



Evaluation of Framework for Action pilots

Final Synthesis Report

D2.8



REFRESH is funded by the Horizon 2020 Framework Programme of the European Union under Grant Agreement no. 641933. The contents of this document are the sole responsibility of REFRESH and can in no way be taken to reflect the views of the European Union

Authors

Andy Boulding WRAP Global

Rachel Devine, WRAP

With thanks to:

Mandy Burrows, WRAP; Cristina Osoro Cargas, WRAP; Kate Bygrave, WRAP; David Rogers, WRAP Global; Patrik Eisenhauer, CSCP; Nora Brüggemann, CSCP; Raquel Diaz Ruiz, CREDA; Feliu Lopez, CREDA; Djamel Rahmani, CREDA; Balázs CSEH, HFBA; Toine Timmermans, WUR; Hilke Bos-Brouwers, WUR; Erica Van Herpen, WUR; Gao Si, IVL China

Project coordination and editing provided by Ecologic Institute.

Manuscript completed in [June, 2019]

This document is available on the Internet at: [optional]

Document title	Final Evaluation report V3
Work Package	WP2
Document Type	Deliverable, Report
Date	07 June 2019
Document Status	FINAL

Acknowledgments & Disclaimer

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 641933.

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the following information. The views expressed in this publication are the sole responsibility of the author and do not necessarily reflect the views of the European Commission.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the publisher is given prior notice and sent a copy.

Table of Contents

1	Executive Summary	1
2	Introduction	3
2.1	Work Package 2 (WP2)	3
2.2	Objectives of WP2	4
2.3	FA pilots	4
3	Evaluation of FA pilots	6
3.1	Objectives and indicators of success	6
3.2	Evaluation methods	7
3.2.1	Food waste data and baselining	7
3.2.2	Process evaluation	7
3.2.3	Case studies	8
4	Case studies	10
4.1	Germany	10
4.1.1	Background	10
4.1.2	Lead organisation	10
4.1.3	Initiation	11
4.1.4	Pilot projects	13
4.1.5	Process evaluation	15
4.2	Netherlands	21
4.2.1	Background	21
4.2.2	Lead organisation	21
4.2.3	Initiation	21
4.2.4	Pilot projects	23
4.2.5	Process evaluation	25

4.3 Spain	31
4.3.1 Background	31
4.3.2 Lead organisation	31
4.3.3 Initiation	32
4.3.4 Pilot projects	33
4.3.5 Process evaluation	35
4.4 Hungary	41
4.4.1 Background	41
4.4.2 Lead organisation	41
4.4.3 Initiation	41
4.4.4 Pilot projects	44
4.4.5 Process evaluation	45
5 FA success	53
5.1.1 Germany	53
5.1.2 Netherlands	54
5.1.3 Spain	54
5.1.4 Hungary	55
6 Further findings	56
6.1.1 Measuring food waste	56
6.1.2 Pan-European FAs	56
6.1.3 Blueprint	57
6.1.4 China	58
7 Conclusion	60
7.1.1 Overview	60
7.1.2 Future evaluation	61
7.1.3 Usefulness of FAs	61

8	References	63
9	Appendix 1: WP2 Programme logic	64
10	Appendix 2: WP2 Sub-objectives	65
11	Appendix 3: Food waste monitoring data form	66
12	Appendix 4: Initial process evaluation questionnaire	68
13	Appendix 5: Final process evaluation questionnaire	73
14	Appendix 6: Initial process evaluation – Lead organisation interview guide	78
15	Appendix 7: Final process evaluation – Lead organisation interview guide	81

List of Tables

<i>Table 1 - Indicators of success</i>	<i>6</i>
<i>Table 2 - The list of organisations in the German PWP</i>	<i>11</i>
<i>Table 3 - Type of organisations which completed the German mid-term and final evaluation questionnaires.</i>	<i>15</i>
<i>Table 4 - The list of early stage organisations in the Dutch FA PWP</i>	<i>22</i>
<i>Table 5 - Type of organisations which completed the Dutch mid-term and final evaluation questionnaires.</i>	<i>25</i>
<i>Table 6 - The list of organisations in the Spanish FA PWP</i>	<i>32</i>
<i>Table 7 - Type of organisations which completed the Spanish mid-term and final evaluation questionnaires.</i>	<i>35</i>
<i>Table 8 - Members of the Hungarian FA PWP as of February 2017</i>	<i>42</i>
<i>Table 9 - Type of organisations which completed the Hungarian mid-term and final evaluation questionnaires.</i>	<i>46</i>
<i>Table 10: Questions posed to IVL China - regarding the establishment and future of the Chinese food waste reduction platform - and their responses</i>	<i>58</i>

List of Figures

<i>Figure 1 – Final evaluation: Responses to FA process statements (Germany)</i>	16
<i>Figure 2 – Final process evaluation question: "How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas?" (Germany)</i>	18
<i>Figure 3 – Final process evaluation: Levels of agreement with two statements about life beyond REFRESH (Germany)</i>	20
<i>Figure 4 – Final evaluation: Responses to FA process statements (Germany)</i>	26
<i>Figure 5 - Final process evaluation question: "How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas?" (Netherlands)</i>	28
<i>Figure 6 - Final process evaluation: Levels of agreement with two statements about life beyond REFRESH (Netherlands)</i>	29
<i>Figure 7 - Final evaluation: Responses to FA process statements (Spain)</i>	36
<i>Figure 8 - Final process evaluation question: "How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas?" (Spain)</i>	38
<i>Figure 9 - Final process evaluation: Levels of agreement with two statements about life beyond REFRESH (Spain)</i>	39
<i>Figure 10 - Final evaluation: Responses to FA process statements (Hungary)</i>	47
<i>Figure 11 - Final process evaluation question: "How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas?" (Hungary)</i>	50
<i>Figure 12 - Final process evaluation: Levels of agreement with two statements about life beyond REFRESH (Hungary)</i>	52
<i>Figure 13 – The REFRESH Blueprint "Five key steps" for establishing a successful FA</i>	57

List of Boxes

<i>Box 1: Framework for Action (FA)</i>	3
<i>Box 2: Sustainable Development Goal 12.3 (SDG12.3)</i>	4
<i>Box 3: Pilot Working Platform (PWP)</i>	5

List of abbreviations

REFRESH	Resource Efficient Food and dRink for the Entire Supply cHain
FA	Framework for Action
PWP	Pilot Working Platform
WRAP	Waste and Resources Action Programme
CSCP	The Collaborating Centre on Sustainable Consumption and Production
HFBA	Hungarian Food Bank Association
WUR	Wageningen University & Research
CREDA	Centre De Recerca En Economia I Desenvolupament Agroalimentari
VA	Voluntary Agreement
WP	Work Package
FLW	Food Loss and Waste
SC	Steering Committee
TCEF	Taskforce for Circular Economy in Food
SDG12.3	Sustainable Development Goal 12.3
WFBR	Wageningen Food and Bio-based Research
PN	Peaches and Nectarines
FEBA	European Federation of Food Banks
SFA	The Sustainable Food Alliance
UNEP	United Nations Environment Programme

1 Executive Summary

REFRESH is an EU H2020 funded research project, running from July 2015 to June 2019, which aims to bring together stakeholders from all stages of the food supply chain and lead them closer towards the goal of reducing food loss and waste. One aspect of the REFRESH project aimed to design and pilot food waste voluntary agreements (VAs) across EU member states and subsequently assess their potential for wider adoption. In the context of REFRESH, a piloted VA is described as a “Framework for Action” (FA).

Between August 2016 and October 2018, four countries across Europe piloted FAs: Netherlands, Spain, Germany and Hungary. These countries established their FAs following five key success factors, determined using the most successful agreements already in place at the time. The factors focused on: initiating and setting up the alliance, governance and funding, recruiting signatories, establishing actions and monitoring and evaluation. Following these factors, the FAs:

- Established a core group of key food waste stakeholders
- Established an FA approach to deliver actions
- Recruited wider food waste signatories
- Attempted to quantify their food waste situation (baseline)
- Undertook pilot projects to reduce food waste in their country

The main objectives of FA pilots were to establish evidence for a pan-European FA and enable action in key parts of the food supply chain, so organisations across Europe make a significant contribution towards Sustainable Development Goal 12.3.

The FAs were evaluated to assess whether they had been successful, show their potential impact and finally highlight the circumstances in which they are likely to be more successful if replicated. The initial evaluation approach adopted was a mixed-method approach. However, evaluation later became predominantly qualitative in nature, due to significant barriers in obtaining food waste tonnage data. This also resulted in FA impact focusing on several short-medium term success indicators rather than measured reductions in food waste.

The success indicators were assessed using two process evaluations, undertaken a year apart, which gathered feedback from the participating organisations. In addition, case studies of both the FAs and their food waste reduction pilot projects were used to highlight the potential impact of FAs.

Evaluation highlighted that a pan-European FA would likely be very difficult to implement, due to variations in the socio-economic and political situations of different countries across the EU. However, the five key success factors highlighted at early stages of the project appeared sufficiently flexible for countries to establish FAs based on their own individual context. Furthermore, evaluation highlighted that each FA had its own successes and challenges. Although, a common issue across the countries revolved around difficulties with FA monitoring and evaluation, notably obtaining food waste measurement data from participating organisations.

Despite challenges, evaluation feedback from FA members, across all countries, was mostly positive. FA Members felt that they benefitted or received value from their involvement in REFRESH. It was therefore expected that food waste reduction outcomes are likely to have been improved through FA participation. However, due to a lack of food waste measurements and counterfactual, the true impact remains unknown. Moreover, the true success of the REFRESH FA pilots will ultimately be determined by their long-term impact on levels of food waste, which will rely on improved monitoring and high levels of participation from all stakeholders involved.

To conclude, the evaluation of REFRESH WP2 highlighted FAs have the potential to:

- facilitate collaboration between different stakeholders across the food supply chain
- offer a flexible approach to tackling food waste, which can be increasingly important in countries looking for alternatives to legislative measures to encourage food waste reduction
- highlight shared lessons learnt and best practice approaches, to ensure organisations and future FAs choose the right actions necessary to deliver change

Through the REFRESH Blueprint future countries can consider the conditions necessary for the successful establishment of their own FA.

2 Introduction

REFRESH is an EU H2020 funded research project which aims to bring together stakeholders from all stages of the food supply chain and lead them closer towards the goal of reducing food loss and waste. The project consists of 7 work packages (WP), focusing on 6 main areas: consumer food waste, the food supply chain, optimized valorisation of food processing side streams, impact assessment, policy and multi-stakeholder collaboration. The project started in July 2015 and finishes in June 2019.

2.1 Work Package 2 (WP2)

One of the work packages, WP2, addresses the areas of multi-stakeholder collaboration and the food supply chain. Through WP2, REFRESH aims to design and pilot food waste voluntary agreements (VAs) across EU member states and subsequently assess their potential for wider adoption. In the context of REFRESH, a piloted VA is described as a "Framework for Action" (Box 1).

Box 1: Framework for Action (FA)

Frameworks for Action can alternatively be referred to as "Voluntary Agreements", "Framework Agreements" or "Collaborative Agreements". The common element of all these approaches is that they're based on voluntary action by the actors involved, without the need for legislation or sanctions.

Voluntary approaches, in the context of environmental sustainability, are schemes in which organisations make commitments to improve their environmental performance. They cover arrangements such as public voluntary programmes, negotiated agreements or unilateral commitments. These types of approaches were "invented" by those who devise and implement them: policy-makers, business associations, individual firms, non-governmental associations, etc.

Within the REFRESH project an FA is referred to as:

"A collaboratively agreed, self-determined 'pact' to take action on food waste and packaging materials generated at relevant stages of the food system."

Food waste FAs are a relatively new concept and have had limited testing prior to REFRESH. However, one notable example ([the Courtauld Commitment](#)), which preceded REFRESH, highlighted the potential benefits that these agreements could have in reducing food waste across the supply chain. Established in the UK, by the Waste and Resources Action Programme (WRAP), the agreement aims to improve resource efficiency and reduce waste within the UK grocery sector. Early evaluation suggested that the agreement reduced food and packaging waste in the grocery supply chain by 7.4% over three years (WRAP, 2013).

2.2 Objectives of WP2

The objective of WP2 was initially to establish evidence for a pan-European FA through the design and validation of national pilots, so that Governments and other stakeholders could assess the potential of full-scale frameworks. The overall objectives of the FA pilots were:

- To design and test a range of FA approaches through four national pilots, producing robust evidence which stimulates action in other EU and non-EU countries and brings quantifiable food waste reductions beyond the life of the project
- To design and test tools which facilitate effective decision-making, leading to actions that will prevent and valorise waste
- To encourage and enable action in key parts of the food supply chain, so businesses across Europe:
 - Make a significant contribution towards Sustainable Development Goal 12.3 (Box 3)
 - Maximise the value from un-avoidable food waste and packaging material
 - Reduce waste management costs

Box 2: Sustainable Development Goal 12.3 (SDG12.3)

SDG12.3: "By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses"

To ensure FA success, initial WP2 work focused on improving our understanding of existing alliances, voluntary agreements, frameworks and similar arrangements. This [research](#) led to the identification of a number of factors present in the most successful of these alliances. The factors listed focused on:

1. Initiating and setting up the alliance
2. Governance and funding
3. Recruiting signatories
4. Establishing actions
5. Monitoring and evaluation

This knowledge was used to inform the development of FAs in the REFRESH pilot countries and contributed to the development of a blueprint for wider adoption of such framework approaches to tackle food waste along value chains in additional countries.

2.3 FA pilots

In total, four countries were selected for piloting FAs: Spain, Netherlands, Hungary and Germany. Through REFRESH each country was assigned a lead organisation who were responsible for promoting collaborative engagement between food waste stakeholders. The approach adopted to establish an FA differed by country and will

be highlighted later in the report. However, following the success factors, all FAs made sure to:

1. Establish a Pilot Working Platform (PWP) (Box 3) of key food waste stakeholders e.g. government, retailers, associations etc. (**1. Initiation and set up, 2. Governance and funding**)
2. Ensure the FA approach was agreed between the lead organisation and all members of the PWP (**4. Establishing actions**)
3. Recruit wider food waste signatories to join the FA (**3. Recruiting signatories**)
4. Attempt to quantify the current food waste situation (**5. Monitoring and evaluation**)
5. Undertake pilot projects to reduce food waste within their country (**4. Establishing actions**)

Box 3: Pilot Working Platform (PWP)

Pilot Working Platforms (PWPs) are a core group of food waste stakeholders within the FAs. Their responsibilities vary between the different countries, but they are broadly responsible for:

- Designing and developing the FA
- Determining the goals of the FA
- Supporting and/or participating in innovative food waste reduction projects
- Spreading the values of REFRESH

Within the context of REFRESH, they are sometimes referred to as “Steering Committees” or “Steering Groups”.

The pilots ran between August 2016 and October 2018; however, the expectation was that they would continue beyond the lifespan of REFRESH. It was also expected that learnings taken from these pilots would be used to inform the establishment of an FA in China.

3 Evaluation of FA pilots

Working closely with the lead organisations in each country, WRAP is responsible for the evaluation of FA pilots. The purpose of the evaluation is to assess whether FAs have been successful, show their potential impact and finally highlight the circumstances in which they are likely to be more successful if replicated. It also aimed to determine whether a pan-European agreement would be a preferable option to national FAs.

3.1 Objectives and indicators of success

The main evaluation objectives highlighted in the evaluation plan for WP2 recognised that the following information needed to be gathered:

1. Evidence to show what impact an FA can have
2. Evidence to inform a blueprint for wider adoption of national FAs
3. Evidence to show that such an FA would be viable/useful at member state or EU level

Following FA proposals, a logic map (Appendix 1) was then produced which described the FA logic and how activities and outputs could lead to several short-medium term outcomes and ultimately long-term impacts. These impacts were then used to identify several indicators of success (Table 1) which could ultimately be used to determine the success of each FA.

Table 1- Indicators of success

Short/Medium term indicators	Long term indicators
<ol style="list-style-type: none">1. Number of signatories that join the agreement2. Number of signatories that take part in REFRESH projects3. Number of signatories that take part in other projects due to FA networking4. Targeted interventions are identified and fit to address hotspots5. Percentage of signatories that say they would not have acted without the support of the agreement or that the outcomes are stronger due to FA participation6. Number of signatories that measure and report food waste compared with baseline7. Quality of food waste data has improved8. Individual actions/interventions lead to food waste reduction	<ol style="list-style-type: none">9. Quantity of food waste produced by signatories (reduction desired)

The indicators of success were then used to split the three main evaluation objectives into nine sub-objectives (Appendix 2); ensuring objectives were practical and measurable.

3.2 Evaluation methods

A mixed-methods approach was adopted to evaluate and address the objectives listed above. It should be noted that at early stages of the project it was recognised this would not be an impact evaluation, due to the short project timescale; which made achieving significant measurable food waste reductions before the end of the project unlikely. Therefore, the evaluation focused on addressing the short-medium term outcomes rather than the ultimate long-term objective.

3.2.1 Food waste data and baselining

During initial stages of evaluation planning, food waste measurement was listed as an important step in determining FA success. WRAP planned to achieve this by establishing a baseline food waste figure for signatories in each of the piloted FAs. The idea was that WRAP, with the help of lead organisations, would be able to encourage signatories to provide food waste data for use in FA evaluation.

WRAP developed a template (Appendix 3) which signatories could use to fill in their own food waste data and also developed a "Protocol for evaluating business food waste" as part of [REFRESH deliverable 2.2](#), which provided guidance for lead organisations on how to set food waste baselines for their FA. The lead organisations were then responsible for directly working with signatories to try and obtain this data. However, despite best efforts of the lead organisations little to no food waste data was collected during the food waste baselining exercise which took place in 2016.

Due to numerous challenges (highlighted later in the report) obtaining this data and establishing a robust and accurate baseline, the evaluation became more qualitative in nature than previously anticipated.

3.2.2 Process evaluation

The qualitative approaches adopted aimed to evaluate the process of setting up and running an FA in each of the piloted countries. The evaluation was theory-driven and tested whether key aspects of programme logic (Appendix 1) were holding up. It was theorised that although good implementation would not guarantee impacts are achieved, poor implementation would almost certainly result in lack of impact.

An initial process evaluation took place between December 2017 and March 2018. This was considered an opportune point as the FAs and PWPs had been established for some time and several pilot projects were already underway. Therefore, participating signatories were able to provide useful insights into FA/PWP: satisfaction, perceived success to date and areas for improvement. The questions used in the first process evaluation are highlighted in Appendix 4. Following the initial process evaluation, it was recognised that a pan-European FA would likely be

difficult to implement, subsequently changing evaluation scope. This is discussed further later in the report ([Section 6.1.3](#)).

A year later, between November 2018 and February 2019, a final process evaluation took place to gather further insights and key learnings from the FAs and determine future plans of participating signatories. The final process evaluation consisted of a shorter set of questions (Appendix 5) and focused on the difference REFRESH had made to organisations' food waste behaviour.

Process evaluations were conducted in each country over the same period to ensure comparability. The data was collected via online questionnaires (SurveyMonkey) from Signatories/PWP members. WRAP was aware that online questionnaires tend to have a low response rate, so provided regular updates to lead organisations on which signatories had completed the questionnaires. To further ensure participation all respondents were guaranteed anonymity.

In addition to questions posed to signatories and PWP members, lead organisations were also interviewed during the initial and final process evaluations. The first interviews, conducted between March and April 2018, posed questions (Appendix 6) linked to those asked of signatories/PWP members but also focused on their own benefits and learnings from running the process. Interviews were also used to highlight achievements and challenges of leading the FA and to sense check their views largely aligned with feedback from signatory/PWP members. During the final interviews, conducted between January and February 2019, challenges and achievements were revisited to highlight any changes that might have occurred. In addition, the final interview (Appendix 7) focused on lead organisations thoughts about the future and life of the FA beyond REFRESH.

WRAP developed each of the questionnaires and topic guides, with input from lead organisations. WRAP was then responsible for conducting all process evaluation research, to ensure respondents were able to speak freely about their experiences.

3.2.3 Case studies

Case studies have been used to effectively communicate the evaluation outputs of WP2. In the context of this report, many of the evaluation findings for each country have been highlighted within their corresponding FA case study. The case studies aim to bring together all the information gathered throughout the project for each pilot with the aim of doing an assessment of whether the pilots have been a success and to what extent the FA contributed to the success. Each case study was created during March 2019.

In addition to wider FA case studies, case studies for each REFRESH pilot project have been created and published separately. Summaries of the pilot projects can be found within this report, with corresponding titles linking to the full published version. The pilot project case studies serve to provide information on the types of actions that REFRESH has prompted, whilst capturing any lessons learnt. WRAP worked closely with lead organisations and wider FA signatories between January and March 2019 to gather information and develop each of these case studies.

Case studies of both the FAs and innovation projects are compared within this final synthesis report. The report brings together the learnings from all four FAs,

identifying the factors which are believed to have contributed to or hindered the success of the pilots. It then aims to compare the approaches used by each partner country, listing the perceived challenges and benefits of each approach.

4 Case studies

4.1 Germany

The German FA takes a whole value chain collaborative approach to food waste reduction. The FA includes producers, retailers and both their upstream and downstream partners. It was the first of its kind in Germany and serves to consolidate and extend various ongoing, but scattered food waste prevention activities. The expectation was that the FA would enable innovative solutions to tackling food waste across the whole value chain and bridge food waste policy with practical business actions.

4.1.1 Background

In Germany, it is estimated that 18.38 million tonnes of food are wasted each year, of which approximately 9.9 million tonnes are thought to be “avoidable food waste” (WWF, 2015). In attempts to reduce the amount of food waste generated, several civil society initiatives have been set up in recent years. These include, for example, the online platform “[foodsharing](#)” and the Government led campaign “Too good for the bin” (“Zu gut für die Tonne”), both launched in 2012. The “foodsharing” platform enables households to share leftover food and collect unsold food from supermarkets. Whilst, the Government campaign “Too good for the bin” aims to connect organisations working on food waste to provide practical food waste support to consumers. In addition, Germany also has a history of food redistribution, through the food bank “Tafel Deutschland e.V.”, which has been operating for more than 30 years.

It is due to this prior commitment to food waste reduction, and an increasingly prominent sustainability agenda, that Germany was highlighted as a potential country to test an FA approach.

4.1.2 Lead organisation

The responsibility of leading the FA was given to the Collaborating Centre on Sustainable Consumption and Production (CSCP). The CSCP is an organisation jointly founded by the Wuppertal Institute for Climate, Environment and Energy and the United Nations Environment Programme (UNEP). The work of the CSCP can be grouped into three core areas: 1) Sustainable Lifestyles, 2) Sustainable Infrastructure, Products and Services and 3) Sustainable Business Models. In the context of food waste, the CSCP has extensive experience working to tackle the issue. They have worked directly with the food and retail sector (such as Nestlé, REWE Group, METRO Group) on resource efficiency, supply chain management, value chain innovation, product labelling and consumer communication.

In leading the FA, the CSCP were responsible for defining the activities together with the partners, ensuring organisations reported progress and reviewing overall FA progress.

4.1.3 Initiation

The FA initiation and set up process began in February 2016, with the FA being agreed in June 2016. The process started with CSCP researching the most interested food waste stakeholders and contacting organisations to determine their level of interest and willingness to participate in an FA. Many organisations were interested but some organisations expressed concerns that involvement in the process would be too costly for them; following previous negative experience they had with other initiatives. Considering these concerns, the CSCP recognised the importance of potential signatories being involved in defining the FA approach. Therefore, at early stages of recruitment the proposed process was discussed with signatories and they were also encouraged to attend the initial FA process meetings.

Agreement to the FA was advertised as an unbinding self-commitment for food waste stakeholders to implement measures throughout the most relevant stages of the production and supply chain to minimize food loss and waste (FLW). During the signatory recruitment process, CSCP felt it was important to remind participating organisations that there would be no sanctions for their failure to act on measures to reduce FLW. In total, seven signatories officially signed the FA agreement (Federal Ministry, IsUN Münster, Rat für Nachhaltige Entwicklung, Sodexo, PENNY, Aldi Süd and Aldi Nord) and no organisations were excluded from meetings if they hadn't signed the agreement, as it was felt like exclusion may result in a loss in momentum and overall progress. Furthermore, as it was an FA without sanctions and it became clear that data would not be sufficient for clear monitoring, the CSCP decided that it was more important that the group came together to exchange best practices and start relevant activities. As elements of the German national strategy against food waste, future considerations will be given to more binding agreements for different sectors.

Prior to the start of REFRESH, during the bid stage, several companies and political actors had indicated their support for the project and willingness to participate. Therefore considering FA governance, these organisations later became members of the German PWP, or what was more widely known as the "Steering Committee". The PWP consisted of 20 organisations (Table 2); spanning ministries, retailers, waste collection companies, producers, civil society organisations and scientific bodies. All organisations in the PWP expressed desire to be actively involved in decreasing food waste along the food supply chain. It was felt that this composition would guarantee the PWP was informed of all relevant trends and most importantly can initiate activities with the involvement of all relevant sectors.

Table 2 - The list of organisations in the German PWP

Organisation	Organisation type
PENNY / REWE Group	Retailer
Metro Group (Metro and real)	Retailer
Aldi Süd	Retailer

Aldi Nord	Retailer
Nestlé Germany	Producing company
Sodexo	Out-of-home
Re-food	Waste collection company
Foodsharing.de	NGO
WWF	NGO
Verbraucherzentrale NRW	Public body / NGO
Rat für nachhaltige Entwicklung	Public Body
Tafel Deutschland e.V.	Food Bank
Environment ministry North-Rhine Westphalia (Ministry – Regional level)	Government
Bavarian State Ministry on Food, Agriculture and Forestry (Ministry – Regional level)	Government
Environmental ministry hessen (Ministry – Regional level)	Government
Federal Ministry (Ministry – Federal level)	Government
BVLH (Association retailers)	Association
IsUN FH Münster	Scientific partner
Thünen Institut	Scientific partner

The overall goal of the PWP was to support the aims of SDG12.3 and subsequently the ambitions of the FA; its responsibilities included:

1. Consulting and conducting the design and development of the FA
2. Ranking the goals of the FA
3. Supporting, and if relevant, participating in pilot projects to reduce food waste
4. Securing and maximizing the impact of different actors, spreading the goals and values of REFRESH

During the initiation process three meetings were held:

1st meeting (February 2016): highlighted main challenges, possible solutions and governance structure of the FA. Following the meeting the first version of the FA was circulated by CSCP and they received comments from PWP members.

2nd meeting (May 2016): discussed the revised (2nd version) FA. After the meeting the FA was finalised and distributed to all the members of the PWP.

3rd meeting (October 2016): discussed the priority food waste reduction areas for Germany, with CSCP presenting a logic map to help prioritize and align potential action areas. Members then rated the different areas by importance on a scale from 1-10. In addition, a survey to gather baseline food waste data was presented and discussed. Following the meeting CSCP created documents for each organisation highlighting possible pilot projects and distributed the baseline questionnaire.

The PWP agreed upon five priority areas for food waste reduction activities: consumers, retail, out-of-home, producers and the supply chain and particularly all the interfaces between them. For each area they ranked their preference of different food waste intervention types. These interventions included, for example: collection of data/impact measurement, employee training, promotion of “ugly” fruits and vegetables, campaigns at point-of-sale and in canteens, and offering different portion sizes in the out-of-home sector. This process helped established the possible actions the German FA could take to support SDG12.3. In addition, focusing on the monitoring and evaluation element of successful FAs, the CSCP then worked closely with the PWP in attempts to establish baseline food waste measurements, these would be able to highlight whether selected actions had been impactful.

Throughout the process of FA initiation and set up, final decisions regarding FA design, assigning goals and selection of pilot projects were made by the REFRESH executive board at the European level. It should be noted that other than project funding through REFRESH there was no additional funding or budget for the German FA.

4.1.4 Pilot projects

When selecting the voluntary pilot projects for the German FA, the CSCP were conscious that the PWP define the most promising activities that fit the members, REFRESH's and public interests. It was subsequently concluded that the pilot projects should focus on the areas of: impact assessment, point-of-sale activities, employee engagement, canteen management and potentially packaging. Once the priority areas had been defined, face to face meetings or bilateral calls were scheduled with PWP members to further scope the projects.

Throughout 2017 and 2018, the German FA ran four pilot projects; focused on labelling, market standards, employee training and packaging.

1. ALDI SÜD consumer information campaign on consumability of milk beyond the “best before date”

Research has shown that many consumers in Germany still throw away perishable foods such as milk, even when it would still be safe to consume. One reason for this behaviour is that when the product reaches its “best before date”, consumers typically don't test if the product can still be consumed before throwing it away.

In attempts to address this problem, ALDI SÜD and partners tested the effect of imprinting "Smell me! Try me! I am often good for longer" on fresh milk packaging to encourage customers to check whether the milk could be consumed after the “best before date”. The results showed that, more than 75% of respondents (12% more than before the packaging change) stated that when checking the

consumability of milk, they were now more likely to pay attention to external factors such as smell or taste, rather than just the “best-before date”.

2. Extending purchasing tolerances to enable selling of “Crooked” carrots and apples

“Second class” fruits and vegetables are often not sold by retailers as it’s believed consumers prefer “perfect” products. In recent years retailers have started to challenge this notion; selling “imperfect” fruit and vegetables. Many retailers view this as an opportunity to simultaneously reduce food waste and boost sales of otherwise unsaleable products.

To show its customers that there’s nothing wrong with the quality of so called “ugly fruits or vegetables” or “misfits”, in summer 2018, ALDI SÜD started to sell organic Class II carrots and apples. The project supported the promotion of sustainable consumption. Additionally, the sale of the “Krumme Dinger” was scientifically evaluated to identify the causes of food losses and indicate to ALDI SÜD further reduction potentials.

3. PENNY review packaging solutions which could reduce food waste at home

Using the right packaging for perishable food products can significantly extend a products shelf life. In combination studies have shown that smaller packaged portions can contribute to the consumer buying the quantity of product that best suits their needs.

PENNY wanted to assist consumers with new packaging solutions to reduce food waste at home; finding packaging solutions that were more environmentally friendly, not too costly and reduce plastic waste. The CSCP and WRAP examined if there are any packaging solutions that fulfil these criteria. However, although the scoping exercise revealed interesting insights into potential packaging solutions, it unfortunately could not be brought into practice as the solutions were not ready for the retailer.

4. Food waste employee engagement at PENNY

It is expected that consumer uncertainty about how to act, and what to do, to reduce food waste contributes significantly to the problem. Inspired by the REFRESH project, PENNY and CSCP developed a program to train 800 new employees on food waste. The aim was that this would:

- Raise awareness of food waste at PENNY
- Contribute to PENNY’s strategic focus on food waste
- Enable the apprentices to contribute to food waste reduction in their professional as well as in their private life

Apprentice feedback on the training was very positive. This was evident from apprentice questionnaires, as 96% of apprentices (443 respondents) said that the training had raised their awareness of food waste.

4.1.5 Process evaluation

Members of the FA were asked to complete a mid-term evaluation and a final evaluation questionnaire. There were 6 responses during the mid-term evaluation, which then doubled to 12 for the final evaluation (Table 3). However, only 4 respondents completed both the mid-term and final evaluation.

Table 3 - Type of organisations which completed the German mid-term and final evaluation questionnaires.

Organisation	Mid-term evaluation	Final evaluation
Academic	0	0
Agriculture/Farming	0	0
Association	0	1
Government/Ministry	1	2
Hospitality	1	1
NGO/Charity	2	2
Retail	1	5
Other	1	1
Total	6	12

Value of the FA

In the mid-term evaluation all respondents stated it was “somewhat important” for their organisation to be involved in REFRESH. Furthermore, almost all respondents (5) felt that their organisation had benefited from its involvement in REFRESH, at least a little. Similarly, to other FAs, feedback on the benefits of involvement in REFRESH highlighted predominantly the value of knowledge sharing and collaborative working:

“Multi-stakeholder exchange and solution-oriented working methods.” [Germany]

The final evaluation responses mirrored those of the mid-term evaluation. In the final evaluation, most respondents (11) felt that they got value from being involved in REFRESH (Figure 1).

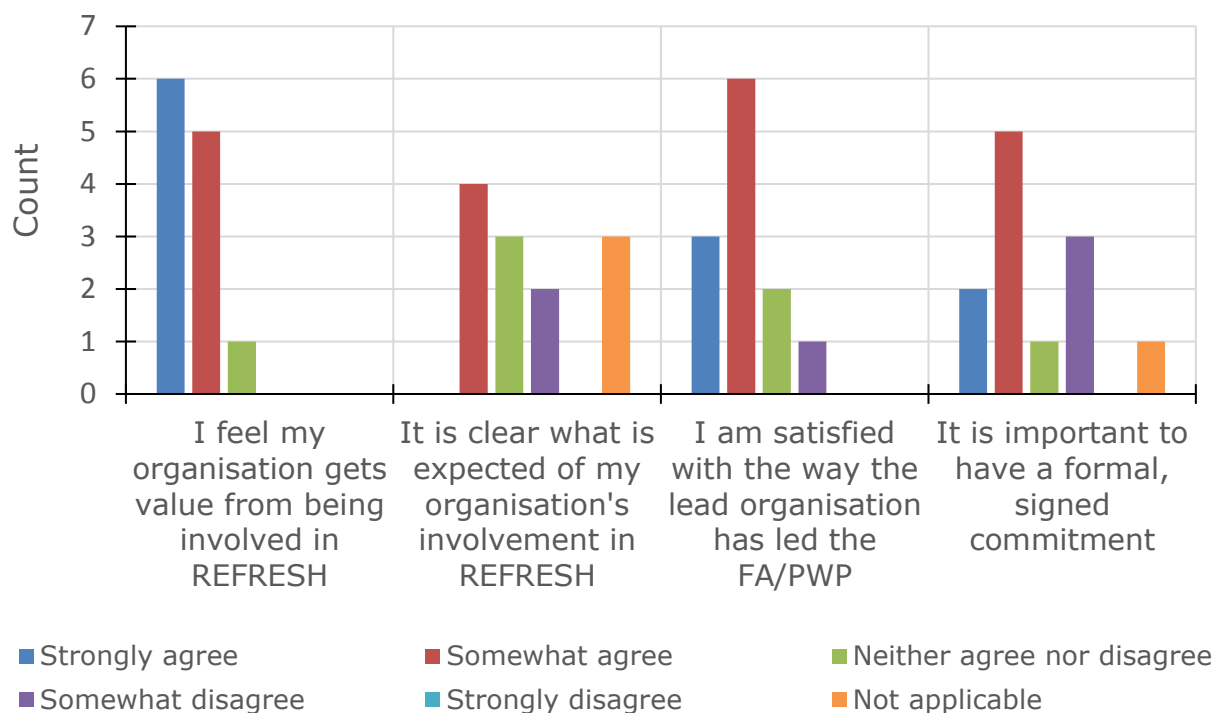


Figure 1 – Final evaluation: Responses to FA process statements (Germany)

Excluding REFRESH pilot projects, 8 out of 12 respondents also reported that since the start of REFRESH they had undertaken food waste reduction activities which they felt had benefitted from involvement in the FA. These projects include:

- Food waste communication projects
- Packaging changes
- Food waste events
- Food waste training

Organisation of the FA

When respondents were asked during the mid-term evaluation how successful the FA/PWP will be in achieving its objectives, most felt that it would be 'somewhat successful'. However, two respondents reported that they did not know the objectives of the FA.

In the final process evaluation, it was evident that some organisations were still unclear of their required involvement with REFRESH (Figure 1). Despite potential confusion around objectives, most respondents (9) were satisfied with the way that the lead organisation had led the FA (one organisation responded 'Somewhat disagree'; Figure 1).

Feedback from the lead organisation in Germany was positive regarding the process of leading the FA. However, there were some organisational challenges around suggesting pilot projects:

"some of the projects we proposed, organisations had already done something there or something similar" – Patrik Eisenhauer, CSCP

"you can have many brilliant ideas, but the time has to be right for the companies" – Nora Brüggemann, CSCP

In addition, the lead organisation highlighted challenges around obtaining baseline food waste measurements from signatories. However, Germany was arguably more successful than other countries in establishing baseline food waste data, this was expected to be due to their flexibility around the approach and recognition that:

"It is important to allow many optional answers, to not force them (organisations) to report on what they do not want to or do not have data for" - Nora Brüggemann, CSCP

It was due to this flexibility and acceptance of more qualitative food waste metrics that Germany had some success in establishing a baseline.

Commitment

As highlighted previously, Germany advertised their agreement as an unbinding self-commitment for food waste stakeholders. It was also noted that signatures to the framework were not a requirement for attending early FA meetings. Nevertheless, feedback from the final process evaluation highlighted disagreement between FA participants as to whether a formal signed commitment was necessary, although most respondents (7) appeared to be in favour (Figure 1).

Greatest achievements

During both the initial and final process evaluations, multiple respondents felt that networking and collaboration were one of the main benefits of participation, although others included raising awareness of food waste. When listing the FAs greatest achievement, respondents stated:

"The exchange between the most diverse stakeholders and a common understanding for each other" – Anke Stübing, Nestle

"Transparency with regard to existing solutions and possible cooperation within the framework of projects, networking of experts who are already involved in the project" – Anne Hildebrand, METRO AG

Furthermore, when asked about whether there were any parts of the FA process that exceeded expectations, CSCP stated:

"What was key for this project to work was that people came together – and this trusting atmosphere was created by everybody" – Nora Brüggemann, CSCP

Impact

During the mid-term evaluation, when considering whether any changes in food waste behaviour could be attributed to involvement in REFRESH, half of respondents (3) suggested REFRESH had made no difference. However, two organisations reported that changes in their food waste behaviour were likely to have happened without REFRESH but are at least a little better because of participation.

In the final evaluation questionnaire, organisations were asked about changes to their food waste behaviours in more detail than during the mid-term evaluation.

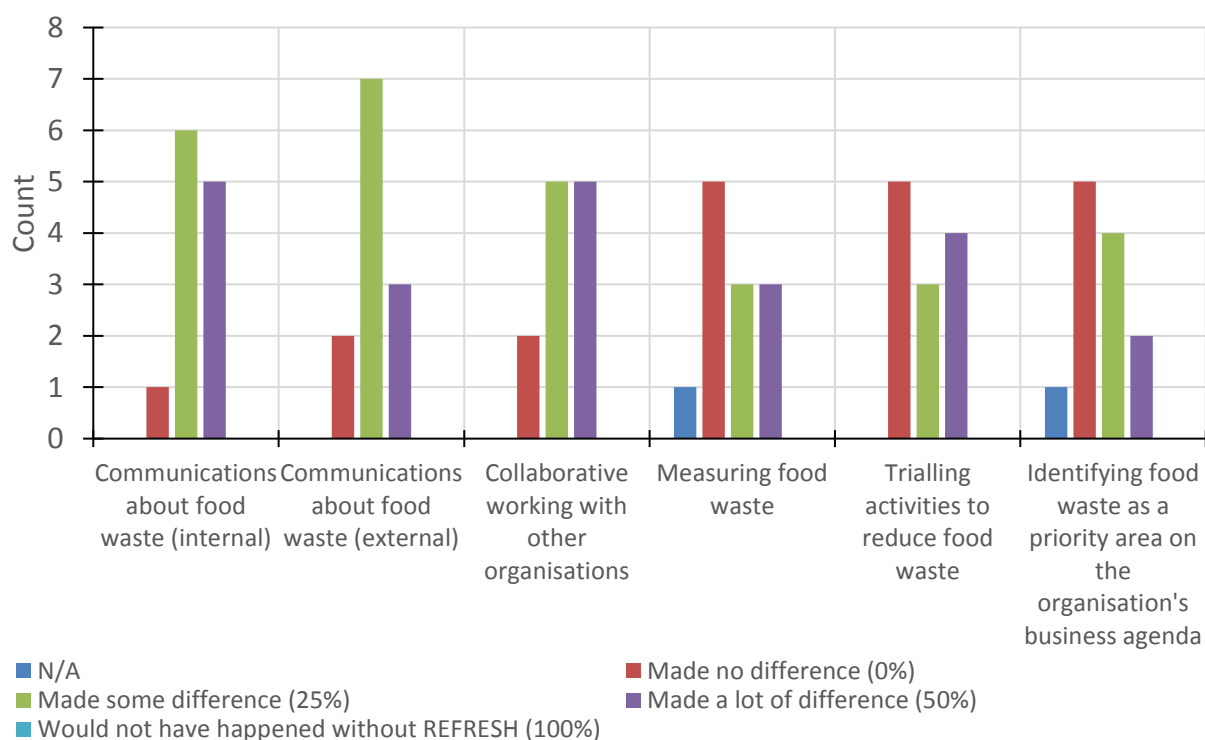


Figure 2 – Final process evaluation question: "How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas?" (Germany)

In the German FA, Feedback on how REFRESH had impacted communication activities and collaborative working appears positive. When considering changes to internal food waste communication all but one respondent reported that REFRESH had either made some difference or a lot of difference to their activities in these areas (Figure 2). Furthermore, in terms of collaboration with other organisations, 10 out of 12 respondents reported that REFRESH had made at least some difference (Figure 2). It should be noted that one of the organisations who reported that REFRESH had no difference on their “collaborative working with other organisations” listed themselves as being “extremely engaged” in food waste prior to REFRESH. This could mean that they had been working collaboratively with other organisations for some time and in this regard, it would have been unlikely that REFRESH could have had an impact.

Responses were also mixed when considering changes to organisations measuring food waste. Five organisations stated that REFRESH had no impact in their organisation when considering this activity (Figure 2). However, it is anticipated that these responses are due, in part, to the fact that many organisations in the FA/PWP were already measuring food waste prior to their involvement in REFRESH. In fact, one respondent stated:

“Waste data Quantities in tonnes and value for organic waste per store we have always received.” – Anne Hildebrand, METRO AG

Most respondents (7 out of 12) felt that REFRESH had made at least some difference to their decisions to trial activities to reduce food waste. However, the remaining 5 felt that REFRESH had made no difference (Figure 2). These figures seem to largely coincide with the number of respondents who highlighted REFRESH benefited wider food waste projects.

Finally, when provided the statement “The voluntary agreement approach works well for addressing food waste in our country” most respondents agreed with this statement (3 “strongly agreed”, 4 “somewhat agreed”, 2 “Neither agree nor disagree”, 1 “somewhat disagreed” and 2 responded “Not relevant”).

Thoughts for the future

After the mid-term evaluation stage, planned actions to take in the future were largely focused on progressing with and adding to existing actions. However, following the final process evaluation, future actions surrounded:

- *Improving food waste monitoring and measurement*
- *Continuation of current food waste reduction activities*
- *Consumer campaigns*
- *The creation of digital food waste platforms*

Seven respondents felt that their organisation will benefit beyond the end of REFRESH, at least a little, and 10 out of 12 respondents would like the FA/PWP to continue in some form beyond the end of REFRESH (Figure 3). One organisation stated that they felt they did not get benefit from their organisation being part of REFRESH. This is slightly disconcerting as this was an organisation who was listed as being only “slightly engaged” in food waste prior to REFRESH. However, overall the figures showed that participating organisations valued their participation in REFRESH and look forward to it’s continuation.

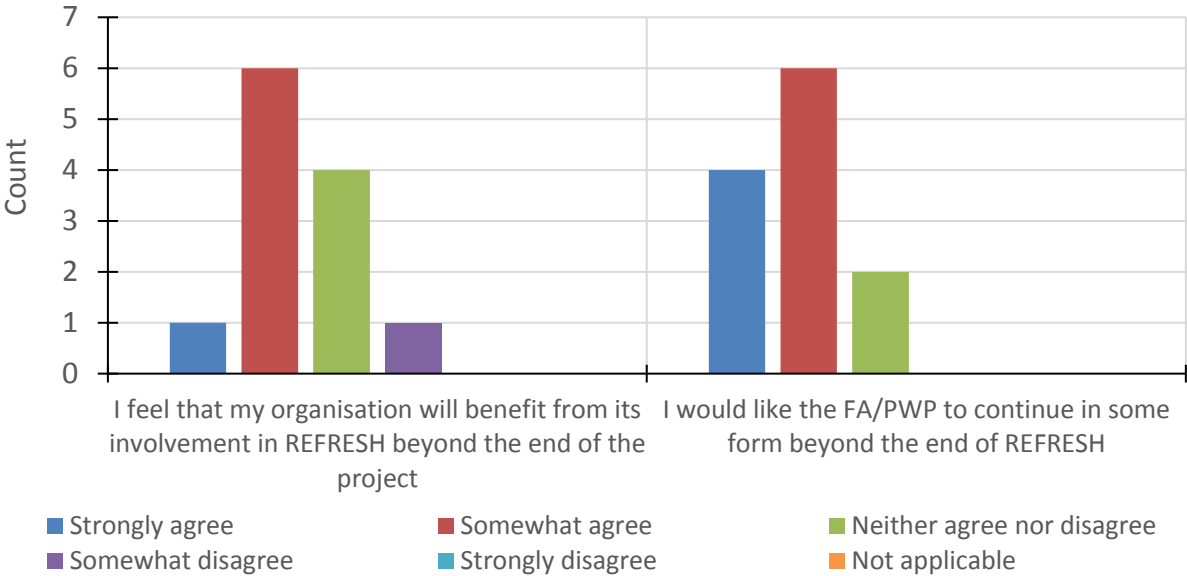


Figure 3 – Final process evaluation: Levels of agreement with two statements about life beyond REFRESH (Germany)

The CSCP highlighted during the final evaluation interview that Germany will continue with voluntary agreements for different branches following REFRESH. This follows the adoption of a national strategy against food waste in Germany, in February 2019. An essential element of which is the establishment of six national dialogue platforms: agriculture/primary production, producing companies, retail, out-of-home, consumers and an overarching platform. The out-of-home dialogue platform started in February 2019, will be led by WWF Germany and is expected to last three years. The CSCP is planning together with the national ministry to establish the national dialogue platform for retail (including a voluntary agreement for this sector). This voluntary agreement will also include quantitative food waste data in tonnes.

4.2 Netherlands

The Dutch FA, known as the “Taskforce Circular Economy in Food” (TCEF) takes a whole supply chain approach to tackling food waste. It contains a wide variety of participants and signatories, including for example; retailers, civil society organisations, government and research institutes. The TCEF aims to reduce food waste by preventing and reducing as much food waste as possible and creating value from side flows (TCEF, 2018). Furthermore, it aims to make the Netherlands one of the first countries in the world to achieve SDG12.3.

4.2.1 Background

In 2013, “The Sustainable Food Alliance” (SFA) was established, which consists of 6 partners across the Dutch agri-food chain. The aim of the alliance is to accelerate and promote sustainability within the Dutch agri-food chain. With this in mind, a coalition of the SFA and the Ministry of Economic Affairs developed the Sustainable Food Agenda 2013-2016. The agenda proposed, as one its main goals, to reduce food waste and optimise waste streams across the Netherlands.

Despite previous work to address the issue, the problem of food waste was still extremely significant in the Netherlands. In attempts to further accelerate progress it was decided that, through REFRESH, Netherlands should test an FA approach. Wageningen University and Research (WUR) in collaboration with the Ministry of Economic Affairs and the Sustainable Food Alliance, started the process of recruiting key stakeholders to make up the FA PWP.

4.2.2 Lead organisation

Wageningen University and Research (WUR) is the lead organisation of the FA in the Netherlands. WUR are a leading international research organization that work in the fields of food and health, sustainable agro-systems, and social change. The University is renowned for its integration of life sciences and social sciences; focusing on “science for impact”.

Within WUR, exists “Wageningen Research”, which consists of participating research institutes who undertake strategic and applied research activities e.g. Wageningen Food and Bio-based Research (WFBR). The WFBR coordinate and partner in several EU projects on food technology, bio-based research and sustainable food chain research. It is due to this prior experience that the WFBR are well suited to co-ordinate the REFRESH FA in the Netherlands. The WFBR also led the overall coordination of the REFRESH project.

4.2.3 Initiation

Discussions regarding the initiation and set up of a REFRESH FA in the Netherlands began in 2016, with the initiative being launched in January 2017. The initial actors involved were WUR, Ministry of Agriculture, Nature and Food Quality (separated from Ministry of Economic Affairs in 2018) and the SFA. It should also be noted that during early discussions various food waste ambassadors expressed support for a REFRESH FA in the Netherlands. Early members of the FA therefore consisted

of those organisations within the SFA, with further members being recruited throughout 2016 and 2017.

The TCEF was open to any organisation who wished to participate. Organisations could take either an active participatory role, where they worked toward concrete food waste targets, or a supportive role, where they helped support other organisations with food waste reduction projects. The aim was by the end of 2018 to have 100 signatories or supporters signed up to the TCEF, by April 2019 over 50 signatories had signed up and others were in the process of becoming signatories.

Table 4 - The list of early stage organisations in the Dutch FA PWP

Organisation	Organisation type
LNV (Agriculture, Nature and Food quality)	Government
CBL	Retail
AholdDelhaize, Albert Heijn	Retail
Lamb Weston / Meijer	Food industry
Unilever	Food industry
Scelta Mushrooms	Food industry
Foodtech Brainport	Food industry/technology
McDonalds Netherlands	Food service
Hutten catering	Food service
RijkZwaan	Plant breeding/seeds
NVRD/VANG	Waste management
Google	IT/software
Moonen Packaging	Packaging
KIDV	Packaging knowledge institute
Natuur&Milieu	NGO
Rabobank	Financial sector/Banking for Food
Youth Food Movement	Youth organisation
Milgro	Waste service sector
Wageningen University & Research	Knowledge institute

In total, at time of launch in January 2017, there were 19 organisations in the TCEF (Table 4). In considering the governance of the TCEF, these organisations represented the FA PWP or Steering Committee, their responsibilities included:

- Determine FA strategy and direction, as well as a food waste roadmap for the Netherlands
- Set primary goals and actions for the FA
- Lead communication with all participants
- Discuss project progress
- Provide support and offer advice for anyone implementing a pilot project
- Spread the goals and values of REFRESH
- Contribute to the strengthening of international relations

The TCEF Steering Committee met twice a year and then once with the wider FA members. In the wider meeting everyone in the TCEF was required to attend to discuss FA progress and potential collaborations. Through these meetings a few working groups were formed, which met approximately 2-3 times a year.

The main ambition of the FA was that members would reduce food loss and waste through the following actions;

- Monitoring food waste progress and determine impacts and opportunities
- Contributing to the development of a roadmap for action in the Netherlands
- Highlighting the issue of food waste and influencing public opinion
- Enhancing food waste knowledge
- Identifying food waste barriers and potential solutions
- Improving utilisation of food resources and by-products
- Taking part in food waste reduction projects
- Monitoring and reporting food system related flows of materials and product

To tackle the food waste issue in the Netherlands the FA recognised it was important to identify food waste hotspots, which were identified in mid-2017. This would help ensure that actions were targeted and could therefore have maximum impact. The hotspots identified were:

- Consumer food waste
- Retail chain food waste
- Food service chain food waste
- Food surplus value creation
- Expand food redistribution
- Primary sector food loss reduction

These hotspots were targeted through innovative pilot projects using initial budget from REFRESH WP2 and matched by in-kind contributions from FA members. Future work through the TCEF will be funded by the new organisation "[Samen Tegen Voedselverspilling](#)", with financial support from signatories, sponsors and the Ministry of Agriculture, Nature and Food Quality.

4.2.4 Pilot projects

Pilot projects were carried out through REFRESH and supported by FA members. The food waste sectors of greatest interest were primary production, manufacturing, retail, catering, hospitality and households. Potential projects were

identified through bilateral discussions between TCEF members and had to meet several basic criteria:

- The project had to be impactful
- The project must be novel
- It should aim to reduce food waste across the supply chain
- And, it should link to the vision of REFRESH

The ambition was to launch the first two pilot projects at the second meeting of the TCEF PWP in June 2017.

1. The defaulted doggy bags

Food waste in the Hospitality and Food Service sector is a significant problem. In the UK it was estimated that in 2016 wasted food cost this sector £3 billion (WRAP, 2013b). Furthermore, it was estimated that 34% of the food that was wasted in this sector came directly from consumer plates (WRAP, 2013b). In Europe, taking leftovers home from a restaurant can lead to both feelings of pride about not wasting and feelings of embarrassment due to violating a social norm (Sirieix et al., 2017).

The current default situation is one in which asking for and offering a doggy bag is uncommon. This study examines whether changing the default situation will lead to higher uptake of doggy bags, and whether this also translates into less food waste. Three experiments were conducted in which the effects of changing the default situation and offering choice on doggy bag uptake were examined. Based on the findings, advice can be given to restaurants who want to limit plate waste, about how to advocate doggy bag uptake.

2. From cash to trash: The effect of price promotions on food waste

Retailer price promotions are often considered to be responsible for food wasted by consumers. However, not much is known about how specific types of price promotions impact food waste.

An international team of scholars conducted a household survey among members of a consumer panel who purchased one of eight specific food products; either on promotion or at regular price. The aim was to understand the relationship between different forms of price promotions (single-buy deals, for example: cents-off/percentage-off, and different types of multi-buy deals, for example: buy one, get one free) and household food waste.

The results will be available in April 2019 and will help food marketers and retailers to design effective price promotions to reduce overall food waste, while still boosting sales.

3. JUMBO surplus food shelf

In Wageningen, the local franchise JUMBO supermarket is committed to reduce food waste. This commitment was shaped into the “Verspilling is Verrukkelijk” (translation: “Food waste is precious”) initiative, starting in March 2018. The initiative was supported by MVO Nederland and REFRESH’s Wageningen University

& Research. Together with 17 national surplus social entrepreneurs such as Kromkommer, Potverdorie, De Verspillingsfabriek and Instock, Jumbo placed a dedicated shelf in the store, with several products on offer. These products range from soups, pastas, marmalades, spreads, juices and beers, and are all made of ingredients that would have otherwise gone to waste.

4.2.5 Process evaluation

Members of the FA were asked to complete a mid-term evaluation and a final evaluation questionnaire. There were 8 responses from the mid-term evaluation, which unfortunately fell to only 5 for the final evaluation (Table 5). This was a much lower number of respondents than observed in other countries. However, nearly all respondents (4) who completed the final questionnaire also completed the mid-term evaluation questionnaire.

Table 5 - Type of organisations which completed the Dutch mid-term and final evaluation questionnaires.

Organisation	Mid-term evaluation	Final evaluation
Academic	0	0
Agriculture/Farming	0	0
Association	0	0
Government/Ministry	2	1
Hospitality	3	0
NGO/Charity	0	0
Retail	0	1
Other	3	3
Total	8	5

It should be noted that due to the limited sample observed within the final process, evaluation responses are unlikely to provide an accurate reflection of organisations perceptions of the FA/PWP in the Netherlands. Nevertheless, results are still provided and discussed within this section.

Value of the FA

In the mid-term evaluation all respondents stated it was at least 'somewhat important' for their organisation to be involved in REFRESH, with 5 respondents stating it was "very important". Furthermore, almost all respondents (6) felt that their organisation had benefited from its involvement in REFRESH, at least a little. Similarly, to other FAs, feedback on the benefits of involvement in REFRESH highlighted predominantly the value of knowledge sharing and collaborative working:

*"The network of companies and organisations to share knowledge and experience."
[The Netherlands]*

The final evaluation responses mirrored those of the mid-term evaluation. In the final evaluation, all respondents felt that they got value from being involved in REFRESH (Figure 4).

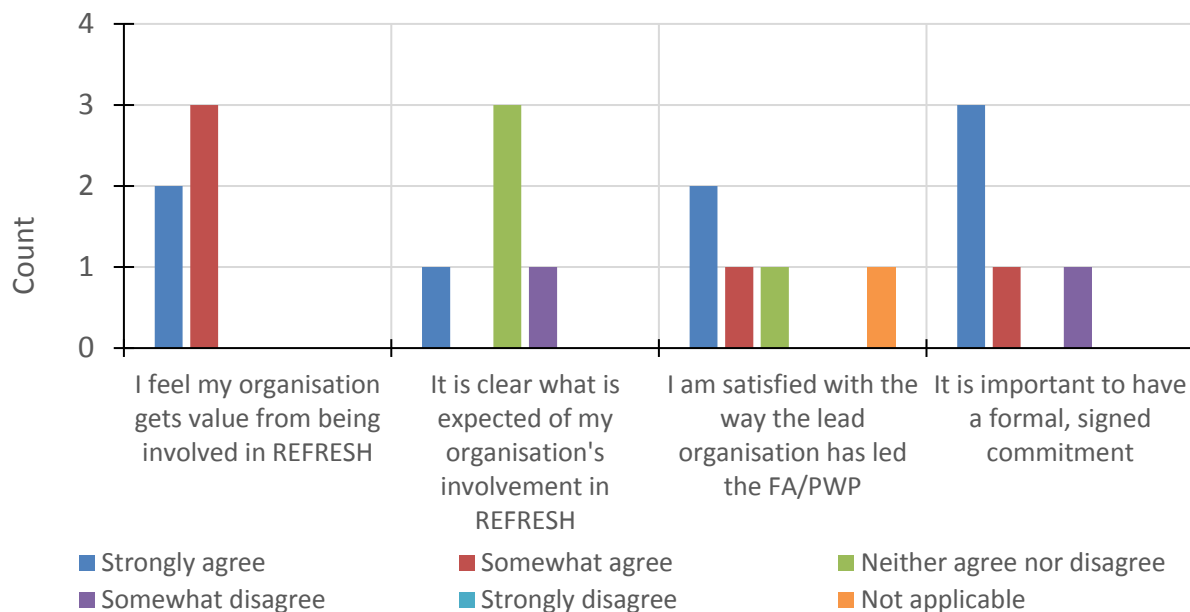


Figure 4 – Final evaluation: Responses to FA process statements (Germany)

Excluding involvement in pilot projects, 3 out of 5 respondents also reported that since the start of REFRESH they had undertaken food waste reduction activities which they felt had benefitted from involvement in the FA. These projects include:

- Collaborative food waste activities with other food waste stakeholders
- Consumer campaigns

Organisation of the FA

When respondents were asked during the mid-term evaluation how successful the FA/PWP will be in achieving its objectives, most (6) felt that it would be 'somewhat successful'. However, two respondents reported that they thought it would be very successful.

In the final evaluation, it was evident that it was still not completely clear what was expected of their organisation's involvement in REFRESH (Figure 4). This can be seen with most respondents responding "Neither agree nor disagree" to the

statement, as well as the limited number of responses during the final evaluation phase.

Despite potential confusion around involvement, when considering the statement "I am satisfied with the way the lead organisation has led the FA/PWP most respondents (3) responded in agreement, however one respondent seemed to think this question was "Not applicable" to their organisation (Figure 4).

When interviewing WUR, challenges around leading the FA were highlighted. The main challenge at early stages of the FA revolved around changes in the FA approach and communicating this to all parties involved. When considering any issues with baseline measurement, although Netherlands did not provide a baseline they have been collecting data in a similar way to the UK's Courtauld Commitment:

"we have set up a platform and a website where organisations upload their data in a secret environment" – Toine Timmermans, WUR

Commitment

During the mid-term evaluation, four PWP members said they would have been as committed to tackle food waste without a formal signed agreement whereas three suggested a formal signed agreement had led to greater commitment. In the final evaluation process agreement was more unanimous, with 80% agreeing it was necessary to have a formal signed commitment (Figure 4). However, it should be noted that due to the limited number of responses this is unlikely to accurately reflect the views of the FA members.

Greatest achievement

During both the initial and final process evaluations, multiple respondents felt that collaboration and raised awareness of food waste were amongst the main benefits of participation. When listing the greatest achievements, one respondent stated:

"Formulating and formalising a concrete commitment companies can adhere to, and thereby making the topic of food waste tangible and material" – Floor Uitterhoeve, McDonalds Nederland

Furthermore, when asked about whether there were any parts of the FA process that exceeded expectations, WUR stated:

"I think what REFRESH had the most impact on was much of the initiatives were disconnected so we managed to get them all combined and connected – REFRESH connected initiatives, came up with shared objectives and ambitions – in that way

accelerated progress – and building on a coalition were businesses take the lead and governments play more of a supportive role.” - Toine Timmermans, WUR

Impact

During the mid-term evaluation, when considering whether any changes in food waste behaviour could be attributed to involvement in REFRESH, half of respondents (4) suggested joining the FA/PWP had no influence on food waste behaviour, three suggested it had identified plans/actions to reduce food waste in the future and one suggested, at that stage, it had already influenced the organisation slightly.

In the final evaluation questionnaire, respondents stated REFRESH had seemingly had a big impact on identification of food waste on their business agenda, as all respondents (5) reported REFRESH had made some or a lot of difference in this area.

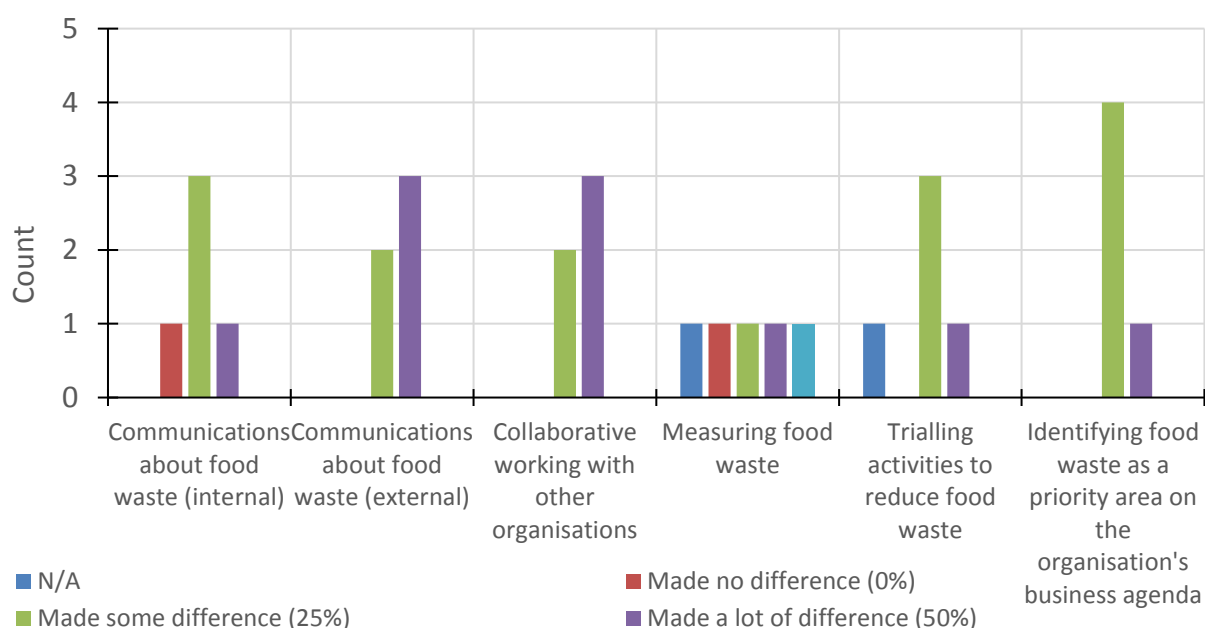


Figure 5 - Final process evaluation question: “How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas?” (Netherlands)

Another interesting result was the mix of responses when asked how impactful REFRESH had been in their organisations measurement of food waste. For this statement there was one response for each potential option (Figure 5), with one respondent suggesting it would not have happened without REFRESH and another suggesting REFRESH had made no difference. However, like other FAs, feedback from organisations suggested that some were already measuring food waste prior to REFRESH, which could explain some of the results. In addition, during the final

process evaluation, respondents stated that REFRESH had made at least some difference to their collaborative working with others, external communication about food waste and decision to trial food waste reduction activities (Figure 5).

Finally, when provide the statement “The voluntary agreement approach works well for addressing food waste in our country” most respondents agreed with this statement (1 “strongly agreed”, 3 “somewhat agreed”, 1 “somewhat disagreed”).

Thoughts for the future

After the mid-term evaluation stage, planned actions to take in the future were largely focused on progressing with and adding to existing actions. However, following the final process evaluation, future actions surrounded:

- Educational activities
- Consumer campaigns
- Monitoring improvements
- Setting up of food waste pilots
- Further developing products and services

Four respondents felt that their organisation will benefit from its involvement in REFRESH beyond the end of the project, at least a little, and 3 out of 5 respondents would like the FA/PWP to continue in some form beyond the end of REFRESH (Figure 6). One organisation selected “Not applicable” which is believed to be an anomalous result.

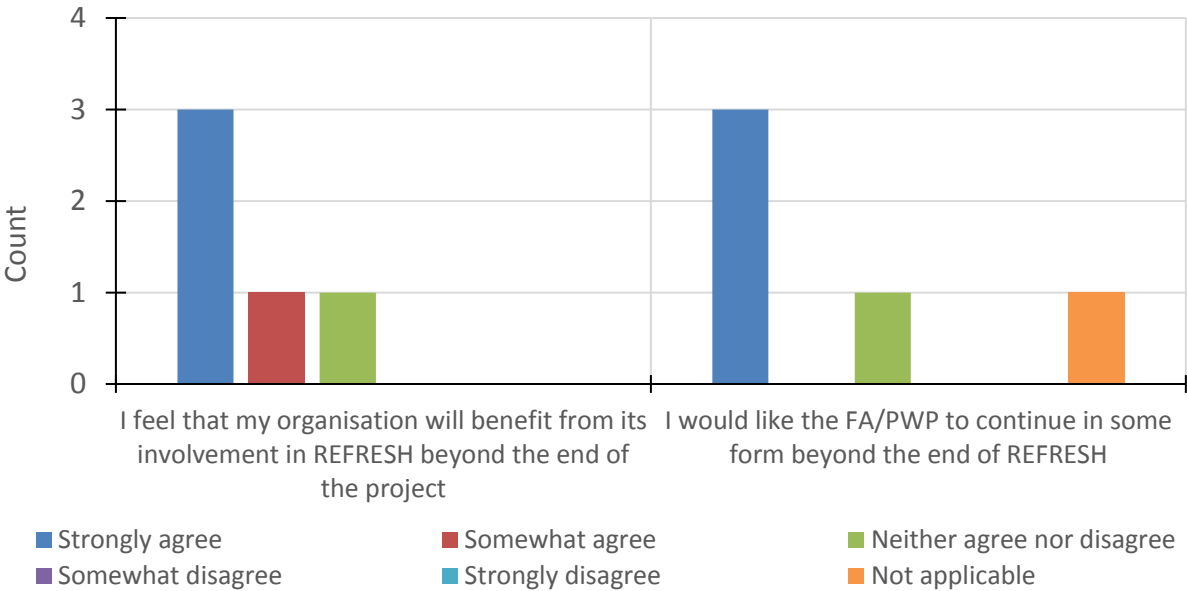


Figure 6 - Final process evaluation: Levels of agreement with two statements about life beyond REFRESH (Netherlands)

The final interview with WUR revealed that following REFRESH, a new FA has been built (called Samen Tegen Voedselverspilling) with a new governance structure and supporting finance to ensure it will run for at least the next 3 to 4 years. It was highlighted that WUR will work with committed stakeholders, with the aim to expand the number of FA members to 200 by 2020. When discussing funding, WUR stated:

"we have secured now 7 million EUR funding from the government and the same amount from businesses, so at the moment we have 14 million EUR for the next 4 years" - Toine Timmermans, WUR

When asked whether they had any final comments, WUR stated:

"What was really a success factor – work with a core group, build an agenda and get support for that agenda" - Toine Timmermans, WUR

4.3 Spain

The aim of the Spanish FA is ultimately to promote food waste reduction initiatives along the Spanish food chain. It takes a whole food supply chain approach to tackling food waste, with emphasis on the autonomous community of Catalonia. The FA focused on inviting associations to represent key parts of the value chain rather than individual businesses, reducing accusations that a small number of businesses have been disproportionately influential in regional or national policy development.

Specific objectives of the FA, included:

- Improving food waste understanding
- Raising food waste awareness among actors in the food supply chain and public
- Encourage positive food waste reduction initiatives

4.3.1 Background

In Spain, it is estimated that approximately 7.7 million tonnes of food are wasted each year ([European Commission, 2011](#)). In addition, a previous report estimated that Spanish households generate on average 76kg of food waste annually (HISPACOO, 2012). These figures highlight the scale of the food waste problem and have led to an intensification in food waste activities and initiatives, in Spain, in recent years.

However, despite this, there is still no coordinated strategy across Spain to reduce food waste. In fact, levels of food waste, knowledge of waste prevention and measures taken to reduce food waste can vary substantially across the 17 autonomous communities. For example, both Catalonia and Madrid, are expected to have higher levels of food waste than many of the other autonomous communities.

Although a multitude of food waste initiatives have been set up in Spain there has been no history of such an FA. The Centre for Research in Agro-food Economics and Development (CREDA), looked to assemble a PWP, which contained representation throughout the whole food supply chain from a mix of stakeholders, including food sector businesses, government and NGOs.

4.3.2 Lead organisation

CREDA is the organisation responsible for leading the Spanish FA. They are a leading research organization in the fields of food and the agricultural system in Spain. The organisation was established following recognition that two institutions (The Catalonia Polytechnic University – UPC and The Agricultural Technology Research Institute – IRTA) of the Catalan research and development system could operate more effectively together.

The current research interests of the CREDA team focus on the economics of food quality and safety and related policy issues with respect to the consumer, the food industry and trade. The organisation is highly experienced in analysing sustainability projects, making them well placed to run the FA in Spain.

The role of CREDA was to:

- Coordinate an FA Pilot Working Platform (PWP), or more widely known as the Steering Committee (SC)
- Organise regular meetings with the steering committee
- Produce annual FA progress reports
- Support and monitor pilot projects
- Aggregate food waste data

4.3.3 Initiation

Several Spanish organisations and political actors expressed interest in a Spanish FA at the REFRESH bid stage. CREDA then worked with these organisations to recruit further members through a snowballing recruitment approach; making sure the final split of organisations could provide the largest possible range of food profiles. Recruitment took the form of bi-lateral discussions, where CREDA explained the REFRESH project and the ambition for the FA in Spain. However, it was noticed that the lack of financial support, through REFRESH, and a lack of legislative threat, by government, made recruiting members more difficult.

Once potential members had been identified they were invited to join the first FA meeting. The first meeting took place in March 2016, with the FA being agreed by September 2016. In the first meeting, food waste stakeholders were invited to Barcelona to discuss ways they could work collaboratively to reduce food waste across Spain. The meeting consisted of a workshop which aimed to identify sectors and stages in the food chain where food waste is highest and examine convenient ways to measure food waste and evaluate the success of pilot projects.

In September 2016, at the second FA meeting members met to agree the FA approach. Selected members were also asked to sign an expression of interest to join the PWP/Steering Committee (SC), which was followed by official signatures a few weeks later. It should be noted that almost all the organizations, contacted during the recruitment phase of FA initiation and set up, agreed to join the FA PWP.

Table 6 - The list of organisations in the Spanish FA PWP

Organisation	Organisation type
ARC (Agencia de Residus de Catalunya)	Government
AMB (Àrea metropolitana de Barcelona)	Government
Mercabarna	Entrepreneurs
Banc Aliments Barcelona	Food Bank
Federació de Cooperatives Agràries de Catalunya	Association
Espigoladors	Entrepreneurs
Plataforma Aprofitem els Aliments	Association

HISPACOOP (Confederación Española de Cooperativas de Consumidores i Usuarios)	Association
AECOC (Asociación de Fabricantes y Distribuidores)	Association
GASTROFIRA	Entrepreneurs
ASEDAS (Asociación Española de Distribuidores, Autoservicios y Supermercados)	Association
PROSALUS	NGO
Nutrició Sense Fronteres	NGO
PACKNET (Plataforma Tecnológica Española de Envases y Embalaje)	Association
ACES (Asociación de Cadenas Españolas de Supermercados)	Association
COAG-JARC (Coordinadora de Organizaciones de Agricultores y Ganaderos - Joves Agricultors i Ramaders de Catalunya)	Primary sector

The PWP was open to all organizations and people who were willing to participate and work to reduce food waste in their area of the supply chain. In total there were 16 organisations within the Spanish FA PWP (Table 6). Their agreed role was to:

- Assist in providing direction for the FA in Spain
- Provide support and offer advice for pilot projects
- Measure and report progress of agreed actions, so the objectives of the FA can be mapped
- Spread the goals and values of REFRESH and the FA
- Promote the successes and benefits of the FA
- Recruit additional signatories
- Encourage government to support the ambitions of the FA and SC

The PWP met either once or twice a year, to share progress on relevant food waste topics and explore further collaboration. It was decided to facilitate understanding, the PWP would be renamed REFRESH Platform in Spain.

4.3.4 Pilot projects

In the initial FA meetings in March and September of 2016, the PWP decided that the key areas of interest in reducing food waste in Spain would be the hospitality sector, consumers, and primary production. These areas formed part of the criteria in the identification of potential pilot projects to reduce food waste and helped the Spanish FA establish necessary food waste actions. The remaining criteria in the selection of potential pilot projects included:

- Willingness of given organizations to collaborate
- The projects link to food waste hotspots identified for Spain
- Potential for scaling-up

- The level of innovation associated with the project

1. Valorisation of food surpluses and side-flows and citizens' understanding

In the last few years, several innovative valorisation processes have been developed in different countries to prevent and reduce food waste. However, little is known about consumers' acceptance of the end products resulting from these innovations.

A social experiment was carried out in Barcelona in the context of parents' choices of their children's school meals. They were tested to determine whether they would accept feeding their children with valorised foods from food surpluses or side-flows.

The relevant factors that influence the acceptance or rejection of valorised foods were identified. These factors include: familiarity, knowledge, perceived risks, perceived benefits, experiences of food processes, involvement, trust between consumers and producers, information, naturalness, local origin, levels of processing, trust in food regulatory institutions, sustainability, safety, complexity, moral considerations, traceability, and transparency.

2. Food waste along the food supply chain: A case study of Spanish peaches and nectarines

Quantifying FLW and its causes allow for more targeted and effective food waste interventions. Moreover, to effectively meet targets a good understanding of the current FLW situation is essential.

In the region of Catalonia, in Spain, the public company that has competencies over the waste generated and managed (the Waste Agency of Catalonia [ARC]), recognise the need to quantify the current FLW situation.

Following a 2016 study promoted by ARC, workshops identified the peaches and nectarines (PN) sector as a good starting point to carry out whole supply chain FLW quantification. ARC hired the Center for Agro-Food Economy and Development (CREDA-UPC-IRTA) to implement the quantification, which was carried out between September and December 2017. The quantification analysed FLW across several different lifecycle stages of the PN supply chain.

The project highlighted the causes and areas of FLW across the PN supply chain and proposed 7 targeted food waste reduction objectives as a result. These included, for example, increasing knowledge and awareness of FLW along the supply chain and promoting its transparency and traceability.

3. Reducing food waste at trade fairs in Spain: The impact of interventions implemented by Gastrofira

Gastrofira is increasingly aware of the environmental and social impact of the food system, as such, they are committed to offering more sustainable catering services for their clients.

Gastrofira analysed two different types of food service that they offer, at two different trade fairs in Spain (one international, one national). The analysis involved: 1) establishing baseline food waste levels, 2) identifying potential interventions to reduce food waste, 3) implementing the interventions, and finally 4) measuring the impact of the interventions.

Although it's difficult to ascertain the true impact of each intervention, there was a significant reduction in levels of food waste at the trade fairs following implementation. Furthermore, this project started a process of food waste monitoring and prevention that could be replicated by other catering companies in the future.

4.3.5 Process evaluation

Members of the FA were asked to complete a mid-term evaluation and a final evaluation questionnaire. There were 7 responses from the mid-term evaluation, which increased to 13 for the final evaluation (Table 7). For the final evaluation the number of responses was higher than any other country. However, only 5 respondents completed both the mid-term and final evaluation.

Table 7 - Type of organisations which completed the Spanish mid-term and final evaluation questionnaires.

Organisation	Mid-term evaluation	Final evaluation
Academic	0	0
Agriculture/Farming	2	2
Association	1	0
Government/Ministry	2	5
Hospitality	1	1
NGO/Charity	1	3
Retail	0	0
Other	0	2
Total	7	13

Value of the FA

In the mid-term evaluation all respondents stated it was at least 'somewhat important' for their organisation to be involved in REFRESH, with two respondents stating it was "very important". Furthermore, all respondents (7) felt that their organisation had benefited from its involvement in REFRESH, at least a little, with three respondents already stating, at that stage, they felt they had benefitted "a lot". Similarly, to other FAs, feedback on the benefits of involvement in REFRESH highlighted predominantly the value of knowledge sharing and collaborative working:

*"Collaboration with other agents of the food chain and knowing other successful experiences."
[Spain]*

The final evaluation generally mirrored responses from the mid-term evaluation. In the final evaluation, nine respondents felt that they got value from being involved in REFRESH (Figure 7).

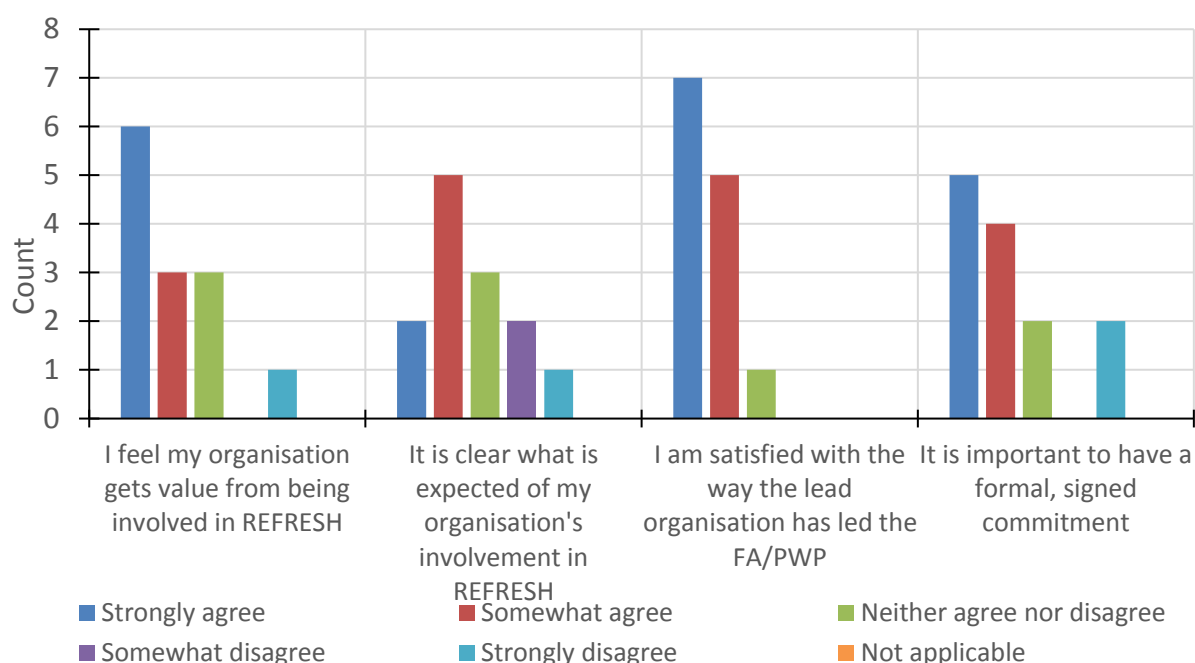


Figure 7 - Final evaluation: Responses to FA process statements (Spain)

Excluding involvement in pilot projects, 3 out of 12 respondents also reported that since the start of REFRESH they had undertaken food waste reduction activities which they felt had benefitted from their involvement in the FA. These projects were focused on the creation and dissemination of food waste strategies and frameworks.

Organisation of the FA

When respondents were asked during the mid-term evaluation how successful the FA/PWP will be in achieving its objectives, all felt that it would be at least somewhat successful, with 3 indicating it would be "very successful".

However, in the final evaluation, it was evident that it was still not completely clear for all organisations what was expected of their organisation's involvement in REFRESH. This can be seen with multiple respondents (3) disagreeing with the

statement "It is clear what is expected of my organisations involvement in REFRESH (Figure 7). Although, twice as many respondents suggested it was clear.

Satisfaction with the way the FA had been led in Spain was very positive – most respondents (7) said they strongly agreed when asked whether they were satisfied with the way the lead organisation had led the FA with a further 5 somewhat agreeing (Figure 7).

When discussing challenges with the process, CREDA highlighted:

"For me the most difficult task at the beginning of the FA/PWP was explaining the benefits of joining the FA to the different stakeholders I contacted. I would say that this was the case since the objectives and the pathway REFRESH was proposing at the initial stages of the project were not clear. Now, I would say it would be similar. There are multiple platforms at the regional and national level. And it is sometimes hard to define what is the utility of being member of one or another. Specially for the private sector agents." – Raquel Diaz Ruiz, CREDA

Commitment

During the mid-term evaluation, six PWP members said that they would have had the same amount of commitment without a formal signed agreement whereas 2 said their commitment had improved as a result. However, during the final evaluation the number of organisations who felt it was necessary to have a formal signed agreement (9) was much higher than those who didn't agree it was necessary (Figure 7).

Greatest achievement

During both the initial and final process evaluations, multiple respondents felt that collaboration and raised awareness of food waste were amongst the main benefits of participation.

*"Collaboration with other agents of the food chain and knowing other successful experiences."
[Spain]*

During the final evaluation interview, when asked about the greatest achievement of the REFRESH FA, CREDA stated:

"Having "real-life" projects implemented in different stages of the supply chain." – CREDA

"Putting people together to think about something is always an achievement. REFRESH and the Spanish Platform did it in my opinion." – Feliu Lopez, CREDA

Impact

During the mid-term evaluation, when considering whether any changes in food waste behaviour could be attributed to involvement in REFRESH, three respondents suggested joining the FA/PWP had no influence on food waste behaviour, two suggested it had identified plans/actions to reduce food waste in the future and two suggested at that stage it had already influenced the organisation slightly.

In the final evaluation questionnaire, organisations were asked about changes to their food waste behaviours in more detail than during the mid-term evaluation.

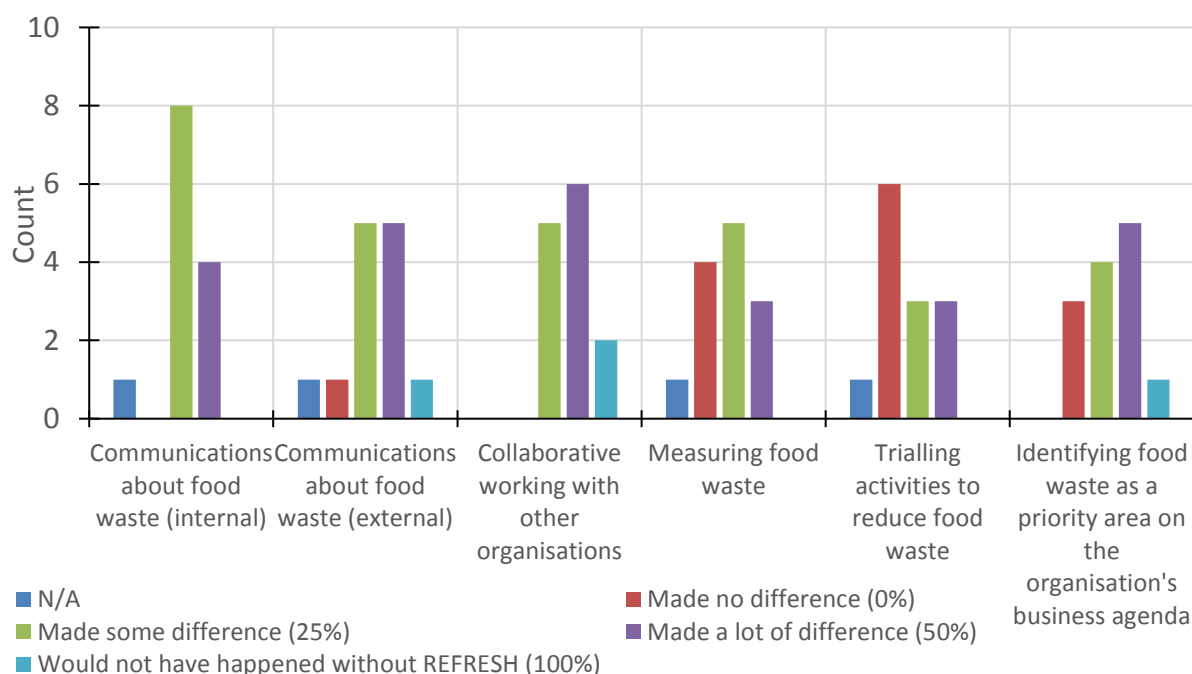


Figure 8 - Final process evaluation question: "How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas?" (Spain)

Results from the final evaluation were generally positive when considering REFRESH's impact on collaboration and communication about food waste. Most notably respondents highlighted very positive responses about the influence of REFRESH on collaboration; two respondents stated it "Would not have happened without REFRESH" and six stated it "Made a lot of difference" (Figure 8). This was the most positive FA member response across all four countries for this activity. Responses were more mixed for the remaining three activities: measuring food waste, trialling activities to reduce food waste and identifying food waste as a

priority area on the organisation’s business agenda. For example, most respondents (6) felt that REFRESH had no influence on trialling activities to reduce food waste (Figure 8).

Finally, when provide the statement “The voluntary agreement approach works well for addressing food waste in our country” most respondents agreed with this statement (4 “strongly agreed”, 4 “somewhat agreed”, 3 “Neither agree nor disagree and 2 “strongly disagreed”).

Thoughts for the future

After the mid-term evaluation stage, planned actions to take in the future were largely focused on progressing with and adding to existing actions. However, following the final process evaluation, future actions surrounded:

- National food waste projects
- Food waste awareness campaigns
- Redistribution projects
- Food waste reduction projects

Six respondents felt that their organisation will benefit beyond the end of REFRESH, at least a little, and 10 respondents would like the FA/PWP to continue in some form beyond the end of REFRESH (Figure 9). One organisation selected “Not applicable” for this statement which is assumed to be an anomalous result.

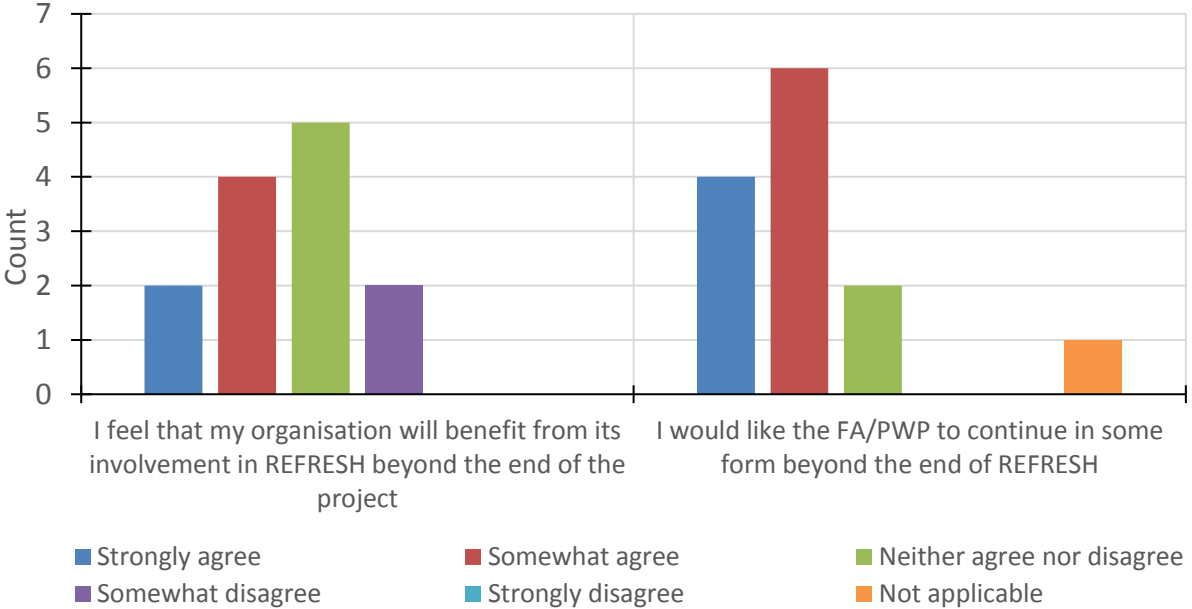


Figure 9 - Final process evaluation: Levels of agreement with two statements about life beyond REFRESH (Spain)

When asked about their thoughts for the future, CREDA highlighted there was potential interest in a Spanish level FA, rather than just for Catalonia:

"However, on the other hand I think there is interest in having a similar platform at the Spanish level, to coordinate and improve networking." – CREDA

At final meetings FA members were also asked about desire for the continuation of the platform, however it was felt a few important issues need to be addressed before it continues e.g. how it is resourced and who would be responsible for management.

4.4 Hungary

The primary objective of the Hungarian FA was to determine the key intervention points where the highest possible return on investment in terms of food waste reduction could be obtained, thereby considerably reducing the amount of food waste generated in Hungary. The aim was to build a structured knowledge base, establish communication channels and platforms among stakeholders via the creation of working groups, and to launch, execute and evaluate pilot projects.

The main goals of the Framework of Action were to:

- Highlight the importance of food waste and loss and to form public opinion and attitude;
- Enhance knowledge and manage flow of information among all concerned;
- Identify issues and possible solutions along the whole food supply chain, from primary production to consumers and valorisation of unavoidable waste;
- Identify and develop good practices, both in Hungary and abroad, and also promote and adapt these for wider uptake in Hungary.

4.4.1 Background

In July 2013, the Hungarian Minister for Agriculture, Sándor Fazekas, proposed an EU level debate on food loss and wastage at the Council Meeting of Ministers of Agriculture. Hungary requested the European Commission develop plans jointly with international organisations and other stakeholders to get a clear picture of the global situation and take appropriate action to tackle food waste. Consequently, the Ministry of Rural Development and the Hungarian Food Bank Association launched a forum of relevant stakeholders in Hungary, to reduce food loss and wastage, and this forum was the foundation of the FA in Hungary.

4.4.2 Lead organisation

The Hungarian Food Bank Association (HFBA) is the lead organisation for the Hungarian FA. The HFBA is a non-profit organisation that works to make a link between surplus food and people in need in Hungary; to help reduce poverty, hunger and malnutrition. The HFBA began operating in September 2005, and in 2006 became a member of the European Federation of Food Banks (FEBA). Their vision is to raise food waste awareness in organisations who operate along the whole supply chain and offer surplus food from these organisations to those in need. The HFBA receives food donations from producers and retailers, and then redistributes food to specialist charities and local organisations.

The Food Bank has a partnership of 350 non-governmental organisations and municipalities and is run by 13 full-time employees and over 40 volunteers. Since its foundation, 50,000 tonnes of food, with a value to 25 billion HUF, has been redistributed to charities, reaching over 300,000 people in need (HFBA, n.d.).

4.4.3 Initiation

The FA initiation and set up process began in November 2015 and ran until May 2016. The process of establishing and inviting members to join the FA was slightly

different in Hungary than in other countries due to the existing food loss and waste forum, that was established in 2013. This meant that when the HFBA became the lead organisation for the Hungarian FA, they did not have to actively recruit core members. Instead the HFBA identified key strategic partners across the food sector who could help promote and encourage further action.

For the Hungarian FA, organisations were invited by the Ministry of Agriculture and the HFBA. The primary selection criteria for invitation was an existing relationship with the food supply chain and waste reduction activities, or potential involvement/influence on food waste. Invitations were sent out in January 2016 to five different organisation types: government bodies and related public institutions, sectorial associations, research and academic institutions, non-profit organisations and some major private companies. E-mail invitations were followed by telephone, and in some cases personal meetings, to encourage potential target members to join the forum.

Whilst the forum is open to all organisations wishing to participate, members may have different ambition levels that they can/want to achieve. Members can participate in the forum’s activities as "acting organisations" and can take active roles with concrete tasks and targets in one or more projects launched as part of the forum. Organisations can also join as "supporters" and support the forum’s work occasionally (e.g. in projects or dissemination activities) and may not necessarily have concrete tasks and targets.

When considering FA governance, in the later stages of the initiation and set up process, in March 2016, a Steering Committee (SC) was convened with the role of determining the FA approach and to lead communication with all FA participants in Hungary. The SC, or PWP as referred to in other REFRESH FA’s, works on the principle that by signing the declaration and joining the forum, signatories commit to a non-binding agreement to reduce FLW to a significant extent in the areas most relevant to them in the food chain. It should be noted that outside of the PWP there was a total of 46 acting/supporting FA forum members.

In Hungary, the PWP is referred to as "*Food is Value*"- *Forum against Food Loss and Waste* and comprises a selected team of FA members representing the main segments of the food chain, together with relevant national authorities and NGOs (Table 8).

Table 8 - Members of the Hungarian FA PWP as of February 2017

Signatory	Organisation Type
Ministry of Agriculture	Government
Ministry of Human Resources	Government
Agricultural Research Institute	Public Institution
ÉFOSZ (Alliance of Hungarian Food Manufacturers)	Association
TESCO	Retail
HORECA Marketing Club	Association
Budapest Wholesale Market	Public Company

PWP members were selected using two important factors;

1. The PWP should represent all key segments of the food chain,
2. PWP members should be committed to actively participate in pilot projects.

It was felt that the size of the PWP was of key importance in the governance of the FA, so the decision to keep it small was primarily to accelerate decision-making processes.

The roles of the PWP:

- Assists in providing direction for the Forum through their expertise contributions
- Sets the main goals and priorities for the Forum activities, to which the signatories undertake to contribute;
- Changes the Framework of Agreement document if necessary
- Provides support and offers advice in the implementation of projects
- Facilitates communication with all Forum members
- Spreads the goals and values of the Forum within Hungary and in the EU
- Improves organisation structure to achieve the most efficient operation

FA priorities were established at the first official PWP meeting on the 22nd March 2016 in Budapest. To tackle food waste effectively, a series of defined actions were outlined:

- Set a definitive baseline for current levels of household and supply chain food waste in Hungary
- Address the food waste issue by focusing on the top 3 levels of the food waste hierarchy: reduction, redistribution and promoting measures which utilise food waste valorisation
- Demonstrate a voluntary approach that can lead to supply chain food waste reduction without the need for additional legislation, creating a healthy balance of regulation and self-regulation
- Raise awareness of food waste issues and form consumer attitude
- Identify and address hotspots in retail supply chains to prevent food waste
- Work with the hospitality and tourism industry to improve practices and consumer behaviour to prevent food waste
- Engage the entire food supply chain including the recruitment of further Forum members

PWP meetings took place 3-4 times per year and all member organisations were invited to take part in forum roundtable meetings once a year to discuss progress, current events, and potential collaborations.

The PWP quickly identified a lack of food waste data in Hungary, and so recognised this as an important target area of the FA. In fact, considering the monitoring and evaluation element of successful FAs, Hungary attempted to establish baseline food waste measurements for their FA at an early stage of the REFRESH project. In addition, further monitoring and evaluation considerations were given to each of the pilot projects. It should be noted, by signing up to the FA, the members agreed to measure and report their progress, however only "acting organisations" participating in projects were required to do so. There was some resistance from members about sharing this type of data as comparisons were made to other

retailers who had not always received positive media attention when sharing published, previously unseen data.

It should be noted that other than the project funding through REFRESH there was no additional funding or budget for the “Food is Value” forum. To account for the lack of funding, pilot projects were planned to involve partners that could offer some resource such as co-funding, or in-kind contributions.

4.4.4 Pilot projects

During the initiation and set up phase, the HFBA discussed potential project areas with the other REFRESH members, in line with REFRESH’s ambitions and goals. The main selection criteria were the strategic fit, the commitment of the participating organisations and the potential impact and feasibility of the project idea. In January 2017, the SC began to develop pilot projects with organisations. It was agreed that each project should be launched and managed in such a way that it suits the participating organisations and provides the greatest possible value to the fulfilment of the forum’s main goals.

Throughout 2017, the HFBA launched four pilot projects that aimed to reduce food waste and food loss. Collectively the pilot projects focussed on production, wholesale, retail, redistribution, and household food waste; involving retailers, NGOs, Ministry, wholesalers and consumers.

1. “Just like at home” – event catering supply chain

This project focussed on food waste at catering events and was developed and managed by the Hungarian Food Bank Association (HFBA) in collaboration with the Business Council for Sustainable Development in Hungary (BCSDH), HORECA Marketing Klub, and the Hungarian Food Chain Safety Office. Food waste at catering events is often overlooked when considering food waste in the catering industry. The aim of the project was to create a common understanding about the issue of food waste amongst people along the whole catering supply chain (from caterer to consumer) with a strong focus on over-ordering and oversupply.

An “Event Catering Food Waste Reduction Guideline” was created and used by organisers at catering events in Hungary. Food waste was measured before and after implementation of the guideline and event logo at 11 events in Hungary. Food waste was 10% on average across all events following implementation, ranging from 8% to 17%. This is 50-70% less than the expected average food waste generation (20-30%) at catering events in Hungary.

2. “Broadening the bridge” – food surplus redistribution

This project focussed on reducing food waste in the redistribution sector through assessing the current capacity limits of redistribution channels. In Hungary, the amount of surplus food offered by companies as a donation has increased considerably in recent years and is predicted to continue to increase. This project assessed the financial and human resources of food banks and partner organisations and was co-managed by the Hungarian Food Bank Association (HFBA), and the Hungarian Ministry of Human Capacities (HMHC). The project

concluded that for projected food surplus redistribution demands to be met, additional financial resources are required. Cost modelling was used to assess the feasibility of using additional funding sources for food surplus redistribution; including the use of EU FEAD funding. The results formed the basis for a funding proposal to the Hungarian Ministry. The proposal was successful and the Hungarian Ministry for Human Capacity plan to fund food redistribution activities in 2021-2027 using part of FEAD sources. Redistribution activities increased in Hungary during the project, partly due to knowledge transfer between organisations.

3. "Ugly but tasty" – imperfect fruit and vegetables

A two-part project was developed which aimed to take a "farm to fork" approach to food waste related activities in the fruit & vegetable sector. It was felt that the benefit of choosing this sector was that it has one of the shortest supply chains as it doesn't include an industrial processing stage. The project focussed on lower quality products such as apples and carrots, to find possible channels for marketed (discounted sale) and non-marketed (free redistribution) surplus food.

The first part of the project involved cooperation between the Hungarian Food Bank Association (HFBA) and TESCO Hungary with a focus on ways to market surplus food. In 2017, TESCO launched their "Perfectly Imperfect" campaign across their stores in Hungary. In addition, TESCO also decided to increase the number of their stores which offered food surplus donations.

The second part of the project focussed on ways to redistribute surplus food at the Budapest Wholesale Market. Producers and wholesalers were approached and offered an easy way to donate their unsaleable, but edible surplus food. Donations were channelled into the redistribution network of the HFBA.

4. "Consumer activation" – household food waste

This project built upon the 2016 REFRESH consumer research report and the 2012 food waste information campaign launched by the HFBA in collaboration with TESCO. The REFRESH report detailed valuable and up-to-date information on Hungarian consumers and provided insights for designing, testing and implementing a programme to activate consumers, to increase food waste reduction activities at home.

A consumer activation programme which reduced household food waste was designed and implemented across 265 households. The programme invited consumers to test different food waste solutions and provide feedback on the usefulness and ease of implementing each solution. This project was managed by the HFBA in cooperation with the Budapest Business School and TESCO Hungary.

4.4.5 Process evaluation

Members of the FA were asked to complete a mid-term evaluation and a final evaluation questionnaire. It is important to note that whilst 11 members completed the mid-term and the final evaluations (Table 9), only 6 respondents took part in both. It should also be noted that one of the 11 respondents in the final process

evaluation listed “Not Applicable” for all answers and therefore has been excluded from subsequent analysis.

Table 9 - Type of organisations which completed the Hungarian mid-term and final evaluation questionnaires.

Organisation	Mid-term evaluation	Final evaluation
Association	0	2
Government/Ministry	2	2
NGO/Charity	1	3
Retail	3	2
Science/Technology	1	1
Other	2	1
Total	9	11

Satisfaction and value of the FA

In the mid-term evaluation all respondents recognised that it was at least ‘somewhat important’ for their organisation to be involved in REFRESH. Some respondents were particularly positive, with five saying they felt it was ‘very important’ to be involved. Furthermore, almost all respondents (8) felt that their organisation had benefited from its involvement in REFRESH, at least a little. Feedback on the benefits of involvement in REFRESH highlighted predominantly the value of knowledge sharing and collaborative working:

*“Possibility of exchanging information and views between different sectors”
[Hungary]*

The final evaluation responses mirrored those of the mid-term evaluation. In the final evaluation all respondents felt that they got value from being involved in REFRESH (Figure 10), and organisations were satisfied with the platform:

“We consider the Platform as one of the best, if not the best initiative in today's Hungary. For our Secretariat it is always a pleasure both personally and professionally to cooperate with the Platform” - Attila VÖRÖS, Federation of Hungarian Food Industries

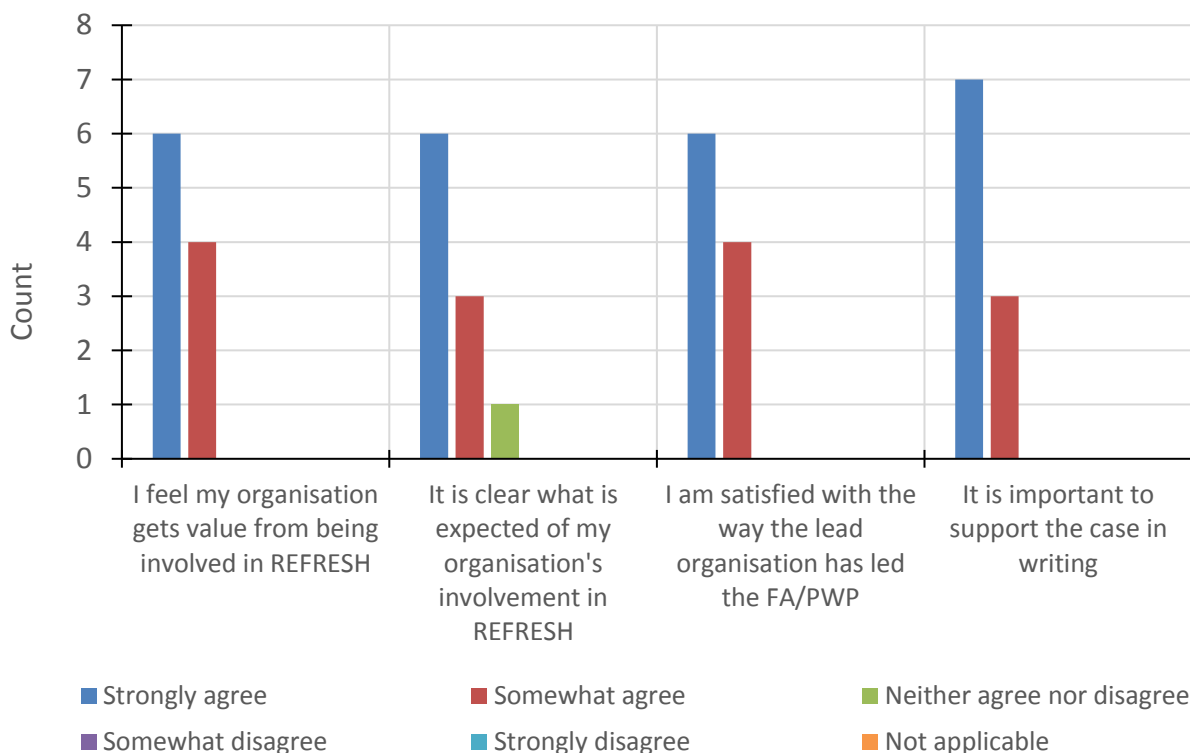


Figure 10 - Final evaluation: Responses to FA process statements (Hungary)

Respondents also felt that collaborative working and raising awareness of food waste were benefits of being involved in REFRESH.

"Creating connection with new companies who are offering food surplus" – Balázs CSEH, Hungarian Food Bank Association

"It is also important that in the framework of the Platform independent projects can be connected to each-other, we as members of the Platform are receiving information about the activities of other Platform members, thereby it is possible to harmonise different projects, to find more synergies and have more visible results in the future" - Attila VÖRÖS, Federation of Hungarian Food Industries

Excluding involvement in pilot projects, 6 out of 10 respondents also reported that since the start of REFRESH they had undertaken food waste reduction activities which they felt had benefitted from involvement in the FA. These projects include:

- Food waste conferences
- Communication campaigns
- Food surplus projects

Organisation of the FA

When respondents were asked during the mid-term evaluation how successful the FA/PWP will be in achieving its objectives, most felt that it would be at least 'somewhat successful'. Respondents were positive with 5 respondents thinking it would be 'very successful'. However, one respondent reported that they did not know the objectives of the FA. This would not normally be of concern given the different levels of engagement within the FA but was slightly worrying as the respondent identified as a PWP member.

In the final evaluation, 9 out of 10 respondents felt that it was clear to them what was expected of their organisation's involvement in REFRESH (1 organisation responded 'not applicable'; Figure 10), and all respondents were satisfied with the way that the lead organisation has led the FA (Figure 10).

Feedback from the lead organisation in Hungary was positive and largely aligned with findings from questionnaire respondents. However, there were some organisational challenges, the HFBA highlighted:

"A big challenge is how much energy can you take from participants who are busy with other things" – Balázs CSEH, Hungarian Food Bank Association

In addition, the lead organisation highlighted challenges around obtaining baseline food waste measurements from signatories. In fact, when referencing food waste data from the retail sector, it was stated that:

"this voluntary provision of data is still too ambitious for the Hungarian market" – Balázs CSEH, Hungarian Food Bank Association

One reason listed for reluctance in voluntary provision of food waste data in Hungary were recent negative media appearances. Despite this, some organisations, TESCO Hungary for example, are now reporting their food waste data.

Commitment

A lighter touch approach was adopted in Hungary, whereby organisations submitted a letter of interest rather than committing to a formal signed agreement. Broad objectives were developed rather than trying to restrict members to a strict agreement and thereby risk organisations not getting involved. This was felt to be more beneficial in establishing an effective PWP.

After the mid-term evaluation, it was felt that the need for a formal agreement varied from member to member as some have a strong commitment without the need for this, while it strengthens commitment for others. However, after the final evaluation, all respondents felt that it was important to “support the case in writing” (Figure 10). It is unclear whether this is a positive comment on the letter of interest approach that was adopted, or whether organisations would have preferred a more formal, signed agreement approach.

Greatest achievement

After the mid-term evaluation, organisations felt that the greatest achievement of Hungarian FA was that the project brought organisations together to work on common goals, this was also highlighted in the final evaluation.

“The fact that the industry, the non-profit sector and the government are actually involved, sitting around a table. Within the forum, open and positive communication is taking place each time” [Hungary]

In addition, increasing awareness of food waste was also highlighted as one of the greatest achievements of the Hungarian FA. In the final evaluation, one respondent felt that greater awareness of food waste could provide useful guidance for government, enabling a softer approach that avoids top-down legislation for tackling food waste.

“Increasing consciousness and from our side maybe that it gives useful guidance for the government. On one hand it can help to avoid a top-down legislation approach... that could have a negative effect on the system, on the other hand, by the maximal involvement of the government we will have the possibility in the future to find the best positive incentives in the fight against food waste” - Attila VÖRÖS, Federation of Hungarian Food Industries

Impact

During the mid-term evaluation, when considering whether any changes in food waste behaviour could be attributed to involvement in REFRESH, all respondents felt that changes were likely to have happened anyway but at least benefited a little because of REFRESH support. One respondent in Hungary reported that changes within their organisations were ‘unlikely to have happened without REFRESH’.

In the final evaluation questionnaire, organisations were asked about changes to their food waste behaviours in more detail than the mid-term evaluation. When considering whether any changes in their communication about food waste could be attributed to involvement in REFRESH, all respondents felt that REFRESH had

made at least some difference to both their internal and external communication (Figure 11).

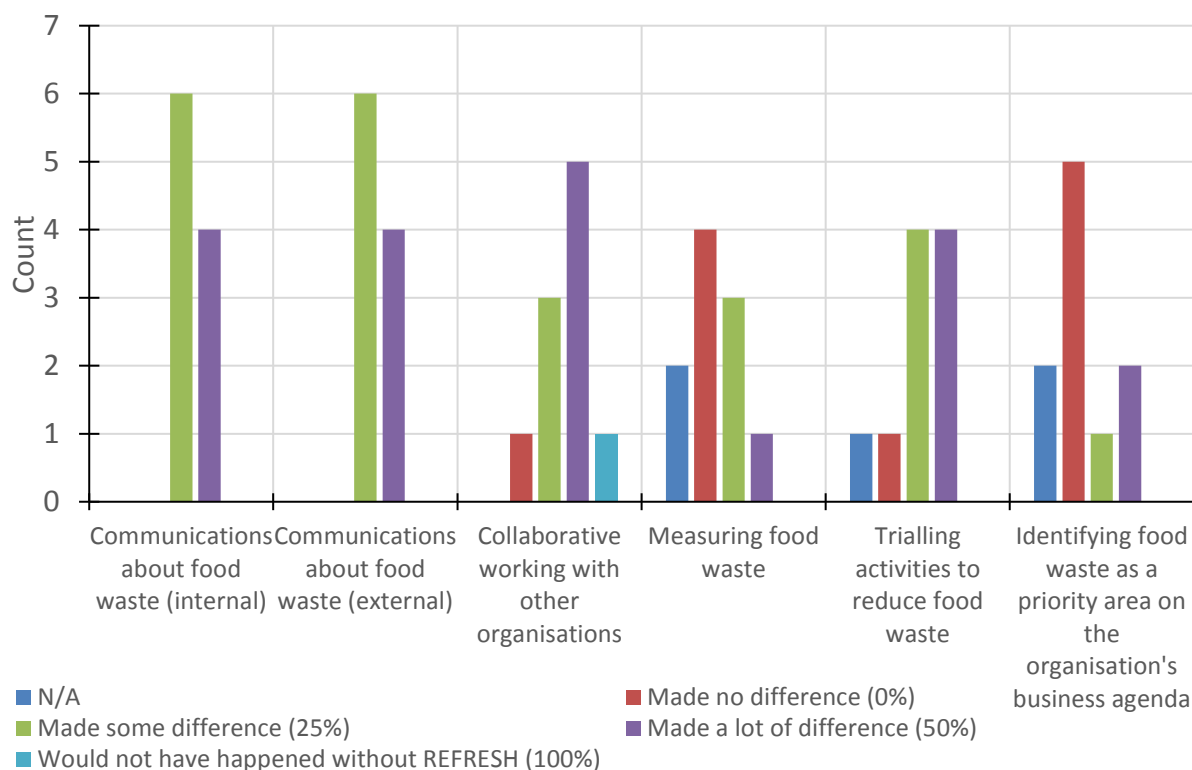


Figure 11 - Final process evaluation question: “How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas?” (Hungary)

In terms of collaboration with other organisations, 9 out of 10 respondents reported at least some difference, and one of those respondents reported that the difference ‘Would not have happened without REFRESH’ (Figure 11). One organisation reported that REFRESH had made no difference to their collaborative working with other organisations, however, it is expected that this was due to existing collaborative relationships prior to involvement in the FA.

When asked about changes to measurements of food waste, the response was mixed. Only 4 out of 10 respondents felt that REFRESH had made at least some difference, and 4 out of 10 felt that REFRESH had made no difference to their measurements of food waste (2 respondents answered “not applicable”; Figure 11). However, one respondent stated that they were already measuring their food waste before REFRESH, and so the project had not made a difference to their existing activities.

For the other respondents who felt REFRESH had made no difference to their measurements of food waste, their response is in line with the difficulties described by the Steering Committee at the beginning of the FA process. There was resistance by organisations around sharing food waste data and comparisons were made to other retailers who had not always received positive media attention when sharing published, previously unseen data.

Most respondents (8 out of 10) felt that REFRESH had made at least some difference to their decisions to trial activities to reduce food waste. However, 6 out of 10 organisations felt that REFRESH had made no difference to them identifying food waste as a priority area within their businesses (Figure 11). This is unsurprising, since all organisations reported that they were already engaged in food waste reduction activities prior to involvement in REFRESH.

Finally, when provided the statement "The voluntary agreement approach works well for addressing food waste in our country" most respondents agreed with this statement (7 "strongly agreed", 2 "somewhat agreed" and 1 "somewhat disagreed").

Thoughts for the future

After the mid-term evaluation stage, planned actions to take in the future were largely focused on progressing with and adding to existing actions. Only one respondent reported that they had identified actions to reduce food waste in the future.

"We hope in the future we will be able to develop more/deeper relationships that will bring concrete results to the involved operators." [Hungary]

After the final evaluation however, all respondents reported that they had identified actions to reduce food waste in the future.

"Communication campaign, measurement, school program" - Gyula Kasza, NÉBIH

"Further developing our core activities, innovation, impact assessment" - Balázs CSEH, Hungarian Food Bank Association

All respondents wanted the FA/PWP to continue in some form beyond the end of REFRESH and 9 out of 10 felt that their organisation will benefit beyond the end of project (Figure 12).

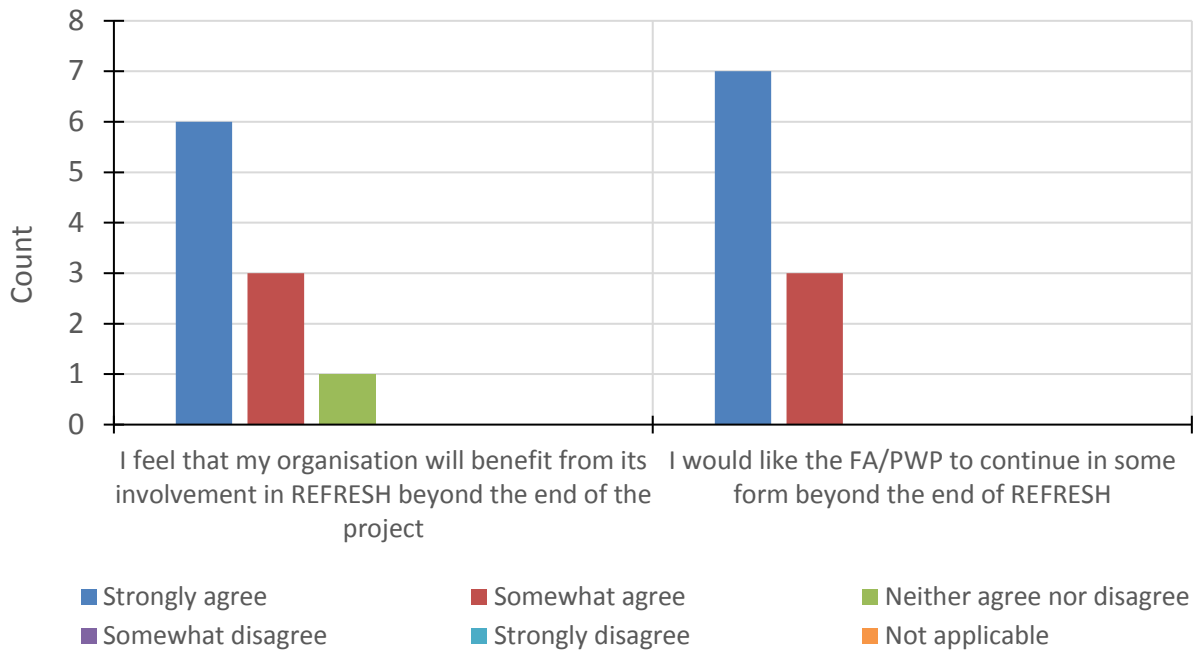


Figure 12 - Final process evaluation: Levels of agreement with two statements about life beyond REFRESH (Hungary)

The HFBA highlighted during the final evaluation interview that the FA will continue in some form beyond REFRESH but there may be changes to the PWP structure.

"The steering committee may change in the future depending on the level of activity of those involved" – Balázs CSEH, Hungarian Food Bank Association

Furthermore, the lead organisation highlighted:

"Being part of this international community and getting a lot of experience and advice from other countries was a big help for us and we hope to see that in the future" - Balázs CSEH, Hungarian Food Bank Association

"This community of partners working together in REFRESH was a good team, we hope to be part of this or a similar consortium in the near future" - Balázs CSEH, Hungarian Food Bank Association

5 FA success

Each FA experienced their own successes and challenges, these have been discussed below considering the short- and medium-term success indicators (Table 1).

5.1.1 Germany

Many organisations (20) were recruited to join the PWP of the German FA; the second largest out of the piloted countries. The PWP included a diverse range of food waste stakeholders, with those from the retail sector participating in food waste pilot projects. The projects were promising, recognised challenges and highlighted lessons which can be used by other organisations considering similar interventions. The pilot projects fit the highlighted food waste hotspots identified in Germany. However, not all the food waste hotspots were addressed, which is understandable considering limited funding and the listed difficulty that the time must also be right for the participating organisations. In addition to the REFRESH pilot projects, 67% of respondents highlighted in the final process evaluation that other food waste projects they had been involved with had benefited from their involvement in REFRESH.

When considering the perceived benefit of REFRESH, the mid-term evaluation suggested 83% of FA member respondents had benefitted from REFRESH a little. In the final evaluation when asked whether FA members agreed with the statement "I feel my organisation gets value from being involved in REFRESH", 92% of respondents agreed, with most of these respondents in strong agreement. This increase in positive responses may indicate that it can take time for FA members to realise the perceived benefits of participation. Nevertheless, positive responses suggested that outcomes are likely to have been stronger due to FA participation.

Regarding food waste measurement, there appears to have been some challenges in this area. Many signatories engaged with attempting to establish a food waste baseline but obtaining quantitative food waste measurements in tonnes was problematic. However, most of the companies had data concerning monetary losses related to food waste. In the pilot projects evaluation approaches were mainly qualitative. However, apart from the "tolerance extension" project, the pilot projects did not necessarily lend themselves to quantitative food waste measurements and as such it is understandable that they have relied on qualitative evaluation metrics. Nevertheless, this made evaluating the overall impact of both the FA and pilot projects difficult and as such we can't say with certainty that the interventions have led to food waste reductions.

Finally, feedback from the process evaluations listed both transparency and trust as important factors in the FAs success. It is important that these two characteristics are maintained and strengthened to encourage organisations to share food waste measurements in the future, for use in FA monitoring and evaluation.

5.1.2 Netherlands

Netherlands has successfully recruited significantly more signatories to join their FA than any of the other countries. As it stands there are now 50 signatories in the TCEF. However, focus on recruitment has not translated to a significant number of signatories taking part in REFRESH pilot projects, which may have been due to slight delays in the initial set up and agreement of the FA. In total, three pilot projects were run in the Netherlands and focused on addressing food waste in the retail and hospitality sectors. However, two of these projects were “pre-pilots” conducted by WUR; to be adopted by organisations at later stages if they proved beneficial. During the final process evaluation, a question was posed to respondents in attempts to determine whether wider food waste projects in the Netherlands had been influenced by organisations involvement in REFRESH. It was anticipated that food waste projects outside REFRESH had benefitted but response rate was very low and therefore the extent of any benefits remains relatively unknown.

When considering the perceived benefit of REFRESH, both in the mid-term and final process evaluations, 100% of FA member respondents suggested they benefitted/received value from REFRESH involvement. This is extremely positive but reflects only a very small proportion of FA member views. Nevertheless, for these members outcomes are likely to have been stronger due to FA participation.

Due to the confidential food waste reporting process adopted by the TCEF, it’s hard to state whether food waste data has improved or whether the number of signatories measuring food waste data has increased. However, learnings from other countries suggest that organisations are likely to be more comfortable reporting food waste measurements in this way.

The Netherlands has done incredibly well to recruit so many signatories and secure future funding for their FA. However, signatory participation in REFRESH pilot projects and a lower response rate in the final evaluation suggest that FA member participation could be improved. Future success of the FA will depend on high levels of participation from the many organisations involved.

5.1.3 Spain

The success of the Spanish FA was, in part, due to the scope and detail of their pilot projects. The FA did well to link their projects to wider REFRESH work packages and as such could benefit from additional support. Furthermore, the FA managed to address all the food waste hotspots listed at early stages of the project: hospitality sector, consumers, and primary production. Due to the size and scope of the projects (e.g. peaches and nectarines quantification), multiple signatories were involved.

When considering the perceived benefit of REFRESH, the mid-term evaluation suggested 100% of FA member respondents had benefitted from REFRESH a little. In the final evaluation when asked whether FA members agreed with the statement “I feel my organisation gets value from being involved in REFRESH”, only 70% of respondents agreed. However, this may be due to the larger sample size and wider circulation to less participative members during the final evaluation, as those

organisations who completed both questionnaires responded throughout the project that they received benefit.

When considering food waste quantification, the Spanish FA did well to determine the impact of their pilot projects. The Gastrofira and the peaches and nectarine projects highlighted the importance of obtaining food waste measurements to develop targeted food waste interventions. However, establishing a baseline for the FA proved difficult and it is apparent that more work is required to obtain food waste measurements from FA members.

Overall, projects in Spain appeared successful, and food waste reductions were observed in the case of the Gastrofira project. However, despite the success of the projects, currently there is no certainty that the FA will continue beyond REFRESH.

5.1.4 Hungary

Hungary had a significantly smaller PWP than other countries, but this did allow them to ensure pilot project participation from most PWP members. The FA was built from a previously established food waste forum which may have helped in the quick identification of food waste hotspots and determining appropriate interventions. In total the FA ran four pilot projects addressing multiple food waste hotspots in the country: consumers, redistribution, hospitality and retail. The projects appeared successful and produced several useful findings to be taken forward by other organisations.

Two pilot projects provided food waste quantifications to determine intervention impact: "Redistribution capacity building" and "Just like home". However, obtaining wider food waste measurements from organisations to develop a baseline was very difficult; it was highlighted that previous negative media experiences were a massive barrier to obtaining this data. It would have initially been assumed that REFRESH resulted in little impact in food waste measurement, but 40% of respondents in the final evaluation said it had some impact in this activity.

When considering the perceived benefit of REFRESH, the mid-term evaluation suggested 89% of FA member respondents had benefitted from REFRESH a little. In the final evaluation when asked whether FA members agreed with the statement "I feel my organisation gets value from being involved in REFRESH", 100% of respondents agreed. Similarly, to Germany, this increase in positive responses may indicate that it can take time for FA members to realise the perceived benefits of participation. Nevertheless, positive responses suggested that outcomes are likely to have been stronger due to FA participation.

In the same vein as Germany, Hungary must work to encourage organisations to share food waste measurements in the future, for use in FA evaluation. One approach that could be adopted is use of a "secret portal" where organisations can upload their data confidentially.

6 Further findings

6.1.1 Measuring food waste

In 2020, the EU plan to make it mandatory for businesses to record their food waste. However, across all the FA pilots, obtaining food waste measurements was extremely difficult. The reasons given for difficulties obtaining the measurements included:

- Commercial sensitivity
- Resources required to measure food waste tonnages
- Previous negative media appearances
- Organisations not wanting to commit to a measurement methodology until EU requirements are finalised

The importance of obtaining food waste measurements can't be understated. Understanding the current situation, allows FAs/countries to:

- Determine food waste hotspots
- Develop targeted interventions for food waste reduction
- Understand FA impact considering SDG12.3
- Evaluate the scalability of interventions

Although qualitative metrics are useful they can't ultimately show whether FAs have driven a reduction in food waste. As such REFRESH has shown that significant barriers remain in this area which are important to address, especially in determining the long-term impact of FAs. In order to address this, new tools are being developed, for example "[the food waste atlas](#)" which allow organisations around the world to input and track their food waste data. These tools, in combination with upcoming EU developments to obtain food waste data from businesses (in tonnes), should hopefully improve food waste measurement in the near future.

6.1.2 Pan-European FAs

One of the initial research questions in the evaluation of WP2 surrounded the possibility of a Pan-European FA. The aim was to gather evidence to determine whether this type of FA could work. However, findings from the mid-term process evaluation suggested that a Pan-European FA would be very difficult to implement due to the following highlighted factors:

- Each partner country had established their own tailored approach in developing an FA
- Each country was at a different stage in their food waste journey
- Each country was subject to different socio-economic and political situations

When considering the different stages of each country in their food waste journey, HFBA stated:

"The general level of commitment is not as high as in for example Netherlands or UK – so setting up a voluntary agreement with such hard commitments would not have been possible in Hungary – started with a "soft type" of commitment – things are now happening step by step" – Balazs CSEH, Hungarian Food Bank Association

It is due to these reasons that a single pan-European FA would likely be very difficult to implement. However, it was observed that the fundamentals of FAs were the same, so experiences from each partner country were instead used to help develop a blueprint which can aid other countries in establishing a voluntary agreement approach which is more beneficial to them. Therefore, although a single FA may not be possible at an EU level it may be possible to adopt a unified approach. Considering this, other Member States are now taking the REFRESH Blueprint and wider lessons learnt during the project to develop national strategies which embrace the voluntary agreement as a guiding principle to organise action across the food supply chain.

6.1.3 Blueprint

Feedback from process evaluations highlighted that some organisations were unclear on the objectives of their FA, even at later stages. This is unsurprising considering these FA pilots are some of the first of their kind and the process of developing clear objectives should continue to improve. However, to provide subsequent countries with a starting point, a [blueprint has been produced](#). The blueprint is based on the five success factors which have been evidenced and followed throughout the project by the four pilot countries. The key steps (Figure 13) allow different countries to be flexible in their approach, catering towards their own socio-economic and political situations.



Figure 13 – The REFRESH Blueprint “Five key steps” for establishing a successful FA

6.1.4 China

These keys steps and further lessons taken from the four pilot FAs were used to establish an FA in China. The Platform “Food Waste Reduction----Action in China” (Save 12.3) was established in 2018, with the aim of supporting SDG 12.3 implementation in China. It held a soft launch at the China Sustainable Consumption Roundtable in June 2018 which attracted more than 200 participants and more than 20 media representatives. Following this a formal public-facing launch was held in Beijing in September 2018. The Platform aims to raise awareness of the issues surrounding food waste, promote the development of standards, and investigate the best ways in which to support food waste reduction at different stages of the supply chain.

In order to further understand the overall impact of REFRESH, towards the end of the project several questions - regarding the establishment and future of the Chinese platform – were asked to IVL China; a co-organizer of the Platform. The questions and responses have been listed below (Table 10).

Table 10: Questions posed to IVL China - regarding the establishment and future of the Chinese food waste reduction platform - and their responses

Question	Response
<p>1. Has REFRESH helped in establishing a voluntary agreement (VA) to tackle food loss and waste in China? (Yes/No)</p>	<p><i>“Yes, the current SAVE 12.3 was launched at the end of 2018, with 3 committed partners, and a wechat (media) channel.”</i></p>
<p>2. If yes, how has REFRESH helped?</p>	<p><i>“With the mission of REFRESH, IVL China has started the exploration of partners, whilst conducting food waste champions and actions towards main target groups (youth) and organized a multi-stakeholder conference. WRAP and IVL experts were engaged in different discussions/designs, and gave valuable inputs to action plans. There are some activities being partially funded by REFRESH as well, like visibility.”</i></p>
<p>3. Were there any challenges in the setup of the Chinese VA?</p>	<p><i>“It is challenging, as government engagement is not strong enough at this stage, we are still on the way of merging the current business initiatives, which later on would better echo government responsibilities on issues such as climate change etc., and expect a stronger and stronger link with government.”</i></p>

4. How will the VA help move China closer towards SDG12.3?

“It is in the very beginning stage, but we are planning very long term. This can only be achieved with a stronger collaborative relationship (VA) with them.”

5. What are the next steps for the VA in China?

“We wish to touch upon the whole food supply chain where food loss and waste occurs, promoting best showcase, developing standards, raising awareness. Starting from the catering and retail industry, as important business engagement. Within this, education, awareness raising and thematic events will be organized. Some actions in the fridge/freezer industry as well, and we are finding innovative solutions together with businesses present in China.”

6. Is there anything else you would like to add?

“Youth is a really important group, which we will constantly focus on: education, international trips, domestic activities, hope this can attract more partner attention, and we jointly can contribute more to the work.”

7 Conclusion

7.1.1 Overview

Through REFRESH WP2, four pilot countries were taken forward for testing food waste voluntary agreements: Germany, Netherlands, Spain and Hungary. The initial evaluation aim was to establish evidence for a pan-European voluntary agreement to tackle food waste. However, findings from multiple process evaluations suggested variations across countries, regarding socio-economic factors and different food waste starting points, would make a single pan-European agreement very difficult to implement. The scope of evaluation therefore changed and focused on determining the impact and success of each FA; taking lessons forward which can be followed by other countries who are considering an FA of their own.

Each FA had its own successes and challenges. The Netherlands recruited more signatories than any other country but had challenges around establishing participation in pilot projects; however, participation will be progressed under the umbrella of “Samen tegen Voedselverspilling” as the continuation of the VA approach. In contrast, the Hungarian FA had much fewer signatories but had strong commitment from many members in their food waste reduction projects. In Spain, the FA addressed all the food waste areas that they had identified but have yet to agree on continuation of the FA beyond REFRESH. Finally, Germany had many pilot projects but relied heavily on qualitative metrics for evaluation.

Across all the countries feedback from FA members was positive and it was therefore expected that FA participation likely improved food waste reduction outcomes. The FA members felt that they benefitted or received value from their involvement in REFRESH and felt REFRESH had impacted several different food waste activities in their organisation; most notably collaborative working with others, which was commonly listed as one of REFRESH’s greatest achievements. However, in contrast, many FA members felt that REFRESH had little impact on their measurement of food waste. Although this was expected to be partly due to some organisations already measuring food waste, it was evident through an attempted baselining exercise that there are still several barriers to obtaining quantitative food waste measurements.

The lessons learnt through WP2 have helped establish a food waste voluntary agreement in China. The Platform “Food Waste Reduction----Action in China” (Save 12.3) - established in 2018 - aims to raise awareness of food waste and investigate the best approaches necessary to support food waste reduction across the food supply chain. Furthermore, REFRESH has helped establish a blueprint which lists steps that countries and food waste stakeholders should consider when setting up their own food waste voluntary agreement. These steps have been adopted and implemented throughout the REFRESH FA pilots and have shown to be beneficial in the establishment of the FAs. The blueprint as well as further supporting materials, created through REFRESH WP2, should be used to support future FAs in other countries; e.g. Sweden, Denmark and Belgium.

Ultimately, the true success of the REFRESH FA pilots will be determined by their long-term impact on levels of food waste, which will rely on high levels of participation from all stakeholders involved. It is important that future countries take this into consideration and learn from the lessons provided by those organisations who worked hard to develop their agreements in Germany, Netherlands, Spain and Hungary. These countries have highlighted their commitment to tackle food waste and ultimately, like voluntary agreements, it's encouraging to know that they aren't working to tackle this issue alone.

7.1.2 Future evaluation

Despite promising qualitative responses, this report has been unable to determine the true quantitative impact of FA pilots. This is due – in part – to the difficulties highlighted in [Section 6.1.1](#) and expectation that it may take time for FAs to develop to a stage where participating organisations are able to measure and publish their food waste data. Although, the importance of measurement for target-setting, action-selection and evaluation purposes was shared by the platform members, public reporting remains a point of contention. Nevertheless, it is important to gather this data considering previous articles which have questioned the environmental effectiveness of voluntary approaches (OECD, 2003; Koehler, 2007; Rivera & DeLeon, 2008).

Any future FAs (e.g. Sweden, Denmark and Belgium) would benefit from increased consideration of the fifth element of the blueprint "measurement and evaluation". To evaluate FA impact, future evaluation of FAs would do well to address a counterfactual, determining comparative food waste reductions from similar organisations who aren't part of any FA. This will help determine whether any of the changes experienced to food waste behaviour can be directly attributed to the FA. Although it is anticipated that outcomes had likely been improved through FA participation, it would be interesting to see how the food waste performance of FA organisations compare to their non-FA counterparts.

7.1.3 Usefulness of FAs

Evaluation of the REFRESH business engagement approach has shown that FAs have the potential to facilitate collaboration between different stakeholders across the food supply chain. This was evident in the final process evaluation as 93% of respondents, across all countries, stated REFRESH had made at least some difference to their collaborative working with other organisations, with the majority stating it had made a lot of difference. Through this collaboration, FAs appear useful in bringing food waste stakeholders together to work towards a common goal. However, additional REFRESH outputs have highlighted that FAs must also be conscious of potential barriers to collaboration between supply chain actors. The prevalence of potential unfair trading practices can present an obstacle in this regard (REFRESH, 2019).

Evaluation also highlighted that the majority (90%) of respondents, across all countries, felt their organisation received value from being involved in REFRESH. Through shared lessons learnt it is expected that the benefits of FAs can extend far beyond the country in which they are adopted. Each REFRESH pilot working platform has highlighted important lessons across a wide range of food waste

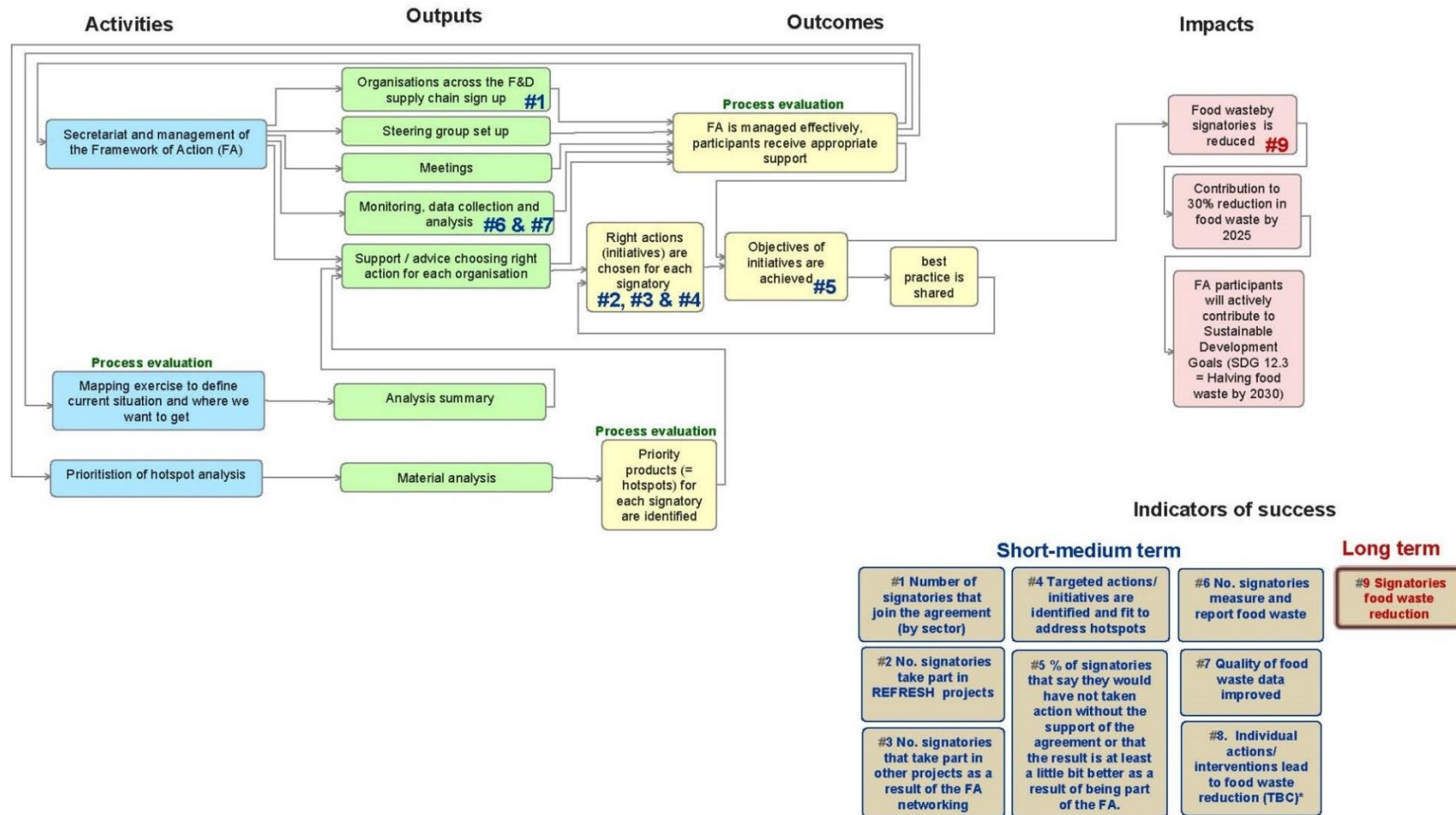
reduction projects which can help ensure organisations and future FAs choose the right actions necessary to deliver change.

The REFRESH project also highlighted that FAs appear to offer a flexible approach to tackling food waste, which can encourage action by ensuring ambitions align with either national or wider food waste goals (SDG 12.3). This beneficial flexibility was shown as FA pilots responded to variations in individual socio-economic, political and environmental situations. Furthermore, FAs can often be adapted as situations change and as the need for stronger ambitions arise. For these reasons – and others – FAs may prove increasingly important in countries looking for alternatives to legislative measures to encourage food waste reduction.

8 References

- HFBA. (n.d.). Hungarian Food Bank Association: Who we are? Retrieved April 16, 2019, from https://www.elelmiszerbank.hu/en/about_us/who_we_are.html
- HISPACOOP. (2012). Consume responsablemente reduciendo el desperdicio alimentario. Retrieved from <http://www.hispacoop.org/desperdicios/wp-content/uploads/2017/05/INFOGRAFIA-DESPERDICIO-ALIMENTARIO.pdf>
- Koehler, D. A. (2007). The effectiveness of voluntary environmental programs—A policy at a crossroads?. *Policy Studies Journal*, 35(4), 689-722.
- OECD (2003), *Voluntary Approaches for Environmental Policy: Effectiveness, Efficiency and Usage in Policy Mixes*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264101784-en>.
- REFRESH. (2019). Voluntary Agreements to Address Food Waste REFRESH Community of Experts webinar series. Retrieved from www.eu-refresh.org
- Rivera, J. E., & DeLeon, P. (2008). Voluntary environmental programs: are carrots without sticks enough?. *Policy studies journal*, 36(1), 61-64.
- Sirieix, L., Lála, J., & Kocmanová, K. (2017). Understanding the antecedents of consumers' attitudes towards doggy bags in restaurants: Concern about food waste, culture, norms and emotions. *Journal of Retailing and Consumer Services*, 34, 153-158.
- TCEF. (2018). SAMEN TEGEN VOEDSELVERSPILLING: Taskforce Circular Economy in Food. Retrieved from http://samentegenvoedselverspilling.nl.transurl.nl/wp-content/uploads/2018/03/A113_Taskforce_FoodWaste_Agenda_v6_LR.pdf
- WRAP. (2013). What is Courtauld 2025? | WRAP UK. Retrieved April 15, 2019, from <http://www.wrap.org.uk/content/what-courtauld-2025>
- WRAP (2013b) Overview of Waste in the UK Hospitality and Food Service Sector <http://www.wrap.org.uk/sites/files/wrap/Overview%20of%20Waste%20in%20the%20UK%20Hospitality%20and%20Food%20Service%20Sector%20FINAL.pdf>
- WWF. (2015). DAS GROSSE WEGSCHMEISSEN. Retrieved from http://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/WWF_Studie_Das_grosse_Wegschmeissen.pdf
- WRAP. (2017). Courtauld Commitment 3: Delivering action on waste. Retrieved from http://www.wrap.org.uk/sites/files/wrap/Courtauld_Commitment_3_final_report_0.pdf

9 Appendix 1: WP2 Programme logic



10 Appendix 2: WP2 Sub-objectives

Overall WP2 Objective	Sub-objective	Research Questions	Indicators	Type	Data collection approach
Obj. 1.	Assess whether or not the FA has been successful in bringing organisations across the supply chain together	Has the FA been successful in bringing organisation across the supply chain together?	1. Number of signatories that join the agreement (analysis by sector)	Short/medium term	Lead organisation regular reporting
Obj. 1	Signatories have taken action to reduce food waste	Have the FA signatories successfully taken action to reduce food waste?	2. No. of signatories that take part in REFRESH projects 3. No. of signatories that take part in other projects as a result of the FA networking 4. Targeted interventions are identified and fit to address hotspots	Short/medium term	Lead organisation regular reporting Case studies in which contextual factors are explored in detail and interventions monitoring data
		To what extent have they done it because of the FA?	5. % of signatories that say they would not have taken action without the support of the agreement or that the outcomes are stronger as a result of being part of the FA	Short/medium term	Independent interviews with signatories
Obj. 1	Food waste data has improved	To what extent has food waste data improved?	6. No. of signatories that measure and report food waste 7. Quality of food waste data has improved	Short/medium term	Annual signatory monitoring data Annual auditor (=WRAP) report feedback
Obj. 1	Food waste is reduced	Is there a measureable reduction in food waste?	8. Individual actions/interventions lead to food waste reduction (TBC)* 9. Signatories food has waste reduced	Short/medium term Long term	Individual action/intervention monitoring data (TBC)* Annual signatory monitoring data
Obj. 1	The creation of the FA has made a difference	What difference has it made the creation of an FA	Qualitative indicators to be defined to assess impact before and after the intervention	Medium term	Annual interviews by lead organisation with a conversation guide provided by WRAP
Obj. 2	Good understanding of which factor have contributed to or hindered the success of the pilot FAs is achieved	Which conditions are necessary and/or sufficient for the successful establishment of a FA	N/A	Medium term	Desktop research (including review of reports and evidence gathered by this and other WPs), and interviews with lead organisations. The final output will be four case studies and an evaluation report that will bring the learnings from the four case studies together.
Obj. 2	Long-term sustainability of the FAs beyond REFRESH	To what extent are the pilots likely to continue beyond REFRESH? Which aspects (if any) would need to be modified for the FA to continue?	N/A	Medium term	
Obj. 2	Assess importance of socio, political and economic factors in the success (or not) the FA in each country	In which context could the actions/interventions be replicated successfully?	N/A	Medium term	
Obj. 3	Gaining an understanding whether a pan-European FA would be viable/useful	To what extent would each individual pilot have benefited from a pan-European pilot?	N/A	Medium term	

11 Appendix 3: Food waste monitoring data form



Refresh business food waste measurement questionnaire

Key:

	required data entry
	Optional (recommended) data entry

All data refers to the total for the calendar year January-December 2016

Name of the business	
Name of person completing this document	
Contact (phone number, email)	
Date of submission	

Part I: Quantitative data

Contextual information	Units	Data 2016
Turnover of the business for the calendar year	€	
Total retail sales volume in tonnes of product	Tonnes	
Total waste of all materials (food waste, packaging waste and other wastes combined)	Tonnes	
Disposal cost of handling all materials waste	€	
Disposal cost of handling food waste	€	

Food Surplus data

Food surplus is any food, and inedible parts of food that are not sold as primarily intended, but are nonetheless used to feed humans or livestock, or are used in high-value industrial purposes (e.g. bio-plastics).

Food surplus/reject donated to charity for redistribution or sold on secondary markets	Tonnes	
Food surplus/reject sent to animal feed	Tonnes	
Food surplus/reject sent for input to food or non-food industrial processes	Tonnes	

Food Waste data

Food waste is any food, and inedible parts of food, removed from the food supply chain to be sent for disposal (including anaerobic digestion, composting, bio-energy production, co-generation, incineration, crops ploughed in/not harvested, disposal to sewer, landfill or discarded to sea)

Please specify the quantity of food waste converted to tonnes	Tonnes	
---	--------	--

Food Waste breakdown (optional)

By destination

In reference to FLW Protocol, please outline the split of food waste by different destinations / treatment options:

Anaerobic digestion	Tonnes	
Composting	Tonnes	
Land spreading	Tonnes	
Rendering	Tonnes	
Thermal treatment with energy recovery	Tonnes	
Thermal treatment without energy recovery	Tonnes	
Landfill	Tonnes	
Other waste management technology	Tonnes	
TOTAL	Tonnes	0

By avoidability / edibility

In reference to FLW Protocol, please outline the split of food waste between food and associated inedible parts such as peels and bones:

The part that would have been edible	Tonnes	
Associated inedible parts	Tonnes	
TOTAL	Tonnes	0

By food category

Please fill according to any break-out you have, and copy lines if more needed

e.g. bakery	Tonnes	
e.g. dairy	Tonnes	
^Add more lines if necessary.	Tonnes	
TOTAL	Tonnes	0

Check to confirm the following:

Packaging and any other non-Food waste material have been EXCLUDED from inventory results.
Inventory results reflect the state in which the FLW was generated (i.e., before water is added or before intrinsic water weight of FLW is removed).
Pre-harvest losses have been EXCLUDED from inventory results.

<input type="checkbox"/> FALSE
<input type="checkbox"/> FALSE
<input type="checkbox"/> FALSE

Part II: Important contextual information**Approach to measuring food waste**

Please, describe how you have measured/estimated your food waste for this submission. E.g. have you done some measurements? have you estimated it from waste collection cost? etc. Specially indicate if you have encountered any problems or made any assumptions and how you are planning to address this next year (or if you need help addressing those problems).

Approach to reducing food waste

Are you currently running any initiatives to reduce food waste from your own operations, supply chains or your customers? Were you running any initiatives to reduce food waste from your own operations, supply chains or your customers? If yes, please briefly describe them. Have you measured any associated savings?

12 Appendix 4: Initial process evaluation questionnaire

Introduction

The information provided in this questionnaire will only be seen by WRAP and will not be shared with the Lead Organisations or anyone else associated with the Framework Agreement (FA) / Pilot Working Platform (PWP). Aggregated data only will be shared – no information will be attributed to any individuals/organisations.

We are aware that not all of the questions will be relevant to everyone, but please answer as many as possible. We would like your honest feedback as we are keen to learn as much as possible about your views on the FA so that we can provide an overview of feedback to the PWP on what is working well and where improvements could be made.

Background:

A1) Organisation name: -

A2) Type of organisation:

- Retail
- Hospitality
- Manufacturing
- Agriculture / Farming
- NGO / Charity
- Government / Ministry
- Association
- Academic
- Other

A3) Size of organisation:

- Less than 10 (Micro)
- 10-49 (Small)
- 50-249 (Medium)
- 250+ (Large)

A4) Are you a member of the Pilot Working Platform (PWP)?

- Yes
- No

A5) If yes, what do you value most about being a member of the PWP?

A6) Are you a Signatory to the Framework Agreement?

- Yes
- No

A7) If yes, what do you value most about being a Signatory to the FA?

Additional questions for Hungary

A8) If you are not a PWP member or a signatory, are you a supporting organisation?

- Yes
- No

A9) If yes, do you think you will become a PWP member in the future?

- Yes
- No

A9) Are you a member of the steering committee?

- Yes
- No

Involvement:

B1) What encouraged your organisation to become involved with REFRESH/the PWP? [tick all that apply]

- Working with others with similar objectives
- Learning from others
- Gaining ideas for actions to take
- Gaining skills and understanding to deliver actions
- Gaining confidence to try new approaches to implement actions
- Meeting business objectives
- Customer / client criticism of food waste
- Involvement in similar agreements previously
- Other [please specify] _____

B2) Has your organisation benefited from its involvement in the FA/PWP?

- Yes, a lot
- Yes, a little
- No

B3) If yes, how has the organisation benefited? -

B4) Do you think your organisation will benefit in the future from having been involved in the FA/PWP?

- Yes
- No

B5) If yes, how does the organisation expect to benefit?

B6) How important is it to your organisation to be part of the FA/PWP?

- Very important
- Somewhat important
- Not important

Leadership / structure:

C1) How satisfied are you with the way [*enter name of lead organisation in each country*] has led the FA/PWP?

- Very Satisfied
- Somewhat satisfied
- Not satisfied

C2) How successful has the FA/PWP been in bringing organisations together to agree common objectives?

- Very successful
- Somewhat Successful
- Not Successful

C3) How satisfied are you with the progress the FA/PWP has made so far?

- Very satisfied
- Somewhat satisfied
- Not satisfied

C4) How successful do you think the FA/PWP will be in achieving its objectives?

- Very successful
- Somewhat successful
- Not successful
- I don't know what the FA's objectives are

C5) In your opinion, what are the FA's/PWP's greatest strengths?

C6) In your opinion, what could the FA/PWP do better?

C7) If you are a PWP member, do you think you would you have had the same level of commitment without a formal, signed agreement?

- Yes
- No

C8) If yes, why is the formal, signed agreement not required?

C9) If no, how has the formal, signed agreement provided greater commitment? _____

C10) If there was an internationally recognised portal for reporting on food waste against SDG 12.3, would you use it?

C11) If yes, why?

C12) If no, why not?

Food waste actions:

D1) Was your organisation working to reduce food waste prior to becoming a signatory to the FA / member of the PWP:

- Yes
- No

D2) To what extent did becoming a signatory/member change the organisation's food waste behaviour?

- We are doing a lot more to reduce food waste
- We are doing a little more to reduce food waste
- We have identified with plans/actions to reduce food waste in the future
- We are doing less to reduce food waste
- There has been no change

D3) What actions are you taking to reduce food waste?

D4) What actions do you plan to take in the future?

D5) How likely is it that these changes would have been made if you were not involved with REFRESH / the PWP?

- Unlikely to have happened without REFRESH
- Likely to have happened without REFRESH but a lot better as a result of the support
- Likely to have happened without REFRESH but a little better as a result of the support.

- REFRESH made no difference

D6) REFRESH targets on food waste work towards meeting SDG12.3. If there was a shorter-term target (e.g. a 5% reduction in food waste in 3 years) would you still have signed up to the FA?

- Yes
- No
- Not sure

Future:

E1) Would your organisation be interested in continued involvement in activities in line with the FA/PWP objectives beyond the end of the REFRESH project / PWP pilot?

- Yes
- No
- Maybe

WRAP is planning to conduct interviews with some of the signatories during January and February 2018 in order to gain some more feedback on the Framework Agreement / Pilot Working Platform. If you are happy to be contacted by WRAP to take part in an interview, please complete the details below:

Contact name: -

Phone:

Email:

We plan to conduct the interviews in English. Please specify if this would not be possible. _____

13 Appendix 5: Final process evaluation questionnaire

Introduction

Firstly, thank you for agreeing to take part in this important questionnaire, we really value your feedback so please answer all the questions. We anticipate the questionnaire will take approximately 20-30 minutes to complete. Please note, we would welcome feedback from all participants, including those who completed last year's questionnaire.

The questionnaires purpose is to help determine the impact of REFRESH and gather key insights and learnings from the voluntary agreement approach.

The information provided in this questionnaire will only be seen by WRAP and will not be shared with the Lead Organisations or anyone else associated with the Framework Agreement (FA) / Pilot Working Platform (PWP). Aggregated data only will be shared – no information will be attributed to any individuals/organisations.

Questionnaire

- 1) Organisation name: _____
- 2) Level of engagement/involvement in REFRESH [tick all that apply]:
 - FA Signatory
 - PWP member
 - Steering Committee member
 - Supporting organisation
 - None
- 3) On a scale of 1 to 5, how engaged was your organisation in food waste activities before becoming involved with REFRESH (FA/PWP)?
 - 5 – Extremely engaged
 - 4 – Very engaged
 - 3 – Moderately engaged
 - 2 – Slightly engaged
 - 1 – Not engaged
 - Don't know
- 4) How much difference has your involvement in REFRESH (FA/PWP) made to your food waste activities in the following areas? [Tick one option in each row]:

	Made no difference (0%)	Made some difference (25%)	Made a lot of difference (50%)	Would not have happened without REFRESH (100%)	N/A
Communications about food waste (internal)					
Communications about food waste (external)					
Collaborative working with other organisations					
Measuring food waste					
Trialling activities to reduce food waste					
Identifying food waste as a priority area on the organisation's business agenda					

5) Have you taken any steps to quantify food waste (e.g. tonnes/value) to measure the impact of your REFRESH activities?

- Yes (please specify)

- No (If no, were there any barriers to quantifying food waste?)

- #N/A

6) Have you taken other steps to measure the impact of your REFRESH activities (e.g. number of participants at food waste training sessions, collecting feedback through focus groups/interviews etc.)?

- Yes (please specify)

- No

- #N/A

7) Excluding the REFRESH pilot projects, are there any food waste activities that you have undertaken since the start of REFRESH which you feel have benefitted from your involvement in the FA/PWP?

- Yes (please specify activities)

- No

8) Please identify how strongly you agree or disagree with each of the following statements [tick one option per row]:

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	N/A
I feel my organisation gets value from being involved in REFRESH						
It is clear what is expected of my organisation's involvement in REFRESH						
I am satisfied with the way the lead organisation has led the FA/PWP						
I feel the REFRESH project strongly supported my organisation to lead the way in tackling food waste						
Being a PWP member has allowed the organisation to have a meaningful input into						

shaping the voluntary agreement approach						
The voluntary agreement approach works well for addressing food waste in our country						
Other countries would benefit from adopting a voluntary agreement approach						
It is important to have a formal, signed commitment						
I feel that my organisation will benefit from its involvement in REFRESH beyond the end of the project						
I would like the FA/PWP to continue in some form beyond the end of REFRESH						

9) In your opinion, what will be the greatest achievement of REFRESH (FA/PWP)?

10) Following REFRESH, what actions do you plan to take in the future to reduce food waste? (e.g. setting food waste targets, improve monitoring etc.)

11) Is there anything else you would like to add about your experience with REFRESH?

12) Finally, would you be happy for WRAP to contact your organisation to discuss the possible use of quotes/extracts from this questionnaire to share lessons learnt from the REFRESH voluntary agreements?

- Yes, I am happy for WRAP to contact my organisation
- No, I do not want WRAP to contact my organisation

If you answered yes to question 12, please could you fill out the information below:

Contact name: -

Phone:

Email:

14 Appendix 6: Initial process evaluation – Lead organisation interview guide

<p><u>Motivations for involvement</u></p> <p>What benefits do you think involvement in REFRESH brings to organisations?</p> <p>What do you think organisations value most about becoming a PWP member / Signatory?</p> <p>Do you think having a formal, signed agreement in place makes a difference? Why / why not?</p>	
<p><u>Leadership</u></p> <p>Have more organisations joined / expressed an interest in joining since the initial recruitment?</p> <p>Is there anything you would have done differently in terms of recruitment, given any learning from the process?</p> <p>Have organisations maintained their level of engagement in the PWP?</p> <ul style="list-style-type: none"> • <i>How easy/difficult has it been to ensure their ongoing engagement?</i> <p>What are the greatest challenges you have faced in leading the PWP?</p> <ul style="list-style-type: none"> • <i>How have you overcome these?</i> • <i>What recommendations would you make to others going through a similar process?</i> <p>How easy has it been to bring organisations together to agree common objectives?</p> <ul style="list-style-type: none"> • <i>Have objectives changed at all over time?</i> 	

<p>Is there anything you would do differently if you had to do it again?</p> <p>What elements do you consider most important in establishing an effective PWP?</p> <ul style="list-style-type: none"> • <i>Probe for government buy-in/representation, mix of organisations, etc.</i> <p>Is the PWP representative of the range of actors needed to shape and implement the FA?</p> <p>What benefits have you gained as a lead organisation from leading this process?</p>	
<p><u>Food waste</u></p> <p>What was your organisation doing prior to REFRESH to spread messages on food waste reduction?</p> <ul style="list-style-type: none"> • <i>Probe on whether this is an extension to existing work or has entailed a new emphasis.</i> <p>How much of a difference do you think REFRESH has made to the food waste behaviour of those involved?</p> <ul style="list-style-type: none"> • <i>Probe as to whether REFRESH has provided more motivation for organisations to reduce food waste</i> • <i>To what extent are changes in food waste behaviour a result of REFRESH? (Would they have happened anyway?)</i> • <i>Are there any other factors (i.e. other external conversations about food waste) that may have influenced change?</i> <p>What have been the biggest challenges to addressing food waste in your country?</p> <ul style="list-style-type: none"> • <i>As well as measurements, probe on consumer behaviours, retailers vs. supply chain, etc.</i> <p>Do you think REFRESH will help in overcoming these? What more could be done to address these?</p>	

<p>Do you think organisations would use an internationally recognised portal for reporting on food waste if one were available? Why / why not?</p>	
<p><u>Objectives/achievements</u></p> <p>What do you think has been REFRESH's greatest achievement so far?</p> <p>Do you think the FA/PWP will be successful in achieving its objectives? Why / why not?</p> <p>Do you think the FA approach is the best way to meet objectives? Why / why not?</p> <p>Do you think the use of a FA similar to that used in REFRESH would be effective in other countries / situations?</p>	
<p><u>Community of Experts</u></p> <p>Do you make use of the CoE?</p> <ul style="list-style-type: none"> • <i>Do you contribute to it?</i> • <i>Do you make use of the materials available?</i> <p>Do you point other organisations to the CoE?</p> <ul style="list-style-type: none"> • <i>How much do you think they utilise it?</i> • <i>Have you received feedback on it?</i> <p>How useful do you find the CoE / how useful do you think it will be in the future?</p> <p>Is there anything else you would like to see included?</p>	
<p><u>Other</u></p> <p>Is there anything we haven't covered that you would like to add about REFRESH?</p>	

15 Appendix 7: Final process evaluation – Lead organisation interview guide

<p><u>REFRESH - Achievements</u></p> <p>How much difference do you feel REFRESH has made to the food waste behaviour of those involved?</p> <ul style="list-style-type: none"> • Has REFRESH motivated organisations to reduce food waste? • Do you feel that there are any other factors, outside of REFRESH, which may have influenced changes in food waste? <p>What do you think has been REFRESH’s greatest achievement?</p> <p>Was there anything about the FA/PWP that exceeded your expectations?</p>	
<p><u>REFRESH - Challenges</u></p> <p>Were there any challenges in leading the FA?</p> <ul style="list-style-type: none"> • Were there any difficulties maintaining levels of engagement of those organisations involved? • Were there issues obtaining food waste measurement data? <p>Is there anything you would have done differently if you were to do it again?</p> <p>Do you feel REFRESH has reached it’s objectives?</p>	
<p><u>REFRESH – Expectations for the future</u></p> <p>Would you like to see REFRESH continue in some form beyond it’s end date?</p> <p>How beneficial do you feel the VA approach is – do you think there is scope/appetite for VAs to be set up in your country?</p> <p>Are there plans for the FA/PWP to remain in some capacity?</p>	
<p><u>Other</u></p> <p>Is there anything we haven’t covered that you would like to add about REFRESH?</p>	