (44). This may be because an ambitious environmental target is likely to require substantial capital expenditure by the business, resulting in a potential loss of shareholder value. Therefore, investors may penalise businesses for signing up to ambitious environmental commitments.

10. Are voluntary agreements worthwhile?

The economic impact of a voluntary agreement is an important issue for governments deciding on the best policy approach to use, but it is not often evaluated. Nine studies in this review addressed the issue of costs and benefits. However, most studies were only able to calculate the costs of specific aspects of an agreement but not the benefits.

- **Likely to be worthwhile (where benefits exceed costs).** The UK government was not able to calculate the exact costs and benefits of a voluntary agreement on alcohol labelling, due to insufficient evidence on its likely impact on consumption (10). However, it concluded that alcohol labelling (whether as part of a voluntary agreement or as part of regulation) was likely to be cost-beneficial even if it had only a very small effect on consumption. Labelling costs for businesses are a relatively cheap, one-off expenditure (around £1,000 per product), whereas benefits to the economy of reductions in consumption would recur. Modelling suggests that even a small reduction in consumption levels would result in benefits that offset costs for the government (decreases in tax revenue) and costs for businesses (labelling costs and decreases in profit as a result of reduced sales). However, this analysis of costs and benefits is from a whole-economy perspective, and does not consider the potential negative impact on individual businesses participating in the agreement.
- **Not costly to business or government.** Three studies found that voluntary agreements were not particularly costly policy options. Businesses participating in an environmental agreement in Chile did not experience a rise in their operational costs after signing the agreement (39). The government's costs of preparing, negotiating, administering and monitoring the agreement were also low, and were found not to be substantially different from the process to introduce a new regulation. The

administrative costs for a French agreement on reducing the use of CFCs were also found to be very low (17). A study of an Australian environmental agreement found that most of the projects implemented by businesses were low-cost projects with very short payback periods, or projects that businesses would have implemented anyway (7).

- **Costly to business.** Two studies found that participation in a voluntary agreement was costly for businesses. A major Italian oil company that signed a voluntary agreement to improve the quality of petrol invested approximately £275 million¹ over six years on research and modifications to its refining plants (20). In Germany, the government developed a voluntary agreement on reducing landfill from old vehicles, but also established a certification scheme to license shredder and dismantling businesses as part of a 'lean ordinance' introduced to support the agreement (14). A study of this agreement found that dismantling businesses had to make an average investment of approximately £155,000² to be able to comply with the certification standards.
- **Costly to government.** Two studies found that the benefits offered by governments as part of voluntary agreements were relatively costly. The Swedish government provided an environmental audit of businesses as part of an energy efficiency agreement, which cost approximately £3 million³ (£50,000 per site) (34). The UK government provided a consultancy support programme for small- and medium-sized businesses as part of an energy efficiency agreement, which cost £750,000 over three years (£5000 per site) (13).
- **Costly to both business and government.** A Danish energy efficiency agreement that involved a carbon tax reduction involved upfront costs for businesses, but the much larger share of costs were faced by the government (24). In this agreement, businesses had to pay most of the costs associated with energy audits and verification of data. In a case study of a paper mill, the cost for the energy audit and verification was found to be approximately £47,000⁴. Although the upfront cost of this audit was relatively high, the business received over £775,000⁵ through participating in the agreement – from investment grants, tax rebates and energy audit subsidies. The voluntary agreement was, therefore, very costly for the government.

11. How have voluntary agreements been evaluated?

Evaluating the process and/or impact of a voluntary agreement in terms of its stated or agreed objectives and targets is important, so that governments can decide whether to continue with an agreement, make amendments to improve its credibility and effectiveness, or bring an agreement to an end and use an alternative policy approach.

Voluntary agreements can be evaluated in a number of ways. Some studies may provide an evaluation of the whole of a voluntary agreement, whereas others may only focus on evaluating specific aspects of an agreement. Many studies in this scoping review looked at a range of aspects of voluntary agreements. The two most common types of evaluation

¹ Conversion of 600 billion Lira – based on <http://www.sussex.ac.uk/Units/currency/> and <http://www.travelex.co.uk/uk/>

² Conversion of 360,000 Deutsche Marks – based on <http://www.sussex.ac.uk/Units/currency/> and <http://www.travelex.co.uk/uk/>

³ Audit cost of 500,000 Krona per business, carried out at around 60 sites. Conversion based on <http://www.travelex.co.uk/uk/>

⁴ Conversion of 54,700 Euros – based on <http://www.travelex.co.uk/uk/>

⁵ Conversion of 900,000 Euros – based on <http://www.travelex.co.uk/uk/>

were investigations of whether an agreement was successful in achieving its targets and investigations of the reasons why governments or businesses developed, or joined, a voluntary agreement. Various research methods can be employed for evaluating different aspects of an agreement, such as surveys of businesses or independent observations of compliance. A large number of studies in this review used a combination of evaluation methods and some were secondary reviews of primary studies (14, 28).

Examples of different evaluation methods found in this scoping review are listed below. The first three are closest to process evaluations; the last two to outcome evaluations. In general, interviews and surveys were the main methods used in process evaluations, and independent data analysis was the main method in outcome evaluations.

- **To identify reasons for developing, or joining, a voluntary agreement.** Evaluation studies may investigate the reasons why governments developed voluntary agreements or why businesses helped to develop, or chose to join, an agreement. Evaluating these reasons can help us to understand the political and economic context of an agreement, the role of legislation in negotiations, the differing interests of governments and businesses, their opinions on a voluntary approach and their aims in signing an agreement. Studies that investigated this aspect of voluntary agreements used a range of research methods – interviews were conducted with government representatives (12, 17, 24, 34), business representatives (7, 19, 24, 34) and independent consultants involved in implementation of an agreement (24, 34); a survey was conducted with business representatives (39), and independent analysis of business-level data was undertaken to identify the drivers of participation (26, 49).
- **To obtain the opinions of interested parties on an agreement.** Evaluation studies may investigate the opinions of parties directly involved in the agreement and those outside an agreement. Methods used to evaluate this aspect included a survey of participating businesses (32); interviews with government representatives (18), business representatives (7, 18) and independent consultants involved in an agreement (7); media analysis (35), and analysis of evidence given by businesses to a parliamentary inquiry (16).
- **To identify potential problems with an agreement.** Most evaluations in this review included some assessment of potential problems with the agreement process, covering a range of aspects such as the signing-up process, the targets agreed, sanctions for non-compliance and monitoring of compliance. Many of the evaluations of the agreement process seemed to be based primarily on the author's professional opinion on agreement documents and experience in the policy area (9, 13, 23, 25, 27, 29, 38, 39, 41), sometimes using standard assessment criteria such as those produced by the Organisation for Economic Co-operation and Development (OECD) (50). These were supplemented in some cases with interviews with government representatives (12, 17, 24, 34), business representatives (18, 24, 34) or independent consultants involved in an agreement (7, 24); analysis of evidence given to, or findings of, parliamentary inquiries (7, 16); comparison of official documents with media reports to assess different interpretations of targets (51), and modelling to assess the potential results of different interpretations of targets (35).
- **To assess whether agreed targets have been achieved.** Most studies in this review evaluated the success of voluntary agreements in terms of whether or not their targets were achieved, using a range of methods. Independent data analysis was the most common method. Data analysis was often based on monitoring data collected as part of a voluntary agreement (10, 21) or on businesses' self-reported data (16). Routine data sources were also used in some cases (45). Researchers carried out their own data

collection in some studies, for example, using surveys of members of the public (46) or observations of business activities (36, 41). Very few studies carried out surveys or interviews with businesses to assess their achievement of targets (19, 34). One study based its assessment on publicly available government and industry publications (29), and one study analysed internal industry documents to assess their compliance and to investigate whether the businesses were employing tactics to circumvent the targets (52). Some studies used scenario modelling to ascertain whether an agreement was likely to be successful (53) or was likely to result in actions and outcomes beyond what would have been expected if no agreement had been in place (13).

- **To assess the extent of secondary or unintended outcomes.** Voluntary agreements may result in secondary or unintended outcomes, and these may be seen as positive or negative outcomes. Almost half of studies in this review evaluated this aspect of agreements, using a range of methods. Routine data were analysed in some studies to identify any secondary or unintended outcomes (31, 44, 47), and one study analysed evidence given to a parliamentary inquiry (16). Researchers carried out their own data collection in some studies, for example using observations of business activities (23, 36, 37), surveys of businesses (32, 33), surveys of members of the public (54) and interviews with businesses (7, 34).

SUMMARY AND DISCUSSION

Summary of findings

A total of 47 studies met the inclusion criteria for this scoping review. These provided valuable information on how voluntary agreements work in practice and identified potential pitfalls and conditions for success. A range of examples of voluntary agreements were found, from agreements that had targets chosen by businesses and low-cost incentives for participating to those with substantial financial disincentives for non-participation and very costly sanctions for non-compliance, usually relating to the introduction of legislation or a tax.

Governments may develop a voluntary agreement for a number of reasons, believing it to be quicker and cheaper than introducing new legislation, and often in response to pressure from businesses which may be keen to avoid mandatory actions. Voluntary agreements may help to improve relationships between government and business, and help both parties come to a reasonable position with regards to target-setting and sharing of data. They may also be useful as an exploratory exercise, with governments using the experience to develop subsequent legislation. Many businesses will also be keen to improve their public image through joining an agreement, and this aspect seems to have been more important in certain agreements than in others. There may be reasons, other than those identified in the studies identified in the review; for example participating businesses may believe that they will obtain a temporary market advantage over rivals by being more familiar with what will be a novelty to non-participants. Alternatively there may be times when business prefers the simplicity and 'level playing field' of legislation, though no examples of this were identified in the review.

Voluntary agreements may be perceived in different ways by interested parties. This very much depends on the context and on the credibility of the agreement. In order to improve

the credibility and effectiveness of agreements, and to encourage businesses to participate, certain conditions are recommended and these will be discussed further below.

If properly implemented and monitored, it appears that voluntary agreements can be effective and businesses can help to achieve public policy aims, but without a full review it is not possible to determine whether they are more effective than the alternative. However, some of the most effective agreements were those that were not seen as particularly 'voluntary', with substantial and financially important incentives and sanctions involved.

Voluntary agreements have been evaluated in a number of ways, with interviews and surveys used mostly for process evaluations and independent data analysis for outcome evaluations. This will be discussed further below. However in general it appears that those agreements that include appreciable sanctions for non-compliance and/or credible monitoring with publicity are more likely to be effective than those without. The evidence on whether voluntary agreements are worthwhile (i.e. whether the benefits exceed the costs in economic terms) is very limited, although some studies identified significant costs for governments and/or businesses.

Potential implications for developing the Public Health Responsibility Deal in England

The available evidence shows that a wide range of factors needs to be considered in order to increase the likely credibility and effectiveness of a voluntary agreement between business and government such as the RD, and these are outlined below:

- **Signing-up process:** The way in which industry joins a voluntary agreement may help to ensure its ongoing commitment. A strong, public commitment signed by senior managers of businesses may be more effective in ensuring commitment than sign-up by industry associations, as such associations may not be able to deliver their members (which is why the RD approach is focussed on individual companies). However, involving industry associations in an agreement may result in wider coverage of eligible businesses.
- **Agreement targets:** Targets need to be realistic, but stretching, to achieve real change and to go beyond a business-as-usual scenario. If un-ambitious targets are set, then they should be seen as a starting point to be built upon after a settling-in period. Complex or ambiguous targets are not useful and may result in confusion. Clearly defined, quantifiable targets with time frames, and with a specified baseline for the purpose of comparison, allow evaluation of progress and improve the credibility of the agreement.
- **Benefits for businesses:** The effectiveness of voluntary agreements may be enhanced if businesses see real benefits from making changes. If there are no benefits for taking innovative action, businesses may only make minimal changes. Any benefits offered by a government as part of a voluntary agreement need to be clearly specified to help ensure that businesses are aware, and can take advantage, of them. Benefits may include low-cost measures, such as training schemes or public recognition through logos or awards, or higher-cost measures such as environmental audits or co-financing of initiatives. Failure to provide these promised benefits may result in dissatisfaction among businesses and poor performance.

- **Sanctions for non-compliance:** Sanctions for non-compliance, such as warnings, need to be made clear to businesses, even in voluntary agreements. Without any sanctions, or in the absence of a credible threat of legislation to encourage compliance, businesses may gain the benefits of participation whilst making little effort to achieve the targets, thus undermining the credibility of the agreement.
- **Monitoring system:** Independent monitoring of progress toward targets is important, with the aim of achieving as near 100% compliance as possible, and with checks on data quality. If data are not forthcoming or are of poor quality, this can undermine the credibility of the agreement.
- **The role of the public:** Public image is an important incentive for joining voluntary agreements, and participation rates are often high for large, prominent national schemes. Public image can also be used to help encourage compliance. If monitoring data are not made available to the public, there is a risk that the credibility of the agreement will be questioned. A public announcement of poor performance by a firm within an agreement can also be used as an effective sanction and encourage compliance.
- **Management of agreements:** Strong management of voluntary agreements by governments will help assure their success. However, adequate capacity must be made available, and there are likely to be costs to a government for administration, implementation and monitoring.
- **Third party involvement:** Involving third parties, such as NGOs, in a voluntary agreement generally increases its credibility. Even if NGOs are not signatories to an agreement, it is often valuable to involve them in the development of targets.
- **Inclusiveness:** Governments should consider ways to attract small and medium businesses to participate in an agreement, as some agreements have primarily attracted large businesses that may already be taking actions in a policy area. Smaller businesses may be less inclined to join due to the feasibility and costs of taking actions, or because of the potentially less important role of public image to them compared to large corporations with national brands.
- **Understanding the policy issue:** Businesses may fail to sign up, or stay signed up, to a voluntary agreement if they do not realise that they are contributing to the problem which the agreement is seeking to address. It follows that continuing to persuade businesses of this is key to maintaining agreements and increasing membership

These points also apply to ensuring that an agreement is worthwhile in economic terms.

Previous reviews of environmental agreements have found similar factors for successful implementation (i.e., aside from the issue of effectiveness). These have highlighted the rationale behind a move in some European countries from strictly voluntary environmental agreements to more formal, legally-binding approaches, where agreements have been strengthened by using stronger incentives and/or sanctions (6, 55). Price (2005) found that voluntary agreements can be an effective way to motivate industry to take actions that support a government policy (6). As was found in this scoping review, the most effective agreements are generally those that have substantial incentives and sanctions; these agreements may include a threat of legislation or taxes to ensure compliance. Krarup and Ramesohl (2002) point to the need for extensive preparation, significant incentives, and regular monitoring and evaluation for voluntary agreements to operate effectively (56). They also note that agreements impose significant institutional demands, such as implementation costs and time commitments, and may therefore not always accelerate the policy process.

They may also potentially conflict with a business' fiduciary responsibilities, for example, its legal responsibilities to its shareholders.

International organisations have also made recommendations for governments developing voluntary agreements that support the findings of this scoping review. OECD recommends that agreements have clearly defined targets with a specified baseline, robust monitoring systems, third-party participation, information-oriented benefits (such as technical workshops), sanctions for non-compliance and a credible threat of legislation (50). The European Commission (EC) also provides guidelines for voluntary agreements, with an emphasis on transparency (55). These include prior consultation with industry and NGOs, a legally binding commitment, quantified targets and the independent verification and publication of results. The RD partly meets some of these criteria but not others; in particular there are few substantial incentives or benefits to business to participate, legislation is absent as an alternative, and the use of quantified targets is limited.

Following on from the findings of this scoping review and the recommendations outlined above, a robust evaluation of a voluntary agreement can only be carried out if targets are quantitative, clearly-defined and time-bound, and if a monitoring system is in place from the start, ideally with independent verification of data. It is important that an evaluation (or different stages of an evaluation) addresses both process and outcomes. A set of evaluation criteria could be developed from the recommendations outlined above and existing literature on evaluating policy instruments. For example, Sullivan (2005) reviewed the literature and developed a comprehensive set of criteria for evaluating environmental agreements: effectiveness, economic efficiency, transaction costs (for governments and businesses), competitiveness, "soft" effects (such as attitudinal changes), innovation, acceptability, inclusiveness and public participation, and law and public policy issues (e.g. compatibility with existing institutions) (57). An evaluation also has to consider potential secondary or unintended outcomes of a voluntary agreement, and examples of these have been provided in this review. Some form of economic evaluation would also be helpful in bringing together the range of positive and negative impacts of an agreement, in fully understanding its costs and in comparing a voluntary agreement to alternative policy approaches.

Strengths and limitations of the scoping review

The main strength of this review is that it draws on a wide evidence base on how voluntary agreements work in practice in different business sectors, countries and political contexts. The included papers provide a picture of the types of agreements that exist, conditions for success and different approaches to evaluation. Although it was not possible to carry out a full systematic review, (which would have involved an even more extensive search and detailed critical appraisal of the included studies) this scoping review was informed by systematic review methods. A wide range of electronic databases were searched using a standard set of search terms, and abstracts were subsequently reviewed in relation to the inclusion and exclusion criteria. A standard data extraction form was used to review full papers, and findings were synthesised into themes within sections addressing each of the main research questions.

However, the review has a number of limitations. It is important to consider the generalisability of some of the voluntary agreements included in this scoping review, and their relevance to the RD. Half of the papers were on environmental agreements which have had a relatively long history. The oldest example was a series of Japanese environmental agreements that were first developed in the early 1970s (12). More recent examples of environmental agreements have been based on learning from these earlier examples and are likely, therefore, to be further advanced than voluntary agreements in other policy areas

and industries. As discussed above, many countries are moving towards more formal, legally binding approaches to environmental agreements, and the conclusions from these agreements may not be generalisable to other newer voluntary agreements in other sectors.

Because the inclusion criteria were based on both the type of study and the type of voluntary agreement, potentially useful papers may have been omitted from this study if the abstract did not clearly indicate the nature of the voluntary agreement being evaluated. If a name or sufficient information was provided to identify a specific agreement, a brief internet search was carried out in order to determine whether the agreement met the inclusion criteria. This may have inadvertently resulted in smaller, older or non-English agreements being omitted at the abstract stage if limited information was available on the internet. Possible publication bias also has to be considered, as some voluntary agreements may only have been evaluated in certain circumstances, for example if they had been particularly effective or ineffective. It is also important to note that the evaluation studies included in this scoping review were carried out at a specific point in time, and an agreement may have subsequently changed in terms of its targets, participation rates, effectiveness, etc. Therefore, the findings of these studies may not be valid for a later time period of an agreement. Although many of the papers included in this review provided clear details of their methods, it was not possible to determine the evaluation methods used in some papers, particularly those included in books. No detailed quality assessment of the individual studies was conducted for this reason, and also because of the timescale; but also because the purpose was to describe the nature and scope of the literature rather than to provide an overall summary of where the “weight of evidence” on voluntary agreements lies.

Future research

This scoping review provides a large amount of evidence on voluntary agreements, but is not fully comprehensive. A full systematic review could be conducted on any of the questions addressed. Such a review could use ‘snowballing’ methods to identify other papers from references provided in the included papers, and database searches could potentially be carried out using the names of specific agreements. It is important to attempt to augment the relatively limited evidence on the comparative effectiveness and cost effectiveness of voluntary agreements against alternative policies. In addition, the effectiveness of other types of voluntary approaches could be reviewed, such as accreditation schemes run by governments or independent organisations.

Conclusion

Voluntary agreements can be an effective policy approach for governments to take to persuade businesses to take actions, although there is very little evidence on whether voluntary agreements are more (cost-) effective than compulsory approaches. In any event, a wide range of factors should be considered when developing or refining an agreement in order to ensure its credibility and the achievement of its targets. In particular, targets should be ambitious and clearly defined, and a robust monitoring system should be in place, ideally with independent verification. The role of public image can be very important in voluntary agreements, both to encourage participation and to ensure compliance. It is important to note that some of the most effective voluntary agreements are those which can be seen as less ‘voluntary’, with substantial disincentives for non-participation and costly sanctions for non-compliance, and many countries are moving towards these more formal and legally-binding approaches to voluntary agreements.

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References

1. Department of Health. Public Health Responsibility Deal. 2011; Available from: <http://www.dh.gov.uk/en/Publichealth/Publichealthresponsibilitydeal/index.htm>.
2. Department of Health. The Public Health Responsibility Deal. 2011.
3. International Energy Agency. Voluntary actions for energy-related CO2 abatement. 1997.
4. Goodin RE. The principle of voluntary agreement. *Public Administration*. 1986;64:435-44.
5. Office for National Statistics. UK Standard Industrial Classification of Economic Activities 2007 (SIC 2007). 2009.
6. Price L. Voluntary Agreements for Energy Efficiency or GHG Emissions Reduction in Industry: An Assessment of Programs Around the World. 2005.
7. Sullivan R. The Australian Greenhouse Challenge. In: Sullivan R, editor. *Rethinking Voluntary Approaches in Environmental Policy*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2005.
8. De Clercq M, Ameels B. The Belgian agreement upon the collection and recycling of batteries. In: De Clercq M, editor. *Negotiating environmental agreements in Europe: Critical factors for success*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2002.
9. de Muizon G, Glachant M. The UK Climate Change Levy Agreements: Combining Negotiated Agreements with Tax and Emission Trading. In: Baranzini A, Thalmann P, editors. *Voluntary approaches in climate policy*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2004. p. 231-48.
10. Department of Health. Consultation on options for improving information on the labels of alcoholic drinks to support consumers to make healthier choices in the UK. 2010.
11. Arora S, Cason TN. A voluntary approach to environmental regulation: the 33/50 program. *Resources*. 1994;116.
12. Welch EW, Hibiki A. An Institutional Framework for Analysis of Voluntary Policy: The Case of Voluntary Environmental Agreements in Kita Kyushu, Japan. *Journal of Environmental Planning and Management*. 2003;46(4):523-43.
13. Salmons R. The energy efficiency agreement with the UK chemical industries association. In: De Clercq M, editor. *Negotiating environmental agreements in Europe: Critical factors for success*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2002.
14. Jorgens H, Busch PO. The voluntary pledge regarding the environmentally sound management of end-of-life vehicles. In: De Clercq M, editor. *Negotiating environmental agreements in Europe: Critical factors for success*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2002.
15. Blackman A, Sisto N. Voluntary Environmental Regulation in Developing Countries: A Mexican Case Study. *Natural Resources Journal*. 2006;46(4):1005-42.
16. Anon. Agrochemical suppliers insist voluntary initiative is working and housing policy will have severe environmental impacts. *Ends Report*. 2005(361):38-9.
17. Aggeri F. Agreements on the use of CFCs in France. In: De Clercq M, editor. *Negotiating environmental agreements in Europe: Critical factors for success*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2002.
18. Wallace-Jones J. The Province of Vicenza Negotiated Agreements. In: De Clercq M, editor. *Negotiating environmental agreements in Europe: Critical factors for success*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2002.

19. Midtsundstad TI. Inclusive workplaces and older employees: an analysis of companies' investment in retaining senior workers. *International Journal of Human Resource Management*. 2011;22(6):1277-93.
20. Vicini G, Wallace-Jones J. The agreement on the quality of gasoline in Italy. In: De Clercq M, editor. *Negotiating environmental agreements in Europe: Critical factors for success*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2002.
21. Gobel A, Kliemant A. The German minimization concept for acrylamide. *Food Additives & Contaminants*. 2007;24 Suppl 1:82-90.
22. Aggeri F, Hatchuel A. A Dynamic Model of Environmental Policies: The Case of Innovation Oriented Voluntary Agreements [French example]. In: Carraro C, Leveque F, editors. *Voluntary approaches in environmental policy*. Boston and London: Kluwer Academic; 1999. p. 151-85.
23. Ribisl KM, Williams RS, Gizlice Z, Herring AH. Effectiveness of state and federal government agreements with major credit card and shipping companies to block illegal Internet cigarette sales. *PLoS ONE [Electronic Resource]*. 2011;6(2):e16754.
24. Johannsen KS. Combining voluntary agreements and taxes - an evaluation of the Danish agreement scheme on energy efficiency in industry. *Journal of Cleaner Production*. 2002;10(2):129-41.
25. Hu Y. Implementation of voluntary agreements for energy efficiency in China. *Energy Policy*. 2007;35(11):5541-8.
26. Blackman A, Lahiri B, Pizer W, Planter MR, Pina CM. Voluntary environmental regulation in developing countries: Mexico's Clean Industry Program. *Journal of Environmental Economics and Management*. 2010;60(3):182-92.
27. Alexander M. Developing markets for old newspapers: voluntary agreements and legislated mandates for recycled content newsprint have produced a market development winner. *Resource Recycling*. 1994;13(7):? 20 (1-88).
28. Hofman PS, Schrama GJI. Dutch Target Group Policy. In: De Bruijn T, Norberg-Bohm V, editors. *Industrial Transformation: Environmental Policy Innovation in the United States and Europe*. Cambridge and London: MIT Press; 2005. p. 39-64.
29. Moyo T, Rohan S. Corporate citizenship in the context of the financial services sector: what lessons from the Financial Sector Charter? *Development Southern Africa*. 2006;23(2):289-303.
30. Aggeri F, Hatchuel A. A Dynamic Model of Environmental Policies: The Case of Innovation Oriented Voluntary Agreements [German example]. In: Carraro C, Leveque F, editors. *Voluntary approaches in environmental policy*. Boston and London: Kluwer Academic; 1999. p. 151-85.
31. Sam AG. Impact of government-sponsored pollution prevention practices on environmental compliance and enforcement: evidence from a sample of US manufacturing facilities. *Journal of Regulatory Economics*. 2010;37(3):266-86.
32. Grant D, Trautner MN. Employer Opinions on Living Wage Initiatives. *WorkingUSA*. 2004;8(1):71-82.
33. Jimenez O. Innovation-oriented environmental regulations: direct versus indirect regulations; an empirical analysis of small and medium-sized enterprises in Chile. *Environment and Planning A*. 2005;37(4):723-50.
34. Linden AL, Carlsson-Kanyama A. Voluntary agreements - a measure for energy-efficiency in industry? Lessons from a Swedish programme. *Energy Policy*. 2002;30(10):897-905.
35. Lutsey N, Sperling D. Canada's Voluntary Agreement on Vehicle Greenhouse Gas Emissions: When the Details Matter. *Transportation Research: Part D: Transport and Environment*. 2007;12(7):474-87.

36. Amos A, Hillhouse A, Robertson G. Tobacco advertising and children--the impact of the voluntary agreement. *HEALTH EDUCATION RESEARCH*. 1989;4(1):51-7.
37. Amos A, Robertson G, Hillhouse A. Tobacco advertising and children: widespread breaches in the voluntary agreement. *HEALTH EDUCATION RESEARCH*. 1987;2:207-14.
38. van Rooijen SNM, van Wees MT. Green electricity policies in the Netherlands: an analysis of policy decisions. *Energy Policy*. 2006;34(1):60-71.
39. Jimenez O. Voluntary agreements in environmental policy: an empirical evaluation for the Chilean case. *Journal of Cleaner Production*. 2007;15(7):620-37.
40. Robertson W, Archer P, Jeffreys W, Parfitt D. Survey of tobacco advertising and display of the 'under-16' sign: influencing compliance with the voluntary agreement. *Health Education Journal*. 1996;55(4):382-8.
41. Robertson W, Rooney SE, Field NJ, Aston NR. Voluntary agreement for tobacco advertising at retail premises not being adhered to. *BMJ*. 1998;316(7124):69.
42. Dawson M, Moore RC, Bishop SC. Progress and limits of PrP gene selection policy. *VETERINARY RESEARCH*. 2008;39(4).
43. Bjorner TB, Jensen HH. Energy taxes, voluntary agreements and investment subsidies-a micro-panel analysis of the effect on Danish industrial companies' energy demand. *Resource and Energy Economics*. 2002;24(3):229-49.
44. Fisher-Vanden K, Thorburn KS. Voluntary Corporate Environmental Initiatives and Shareholder Wealth. 2008.
45. Rouw M, Worrell E. Evaluating the impacts of packaging policy in The Netherlands. *Resources Conservation and Recycling*. 2011;55(4):483-92.
46. Sengupta S, Sterry J, Jordan C, Edwards R. Students and smoking - Targeted tobacco promotion in the North East of England. *EUROPEAN JOURNAL OF PUBLIC HEALTH*. 2000;10(4):301-3.
47. Sibert JR, Clarke AJ, Mitchell MP. Improvements in child resistant containers. *ARCHIVES OF DISEASE IN CHILDHOOD*. 1985;60(12):1155-7.
48. Yach D. Beware of voluntary agreements with the tobacco industry. *SOUTH AFRICAN MEDICAL JOURNAL*. 1994;Suid-Afrikaanse Tydskrif Vir Geneeskunde. 84(1):6.
49. Brouhle K, Griffiths C, Wolverson A. Evaluating the role of EPA policy levers: An examination of a voluntary program and regulatory threat in the metal-finishing industry. *Journal of Environmental Economics and Management*. 2009;57(2):166-81.
50. Organisation for Economic Co-operation and Development. Voluntary approaches for environmental policy: An assessment. 1999.
51. Perl A, Dunn JA. Reframing automobile fuel economy policy in North America: The politics of punctuating a policy equilibrium. *Transport Reviews*. 2007;27(1):1-35.
52. Hastings G, MacFadyen L. A day in the life of an advertising man: review of internal documents from the UK tobacco industry's principal advertising agencies. *British Medical Journal*, London. 2000;321(7257):366-71.
53. Garratt J, Kennedy A. Use of models to assess the reduction in contamination of water bodies by agricultural pesticides through the implementation of policy instruments: A case study of the Voluntary Initiative in the UK. *Pest Management Science*. 2006;62(12):1138-49.
54. Nelson E, Charlton A. Children and advertising: does the Voluntary Agreement work? *Health Education Journal*. 1991;50(1):12-5.
55. Commission of the European Communities. Communication from the Commission to the Council and the European Parliament on environmental agreements. 1996.
56. Krarup S, Ramesohl S. Voluntary agreements on energy efficiency in industry - not a golden key, but another contribution to improve climate policy mixes. *Journal of Cleaner Production*. 2002;10(2):109-20.

57. Sullivan R. *Rethinking Voluntary Approaches in Environmental Policy*. Cheltenham, U.K. and Northampton, Mass.: Elgar; 2005. ix, 216 p.

TABLES

Table 1 – Brief description of included studies and/or related papers

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference(s)
Agriculture	The Voluntary Initiative	Reduce the environmental impact from pesticides	United Kingdom	2001	Anon, 2005 Garratt & Kennedy, 2006
	National Scrapie Plan	Reduce the incidence of scrapie (a fatal neurodegenerative disease in sheep)	United Kingdom	2001	Dawson et al, 2008
Food	German minimization concept for acrylamide	Reduce the levels of acrylamide (a potentially carcinogenic chemical) in food products	Germany	2002	Gobel & Kliemant, 2007
Alcohol	UK-wide voluntary agreement on alcohol labelling	Include alcohol unit and health information on labels of alcoholic drinks	United Kingdom	2007	Department of Health, 2010
Tobacco	US voluntary agreement on internet cigarette sales	Reduce payment and shipping options for internet tobacco sales	United States	2005	Ribisl et al, 2011
	Cigarette adverts on television & vending machines	Ban television advertising of tobacco and improve management of vending machines	South Africa	1980s	Yach, 1994
	Voluntary Agreement on Advertising and Labelling	Restrict tobacco advertising, e.g. near schools	United Kingdom	1971	Amos et al, 1989
					Amos et al, 1987
					Hastings & MacFadyen, 2000
					Nelson & Charlton, 1991
Robertson et al, 1996					
Robertson et al, 1998					
Sengupta et al, 2000					
Pharmaceuticals	Voluntary agreement on	Introduce child resistant medication	United Kingdom	1981	Sibert et al, 1985

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference(s)
	child resistant containers	containers			
Waste & recycling	French end-of-life vehicle voluntary agreement	Reduce landfill from old vehicles	France	1993	Aggeri & Hatchuel, 1999
	Voluntary pledge regarding the environmentally sound management of end-of-life vehicles	Reduce landfill from old vehicles	Germany	1996	Aggeri & Hatchuel, 1999 Jorgens & Busch, 2002
	US voluntary agreements on old newspaper recycling	Increase the use of recycled paper in newspapers	United States	1989	Alexander, 1994
	Dutch Packaging Covenant	Reduce the use of packaging materials	Netherlands	1991	Rouw & Worrell, 2011
	Agreement on collection and recycling of batteries	Establish a battery collection and recycling scheme	Belgium	1997	De Clercq & Ameels, 2002
Finance	Financial Sector Charter	Improve access to financial services	South Africa	2002	Moyo & Rohan, 2006
Environment	33/50 Program	Reduce industry use of toxic chemicals	United States	1991	Arora & Cason, 1994
	Agreement on the quality of gasoline	Improve the quality of petrol	Italy	1989	Vicini & Wallace-Jones, 2002
	Agreements on the use of CFCs	Reduce the use of CFCs	France	1989	Aggeri, 2002
	Clean Industry Program	Improve the environmental performance of industry	Mexico	1992	Blackman et al, 2010
	Cleaner Production Agreements	Improve the environmental performance of industry	Chile	1999	Jimenez, 2005 Jimenez, 2007
	Climate Change Levy Agreements	Reduce energy consumption by industry	United Kingdom	2001	de Muizon & Glachant, 2004
	Climate Leaders	Reduce greenhouse gas emissions by industry	United States	2002	Fisher-Vanden & Thorburn, 2008
	Energy efficiency agreement	Improve energy efficiency within the chemicals industry	United Kingdom	1997	Salmons, 2002
	EPA pollution prevention voluntary agreements	Reduce industry use of toxic chemicals	United States	1990	Sam, 2010

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference(s)
	Greenhouse Challenge	Reduce greenhouse gas emissions by industry	Australia	1995	Sullivan, 2005
	Pilot Project of Energy Conservation Agreements	Reduce energy consumption by industry	China	2003	Hu, 2007
	Strategic Goals Program	Improve the environmental performance of industry	United States	1998	Brouhle et al, 2009
	Swedish Eco-Energy Programme	Improve energy efficiency within industry	Sweden	1994	Linden & Carlsson-Kanyama, 2002
	Target Group Policy agreements	Improve the environmental performance of industry	Netherlands	1989	Hofman & Schrama, 2005
	The Province of Vicenza negotiated agreements	Improve the environmental performance of industry	Italy	1997	Wallace-Jones, 2002
	Voluntary agreement on reducing automotive greenhouse gas emissions	Reduce greenhouse gas emissions from vehicles	Canada	2005	Lutsey & Sperling, 2007
					Perl & Dunn, 2007
	Voluntary agreements on green electricity	Increase the use of renewable energy	Netherlands	1990	van Rooijen & van Wees, 2006
	Voluntary agreements on leather tannery pollution	Reduce pollution from leather tanneries	Mexico	1987	Blackman & Sisto, 2006
	Voluntary agreements on pollution	Improve the environmental performance of industry	Japan	1970s	Welch & Hibiki, 2003
Voluntary energy agreements	Improve energy efficiency within industry	Denmark	1995	Bjorner & Jensen, 2002	
				Johannsen, 2002	
Employment / workforce	Good Business Partnership program	Introduce a living wage for employees	United States	1999	Grant & Trautner, 2004
	Tripartite Agreement on a More Inclusive Working life (the IW Agreement)	Make workplaces more inclusive	Norway	2001	Midtsundstad, 2011

Table 2 – Country or region of voluntary agreement studied

Country / Region	Number of papers	Percentage
Continental Europe	15	32
United Kingdom	14	30
United States & Canada	9	19
Other	9	19
Total	47	100

Table 3 – Start date of voluntary agreement studied

Start date of voluntary agreement	Number of papers	Percentage
1970-79	4	9%
1980-89	10	21%
1990-99	20	43%
2000-09	13	28%
Total	47	100%

Table 4 – Industry sector of voluntary agreement studied

Industry sector	Number	Percentage
Environment (general)	24	51%
Tobacco	9	19%
Waste & recycling	5	11%
Agriculture	3	6%
Employment & workforce	2	4%
Food	1	2%
Alcohol	1	2%
Pharmaceutical products	1	2%
Finance	1	2%
Total	47	100%