The voice of professional publishers

PPA Carbon Calculator Guidelines

Background

The PPA Carbon Calculator is a tool which allows UK magazine publishers to estimate the carbon footprint of:

- A publisher's office buildings
- The fieldwork associated with publishing (e.g. business meetings, journalist travel, etc)
- The manufacture, distribution, consumption and disposal of a printed publication (i.e. a physical magazine title) and/or
- The provision and consumption of digital content (e.g. web pages, page turners, apps, etc).

Using the calculator provides publishers with an understanding of the size of the carbon impact of different activities within their business and therefore allows them to make informed decisions as to how these impacts can be reduced and managed.

The tool is produced as a membership benefit for PPA members. The development and application of the Carbon Calculator is enshrined in the sector's Responsibility Deal, as agreed between Defra and PPA.

The help provided is broken down into easily digestible sections, focusing on key issues and questions that users are likely to encounter. If users cannot resolve a particular question from the help provided, further support can be accessed by contacting Michael Sturges (michael.sturges@innventia.com) or Rose Benjamin (rose.benjamin@ppa.co.uk), or use the Contact form in the calculator.

Contents

Getting started

About your account

The calculator is available free of charge to all PPA member companies. To create your account, you will first have to register online and then have your account approved. Only individuals working for companies who are members of the PPA are provided with access to the calculator. Where multiple users are registered within a single company, they will all access the same company specific version of the calculator. This allows users within a company to share projects, thereby reducing the potential for work to be needlessly replicated. This means that the projects that you create in the calculator will be visible to other users of the calculator within your company, and vice versa.

There are two principal types of users:

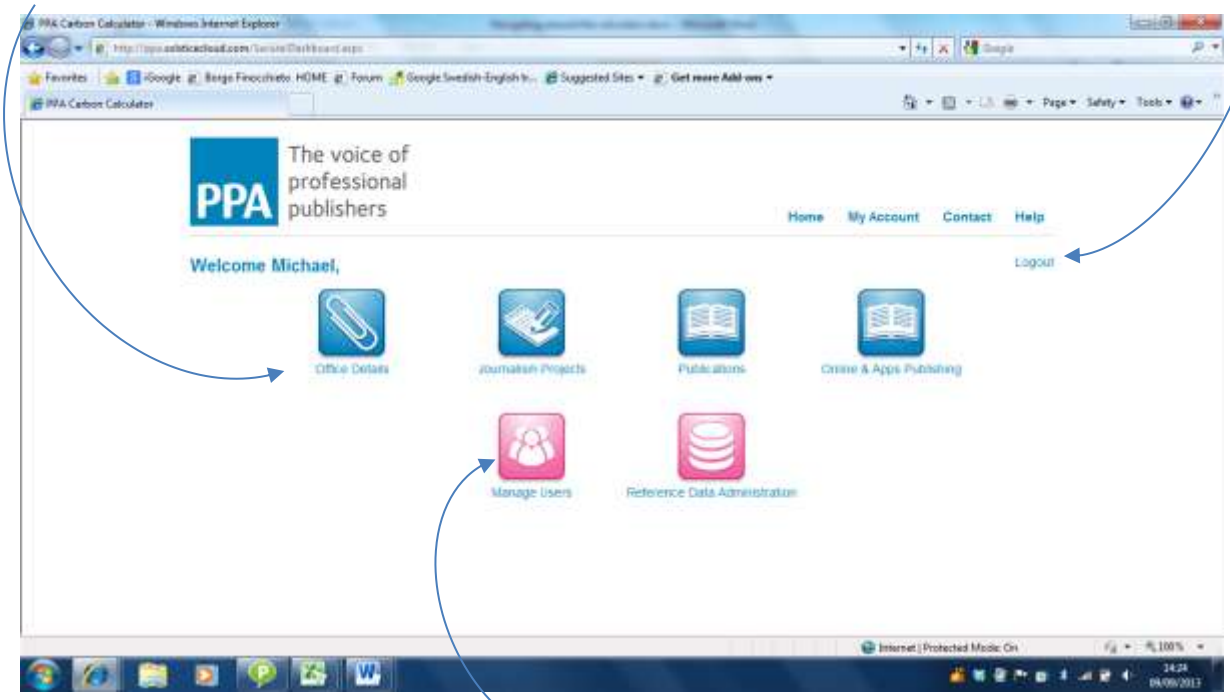
- Standard Users – these users can create and edit projects and review results
- Master Users – these users can also create and edit projects and review results, but they also have additional administrative rights. In particular, Master Users can:
    - Suspend or delete other Standard Users from within their company (e.g. in the instance that an individual leaves the employment of the company, it may be necessary to delete or suspend the account)
    - Add additional reference data which will only be accessible to users within the company.

In addition, there is also a Global Administrator. The Global Administrator keeps all the background data up to date and can also manage access to the calculator – for example, if a company is no longer a member of PPA access to the calculator can be suspended.

Navigating around the calculator

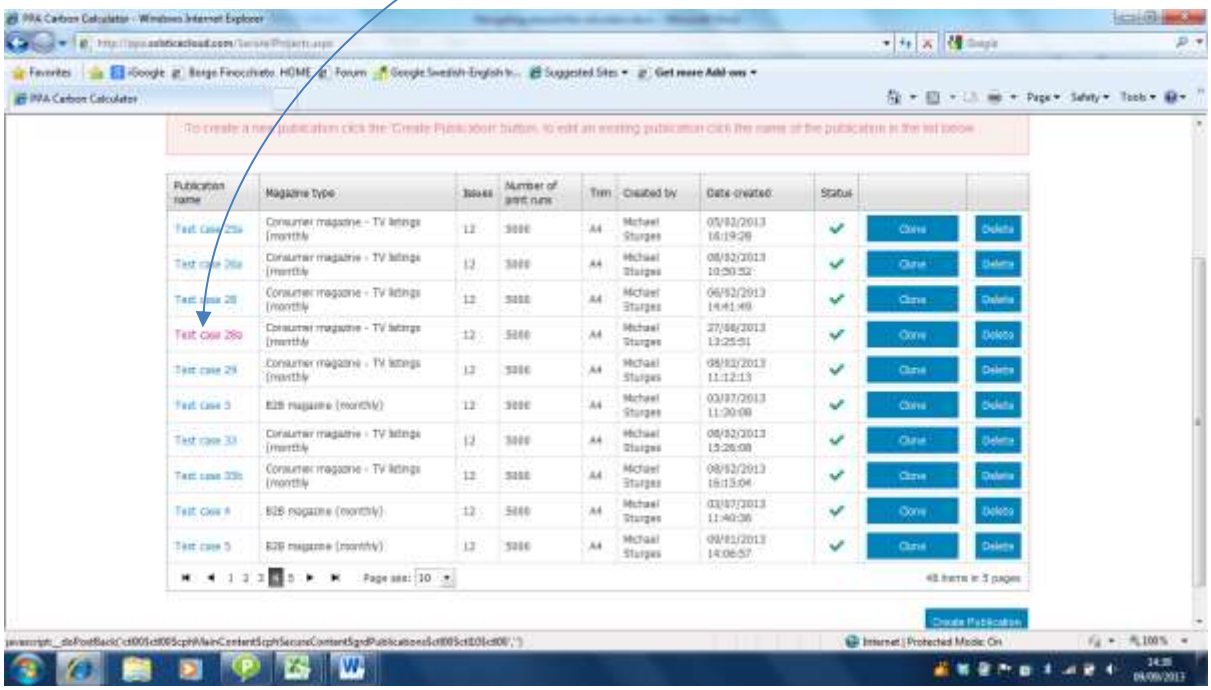
The main page for the calculator is the "dashboard". From the dashboard, you can:

- Click on the tabs to update your account details, make contact with an administrator or access the help pages
- Click on the blue buttons to access the calculator modules

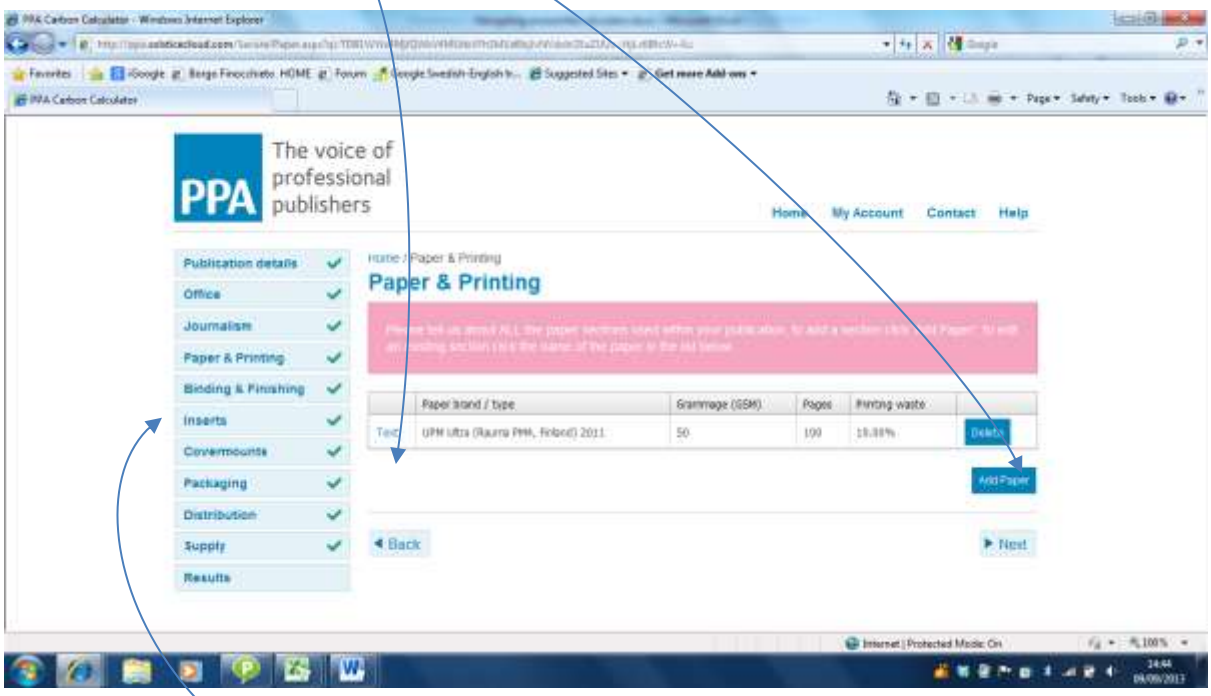


Users with administrator rights will also see pink buttons which they can click on to manage user accounts within their company and to add reference data specific to their company.

When a calculator module is opened, any text that is shown in blue can be clicked on to access further data and information that sits behind the item. If you hover over the text using the arrow key, the text turns pink and a hand icon becomes active. This can be used to click the text. In the example below, clicking on the text "Test case 28a" will open up the Test case 28a project.



Within a project, the "Back" and "Next" buttons can be used to navigate between the data forms.



Alternatively, the form names in the list to the left-hand side can be used to jump directly to a form.

Calculating the footprint of an office building

What information do I need to calculate the footprint of an office building?

The table below summarises the information you will require for calculating the footprint of an office building. The information is identified as either Essential (i.e. without this data we cannot make the calculation), Desirable (e.g. if this data point has only minor influence over the overall results, or if the data is unavailable it may still be possible to make a calculation, e.g. using an average data value) or Optional (not necessary for making the footprint calculation but can be used to improve the calculation if the data is available.

Information required	**Essential, desirable or optional**	**Comment**
Location details:		
Office name	Essential	A unique name to identify the office
Country	Essential	The country the office is located in must be identified so that the appropriate grid electricity mix can be considered when working out the footprint associated with electricity consumed. When choosing the country, you will also see that different years are available. This allows you to track the impact of an office over time, as the grid electricity mix changes. As it takes 2-3 years for the carbon data associated with national electricity mixes to be prepared, you may not be able to find the current year available in the drop down box. In this case, use the most recent year for which data is available.
Office activities:		
Floor space (sq m)	Optional	These data values are not used at all in the carbon footprint calculations. They are useful reference points which can be used to understand how the dynamics of an office has changed when tracking the footprint of a building over time.
Number of employees		
Number of titles overseen by this office		
Number of copies per year arising from the activities of this office		
Number of issues per year arising from the activities of this office		
Utilities consumed:		
Annual grid electricity consumed (kWh)	Essential	

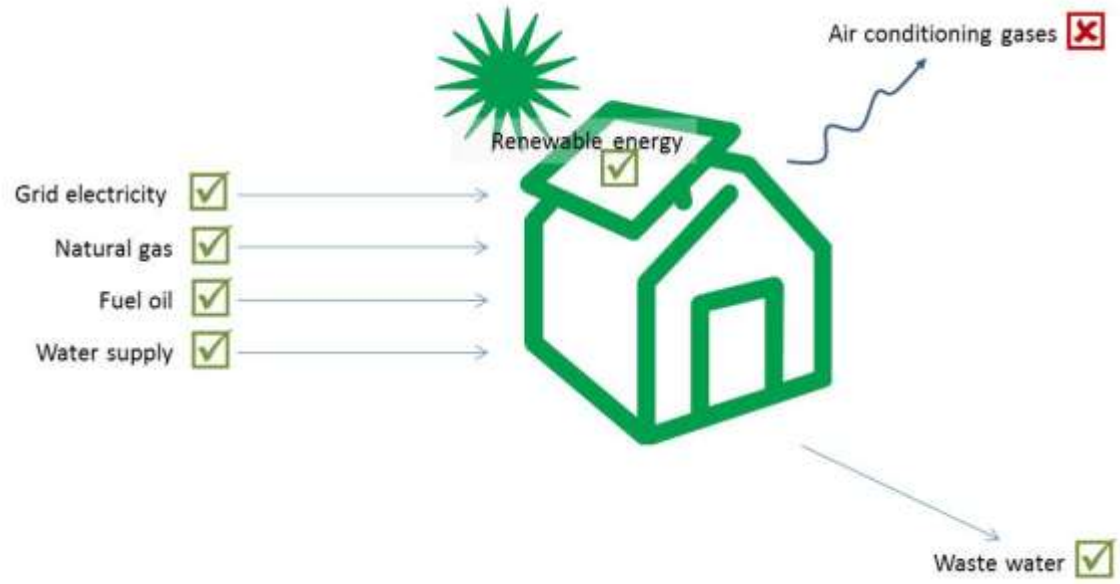
Annual renewable energy consumed (kWh)	Optional	For example, if the building has solar panels on the roof Note: the carbon footprint for renewable energy consumed is considered as zero, so if this information is not available it will not change the results
Annual natural gas consumed (kWh)	Essential	Natural gas consumed for space heating
Annual fuel oil consumed (kWh)	Essential	Fuel oil consumed for space heating
Annual water consumption (cubic metres)	Desirable	Experience shows that the carbon footprint associated with water used is negligible compared to the impact associated with energy consumed. Therefore, if this information is unavailable the impact on the results will be very small.

What is included in the office building footprint?

The carbon footprint calculation for office buildings focuses on the utilities consumed by the building:

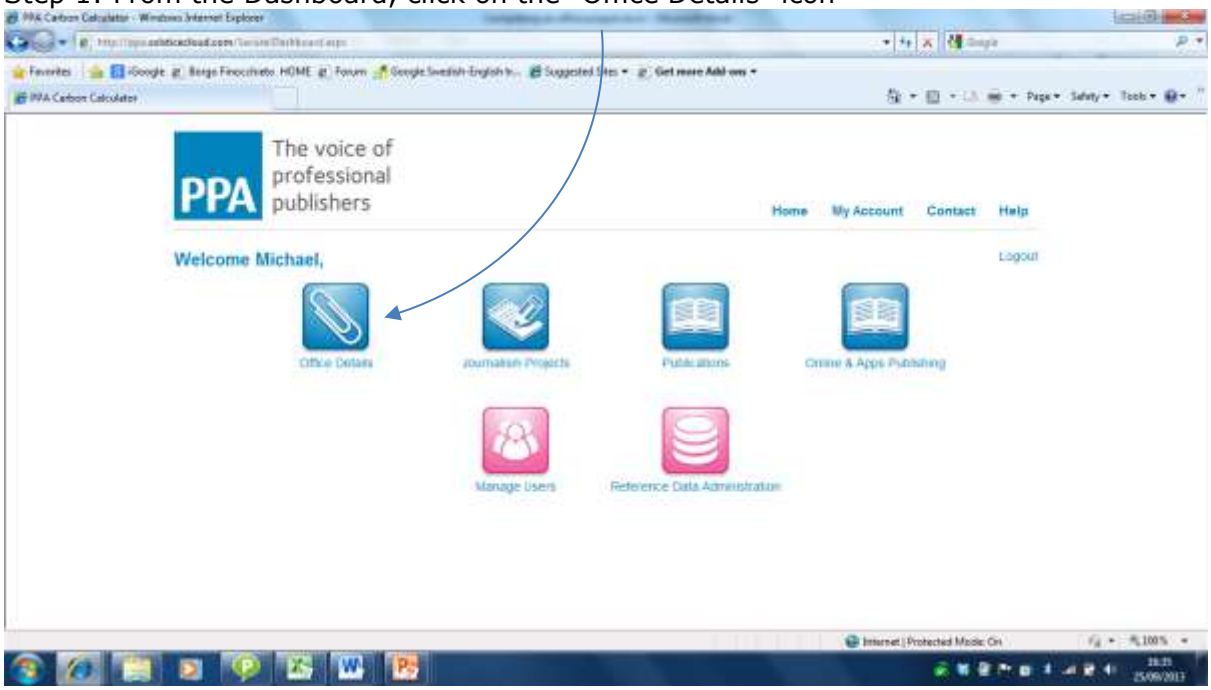
- Grid electricity consumed
- Renewable energy consumed
- Natural gas consumed
- Fuel oil consumed (for space heating)
- Water consumed and waste water discharged.

The calculation includes the impacts from electricity required to power air conditioning units, but it does not include the impacts from any emissions of air conditioning gases from the units

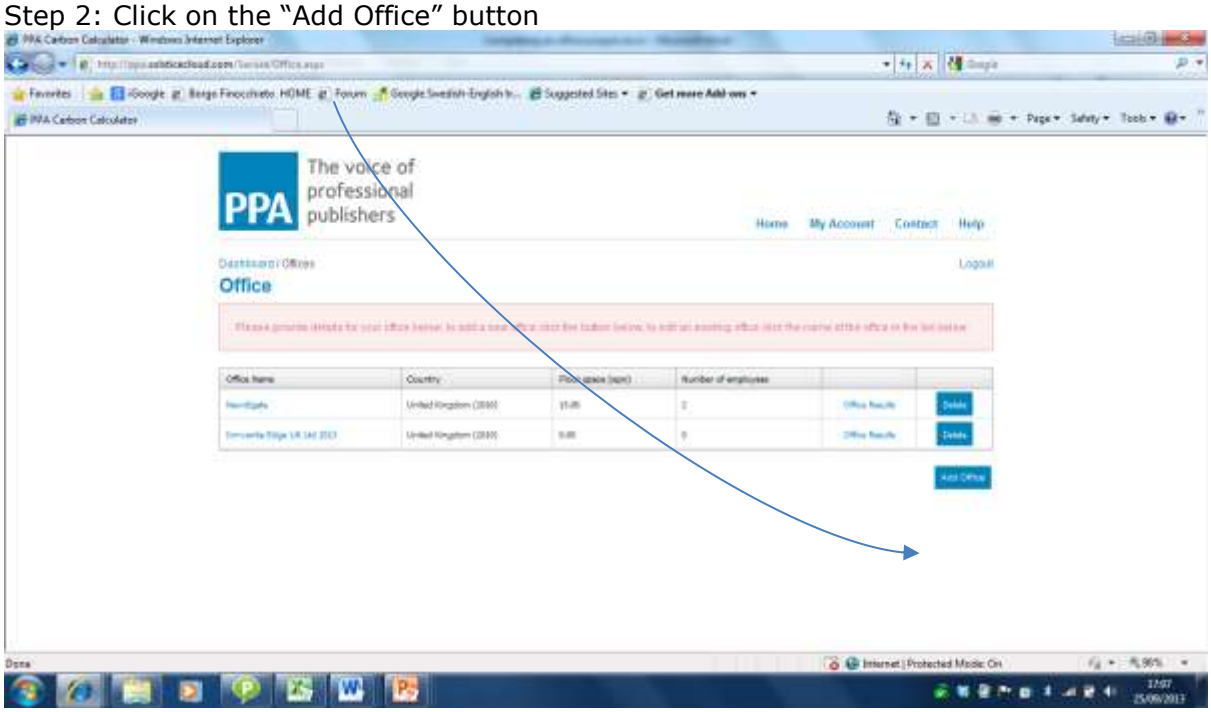


Completing a publication project

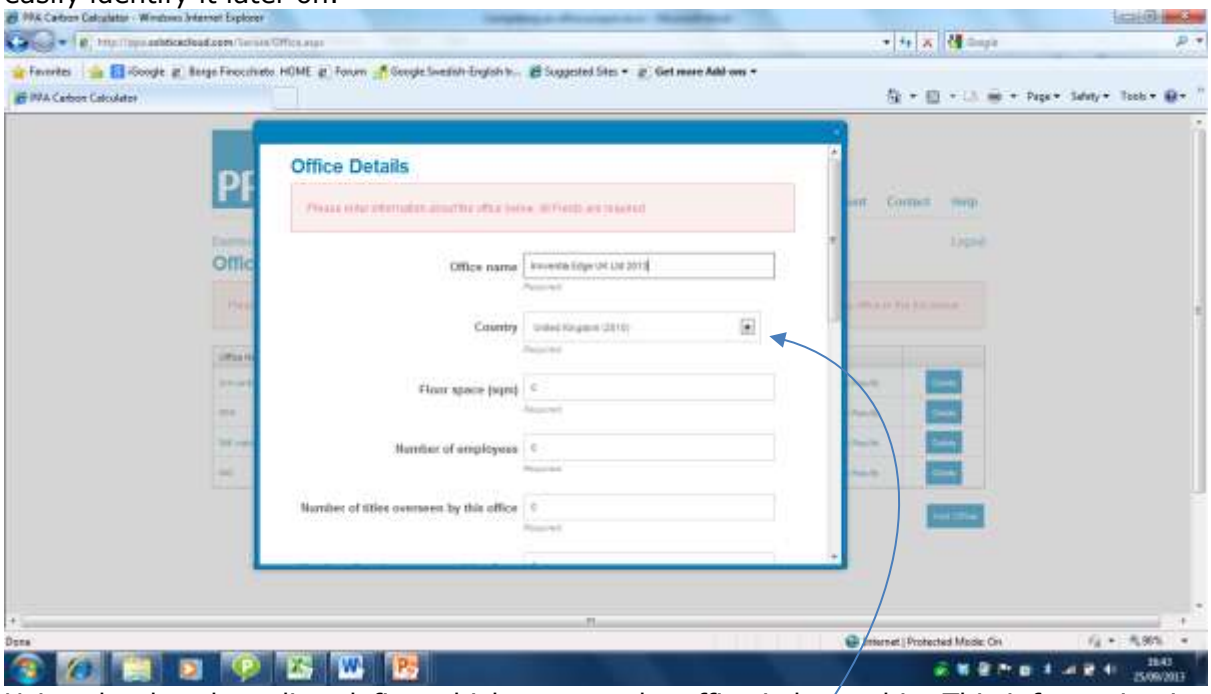
Step 1: From the Dashboard, click on the "Office Details" icon



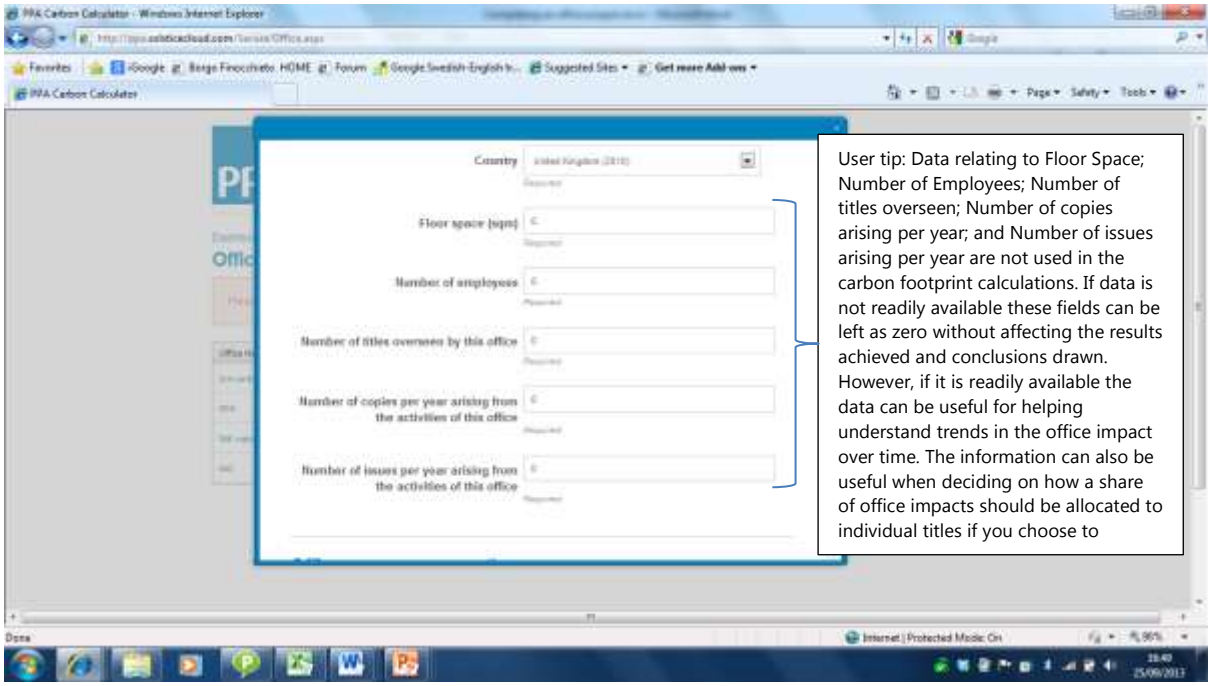
Step 2: Click on the "Add Office" button

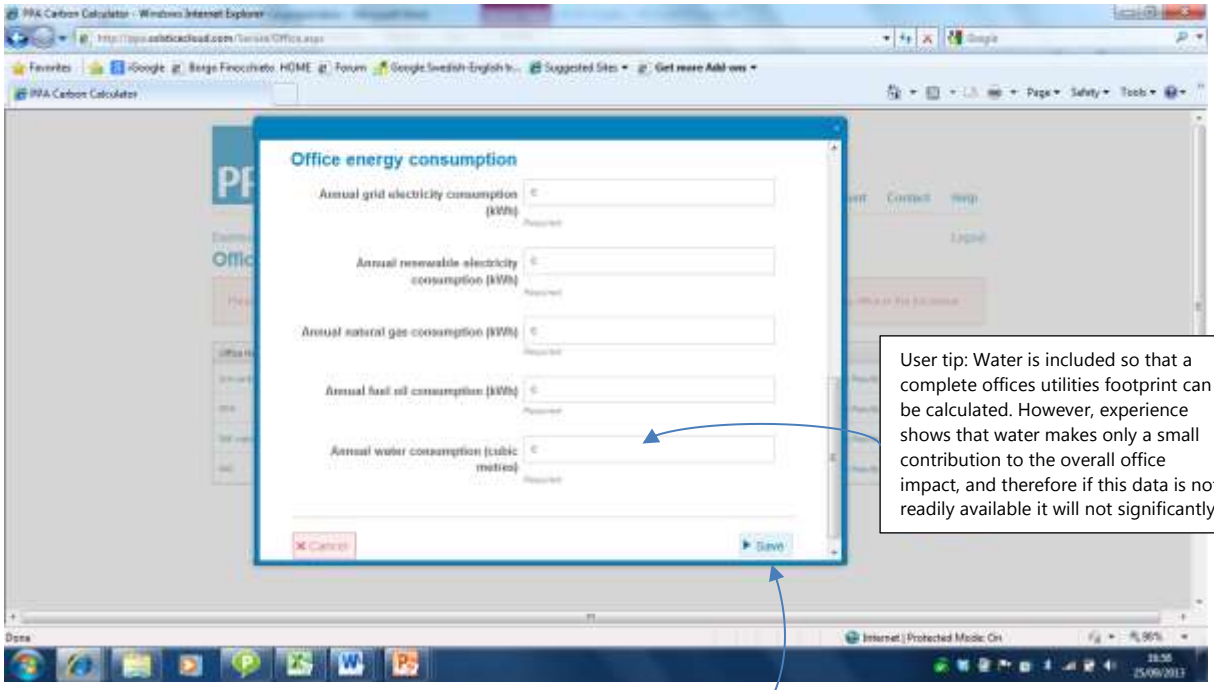


Step 3: In the "Office details" form complete the details about the office for which you wish to calculate the carbon impact. Give the Office a project a clear name that will allow you to easily identify it later on.



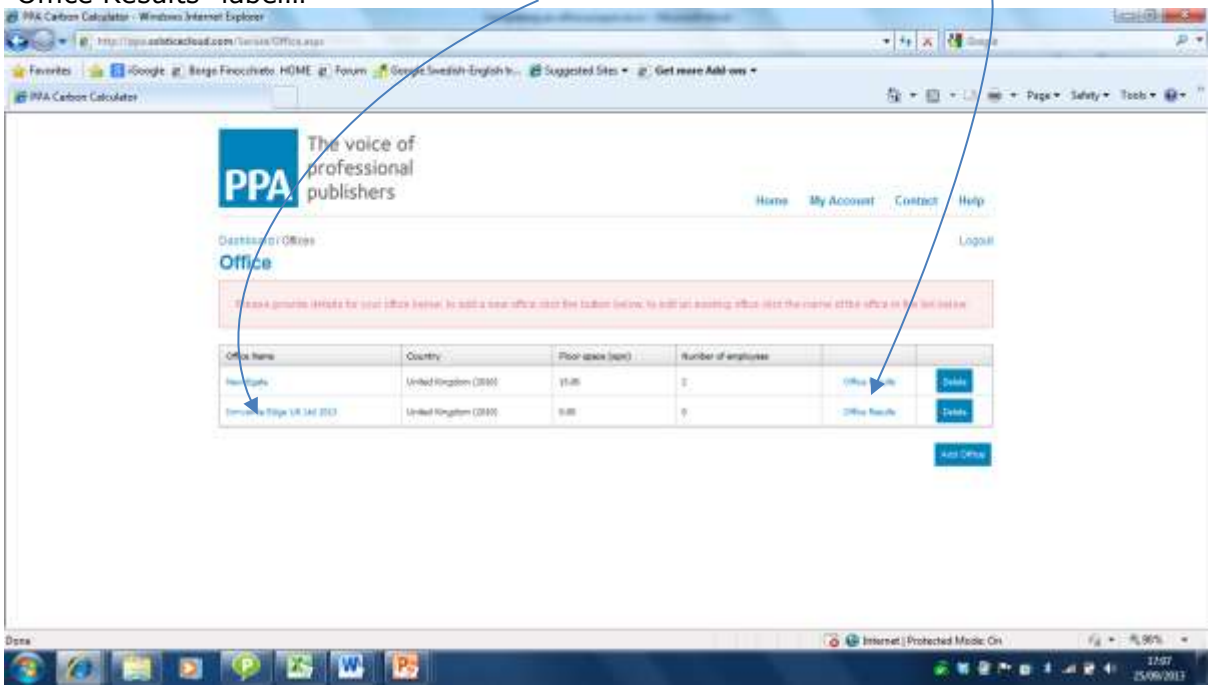
Using the dropdown list, define which country the office is located in. This information is important as the carbon intensity of grid electricity varies depending on the national electricity mix. However, it takes 2-3 years for the country specific national electricity carbon factors to be calculated and published. Therefore, select the most recent year available.





When the data has been added, click on the "Save" button.

Step 4: The Office Project you have created is now available in the list of projects. If you wish to edit or view the data for this project, click on the Office Name. If you click on the "Office Results" label…

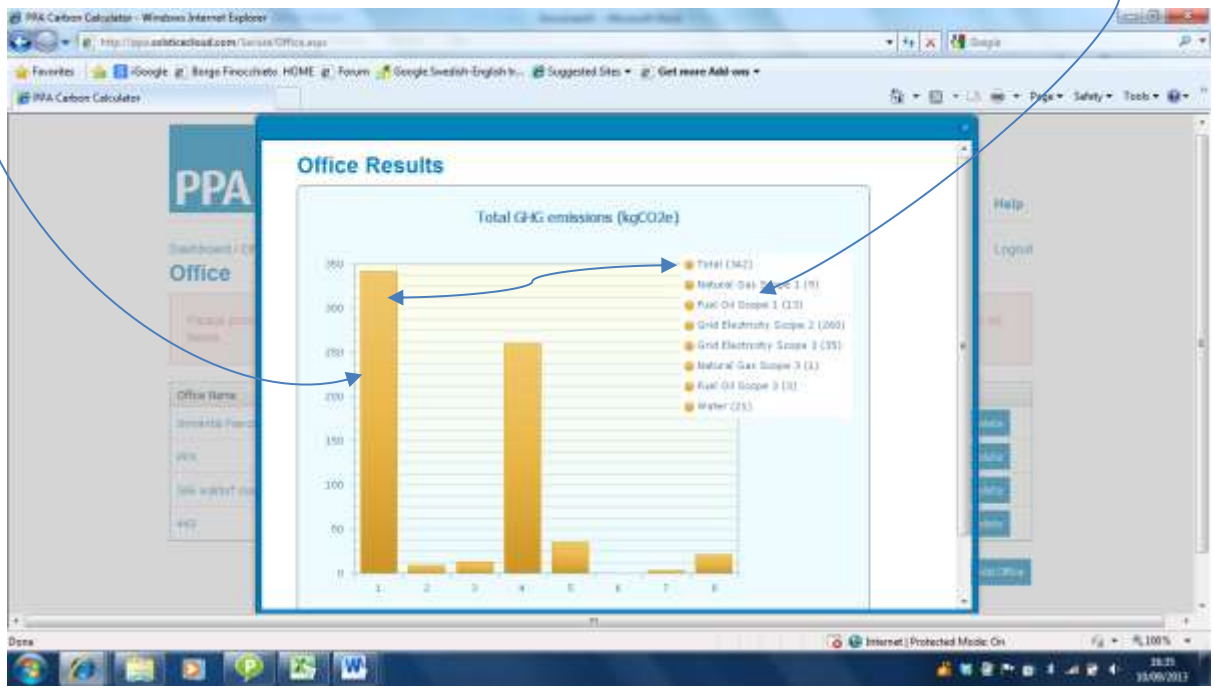


…and the "Office Results" window opens…

Step 5: To return to the "Office Projects" page, close the "Office Results" window using the x.

What do the office results mean?

The first bar in the graph presents the total office carbon footprint (in kgCO2e) arising from the consumption of utilities (energy and water). The absolute value is also presented in the corresponding table. In this example, the total office utility carbon footprint is 342kgCO2e.



Bars 2-8 provide a breakdown of the total according to the specific contribution of each individual utility. The absolute values are also presented in the legend table. The bars are presented in the same order as the legend table, i.e. Bar 2 is the result for Natural Gas Scope1, Bar 3 is the result for Fuel Oil Scope 1, etc.

Results for the different energy utilities are presented as Scope 1, Scope 2 and Scope 3:

- Scope 1 emissions are those under your direct control – in this case, emissions arising from the combustion of fuels onsite (e.g. burning of gas or oil in a boiler for space heating and hot water)
- Scope 2 emissions are those emissions associated with the generation of the electricity your office consumes
- Scope 3 emissions arise from the production of the fuels you consume (e.g. emissions associated with the extraction, processing and distribution of natural gas)

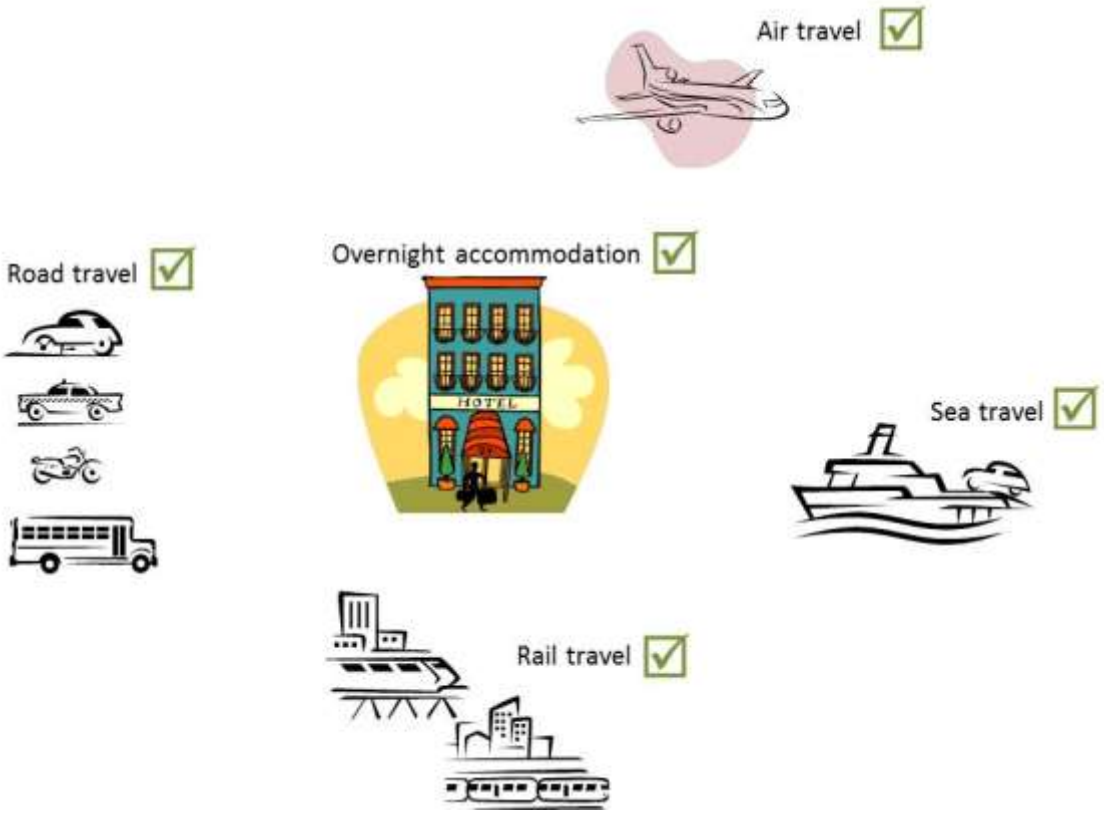
Calculating the footprint of fieldwork and journalism

What information do I need to calculate the footprint of fieldwork and journalism?
The table below summarises the information you will require for calculating the footprint of fieldwork and journalism. The information is identified as either Essential (i.e. without this data we cannot make the calculation), Desirable (e.g. if this data point has only minor influence over the overall results, or if the data is unavailable it may still be possible to make a calculation, e.g. using an average data value) or Optional (not necessary for making the footprint calculation but can be used to improve the calculation if the data is available.

Information required	**Essential, desirable or optional**	**Comment**
Travel – data needed for each journey considered:		
Type of transport (e.g. car, train, flight, etc)	Essential	Where specific details of the transport more are not known, average options are available (e.g.
Distance travelled	Essential	
Overnight stays:		
Number of overnights stays (per person)	Desirable	

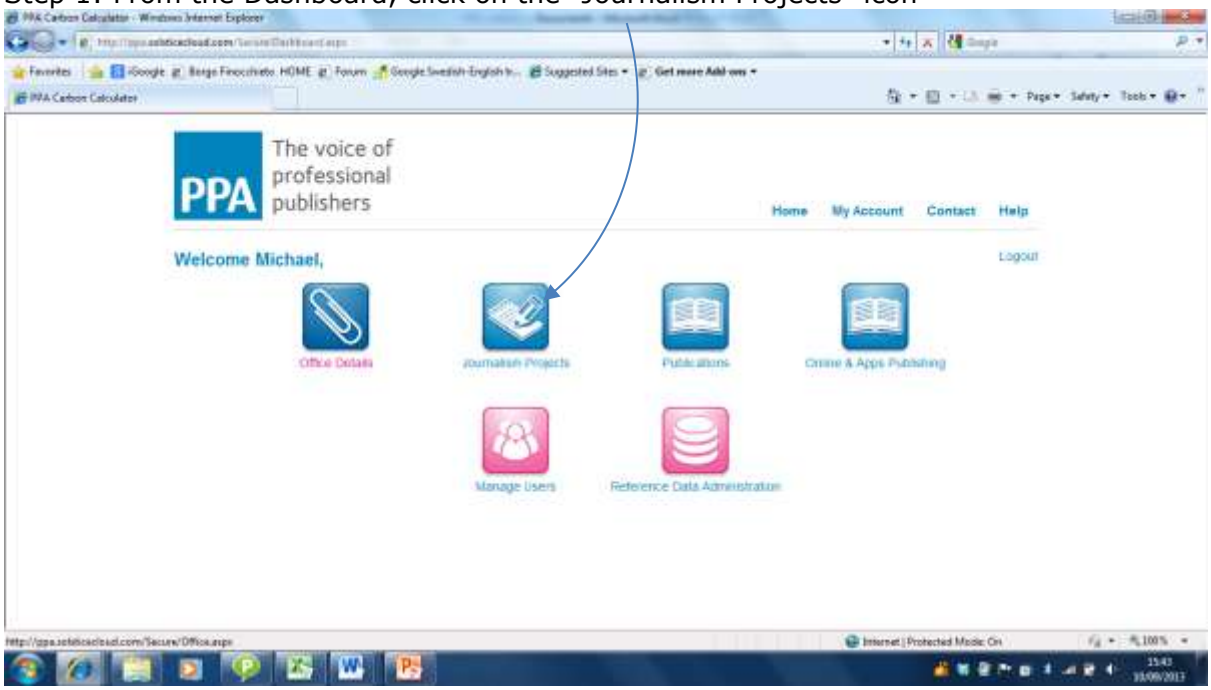
What is included in the fieldwork and journalism footprint?
The carbon footprint calculation for fieldwork and journalism can include:

- The emissions associated with production and consumption of fuels used for travel (for all modes of travel)
- The impact arising from any overnight hotel stays (dinner, drinks, and bed and breakfast)

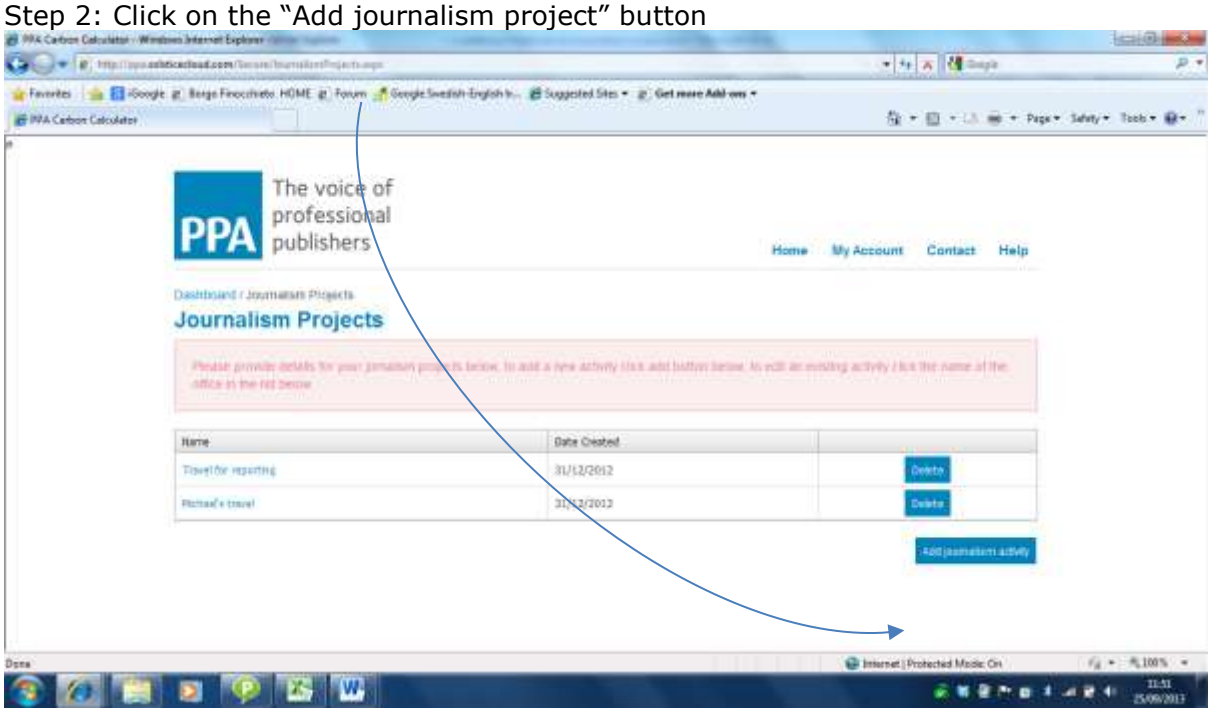


Completing a fieldwork and journalism project

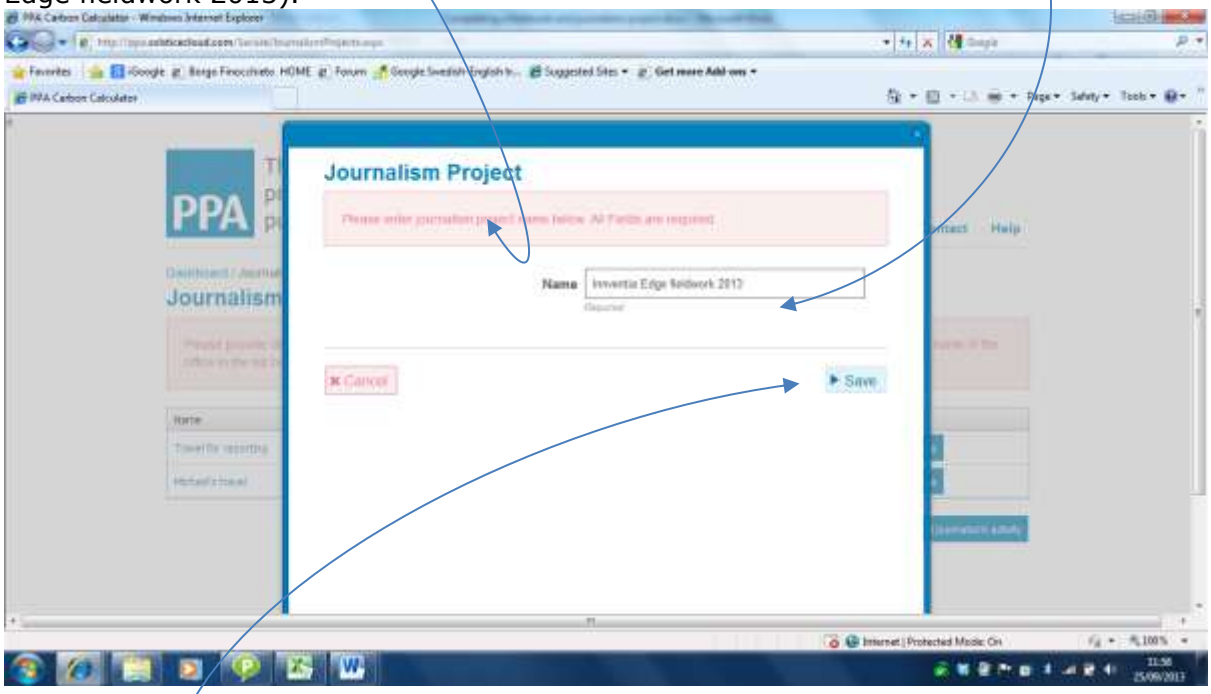
Step 1: From the Dashboard, click on the "Journalism Projects" icon



Step 2: Click on the "Add journalism project" button

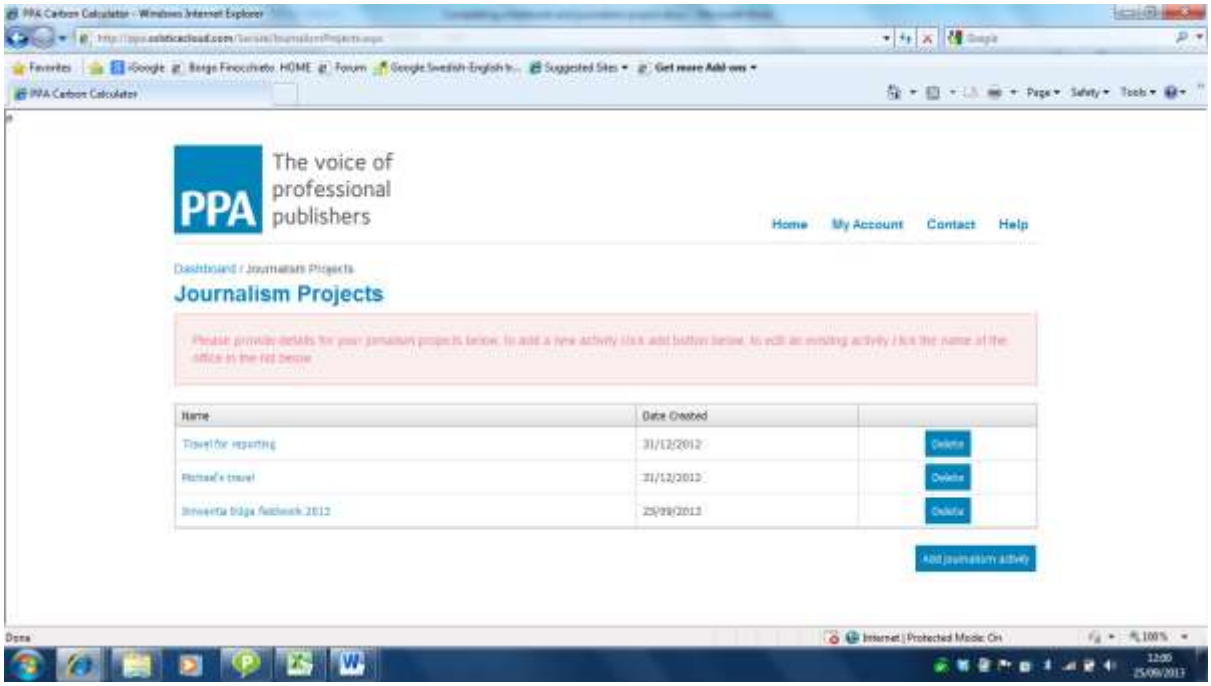


Step 3: In the "Journalism Project" window that opens up, give the project a unique name so that you are able to recognise it and call on in the future (in this example, Innventia Edge fieldwork 2013).



Now click "Save". You are taken back to the list of Journalism and fieldwork project. The new Project that you have created is now available in the list, ready to be edited.

Step 4: To edit the new project (or to edit an existing project) click on the project's name.



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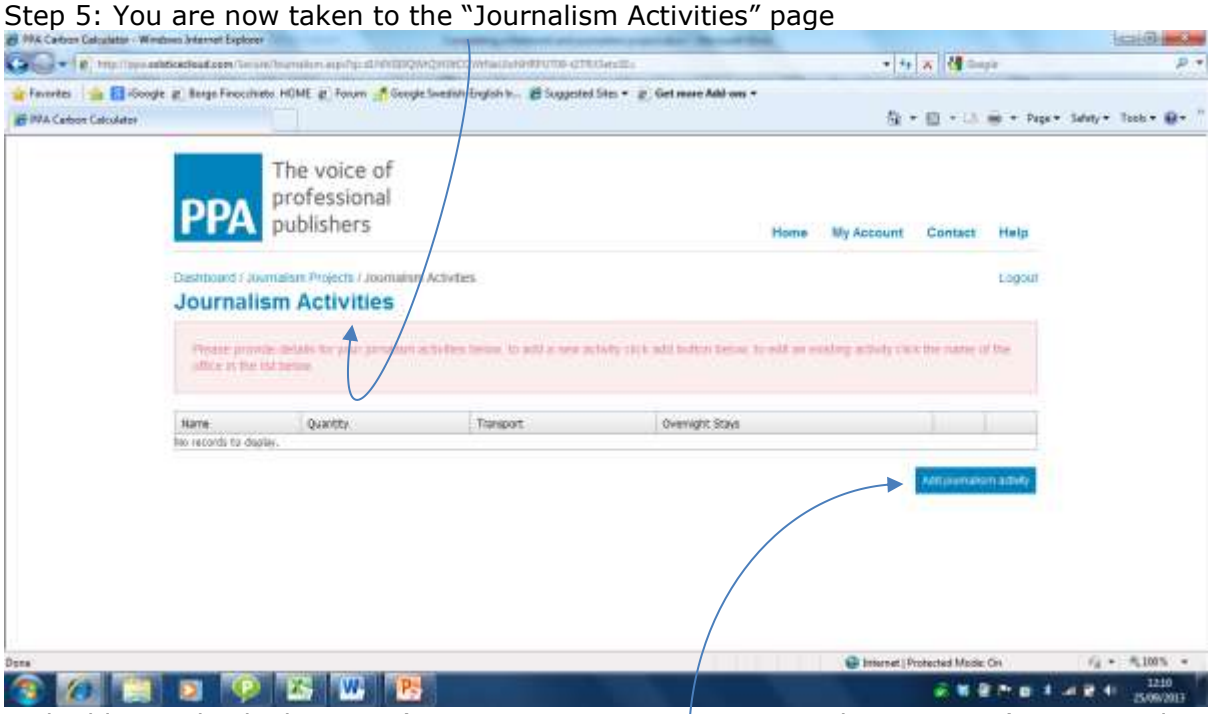
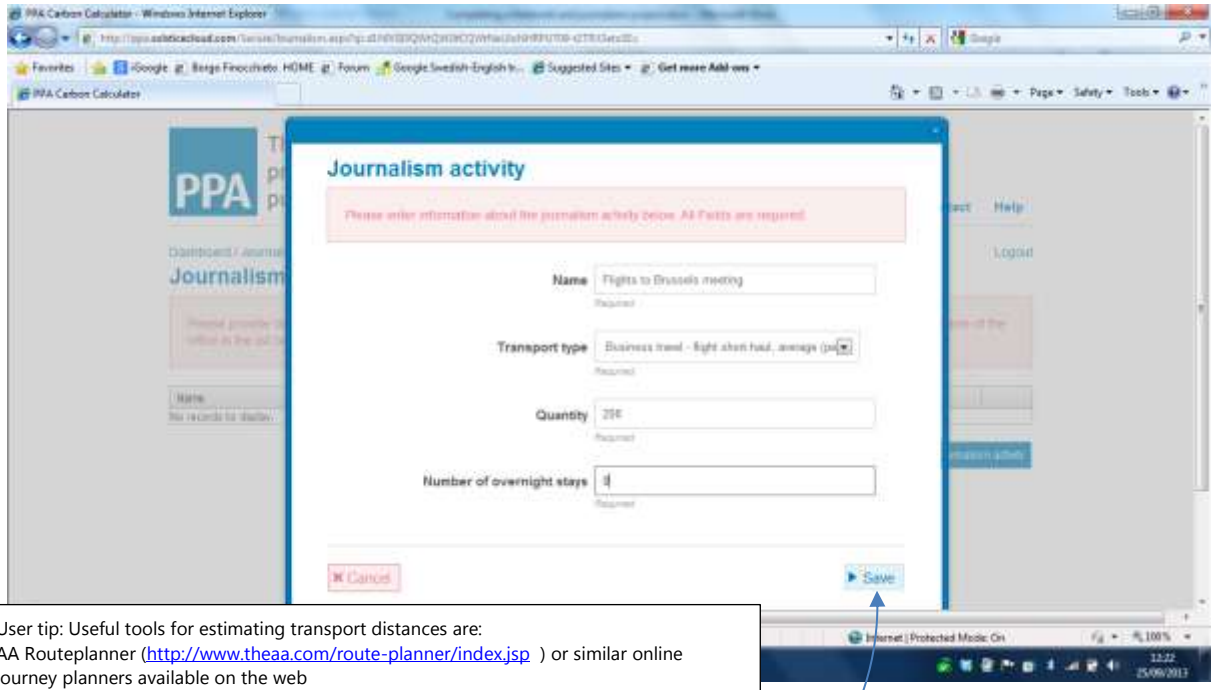
Step 5: You are now taken to the "Journalism Activities" page



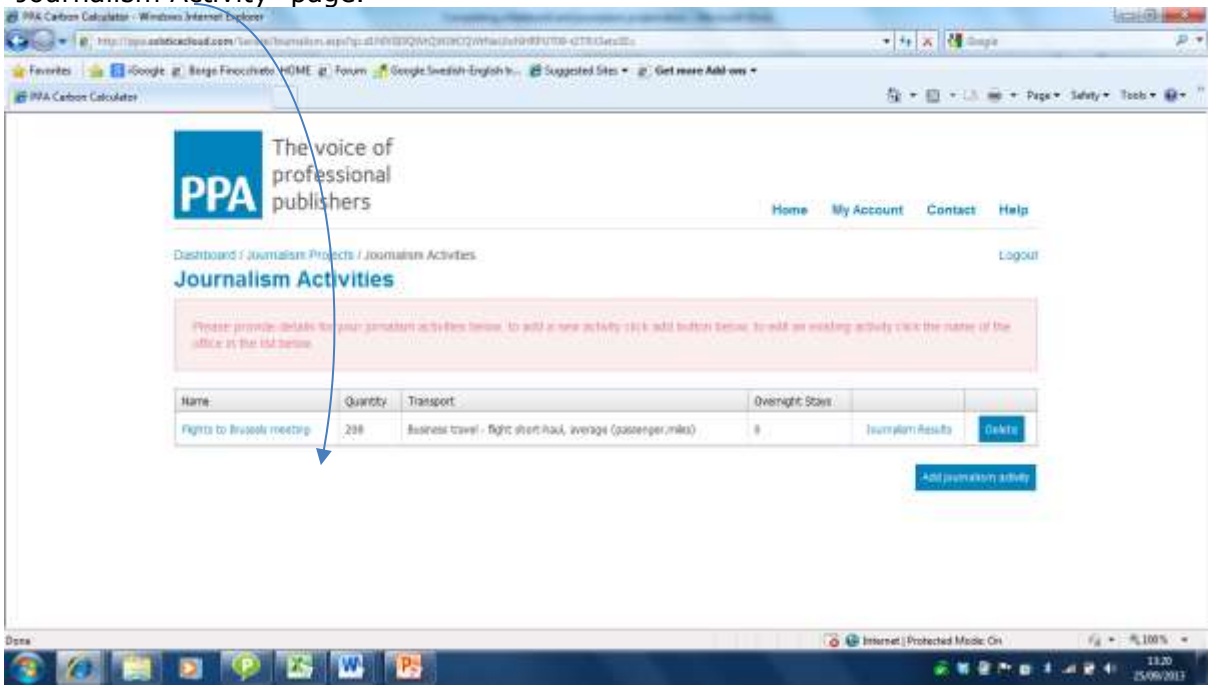
To build up individual events (e.g. transport journeys, overnight stays, etc) associated with this Journalism and field work project, click on the "Add journalism activity" button. This will take you to the "Journalism activity" window. In this window, you can give a name to the individual event (in the example below, Flights to Brussels meeting), select the type of transport used, define the quantity (in miles or passenger miles, depending on the type of transport selected) and if necessary define the number of overnight hotel stays associated with this individual event.



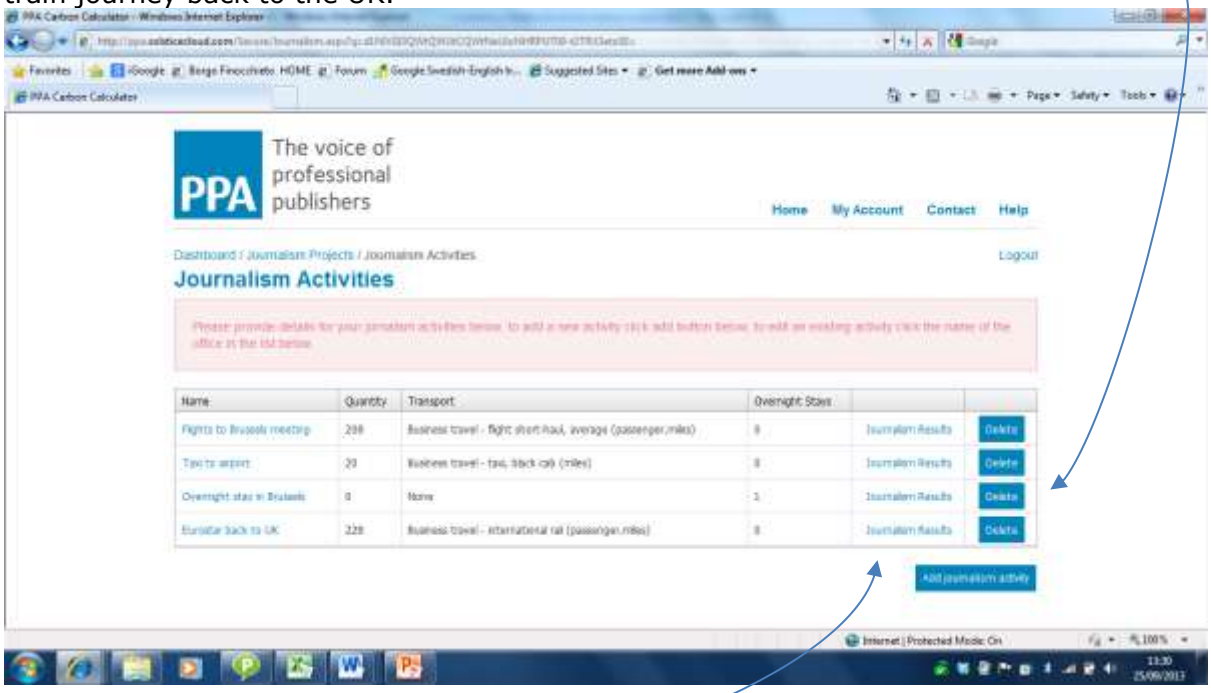
User tip: Useful tools for estimating transport distances are:
AA Routeplanner (http://www.theaa.com/route-planner/index.jsp) or similar online journey planners available on the web
Flight Distance Mileage Calculator (available at http://www.worldatlas.com/travelaids/flight_distance.htm)

Once the data is all complete, click on the "Save" button.

Step 6: The Journalism Activity defined in Step 5 above is now shown listed in the "Journalism Activity" page.

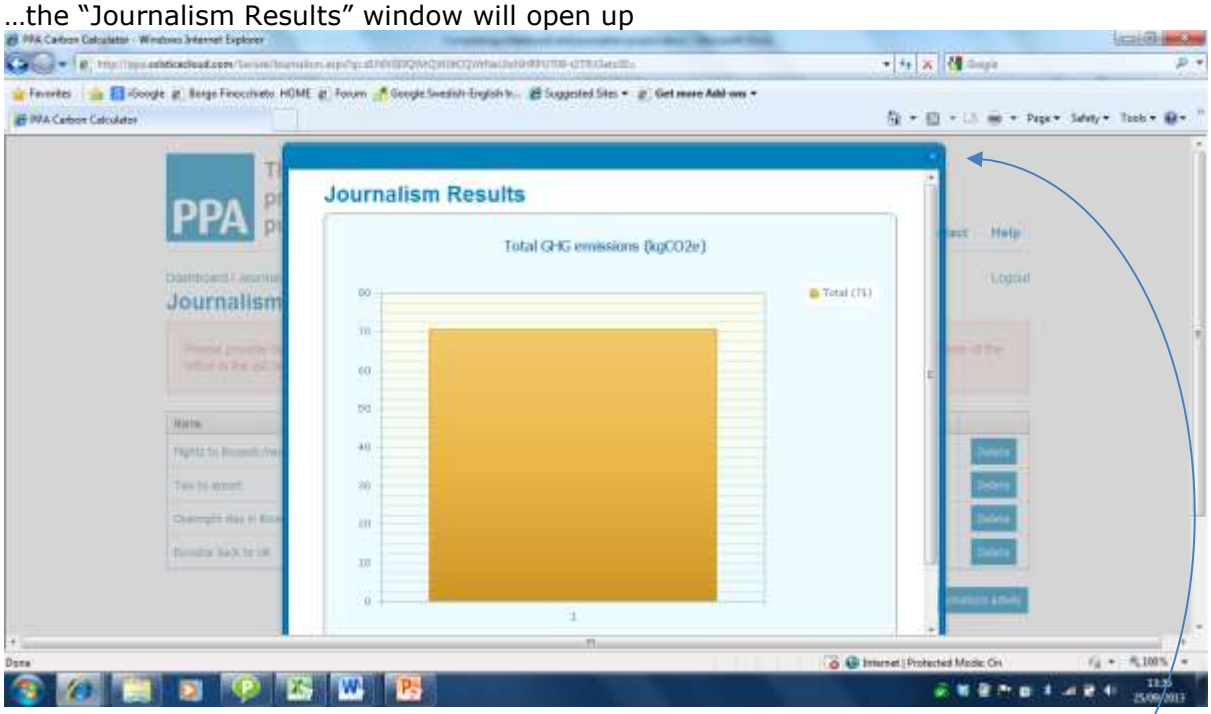


If there are multiple journeys associated with an individual event then more can be added by clicking on the "Add journalism activity" button again. For example, in the case below, additional elements added include a taxi to the airport, an overnight stay, and a Eurostar train journey back to the UK.

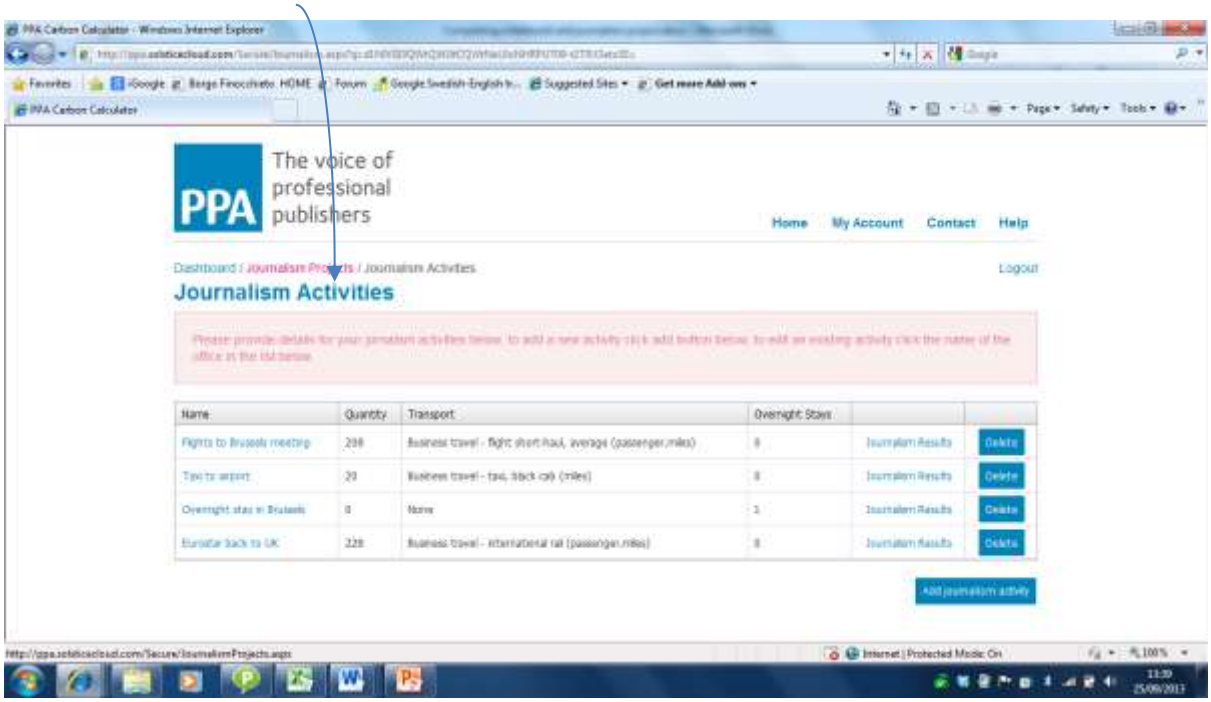


Step 7: To review the results for each individual event, click on the corresponding "Journalism Results" field….

…the “Journalism Results” window will open up

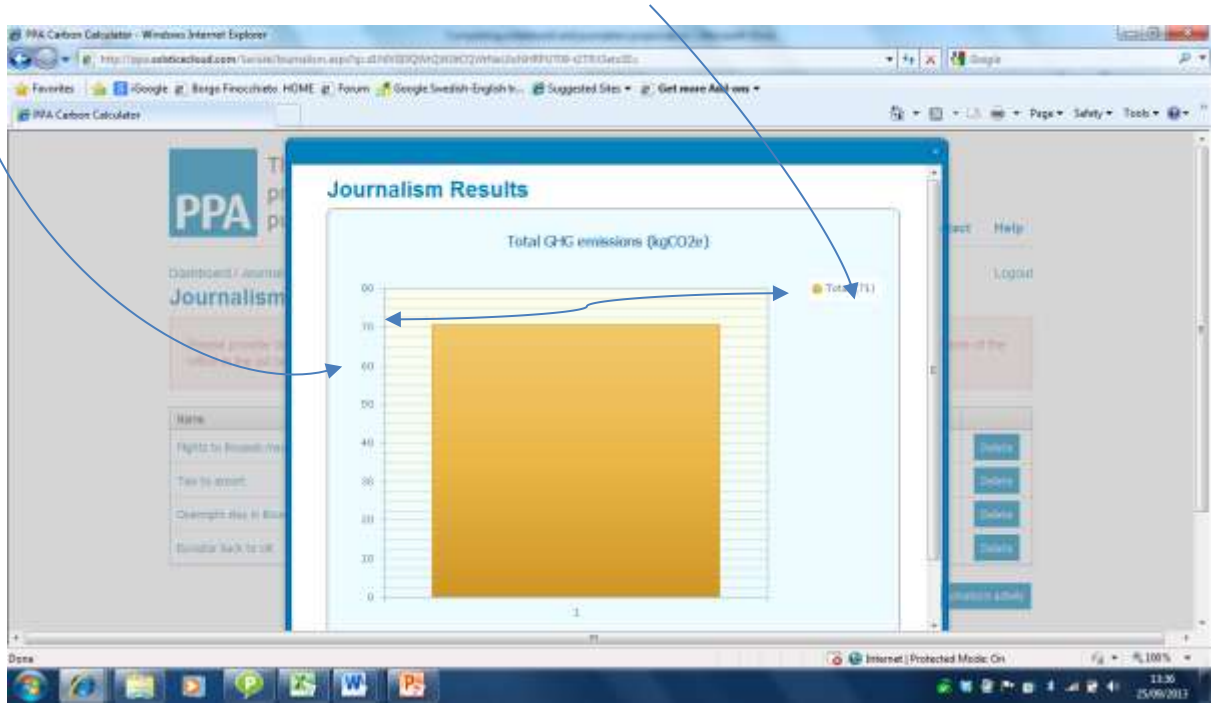


Step 8: To return to the “Journalism Projects” page, close the “Journalism Results” window using the x, and then click on “Journalism Projects” at the top of the page.



What do the journalism and fieldwork results mean?

The results are presented as a single bar showing the carbon footprint (in kgCO2e) arising from the specific individual journalism event selected. For example, in the results shown below, the total carbon footprint for the selected event is 71kgCO2e.



Calculating the footprint of a publication

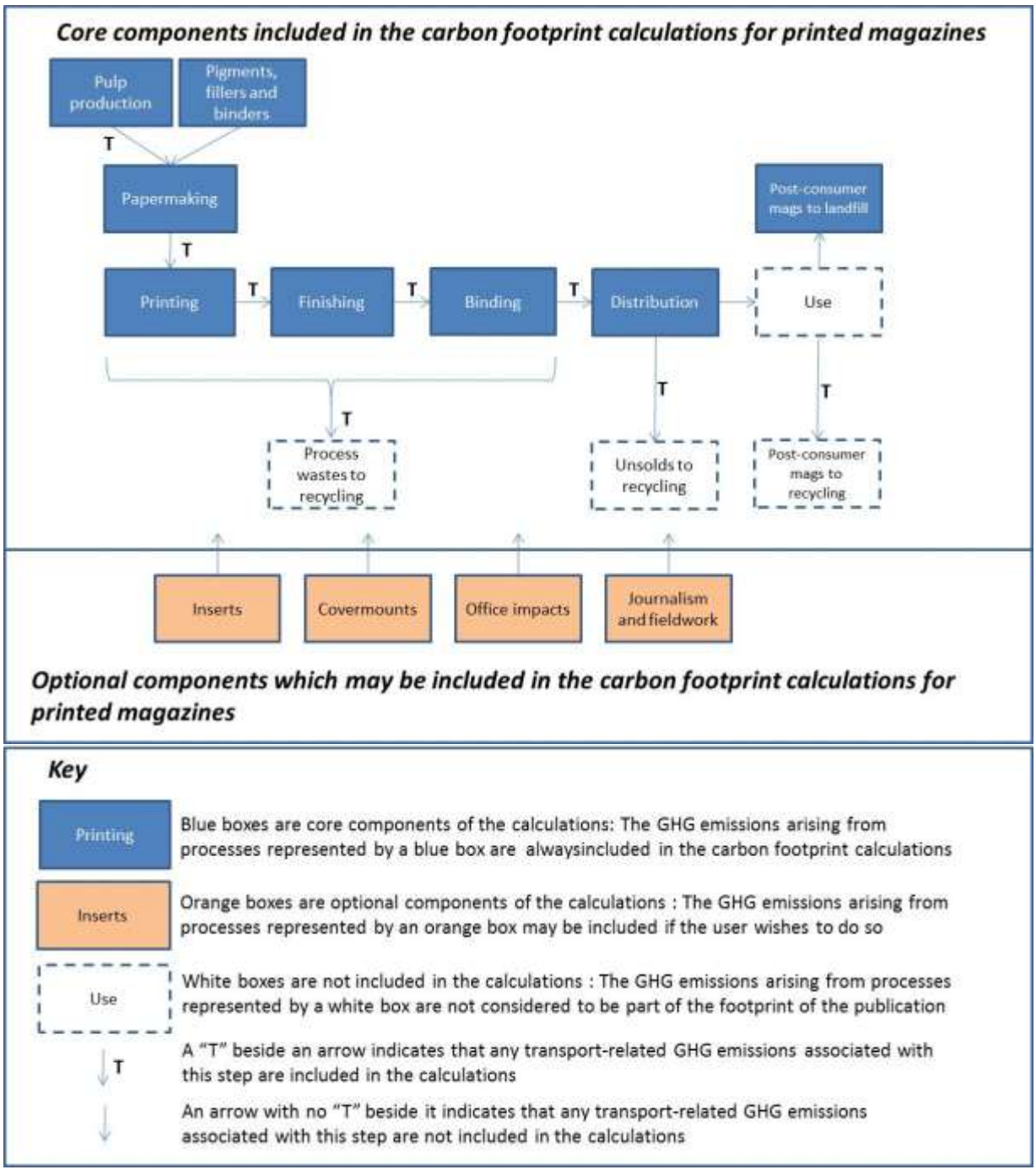
What information do I need to calculate the footprint of a publication?
The table below summarises the information you will require for calculating the footprint of a printed publication. The information is identified as either Essential (i.e. without this data we cannot make the calculation), Desirable (e.g. if this data point has only minor influence over the overall results, or if the data is unavailable it may still be possible to make a calculation, e.g. using an average data value) or Optional (not necessary for making the footprint calculation but can be used to improve the calculation if the data is available.

Information required	**Essential, desirable or optional**	**Comment**
Print run:		
Total copies printed (i.e. print run)	Essential	You can either provide the average print run per issue across the year, or each individual print run (Note: for purposes of the calculator, split print runs for one issue should be treated as a single print run)
For papers used (this data is required for all papers used – i.e. cover and text sections):		
Brand	Desirable	If you do not know the brand because you purchase via a merchant of because the printer supplies the paper, you can use an average paper. However, this will introduce a great deal of uncertainty into the results.
Mill where the paper is produced	Desirable	Note: if you know the brand you can probably find out which mill it has come from by talking to the supplier
Pagination	Essential	
Grammage (GSM)	Essential	
Printing (this data is required for the printing of each of the papers used):		
Printing process used (sheetfed, web offset or gravure)	Essential	
Printer	Desirable	The calculator does not yet contain individual datasets for different printers/print sites. However, once this dataset is complete it is easy to then update a project to include printer specific impacts rather than average print process data
Printer paper waste (%)	Desirable	If specific data for your printer/publication is not available there is an average/default factor that will be applied

Inserts – if any inserts are included in the publication, then the following data is required for each insert:		
Size (i.e. width, height, number of pages	Desirable/optional	If you can include inserts in the analysis it will improve overall understanding of the carbon footprint, but getting this information can be difficult. As the mass of inserts is usually small compared to the overall magazine, it is likely that the footprint of inserts will be relatively small compared to that of the magazine itself.
Proportion of print run receiving the print run	Desirable/optional	
Which months this insert was included	Desirable/optional	
CD/DVDs:		
Number of months during the year when a CD/DVD or Ecodisk was included with the magazine	Essential	The footprint of CD/DVD is relatively high when compared to that of the magazines. Therefore, if your publication carries these this data should be included
Covermounts – if any covermounts are included, please provide the following data for each covermount used during the year:		
Covermount materials used (e.g. paper, polyethylene, etc)	Desirable	If you can include covermounts in the analysis it will improve the overall understanding of the footprint, but getting this information can be difficult. It may be necessary to make some broad assumptions.
Weights of the individual materials	Desirable	
Packaging (polybags, polywrap):		
Materials used (PP, PE)	Essential	
Material gauge (microns)	Essential	
Sales channels:		
Share of sales by newsstand	Essential	
Unsolds rate for newsstand sales	Essential	
Share of sales by subscriptions	Essential	
Share of sales by other UK channels	Essential	
Share of sales by export channels	Essential	
Office impacts:		
Electricity consumption kWh	Optional	This data is only required if you would like to assess the impacts of your offices and allocate a proportion of these to your publications. The office impacts are modelled in a separate module, and then a proportion of these impacts
Gas consumption kWh		
Fuel oil consumption kWh		
Water (cubic metres)		

		can be allocated to the individual publication, using one of a number of alternative allocation procedures.
Journalism impacts:		
For each mode of transport (e.g. long-haul plane, short-haul plane train, car, etc) distance travelled	Optional	This data is only required if you would like to assess the impacts of journalism and allocate a proportion of this to your publications. The office impacts are modelled in a separate module. Data can be collected relative to the specific title being evaluated, or can be collected for the whole business and then a proportion can be allocated to the title using one of a number of alternative allocation procedures.
Number of overnight stays		

What is included in the footprint of a publication?
The diagram below summarises the steps and activities in the magazine publishing supply chain that are included in the carbon footprint calculation for a publication.



Only fossil CO2 emissions are considered in the calculator. In line with current international best practice in carbon footprinting methods for forest industry products, no account has been taken of biogenic CO2 uptake and emissions.

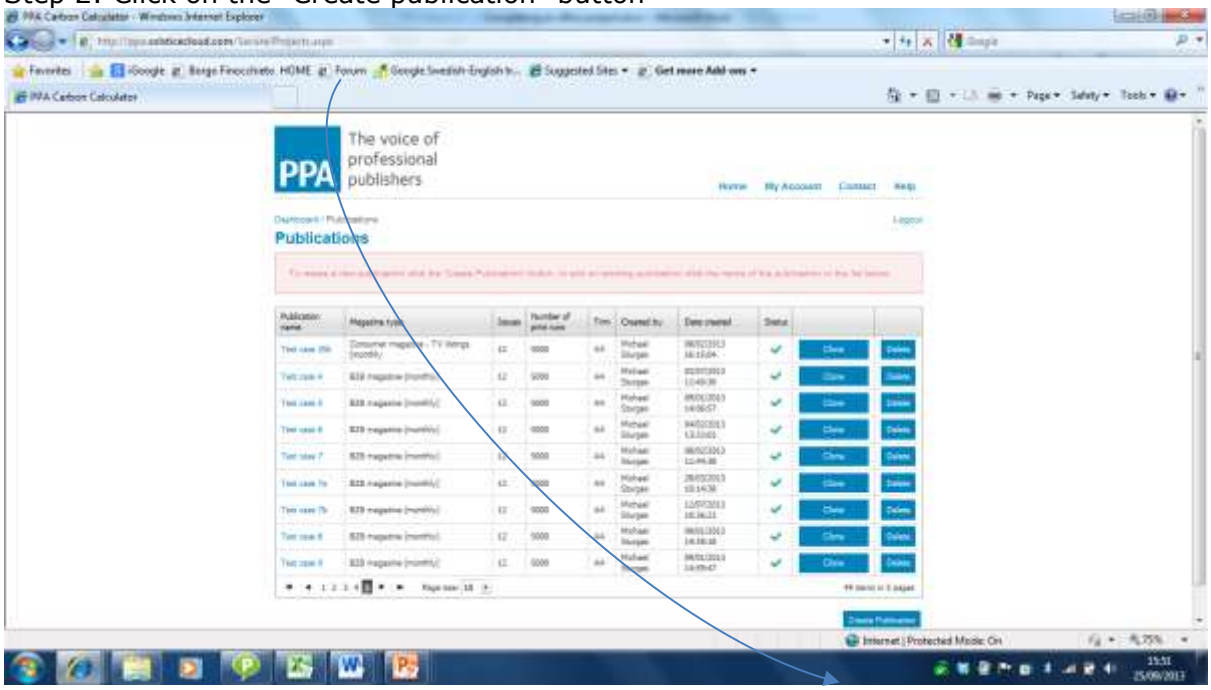
A detailed description of the data sources, assumptions and limiting caveats for each individual unit process is given in the Guidance Note "*What data is used in the calculator?*" Some key parameters for selected unit processes are summarised in the table below.

Unit process	**Key parameters**
Pulp production	Emissions associated with fuels used in forest operations (for example, emissions associated with fuels used during planting, thinning, felling, movement of logs in forest, transport of wood within forest and to pulp mill etc,) are included. Emissions associated with fuels and electricity used during the pulping process are included.
Process wastes to recycling and Unsolds to recycling	The emissions associated with the transport of these process and supply chain wastes to the recycling facility are included in the carbon footprint. However, the impacts of subsequent reprocessing activities are not included, as these are considered to be part of the product system that subsequently utilises the recycled fibre. Emissions associated with the landfill of covermounts and packaging that will need to be stripped from these process and supply chain wastes prior to recycling are included in the calculations.
Post-consumer magazine waste	The emissions arising from the landfill of the share of post-consumer magazines in the UK are included in the calculations. However, the impacts of reprocessing the share of post-consumer magazines that are sent for recycling are not included, as these are considered to be part of the product system that subsequently utilises the recycled fibre. Emissions associated with the end-of-life of magazines that are exported are not included in the calculations, as the fate of these magazines cannot be predicted. Emissions associated with the end-of-life management of inserts that reach the consumer are not included in the calculations, as the fate of these materials cannot be predicted. Emissions associated with the end-of-life management of covermounts that reach the consumer are not included in the calculations. It is intended that these items are not designed to have an extended life independent of the magazine and therefore it cannot be predicted when these items will enter the waste stream and the final fate of these materials also cannot be predicted.
Distribution	The user can define a range of distribution scenarios for the UK and export. For UK supply, a predefined newsstand model and subscription model have been developed. The newsstand model is constructed on the basis of a shared distribution and returns system (newspapers and magazines distributed together). A share of the newsstand emissions associated with distribution of and collection of unsold news and mags are allocated to magazines only. The subscription model allocates an equal share of all postal related GHG impacts across all individual items handled.

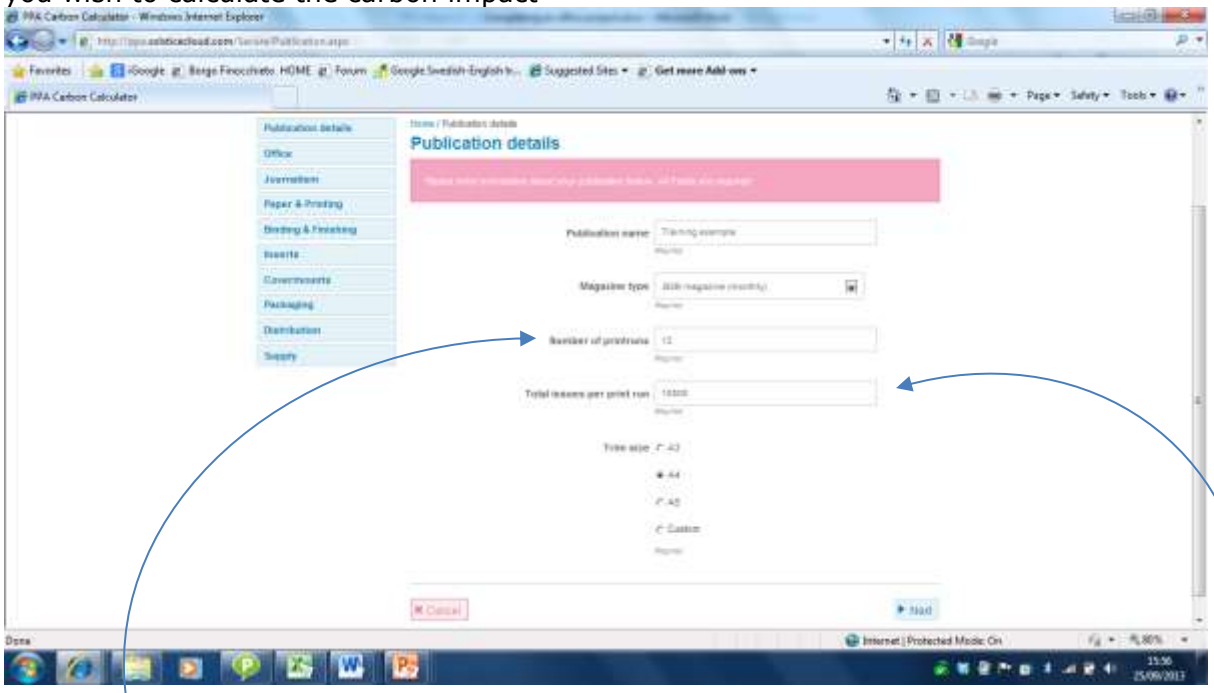
Completing a publication project

Step 1: From the Dashboard, click on the "Publications" icon

Step 2: Click on the "Create publication" button



Step 3: In the "Publication details" form complete the details about the publication for which you wish to calculate the carbon impact



The field **"**Number of print runs" is the number of times during the period for the analysis that the title is going to be produced. So for example, if you want to calculate the annual footprint of a weekly title, the "Number of print runs" would be 52. For a monthly, it would be 12. Or if you wanted to calculate the footprint of one specific issue, you would put 1 in here.

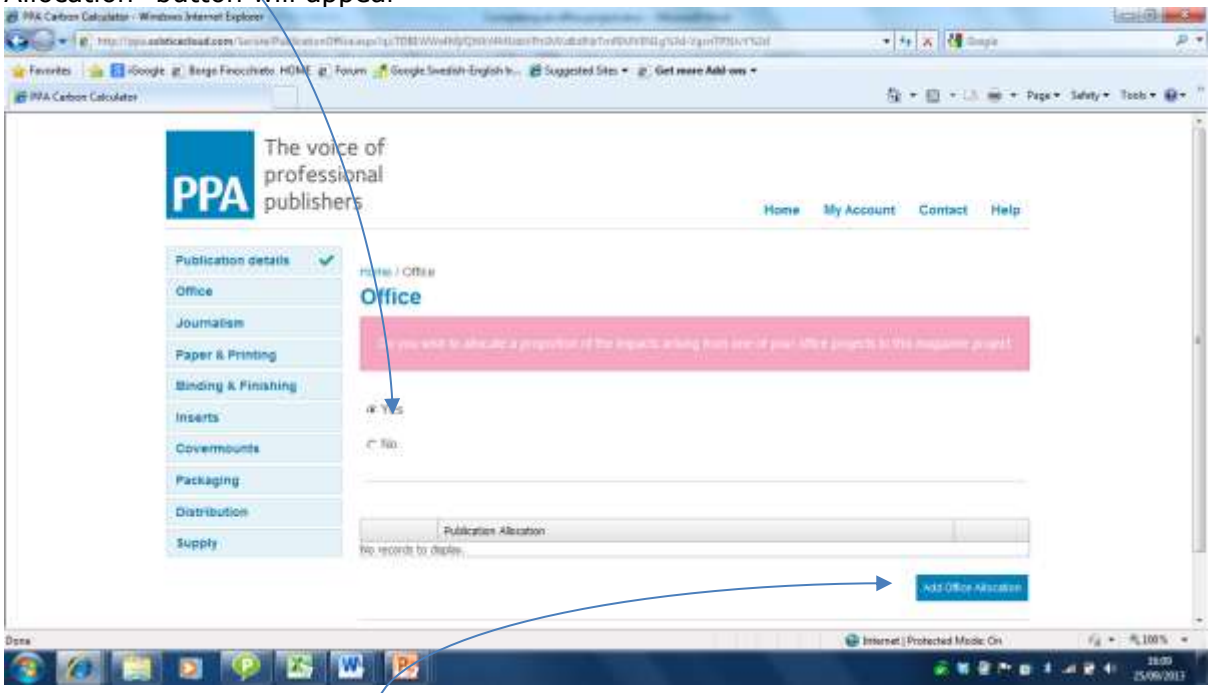
This field should contain the total print run i.e. the number of **good** copies that are going to be printed

Note: there is no way to deal with split print runs. These would need to be entered as two separate projects.

When this page is completed, click on the "Next" button at the bottom of the page. This will take you to the next form.

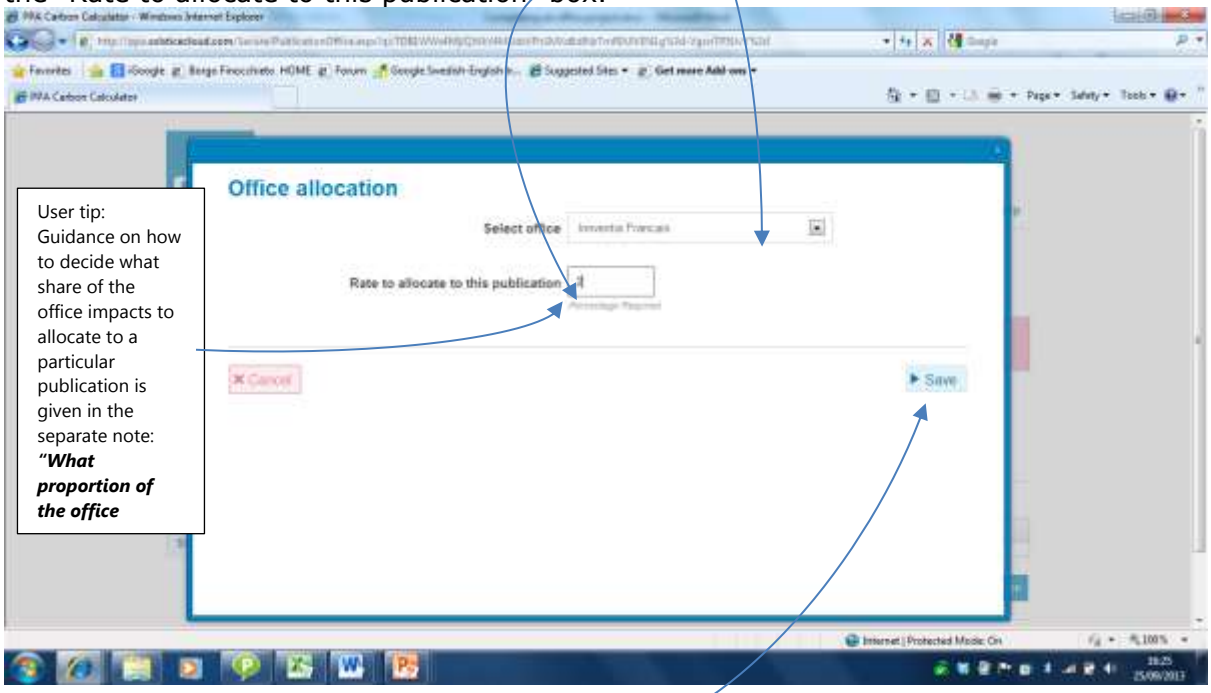
Step 4: You are now at the office form. Here you are given the option to allocate a share of the impacts associated with an existing office project to this publication. This facility allows you to expand the boundaries of the product carbon footprint to include the publisher's impacts as well as those of the physical supply chain (paper, print, distribution and disposal).

If you select yes, the view of the Office form will change. A table and an "Add Office Allocation" button will appear"



Clicking on the "Add Office Allocation" brings up the "Office Allocation" window.

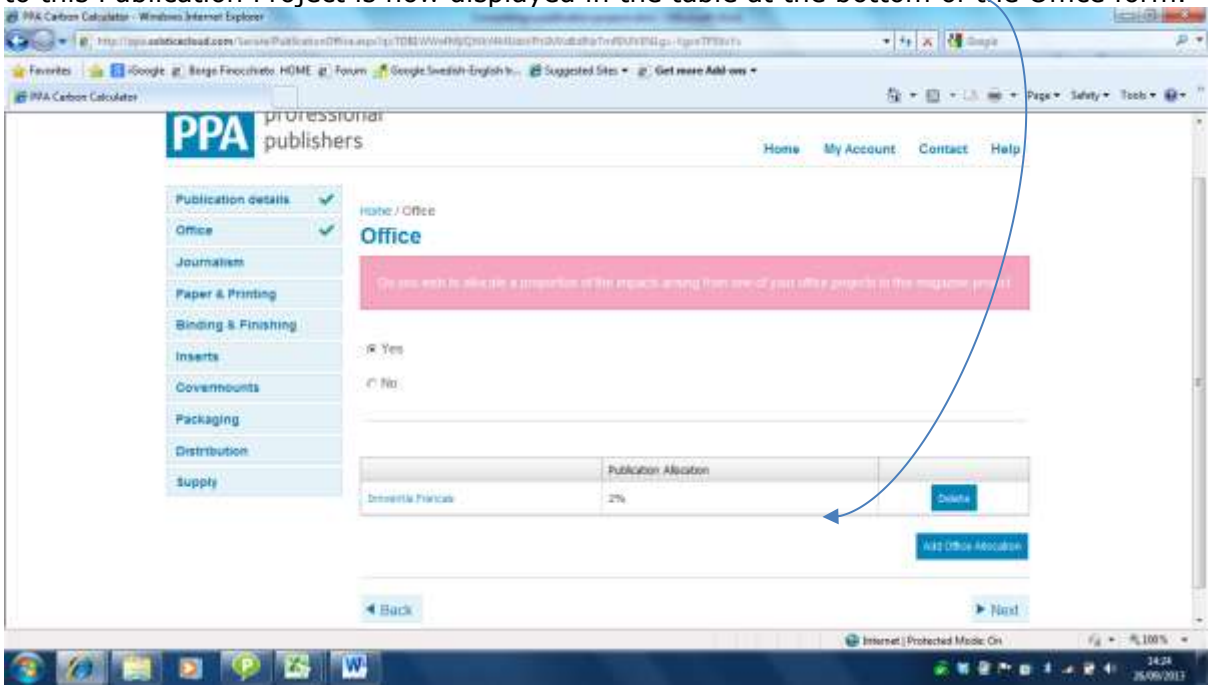
In the "Office Allocation" window, the dropdown menu will contain a list of any offices that you have previously defined. You can allocate a proportion of the impact of any of these offices to this publication project. This is done by typing the % that you wish to allocate in the "Rate to allocate to this publication" box.



User tip: Guidance on how to decide what share of the office impacts to allocate to a particular publication is given in the separate note: ***"What proportion of the office***

When this information is added, click on "Save".

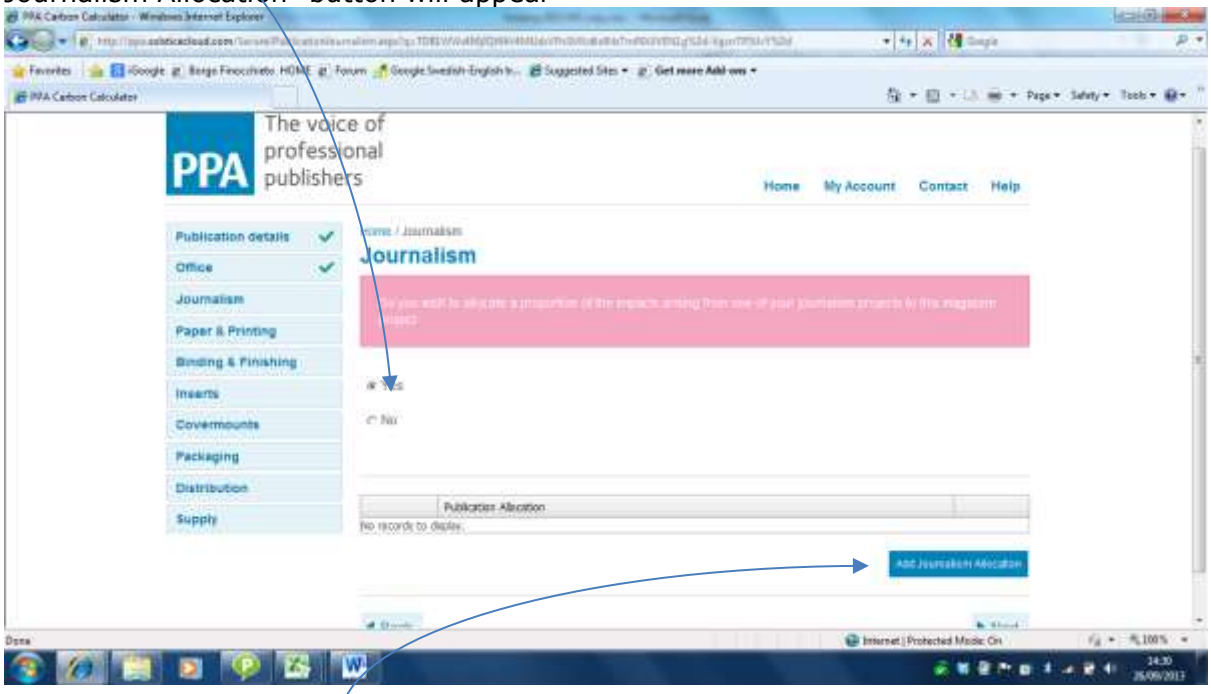
The Office Project selected and the percentage of its carbon footprint that you will allocate to this Publication Project is now displayed in the table at the bottom of the Office form.



If you wish to allocate a proportion of another Office Project to this Publication Project, press the "Add Office Allocation" button again and repeat the steps. Otherwise, clicking on the "Next" button will take you to the next data form.

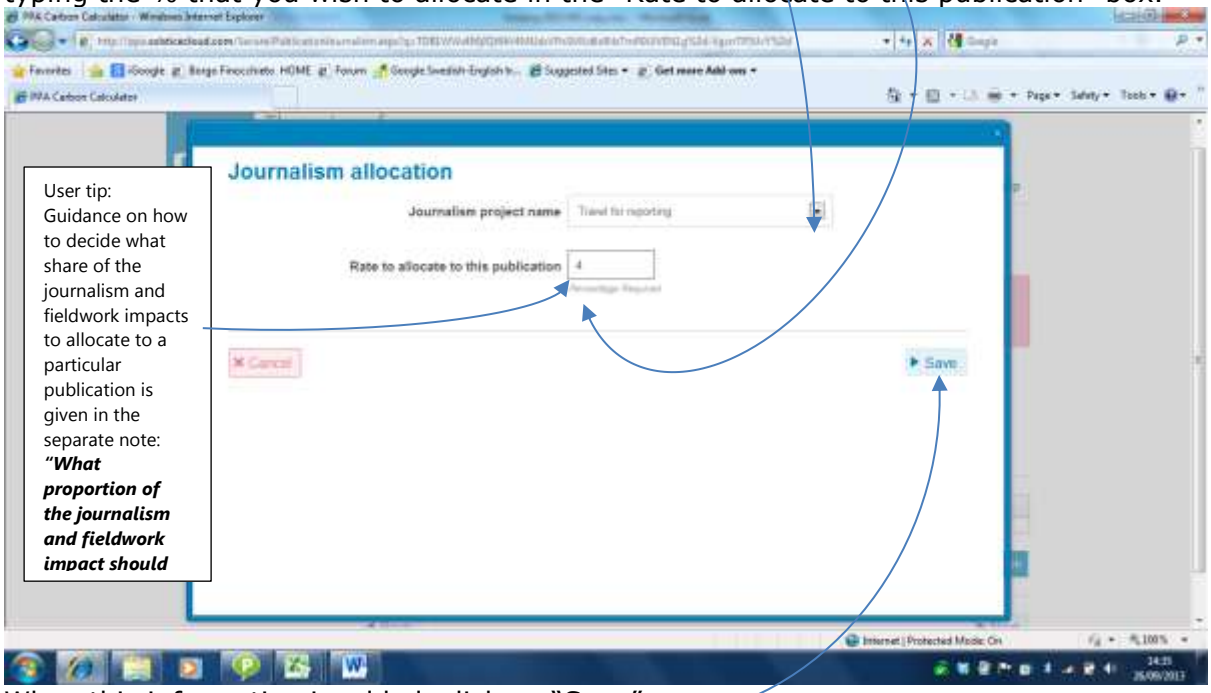
Step 5: You are now at the Journalism Form. Here you are given the option to allocate a share of the impacts associated with an existing Journalism and Fieldwork project to this publication. This facility allows you to expand the boundaries of the product carbon footprint to include the impacts as well as those of the physical supply chain (paper, print, distribution and disposal).

If you select yes, the view of the Journalism form will change. A table and an "Add Journalism Allocation" button will appear"



Clicking on the "Add Journalism Allocation" brings up the "Journalism Allocation" window.

In the "Journalism Allocation" window, the dropdown menu will contain a list of any Journalism and Fieldwork projects that you have previously defined. You can allocate a proportion of the impact of any of these offices to this publication project. This is done by typing the % that you wish to allocate in the "Rate to allocate to this publication" box.

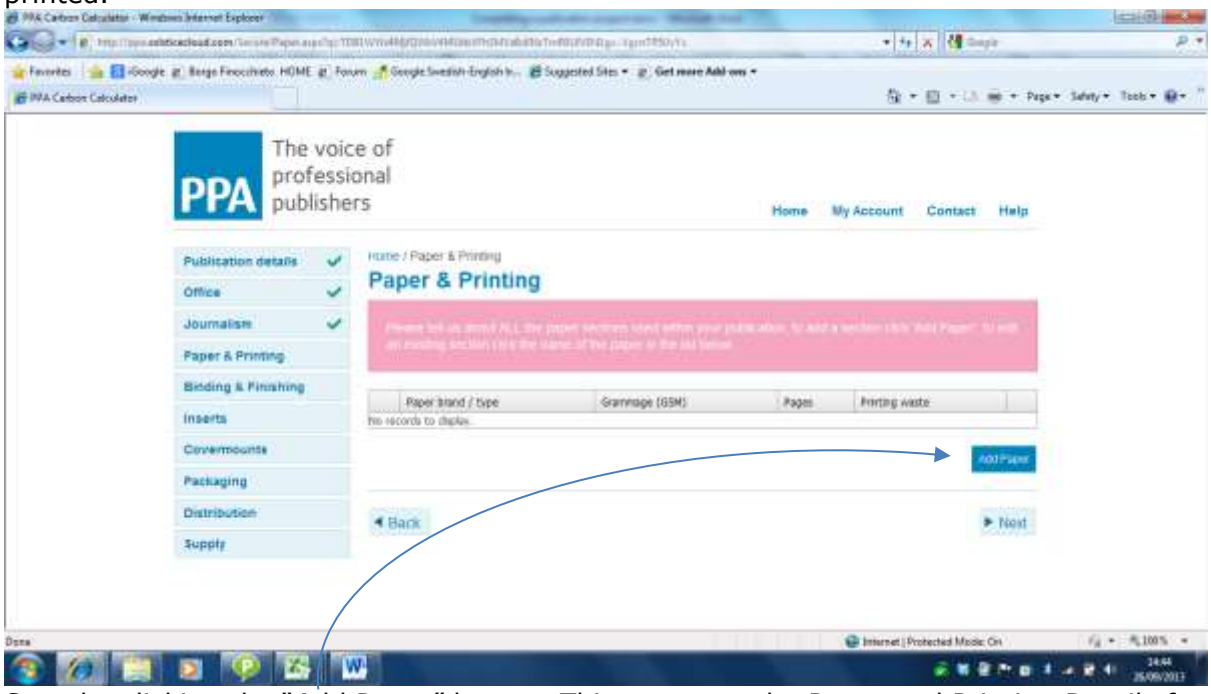


When this information is added, click on "Save".

The Journalism Project selected and the percentage of its carbon footprint that you will allocate to this Publication Project is now displayed in the table at the bottom of the Journalism form.

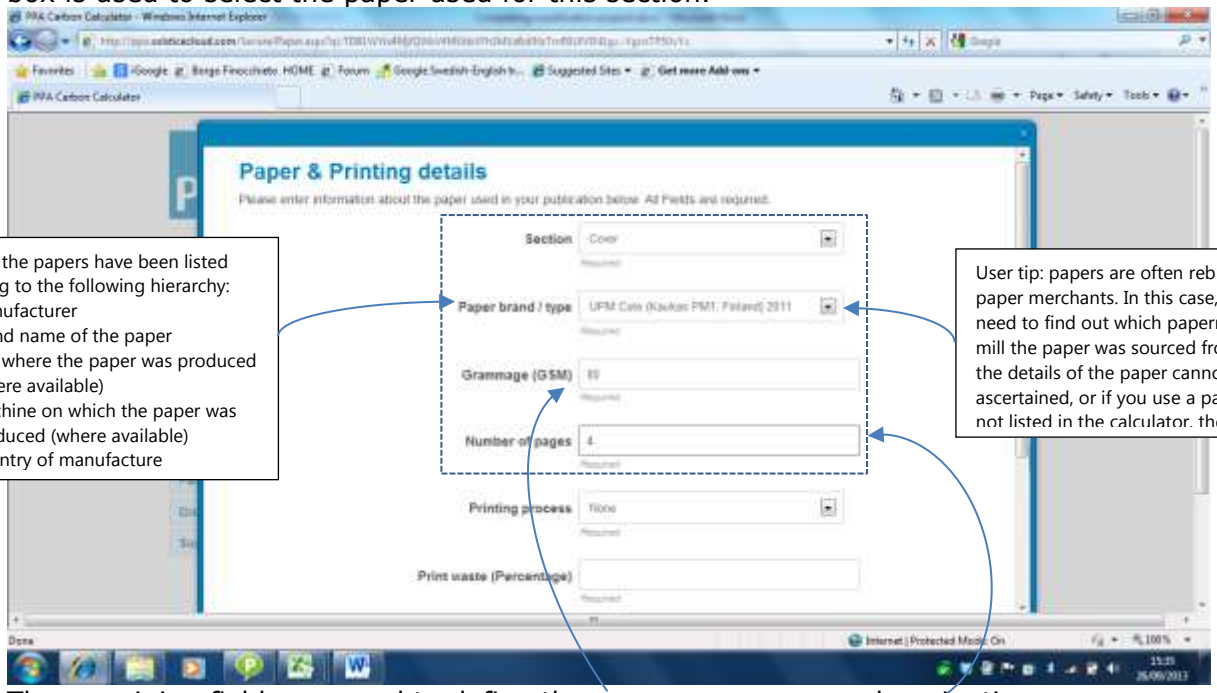
If you wish to allocate a proportion of another Journalism and Fieldwork Project to this Publication Project, press the "Add Journalism Allocation" button again and repeat the steps. Otherwise, clicking on the "Next" button will take you to the next data form.

Step 6: This is the paper and printing page. From this page, you will be able to describe all the papers used for the publication (i.e. cover, text pages, other sections) and how they are printed.



Start by clicking the "Add Paper" button. This opens up the Paper and Printing Details form.

Using the first four fields within this form you can define the characteristics of the paper that is used. In the example below, the details of the Cover pages are being added. From the Section dropdown menu, the option "Cover" has been selected. The second dropdown box is used to select the paper used for this section.



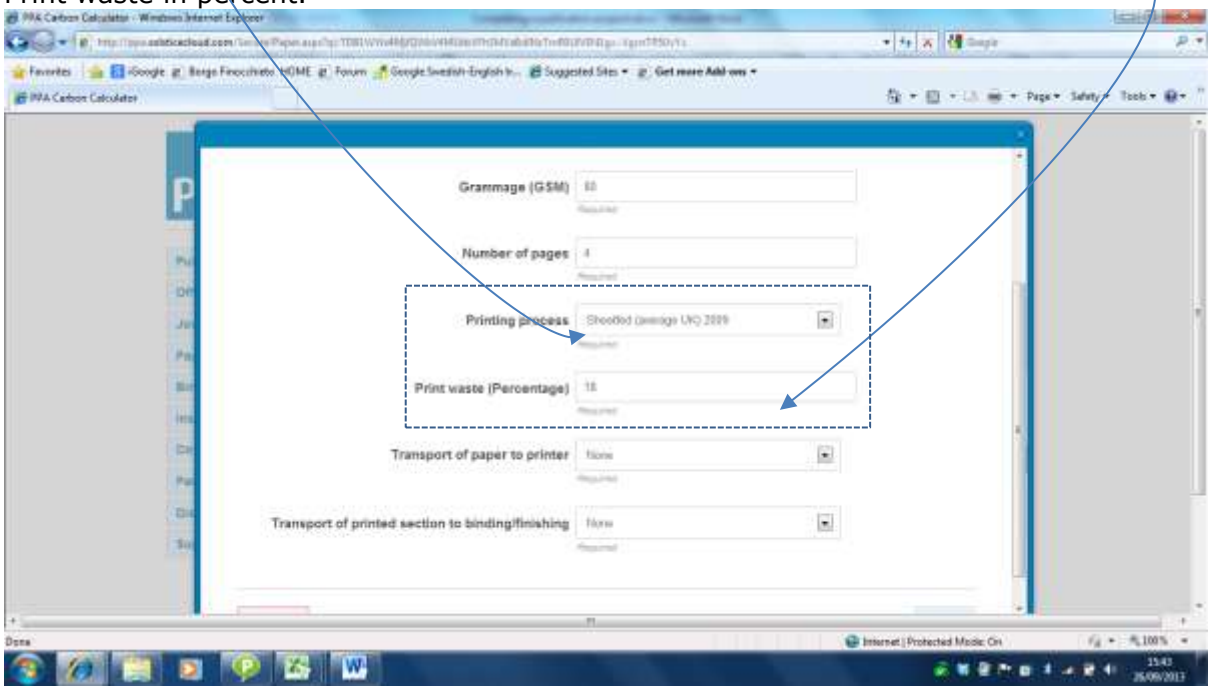
User tip: the papers have been listed according to the following hierarchy:

- Manufacturer
- Brand name of the paper
- Mill where the paper was produced (where available)
- Machine on which the paper was produced (where available)
- Country of manufacture

User tip: papers are often rebranded by paper merchants. In this case, you will need to find out which papermaker and mill the paper was sourced from. Where the details of the paper cannot be ascertained, or if you use a paper that is not listed in the calculator, then

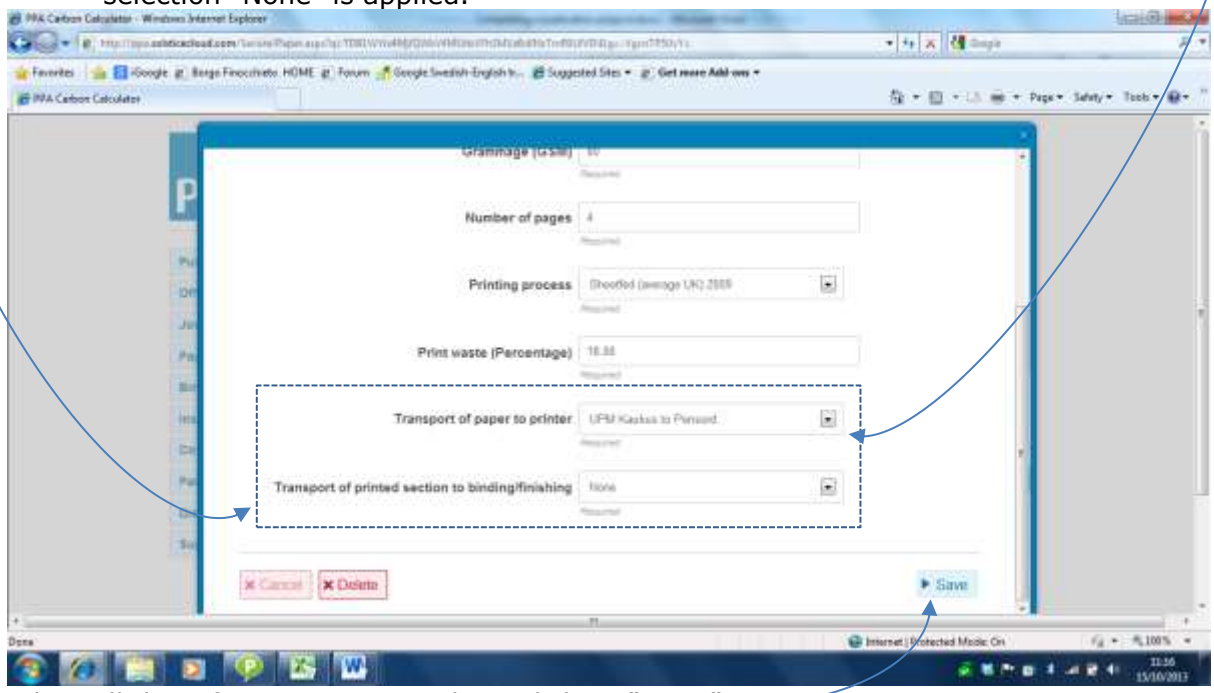
The remaining fields are used to define the paper grammage and pagination.

The next two boxes are used to define the printing parameters. Using the dropdown menu, select the Printing Process relevant to this section. The Print waste field is used to define the Print waste in percent.



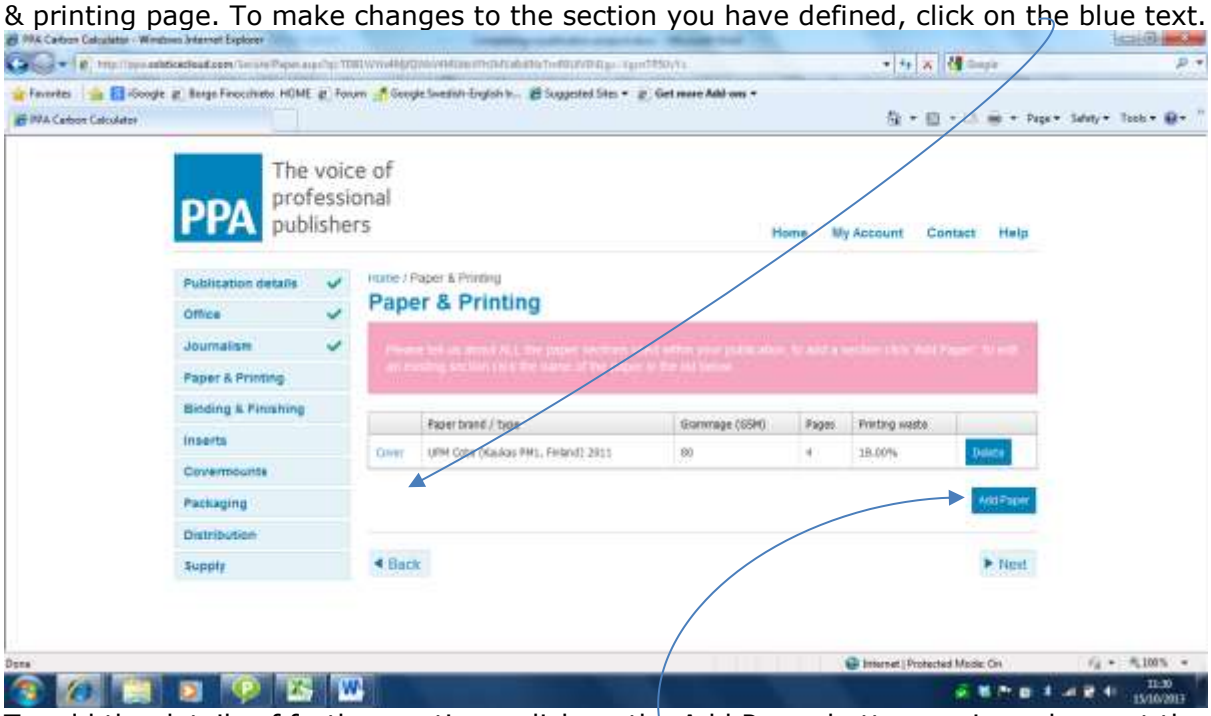
The final two boxes relate to transport of the paper:

- From the first dropdown menu you can select from predefined scenarios that describe the transport of the paper from the papermill to the printer.
- From the second dropdown menu, you can select from predefined scenarios to describe any transport of the printed section from the print site to any further processing site (e.g. if they are finished and/or bound at a separate site). If the sections are finished and bound at the same location as printing, then the default selection "None" is applied.

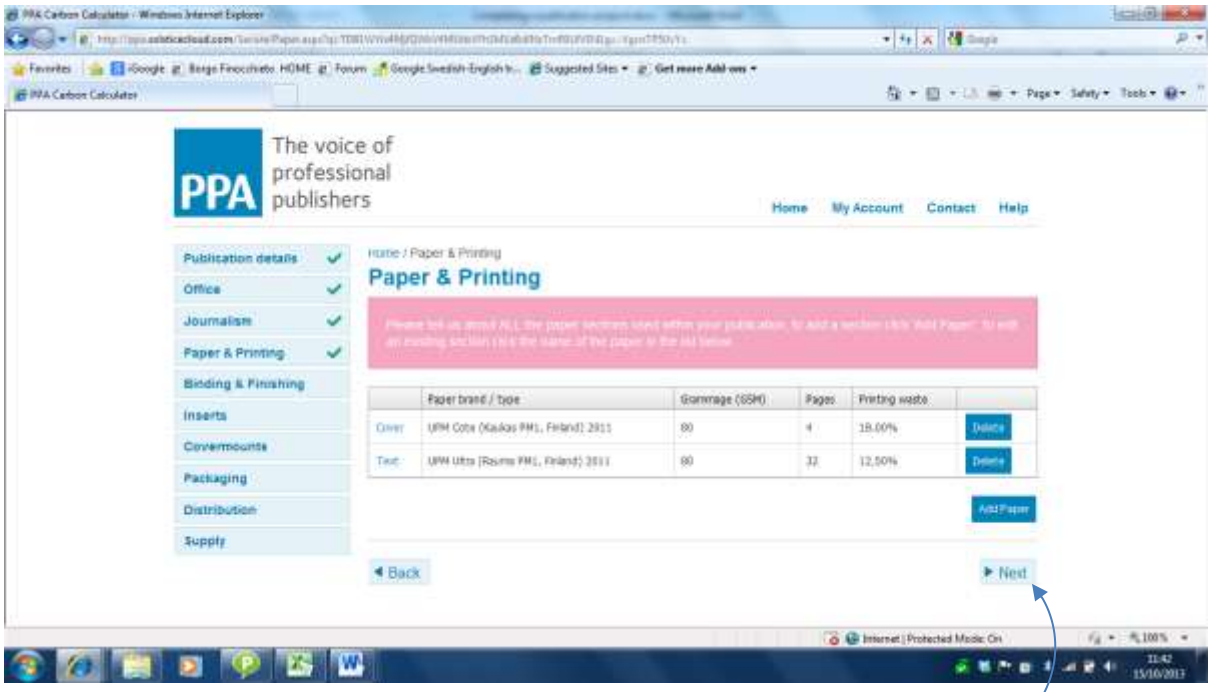


When all the information is complete, click on "Save".

The section you defined (in this example, the cover) is now listed in the table on the paper & printing page. To make changes to the section you have defined, click on the blue text.

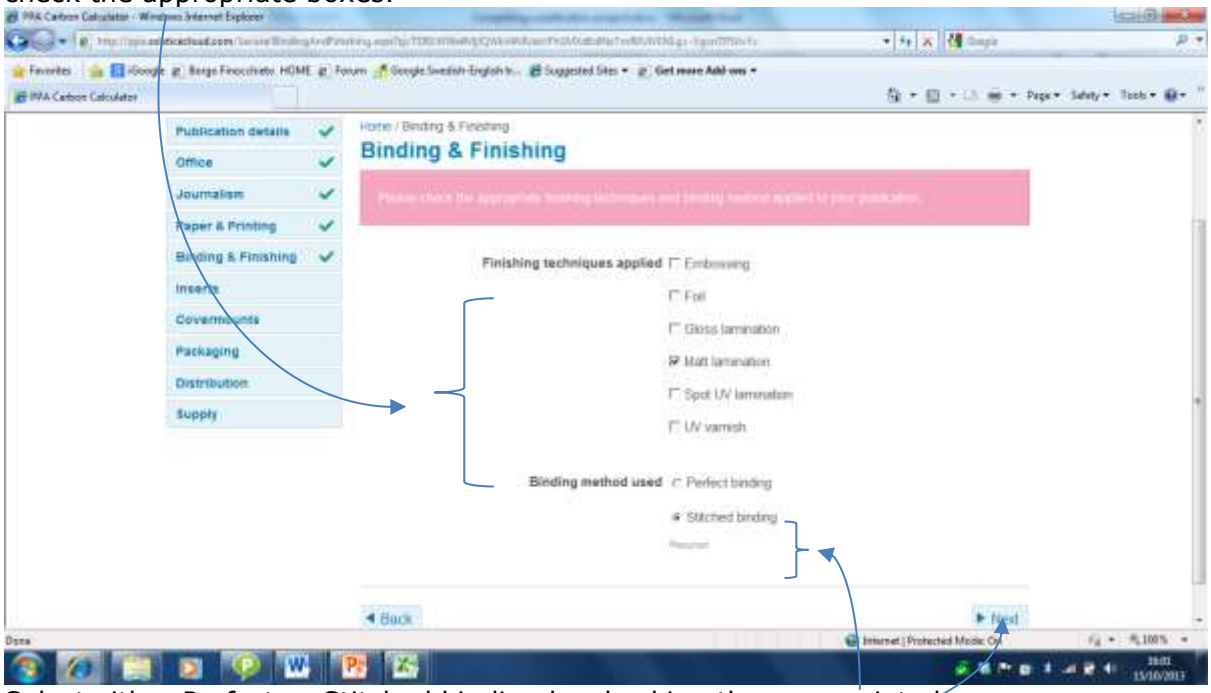


To add the details of further sections, click on the Add Paper button again and repeat the process described in Step 6.



Once all papers and their printing processes have been defined, click on Next.

Step 7: This is the finishing and binding page. To include any finishing techniques, simply check the appropriate boxes.

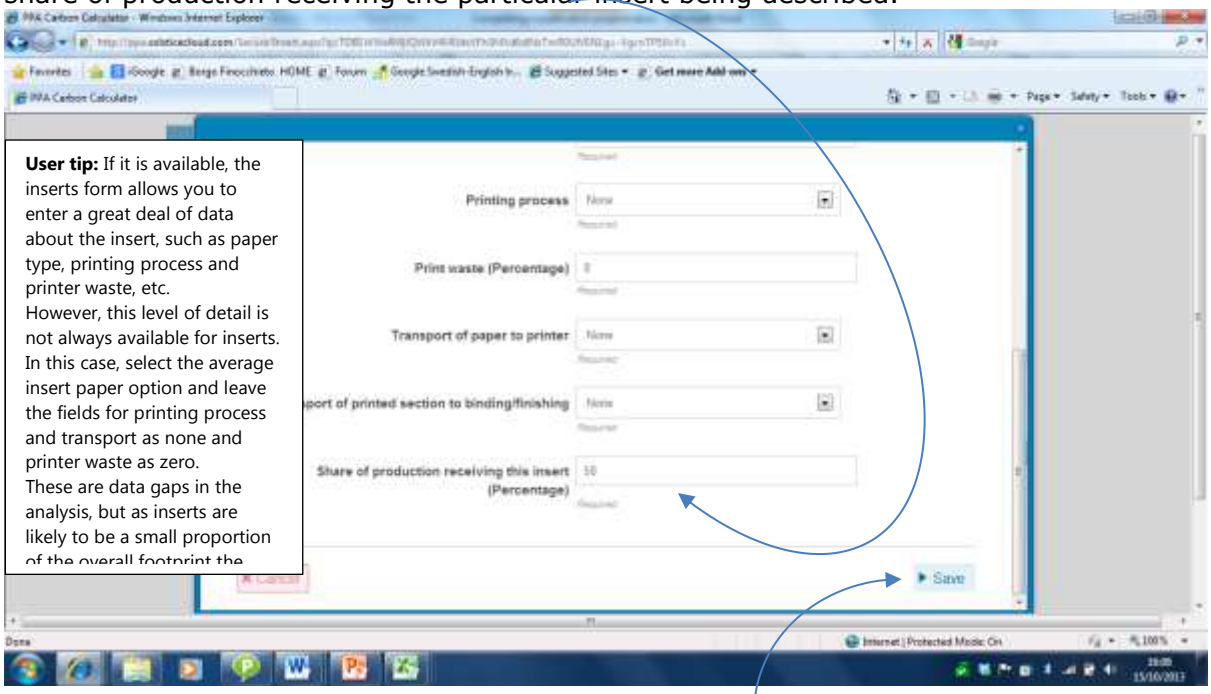


Select either Perfect or Stitched binding by checking the appropriate box.
Once this is completed, click on Next

Step 8: This is the Inserts page. If you wish to include the impact of any inserts in your carbon footprint calculations, then from this page you can define each of the individual inserts.

Start by clicking on the Add Insert button. This opens up the Inserts form.

The data entered into the Inserts form is the same data as required in the Paper and Printing Details form (see Step 6). The only additional information required relates to the share of production receiving the particular insert being described.



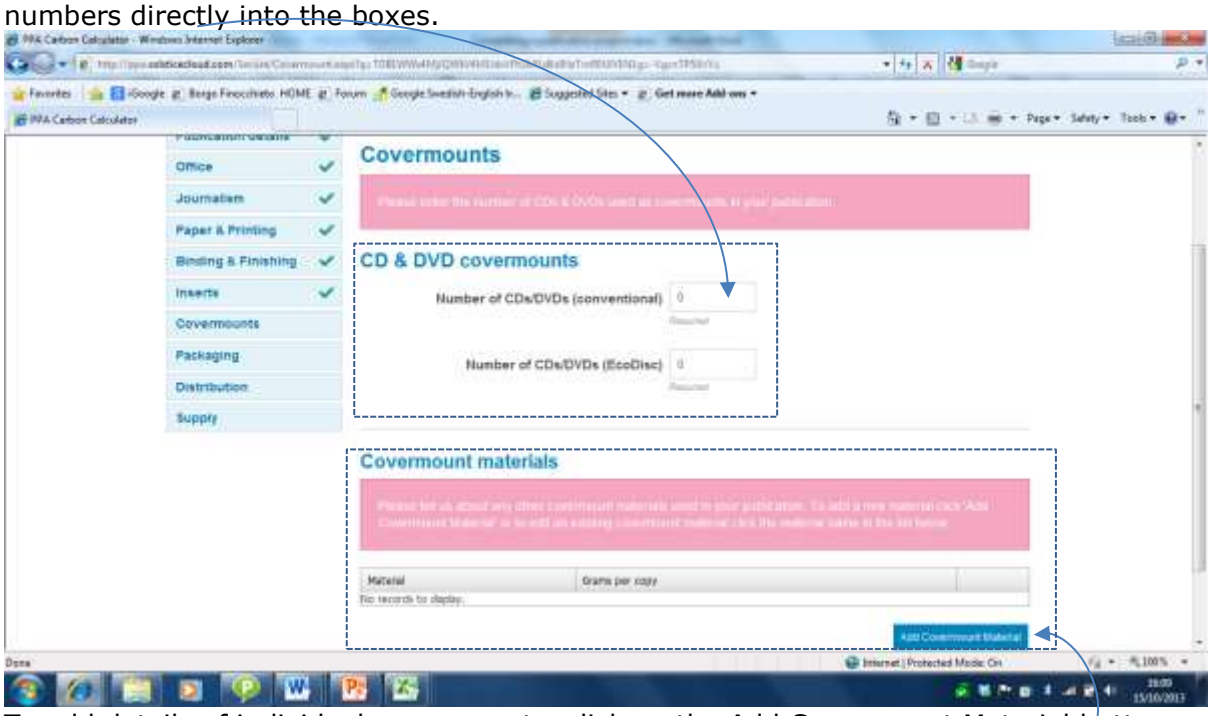
User tip: If it is available, the inserts form allows you to enter a great deal of data about the insert, such as paper type, printing process and printer waste, etc.
However, this level of detail is not always available for inserts. In this case, select the average insert paper option and leave the fields for printing process and transport as none and printer waste as zero.
These are data gaps in the analysis, but as inserts are likely to be a small proportion of the overall footprint the

Once the details of an insert have been entered, click on the Save button. The insert described is now listed in the table on the Inserts page. If necessary, the Insert information can be edited by clicking on the blue text in the table.

Additional inserts can be defined using the Add Insert button and repeating the process. Once all inserts have been described click on the Next button.

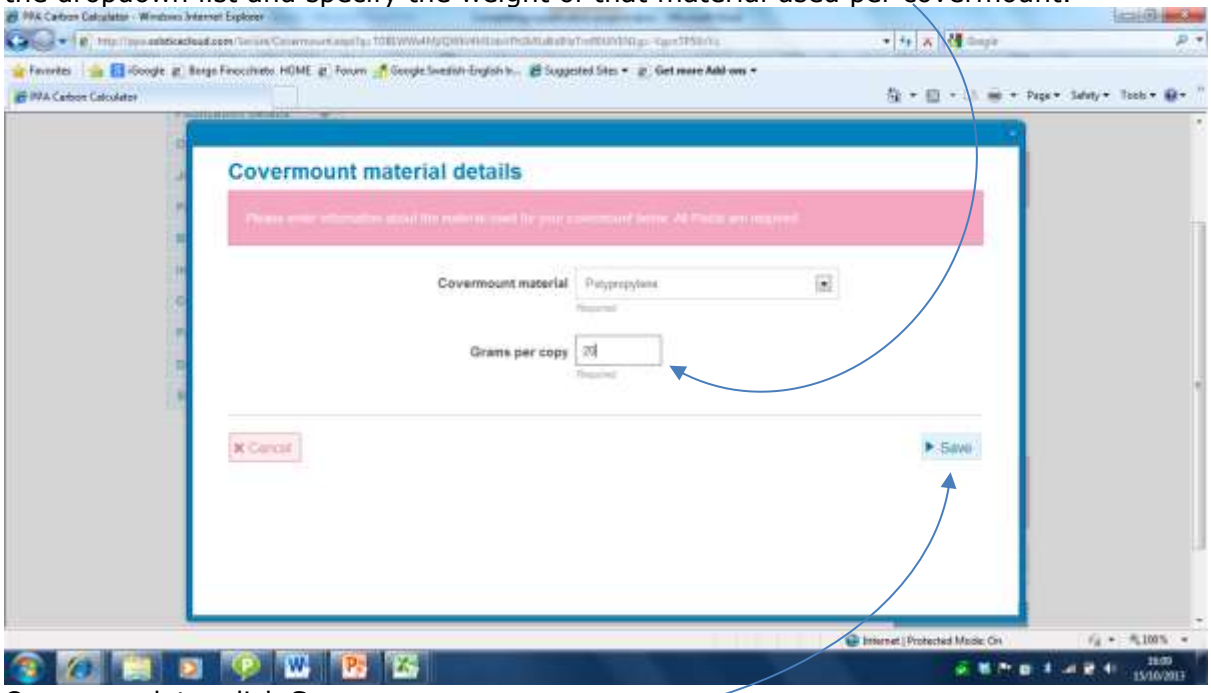
Step 9: This is the covermounts page. From this page, you can describe any covermounts attached to the publication.

In the CD and DVD covermounts section, the number of CDs or DVDs and the number of EcoDiscs applied to the front cover of a *single* copy should be defined by typing the numbers directly into the boxes.



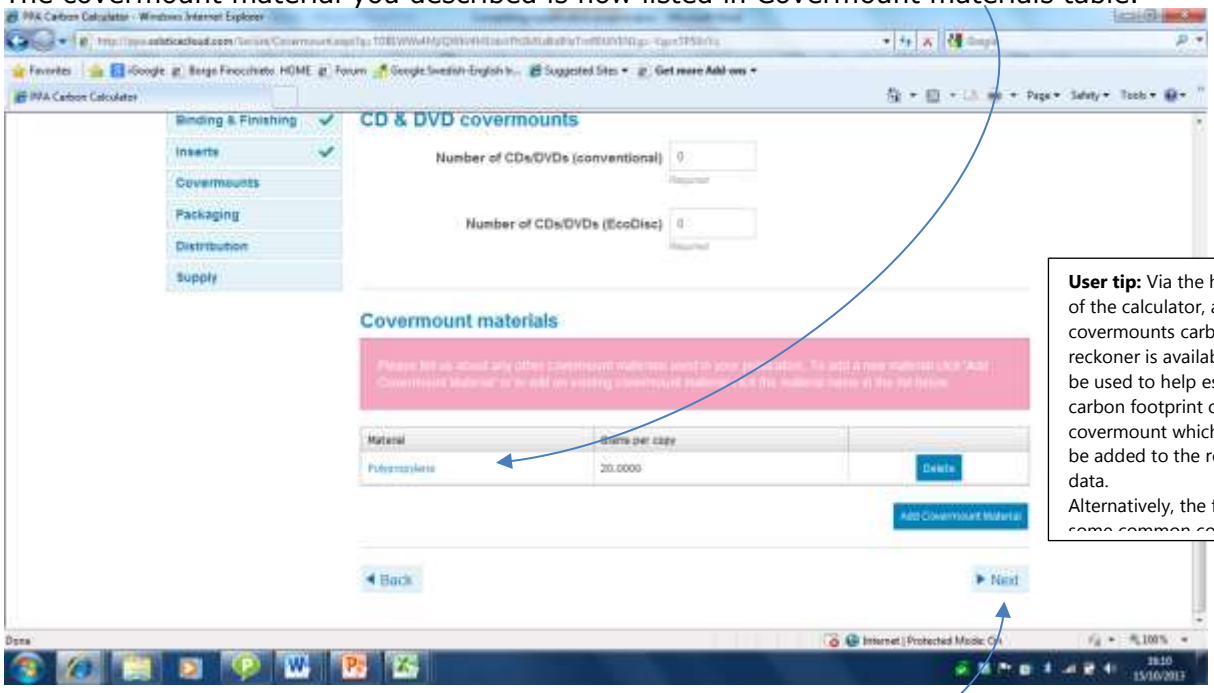
To add details of individual covermounts, click on the Add Covermount Material button.

This opens up the Covermount materials form. From here, you can select a material from the dropdown list and specify the weight of that material used per covermount.



Once complete, click Save

The covermount material you described is now listed in Covermount materials table.

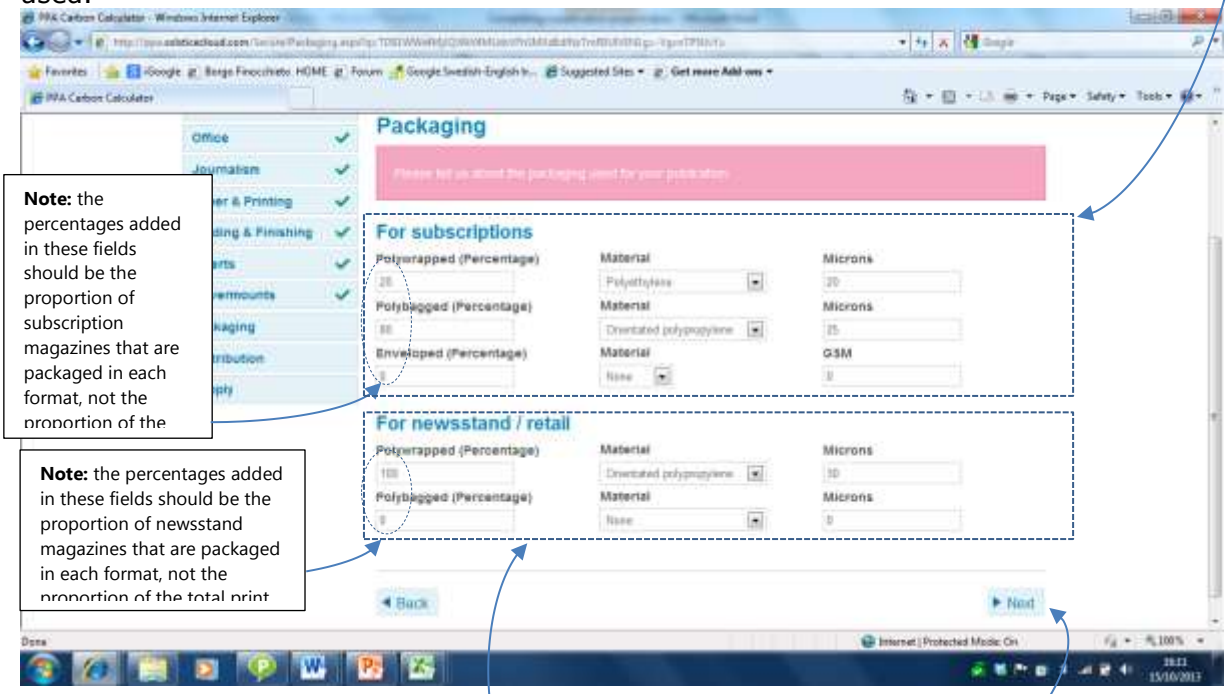


User tip: Via the help section of the calculator, a covermounts carbon ready reckoner is available. This can be used to help estimate the carbon footprint of a particular covermount which may then be added to the reference data.
Alternatively, the footprint for

If a covermount is made up of multiple elements then additional materials can be added by clicking on the Add Covermount Material button again and repeating the process. Once all covermount materials have been added, click on the Next button.

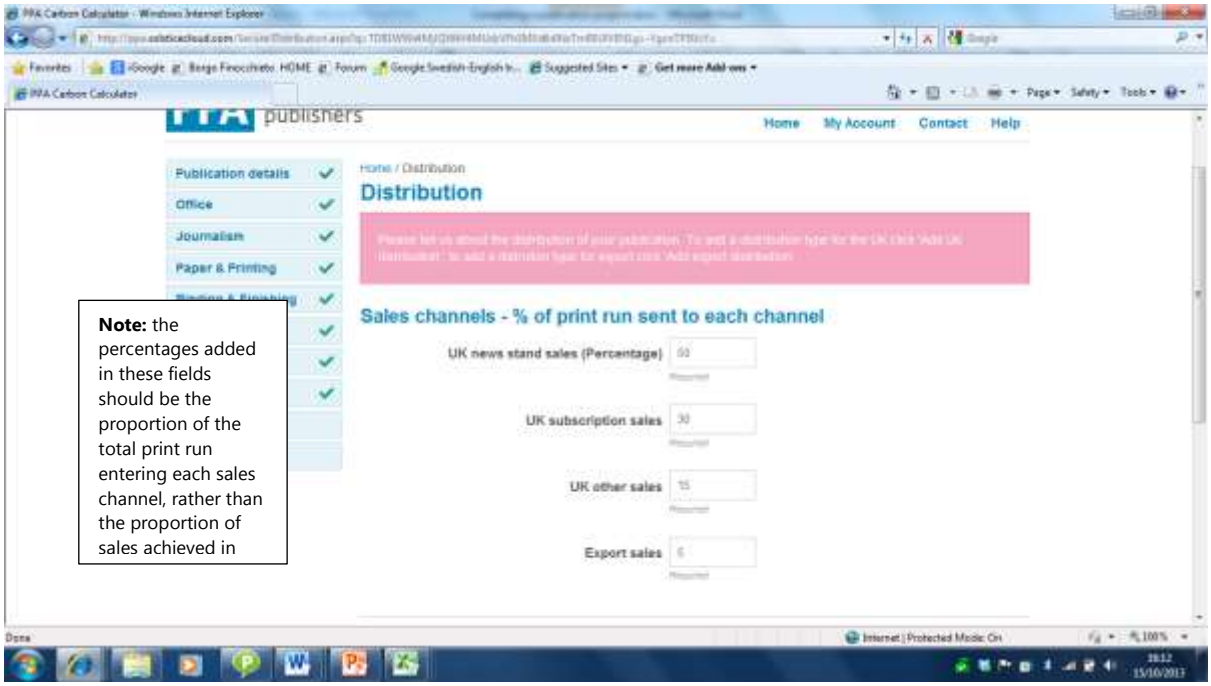
Step 10: This page is used to describe the primary packaging used. It does not include any packaging used for bundles, etc during distribution as these materials.

In the first section, describe the packaging materials used for magazines distributed via subscription.
The first column allows you to define the proportion of magazines that are packaged in polywrap, polybags or paper envelopes. In the second column, select the type of material from the dropdown list. The third column is used to specify the gauge or weight of material used.



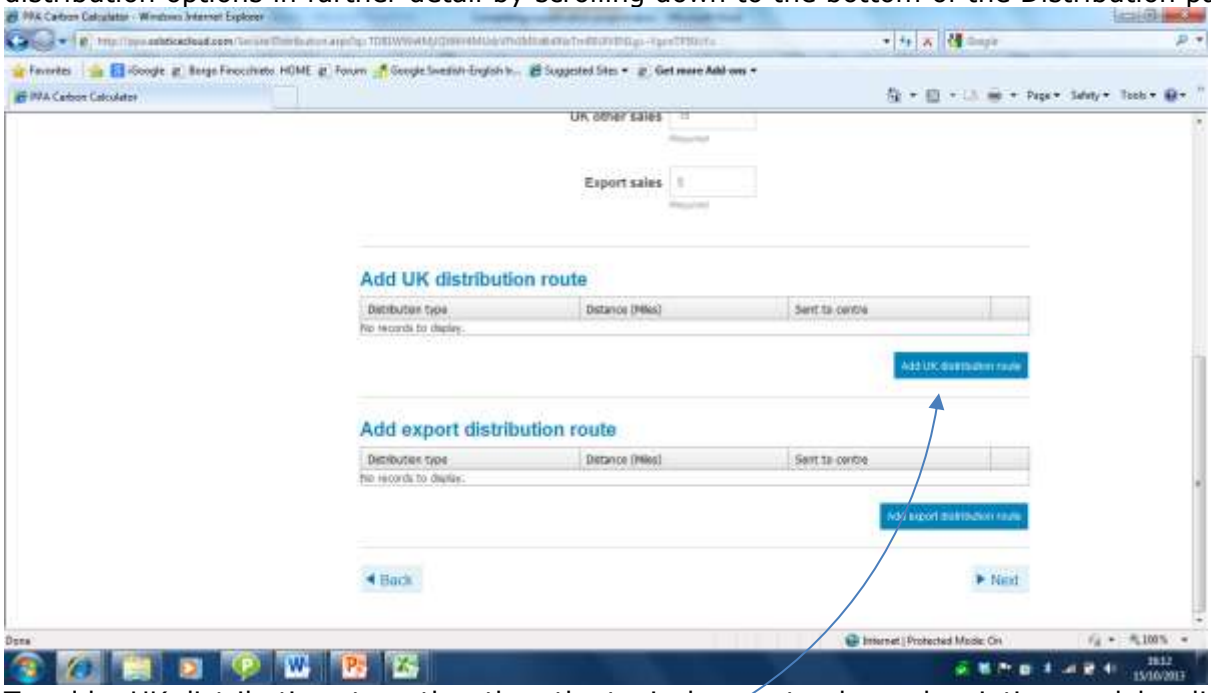
This process is then repeated in the second section to describe the packaging used for product distributed through newsstand. When the information is complete, click Next.

Step 11: This is the distribution page. It is used to describe the proportion of the total print run distributed via different channels



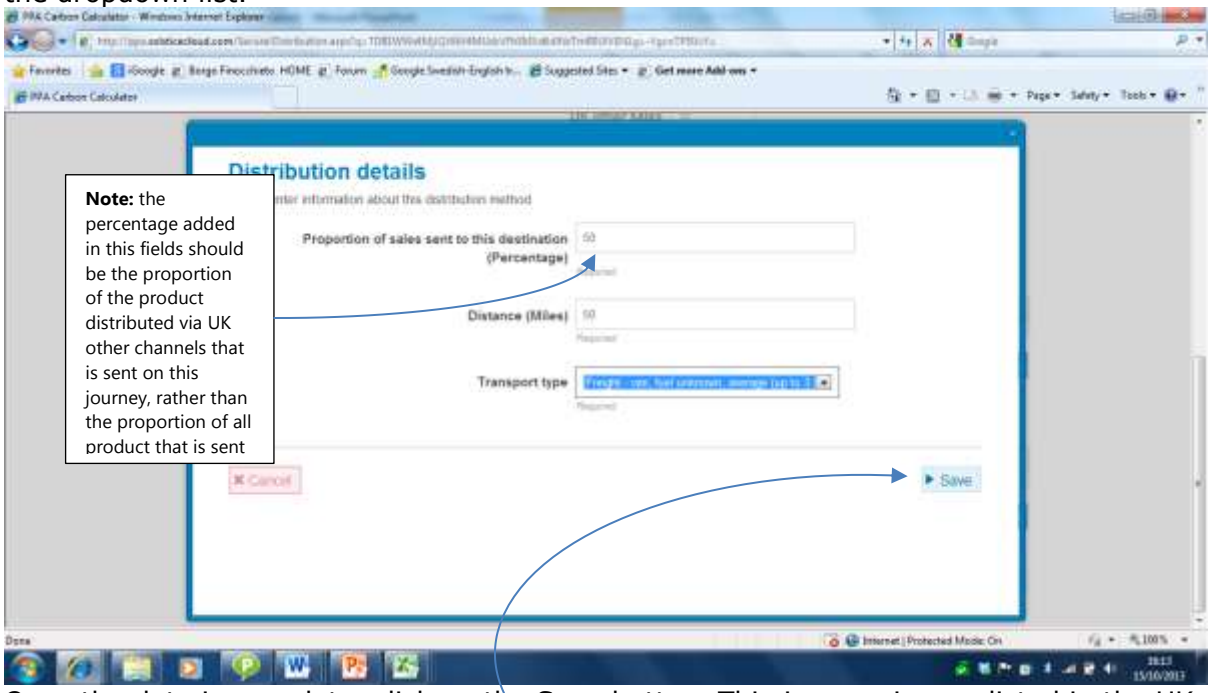
Background data and models have been described which facilitate the carbon footprint of distribution via UK newsstand or via a typical UK subscription model have been constructed. Any product not distributed via one of these specific channels will be described as UK other or Export distribution.

Where UK other or Export distribution is used, it is possible for the user to describe the distribution options in further detail by scrolling down to the bottom of the Distribution page.

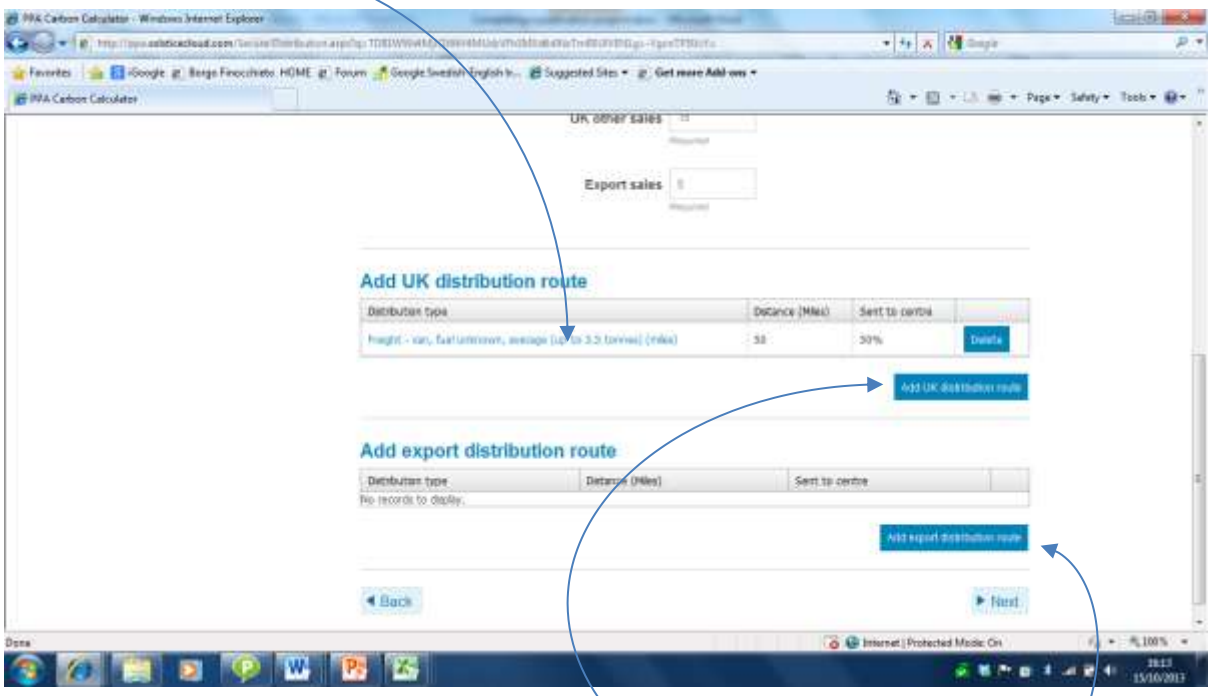


To add a UK distribution step other than the typical newsstand or subscription models, click on the "Add UK distribution route" button.

This opens up the Distribution details form. In this form, you can describe a specific distribution step. First, define the proportion of *UK other* product sent via this distribution step. Then define the distance in miles and select the appropriate mode of transport from the dropdown list.

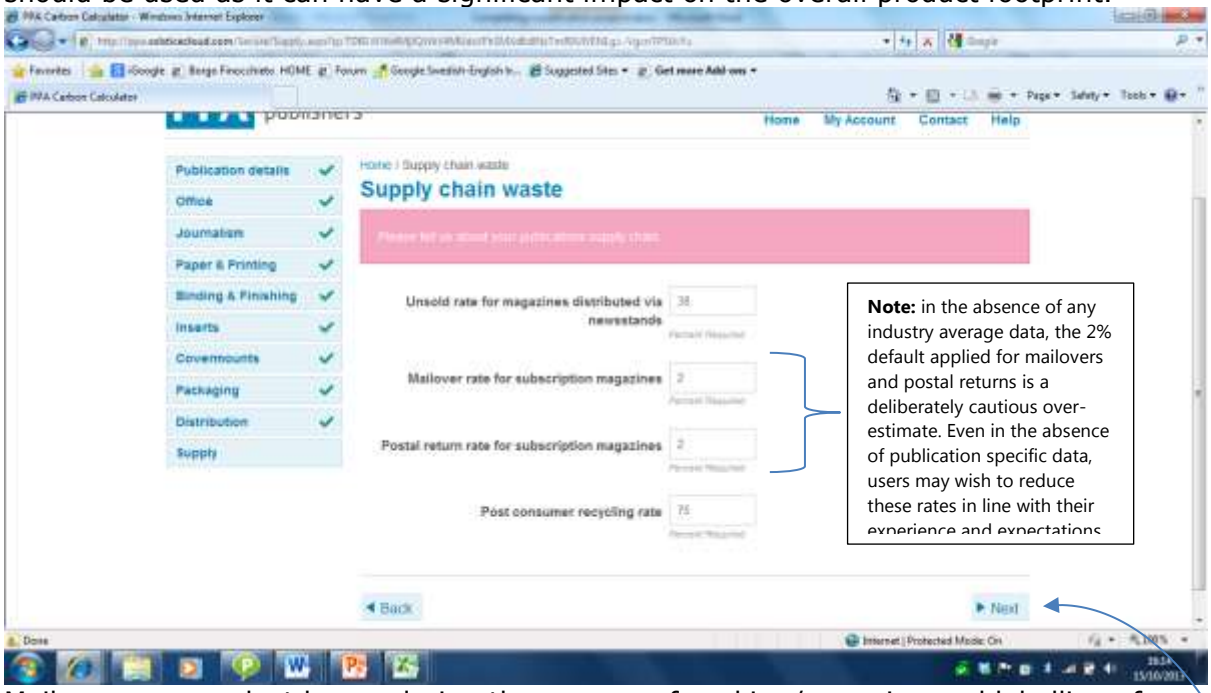


Once the data is complete, click on the Save button. This journey is now listed in the UK distribution table.



Further journeys can be added so a full picture of distribution of product in the UK can be created by clicking again on the Add UK distribution route button.
To describe journeys for exported product, use the Add export distribution route button and follow the same process.

Step 12: The final step describes the wastes that arise during the supply chain.
For unsolds arising in the newsstand supply chain, a default rate of 38% is provided. This is the UK industry average, but where the user knows the product specific unsolds rate this should be used as it can have a significant impact on the overall product footprint.

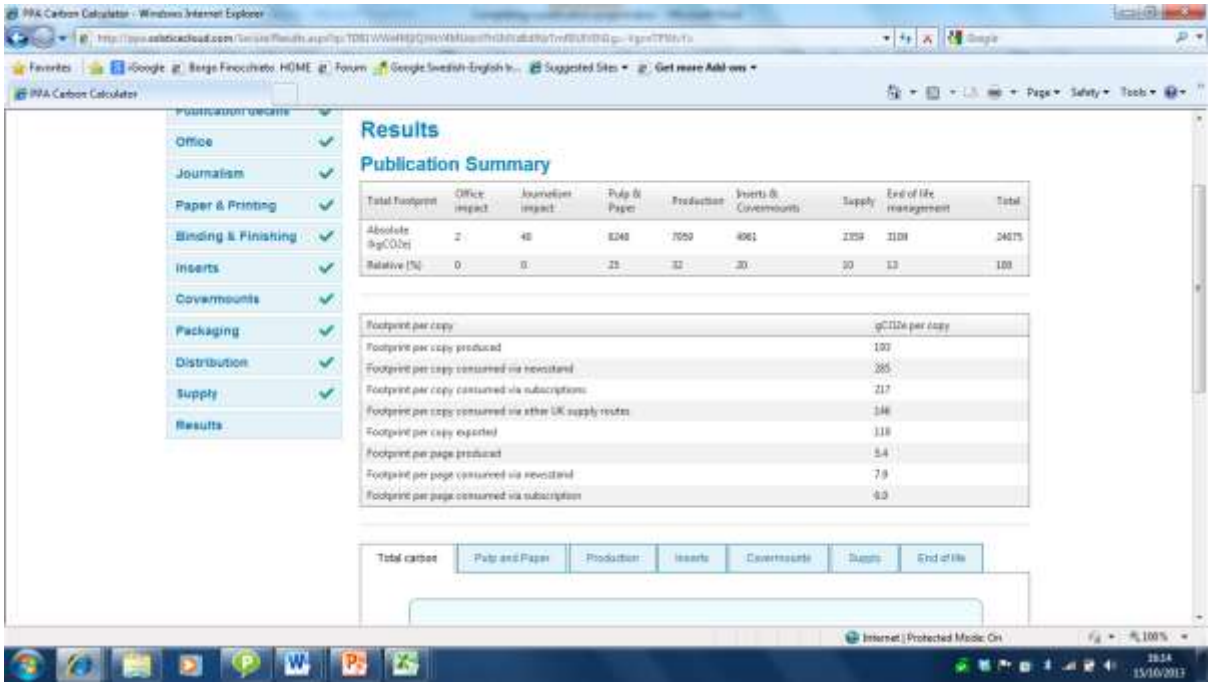


Mailovers are product losses during the process of packing/wrapping and labelling of product for subscriptions. If this wastage has already been included in the figure used for printer waste (in Step x) then this value should be set to 0% to avoid double counting. Otherwise, the mailover rate should be quantified. If no data is available, a default of 2% is applied.

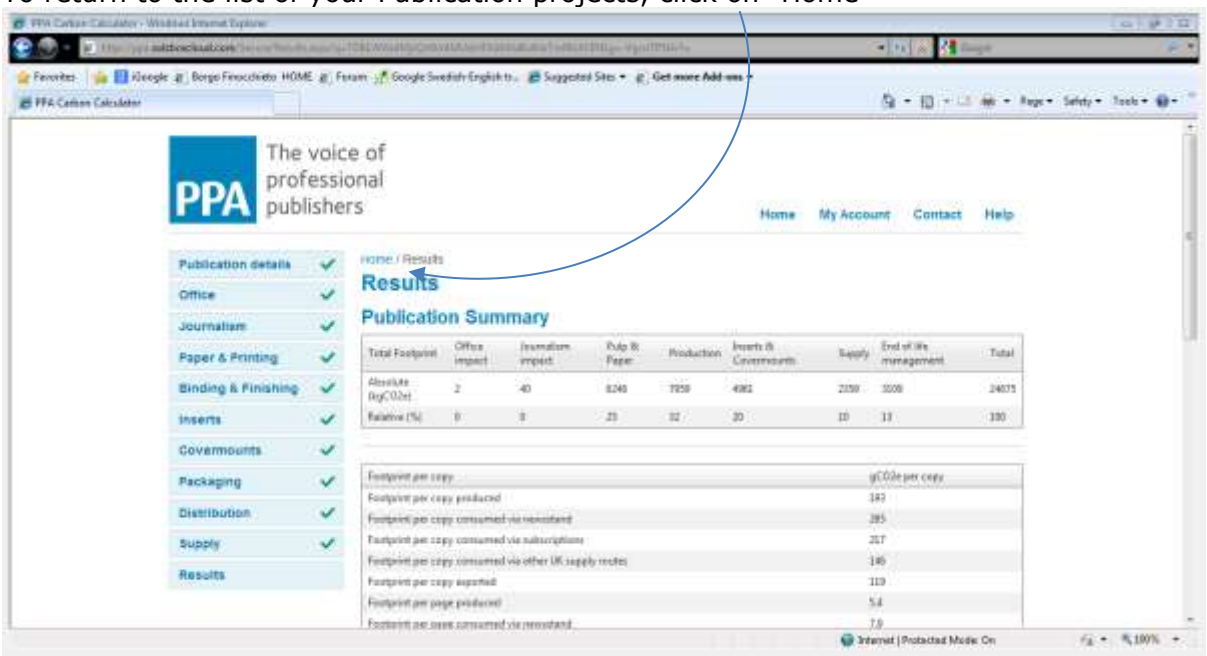
Postal returns is the proportion of subscription product that is sent back to the publisher for some reason (e.g. the address was invalid, the recipient is no longer at the address, etc). Again, a defaulty of 2% has been applied.

The post-consumer recycling rate is set by default to the value identified by PPA through its own post-consumer recycling audits. It is very unlikely that publishers will have their own data available on the recycling rate of their magazines, but if this is the case it is possible to change the value.

When these fields are complete, click on the Next button to be taken to the results page….



To return to the list of your Publication projects, click on “Home”

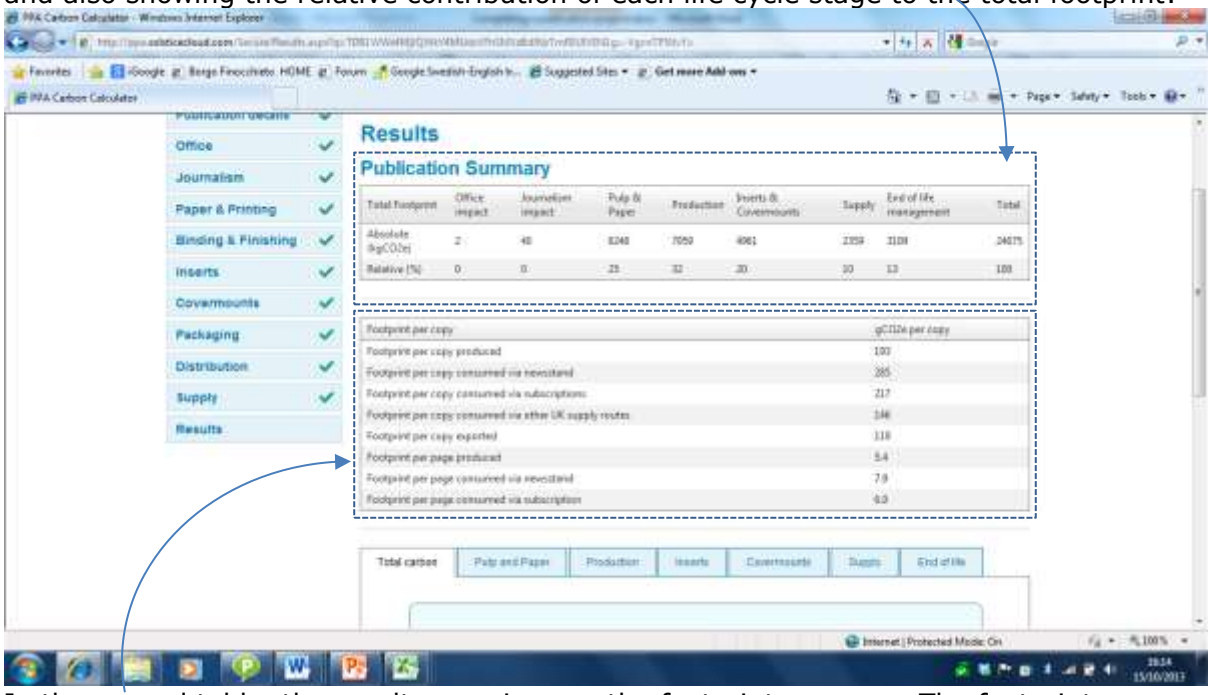


What do the office results mean?
The results are presented in two tables, a bar chart and a series of pie charts.

The first table presents the total carbon footprint for this project in kgCO2e. The footprint is broken down according to the following stages of the product life cycle:

- Office impact – based on the proportion of the impact of any office projects allocated to this publication project
- Journalism impact – based on the proportion of the impact of any office projects allocated to this publication project
- Pulp and paper impact – including the transport of paper from the mill to the printers
- Production – printing, binding and finishing impacts, plus the impact of any transport of sections between production sites
- Inserts and covermounts – the impact of producing the inserts and of producing CDs, DVDs and any other covermount materials defined in the project
- Supply – the impacts associated with primary packaging and with distributing product. For newsstand, this includes the impacts associated with collecting unsolds from retailers and returning them to wholesaler depots
- End-of-life – this includes impacts associated with transport of unsolds from wholesaler depots to a reprocessor, landfill of any packaging and covermounts from the unsolds, and landfill of the proportion of UK post-consumer waste that is not recycled.

The data in the first table is presented as an absolute value for each stage of the life cycle and also showing the relative contribution of each life cycle stage to the total footprint.

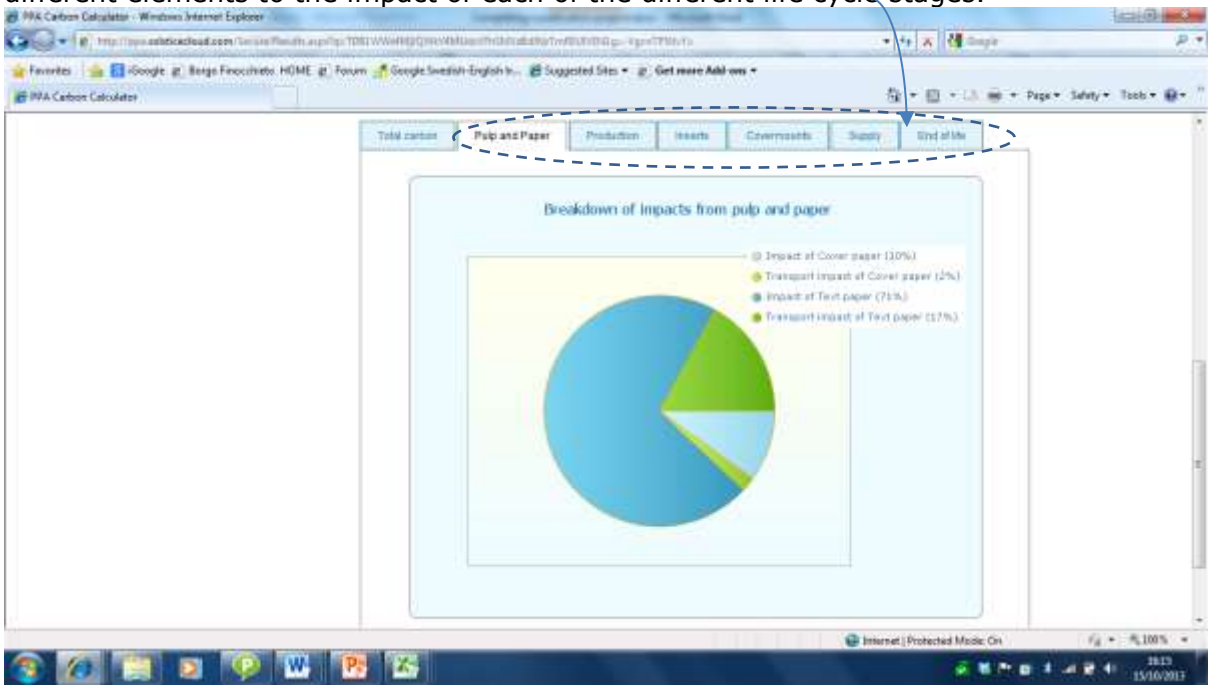


In the second table, the results are given as the footprint per copy. The footprint per copy consumed via each channel is presented. The footprint per copy produced is the weighted average across all these channels. Typically the footprint per copy consumed via newsstand will be higher than the footprint per copy consumed via subscriptions due to the production

of the unsolds associated with the newsstand channel. The footprint per copy consumed via other UK channels and export channel will be very dependent on the distribution scenarios described. At the bottom of the table, the footprint per page for newsstand and subscriptions is also presented. This can be important for understanding trends when comparing a title's footprint year on year as pagination can change.
Scrolling down the results page reveals the bar chart. This is a graphical presentation of the absolute figures presented in the first table of results.
Thus, the first bar in the graph presents the total carbon footprint (in kgCO2e) for this publication. The absolute value is also presented in the corresponding legend. In this example, the total footprint is 24,675kgCO2e.

Bars 2-8 provide a breakdown of the total according to the specific contribution of each stage of the life cycle. The absolute values are also presented in the legend table. The bars are presented in the same order as the legend table, i.e. Bar 2 is the result for Impact from office, etc.

The tabs above the bar chart can be clicked to reveal pie charts showing the contribution of different elements to the impact of each of the different life cycle stages.



Calculating the footprint of digital content

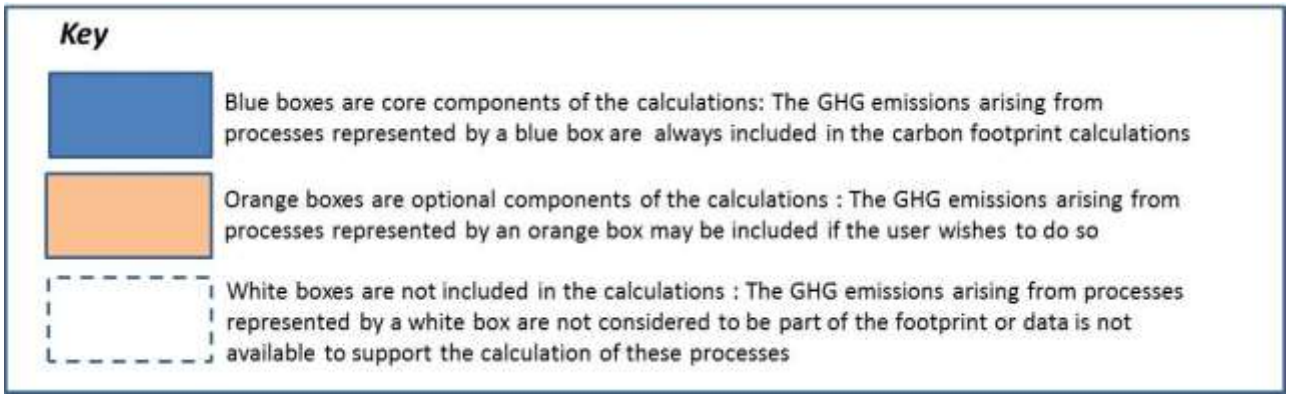
What information do I need to calculate the footprint of digital content?
The table below summarises the information you will require for calculating the footprint of digital content. The information is identified as either Essential (i.e. without this data we cannot make the calculation), Desirable (e.g. if this data point has only minor influence over the overall results, or if the data is unavailable it may still be possible to make a calculation, e.g. using an average data value) or Optional (not necessary for making the footprint calculation but can be used to improve the calculation if the data is available.

Information required	**Essential, desirable or optional**	**Comment**
Timeframe:		
Timeframe for the analysis (months)	Essential	All subsequent data must be added covering the same time period
Data centre:		
Data storage scenario	Essential	The user must select from one of the options in the dropdown menu
Website:		
Total number of webpages	Essential	This should be the average number of webpages that the site has available during the time period for the analysis
Average MB per web page	Desirable	If this data is not known the default average of 1MB will be applied
Total comments submitted to the website during the period	Desirable	If it is available this information provides additional insights into how the footprint of web material can be driven by outside contributions. However, usually the total footprint of comments submitted is low, and therefore this information is not essential
Website visitor profiles –:		
Country	Desirable	Information is ideally required for average visitor profiles for each country from which visits are received. However, if this is not possible, a European or global average could be applied.
Number of visits during the period	Essential	Note: this is number of **visits**, not visitors
Average visit duration (seconds)	Essential	
Share of time accessing different content	Desirable	Different content (text, audio, video) will have a different footprint, so if possible a

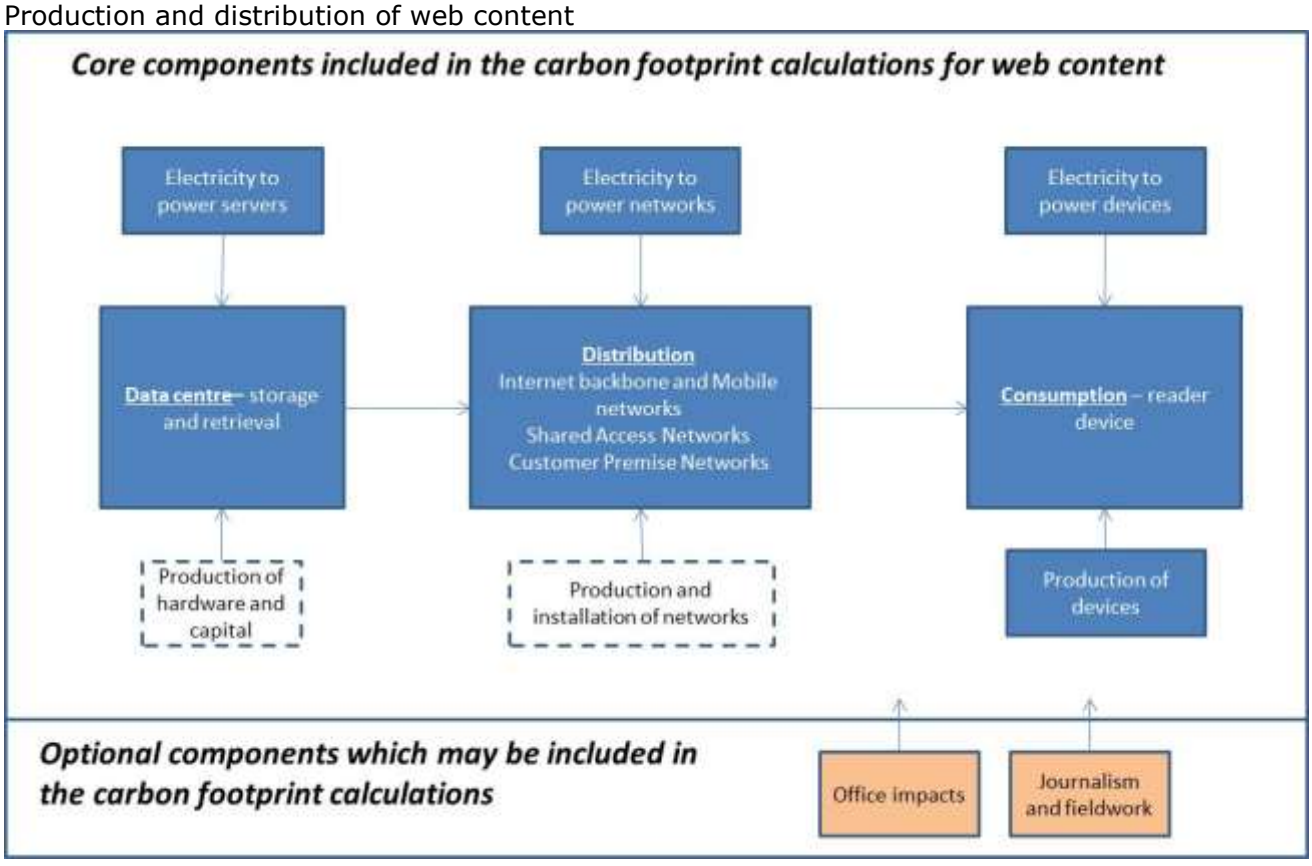
		breakdown of % time spent by visitors accessing different types of content is required. However, if this information is not available a default estimate will be applied.
Average number of printouts per visitor Paper type Printer device	Optional	It is not possible for publishers to know to what degree readers print out web-based materials at home, but an estimate can be included if you wish to learn more about how much this may influence the footprint of consumption of digital media
Page turner editions (downloadable page turners only):		
Average size of page turner edition	Essential	
Page turner reader profiles (downloadable page turners only):		
Country	Desirable	Information is ideally required for average visitor profiles for each country from which visits are received. However, if this is not possible, a European or global average could be applied.
Number of downloads	Essential	
Estimated average reading time	Essential	This is likely to be an estimate
Assumed download speed	Optional	If this data is not known the default average of 1MB/min will be applied
Apps (data required for each app:		
Country	Desirable	Information is ideally required for average visitor profiles for each country from which visits are received. However, if this is not possible, a European or global average could be applied.
Number of downloads	Essential	
Proportion of access by device (%smartphone versus %tablet)	Optional	If this information is not known the default average of 50:50 will be applied
Estimated average time using the app	Essential	This is likely to be an estimate
Assumed download speed	Optional	If this data is not known the default average of 1MB/min will be applied
Reaching out through social media:		
Total Facebook page views during the time period for the	Desirable	If this information is not available, the digital media footprint can still

analysis		be calculated but the additional footprint of this increasingly important communications channel will not be included
Total page views for other social networking sites during the time period for the analysis	Desirable	
Total Tweets issued during the period	Desirable	
Total Retweets issued during the period	Desirable	
Total newsletters issued during the period (newsletters x subscribers)	Desirable	
Office impacts:		
Electricity consumption kWh	Optional	This data is only required if you would like to assess the impacts of your offices and allocate a proportion of these to your publications. The office impacts are modelled in a separate module, and then a proportion of these impacts can be allocated to the individual publication, using one of a number of alternative allocation procedures.
Gas consumption kWh		
Fuel oil consumption kWh		
Water (cubic metres)		
Journalism impacts:		
For each mode of transport (e.g. long-haul plane, short-haul plane train, car, etc) distance travelled	Optional	This data is only required if you would like to assess the impacts of journalism and allocate a proportion of this to your publications. The office impacts are modelled in a separate module. Data can be collected relative to the specific title being evaluated, or can be collected for the whole business and then a proportion can be allocated to the title using one of a number of alternative allocation procedures.
Number of overnight stays		

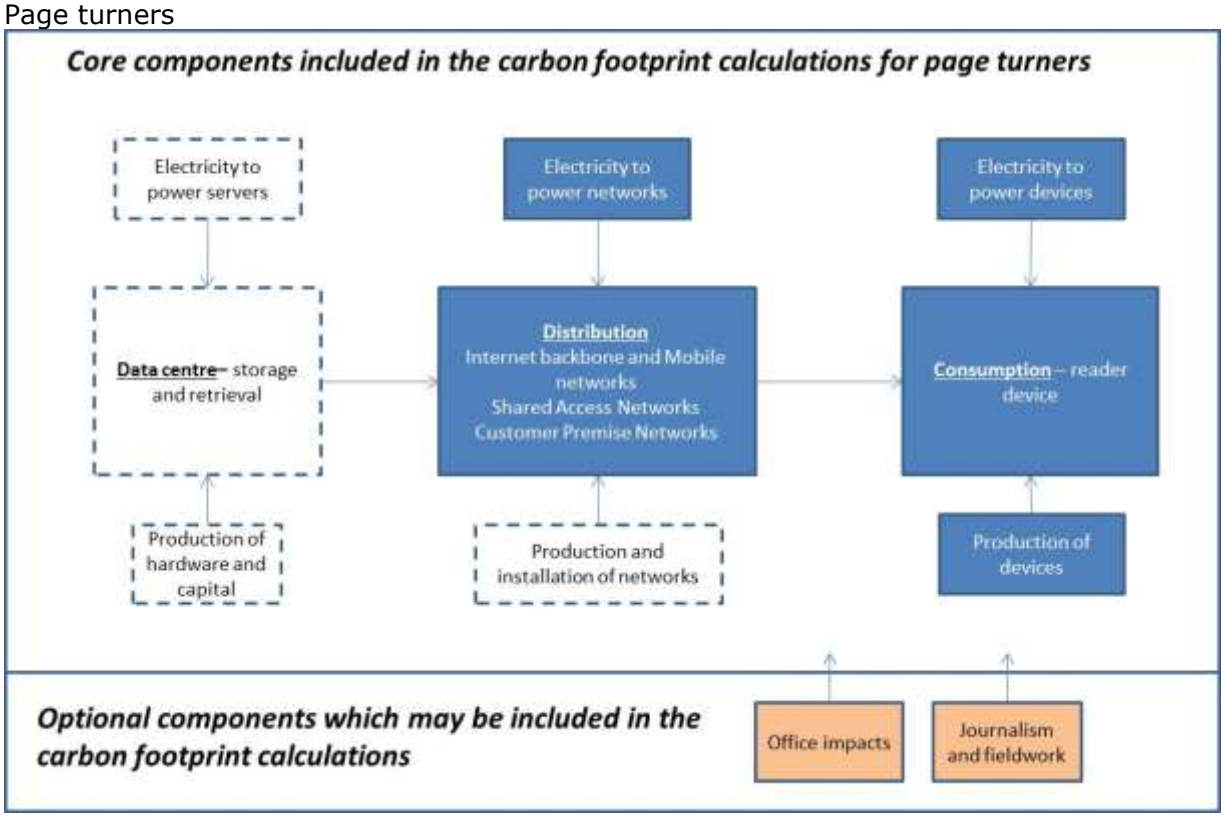
What is included in the footprint of digital publishing?
Due to the emerging nature of digital media channels, the data available means that the boundaries considered are not always consistent between different channels. The diagrams below summarise the steps and activities included in the carbon footprint calculation for different digital media. The key below identifies which unit processes are always included in the calculations, which ones may be included and which ones are always excluded.



Production and distribution of web content



Page turners



Apps

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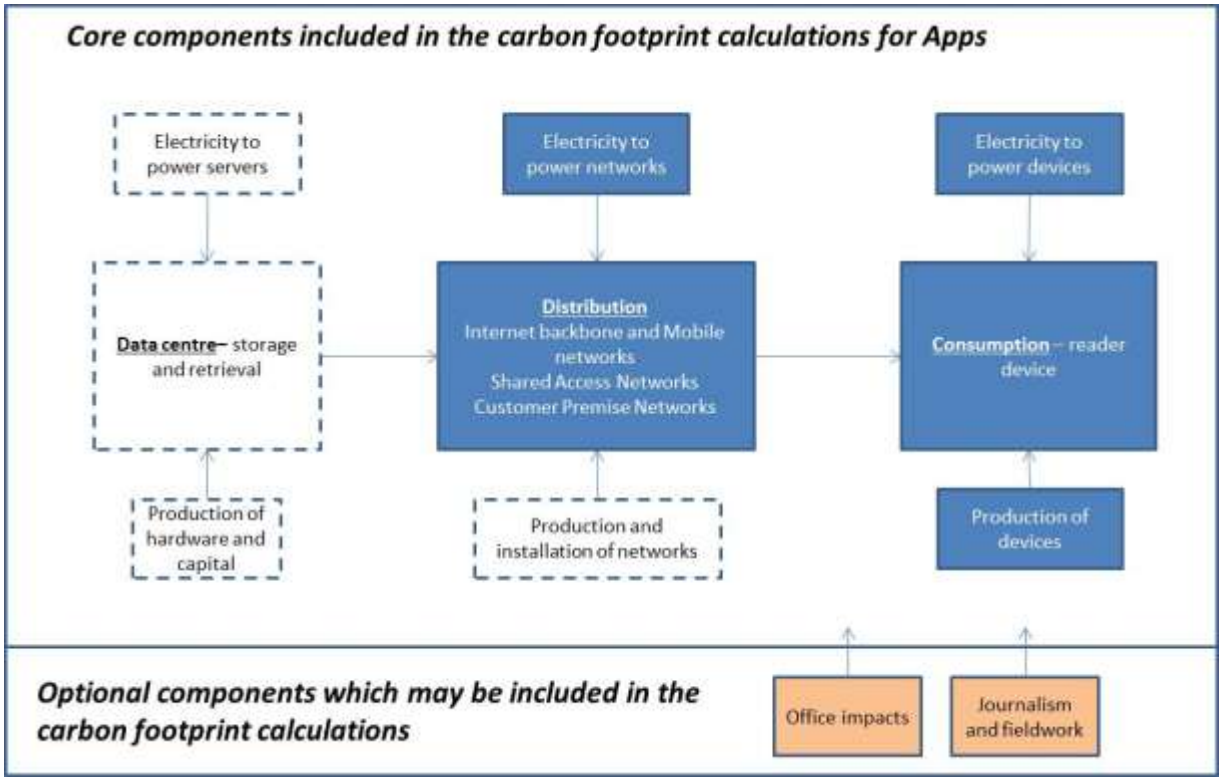
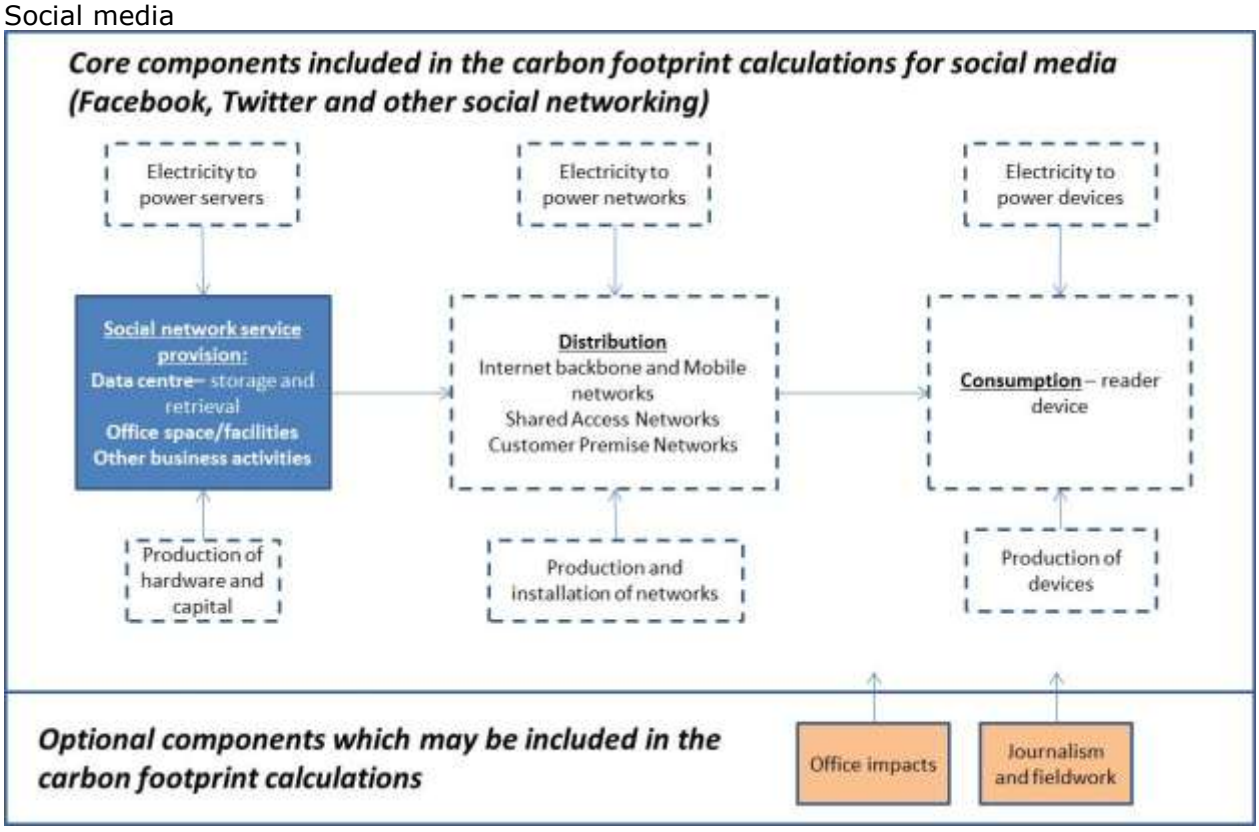
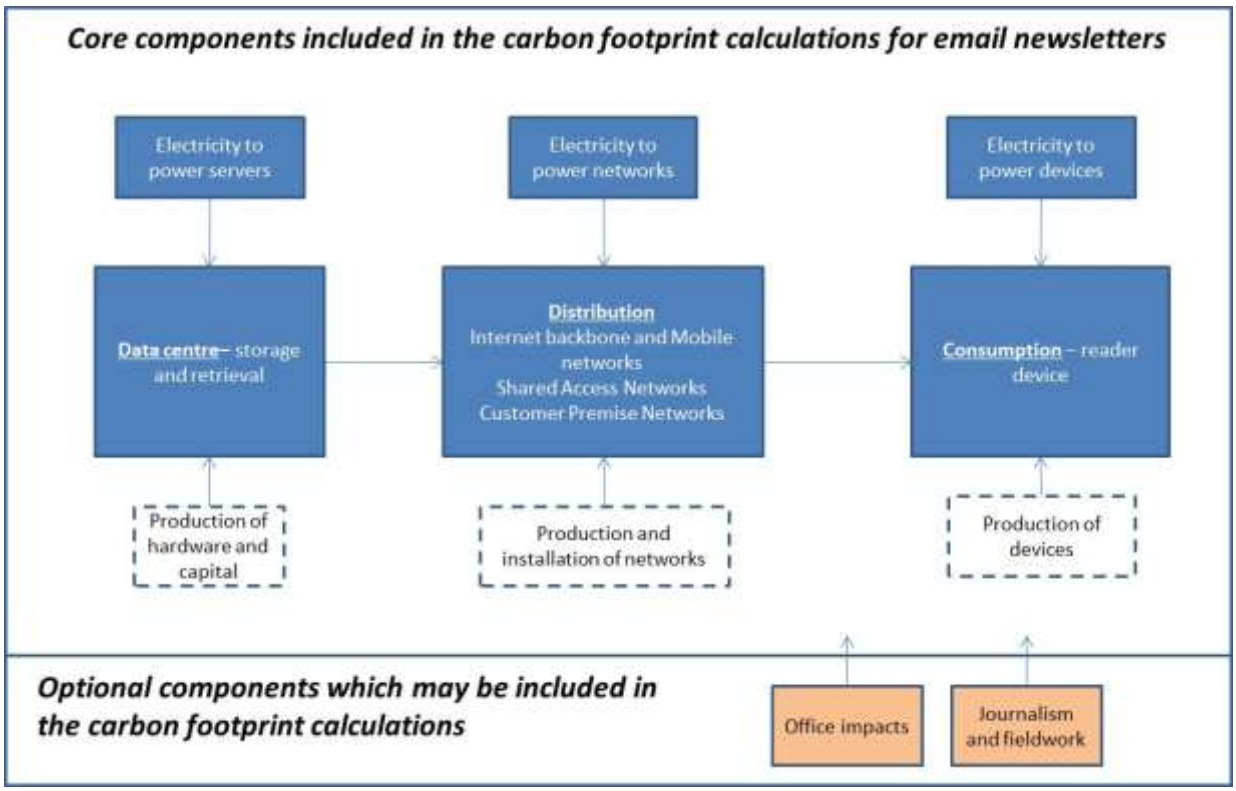


Social media



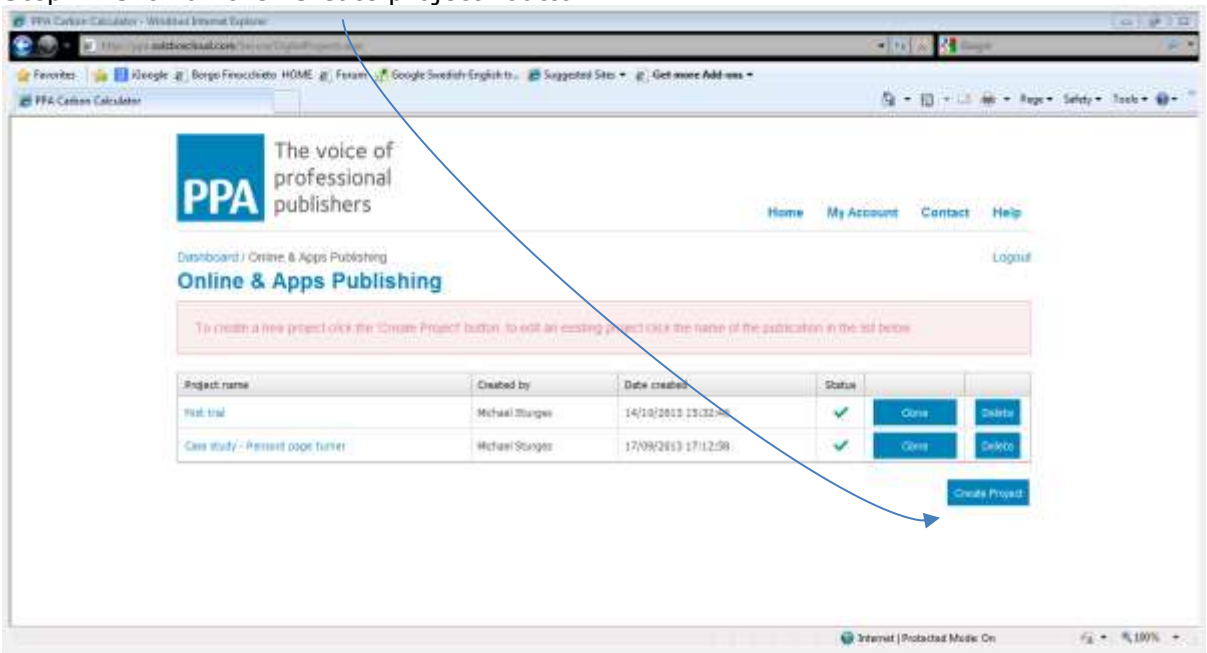
Email newsletters



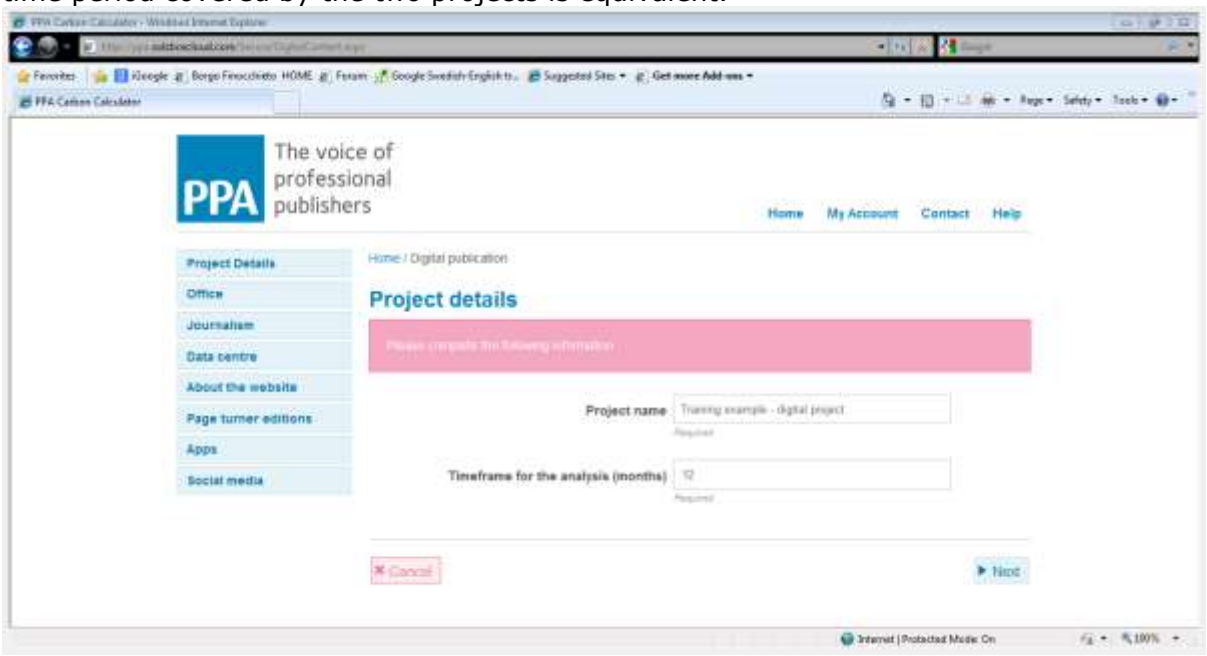
Completing a digital project

Step 1: From the Dashboard, click on the "Online and apps" icon

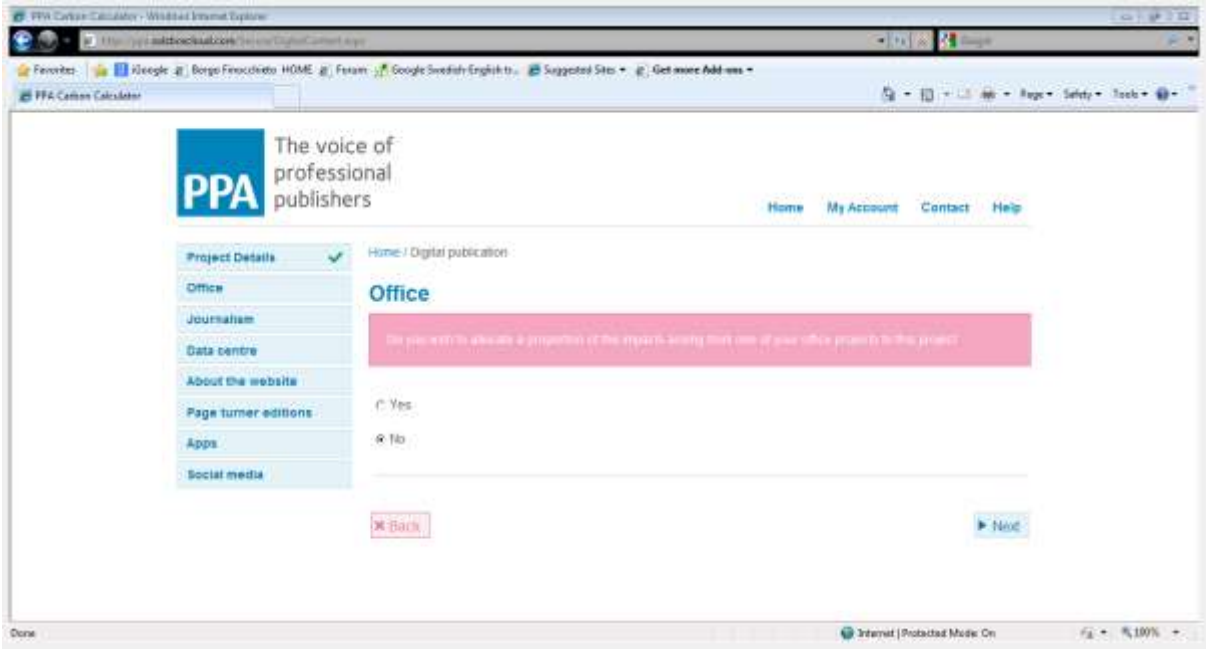
Step 2: Click on the "Create project" button



Step 3: In the Project details form, give the project a unique name and specify the timeframe for which the analysis will apply. All subsequent data for this project needs to be entered covering the same period. It is important that if you intend to combine the results of a printed publication and digital project to give a total footprint for the brand then the time period covered by the two projects is equivalent.

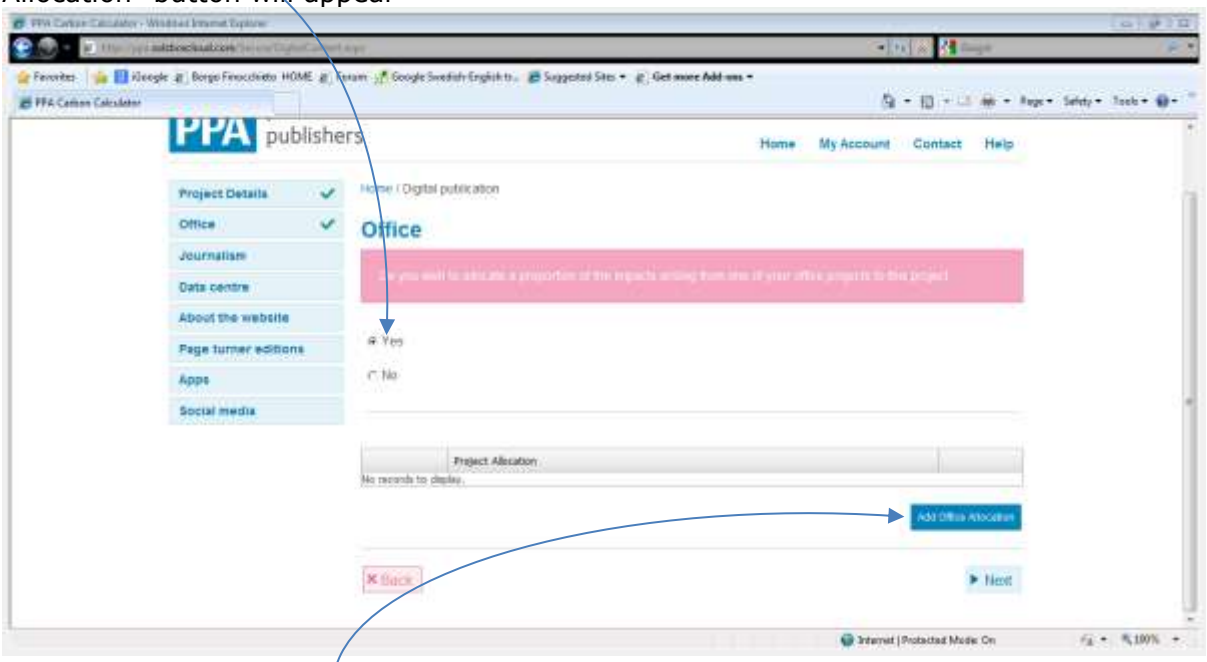


Step 4: You are now at the office form. Here you are given the option to allocate a share of the impacts associated with an existing office project to this digital project.



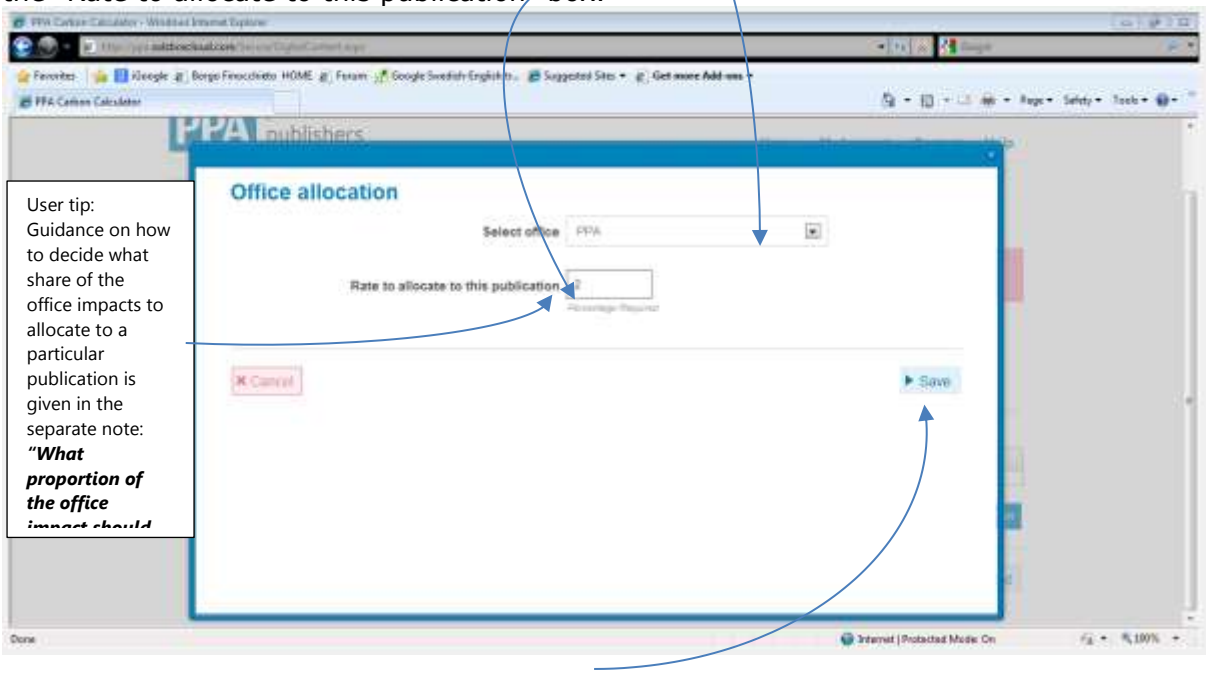
.

If you select yes, the view of the Office form will change. A table and an "Add Office Allocation" button will appear"



Clicking on the "Add Office Allocation" brings up the "Office Allocation" window.

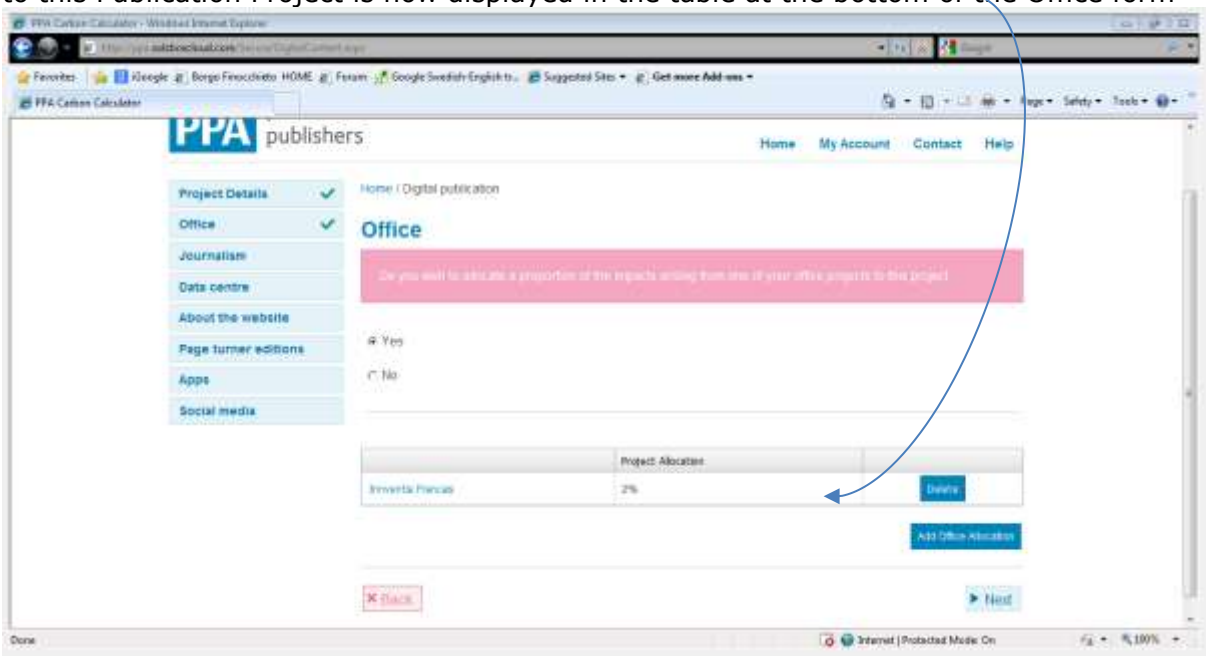
In the "Office Allocation" window, the dropdown menu will contain a list of any offices that you have previously defined. You can allocate a proportion of the impact of any of these offices to this publication project. This is done by typing the % that you wish to allocate in the "Rate to allocate to this publication" box.



User tip: Guidance on how to decide what share of the office impacts to allocate to a particular publication is given in the separate note: ***"What proportion of the office impact should***

When this information is added, click on “Save”.

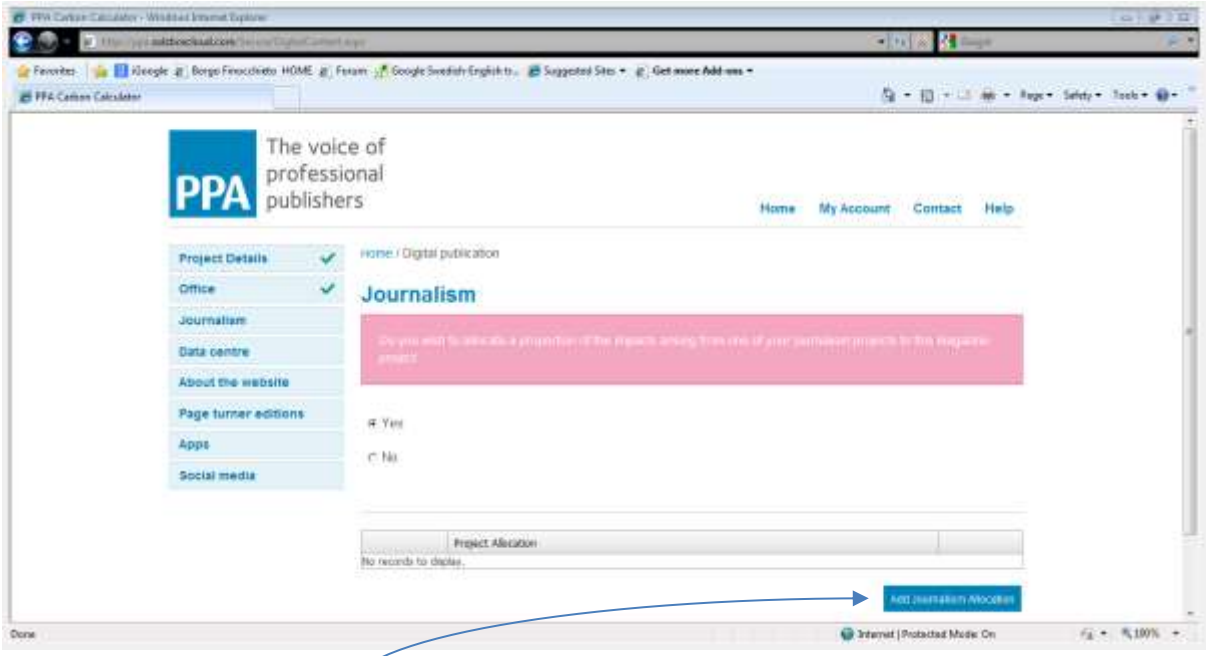
The Office Project selected and the percentage of its carbon footprint that you will allocate to this Publication Project is now displayed in the table at the bottom of the Office form



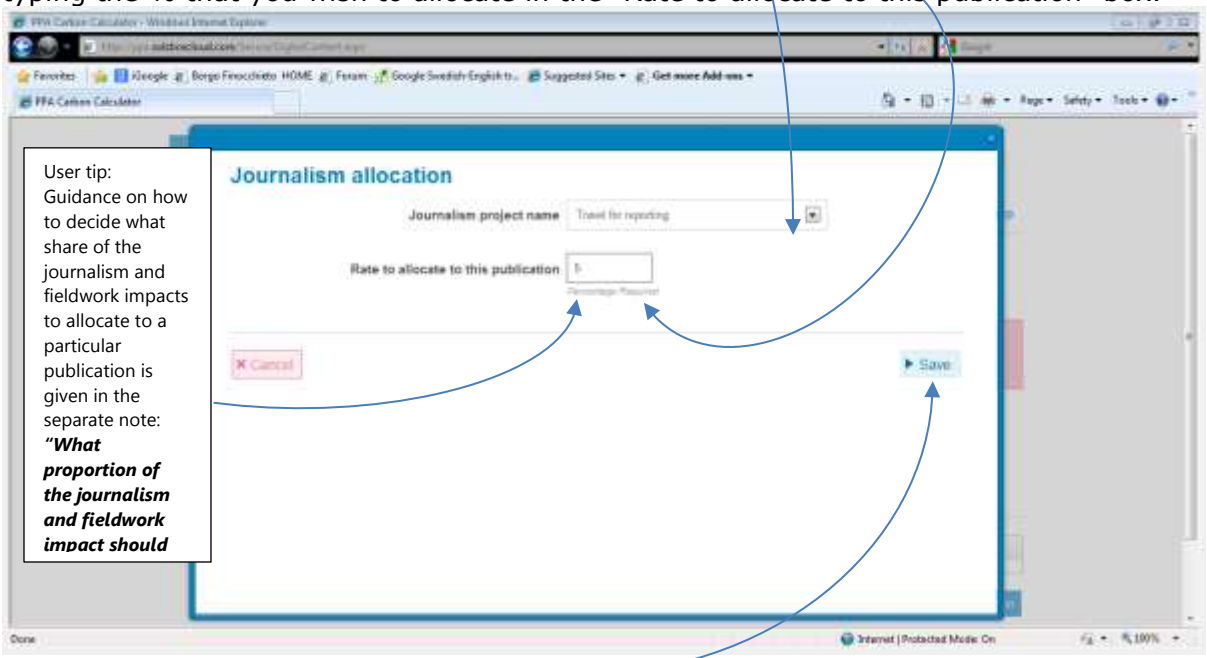
If you wish to allocate a proportion of another Office Project to this Digital Project, press the "Add Office Allocation" button again and repeat the steps. Otherwise, clicking on the "Next" button will take you to the next data form.

Step 5: You are now at the Journalism Form. Here you are given the option to allocate a share of the impacts associated with an existing Journalism and Fieldwork project to this publication.

If you select yes, the view of the Journalism form will change. A table and an "Add Journalism Allocation" button will appear"



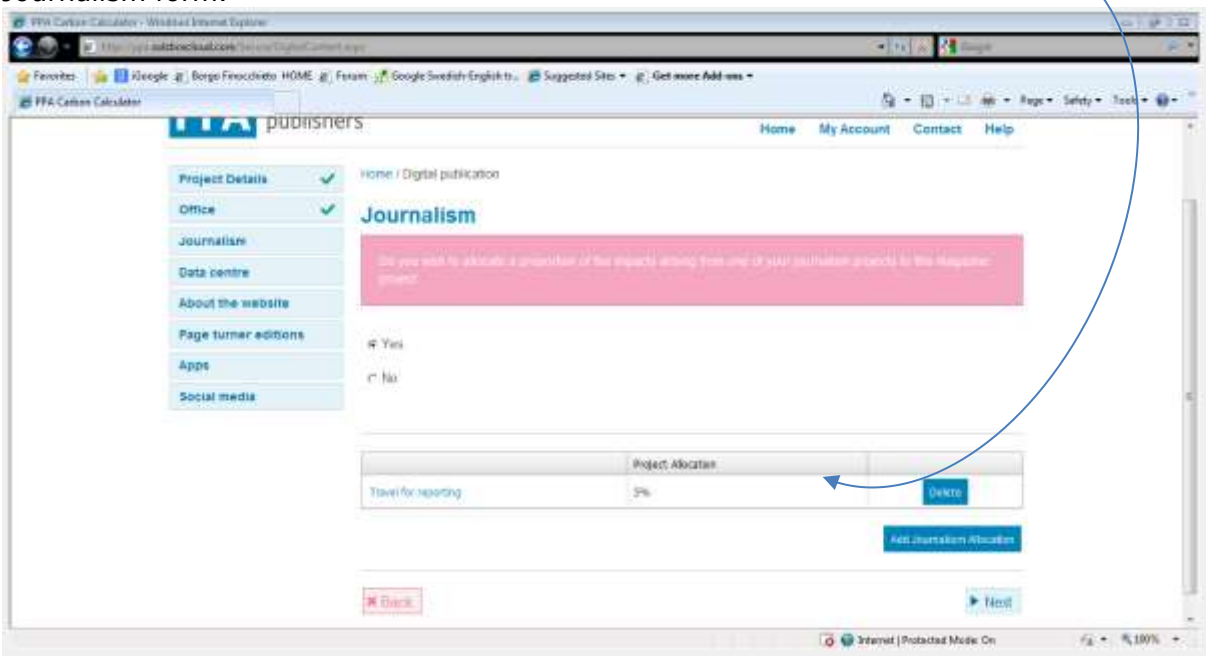
Clicking on the "Add Journalism Allocation" brings up the "Journalism Allocation" window. In the "Journalism Allocation" window, the dropdown menu will contain a list of any Journalism and Fieldwork projects that you have previously defined. You can allocate a proportion of the impact of any of these offices to this publication project. This is done by typing the % that you wish to allocate in the "Rate to allocate to this publication" box.



User tip: Guidance on how to decide what share of the journalism and fieldwork impacts to allocate to a particular publication is given in the separate note: ***"What proportion of the journalism and fieldwork impact should***

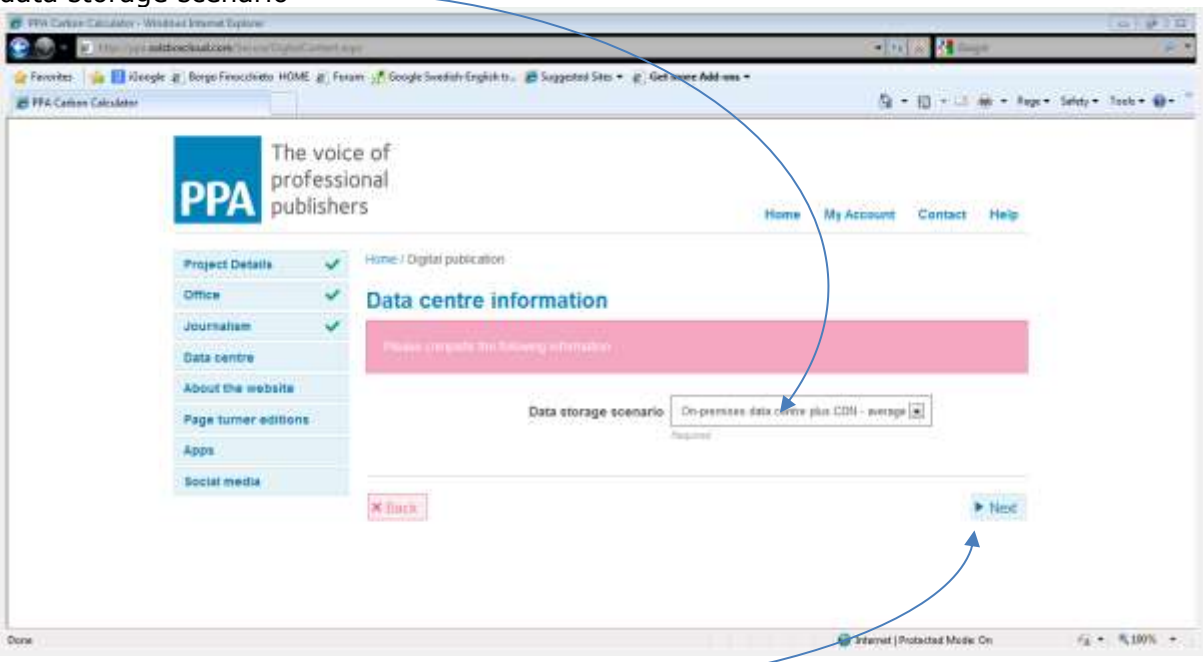
When this information is added, click on "Save".

The Journalism Project selected and the percentage of its carbon footprint that you will allocate to this Publication Project is now displayed in the table at the bottom of the Journalism form.



If you wish to allocate a proportion of another Journalism and Fieldwork Project to this Digital Project, press the "Add Journalism Allocation" button again and repeat the steps. Otherwise, clicking on the "Next" button will take you to the next data form.

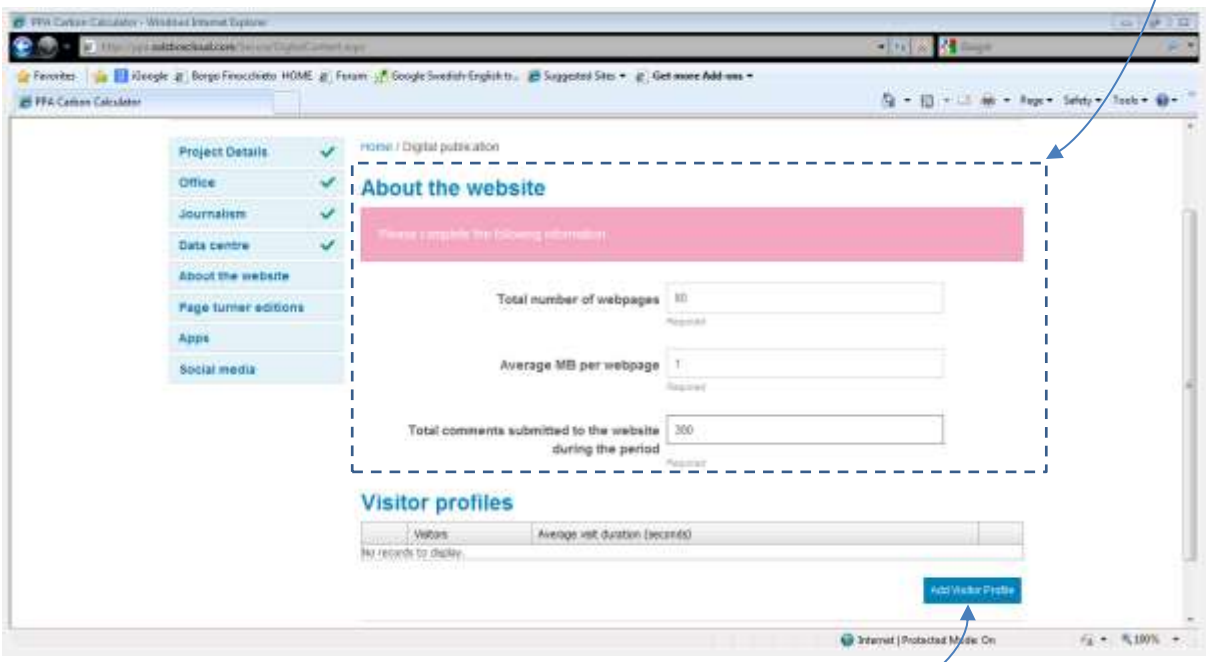
Step 6: This is the Data centre page. From the dropdown menu, select the most appropriate data storage scenario



The click on Next.

Step 7: This is the Website page. The top part of this page is used to describe the makeup of the website relevant to this project.
Three parameters need to be defined:

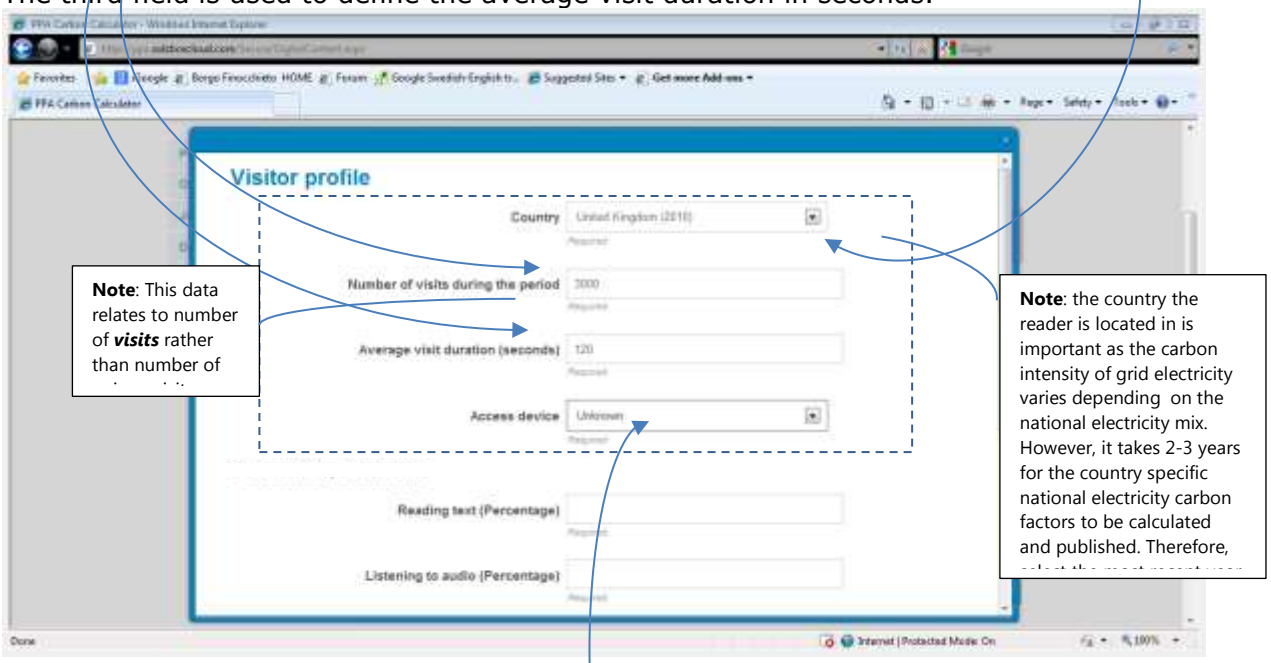
- The average total number of webpages that make up the site during the timeframe for the project
- The average MB per webpage – if this information is not available then the default figure of 1MB should be applied as this is a typical value
- If the website is interactive and encourages comment, the number of submitted to the website during the period can be added



The bottom part of the page is used to describe the profile of the visitors to the website. To create a visitor profile, click on the Add Visitor Profile button.
This opens up the Visitor profile form.

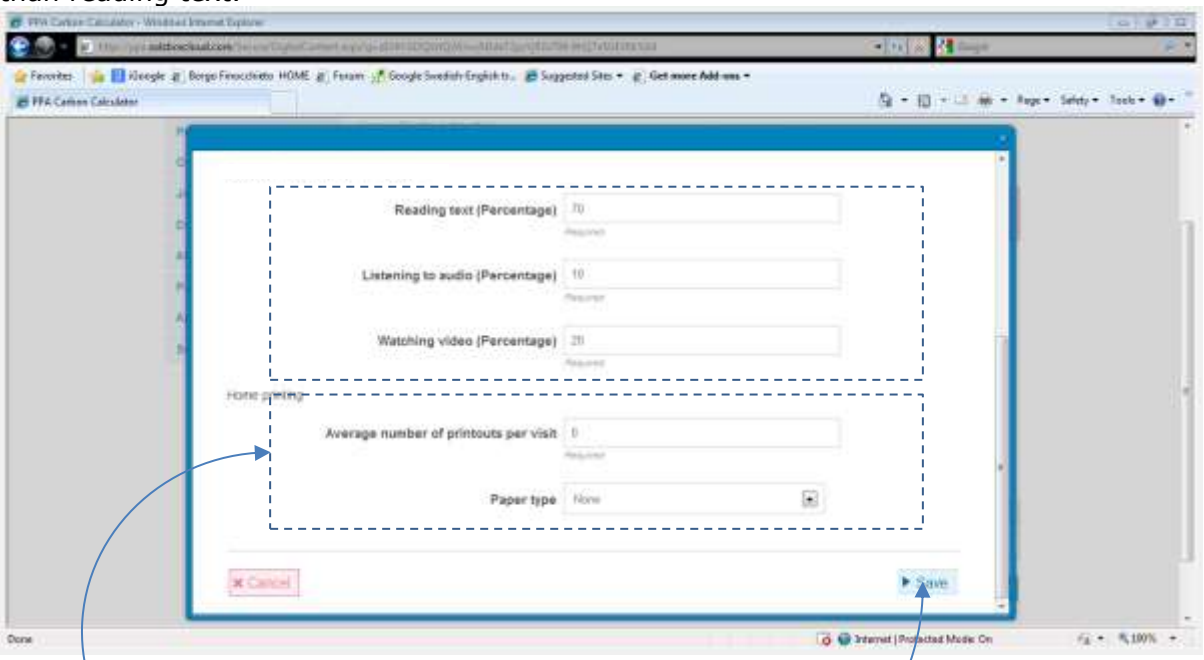
In the Visitor profile form, the first four questions relate to the way in which the visitors access the website.

The first field allows us to select the country in which the visitors being described are based – i.e. from which country are they accessing the content. This information is important as it affects the electricity mix considered for the device that is used by the visitor. Select the most appropriate country or region from the dropdown list.
The second field is used to define the total number of visits during the period.
The third field is used to define the average visit duration in seconds.



The fourth field is used to describe the type of device being used by the end-user to access the content. There is a choice between laptop/desktop, tablet and smartphone. However, this information may not be available in which case it is possible to select "unknown". If unknown is selected, an assumption is made based on available data regarding penetration of tablets and smartphones in the particular country selected for this visitor profile.

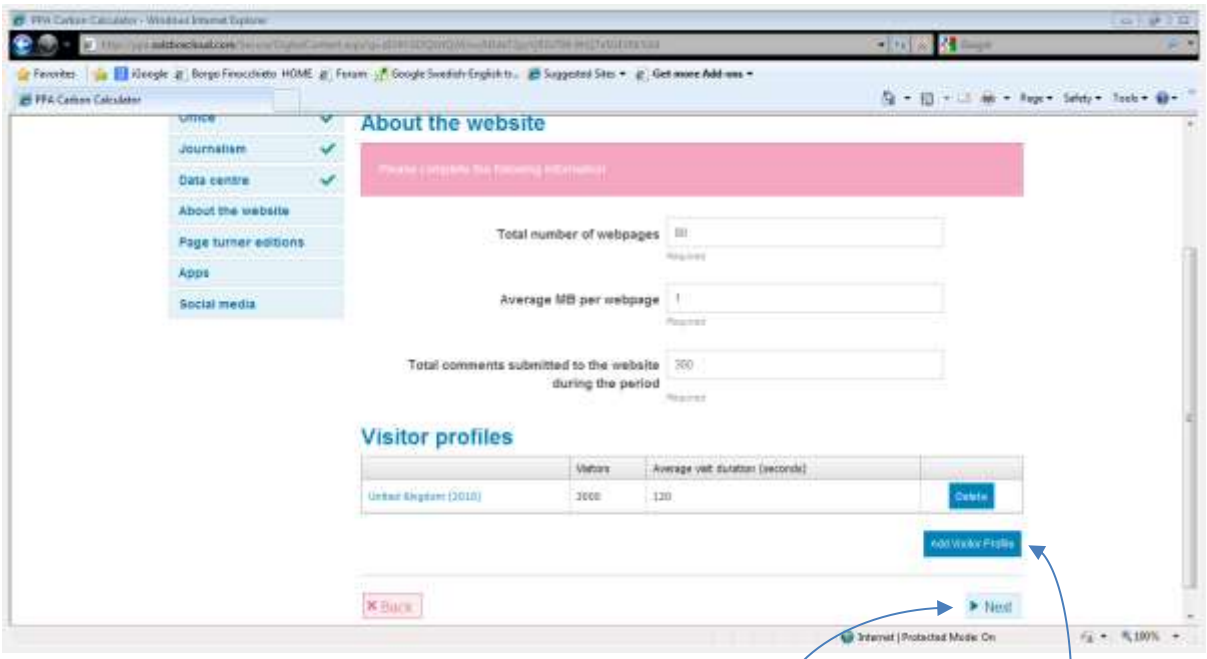
The second part of the Visitor profile form describes the type of content being accessed. Use these three fields to define the proportion of time spent accessing web text pages, listening to audio or watching video. If this information is not easily available, you will need to make an estimate. These shares are important as for example accessing video uses more energy than reading text.



The final section in the Visitor profile form relates to home printing. It is highly unlikely that publishers will know how much material consumers will print out in the home or office, and you may therefore choose to leave this as zero. However, it may be interesting to investigate scenarios to see how important home printing may be in the overall life cycle of digital products.

When the visitor scenario is fully described click on Save.

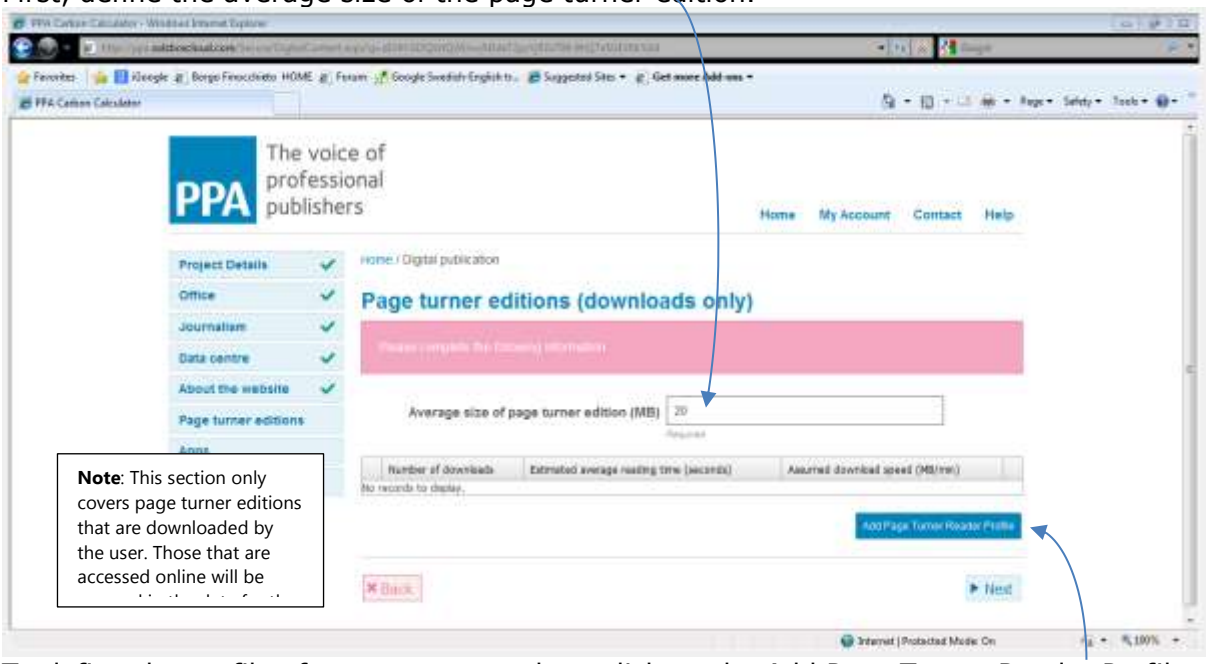
The Visitor profile you described is now displayed in the table at the bottom of the About the website page



You may define as many different visitor profiles as you need (e.g. to describe visitor profiles from different countries, using different access devices, etc). To do this, click on the Add Visitor Profile button again and repeat the steps. Otherwise, clicking on the "Next" button will take you to the next data form.

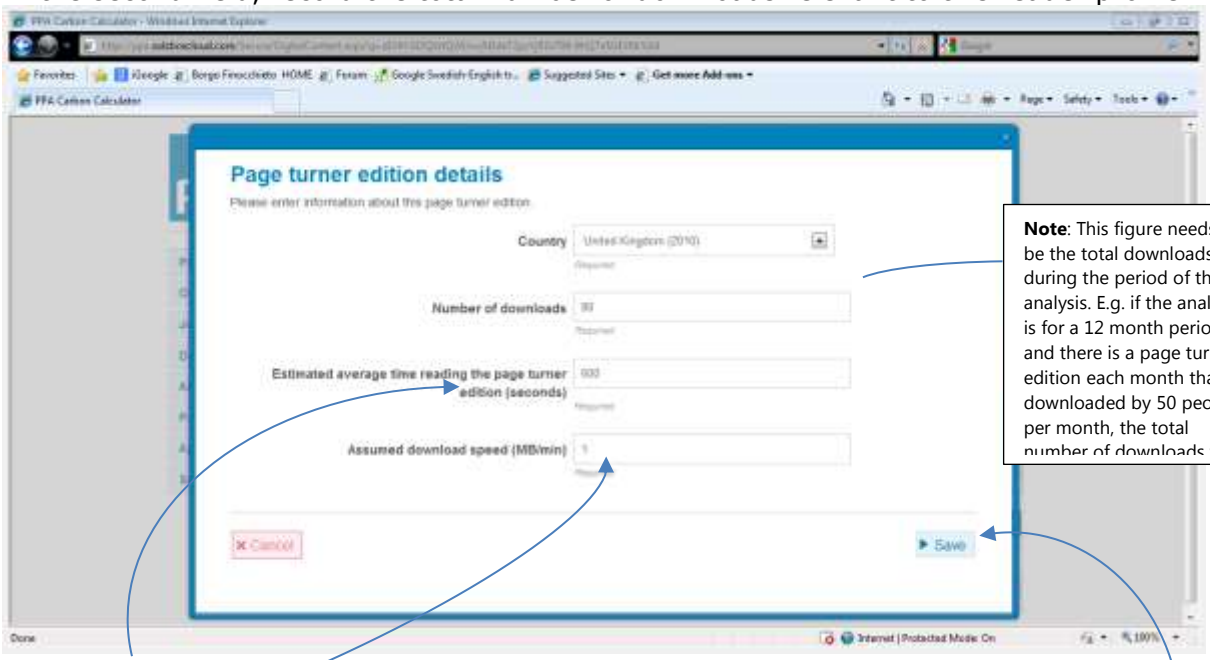
Step 8: If there is a page turner edition of the publication, this section is used to describe it and to define the profile of the readers.

First, define the average size of the page turner edition.

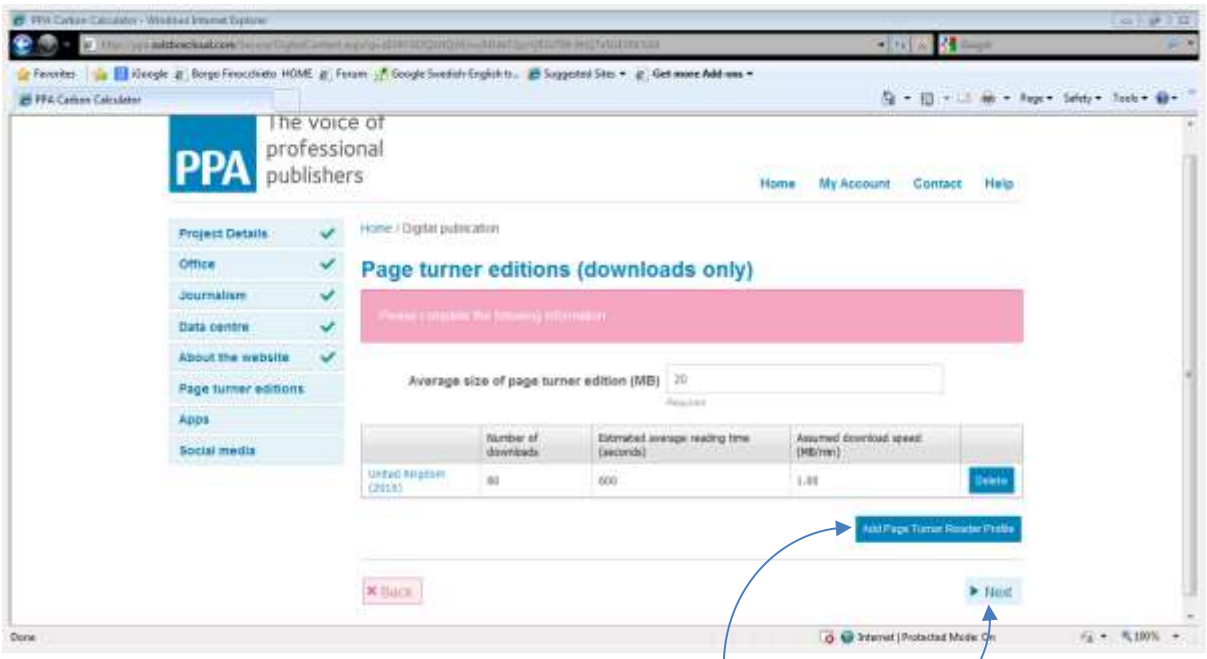


To define the profile of page turner readers, click on the Add Page Turner Reader Profile button. This opens up the Page Turner Reader form.

The country or region where the readers for this profile are based can be selected from the dropdown list.
In the second field, record the total number of downloads relevant to this reader profile.

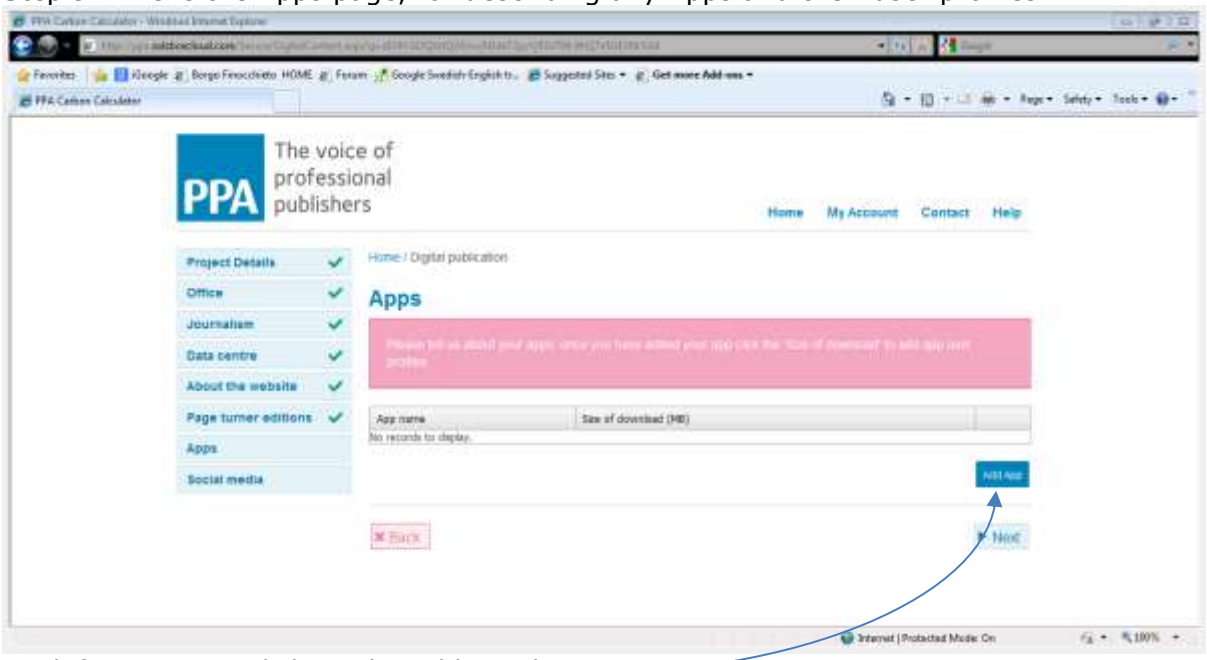


The third field is used to define the average reading time per download. It is unlikely that specific data for this will be available, so this may need to be an estimate.
The final field is used to record the download speed in MB/min. It is unlikely that specific data for this is available, so a default speed of 1MB/min can be considered. A review of download speeds shows that this figure can vary considerably from country to country, but 1MD/min seems to be a sensible value to consider. Once the Page Turner Reader Profile has been completed, click Save.
The Page Turner Reader Profile you described is now displayed in the table at the bottom of the Page turner editions page.



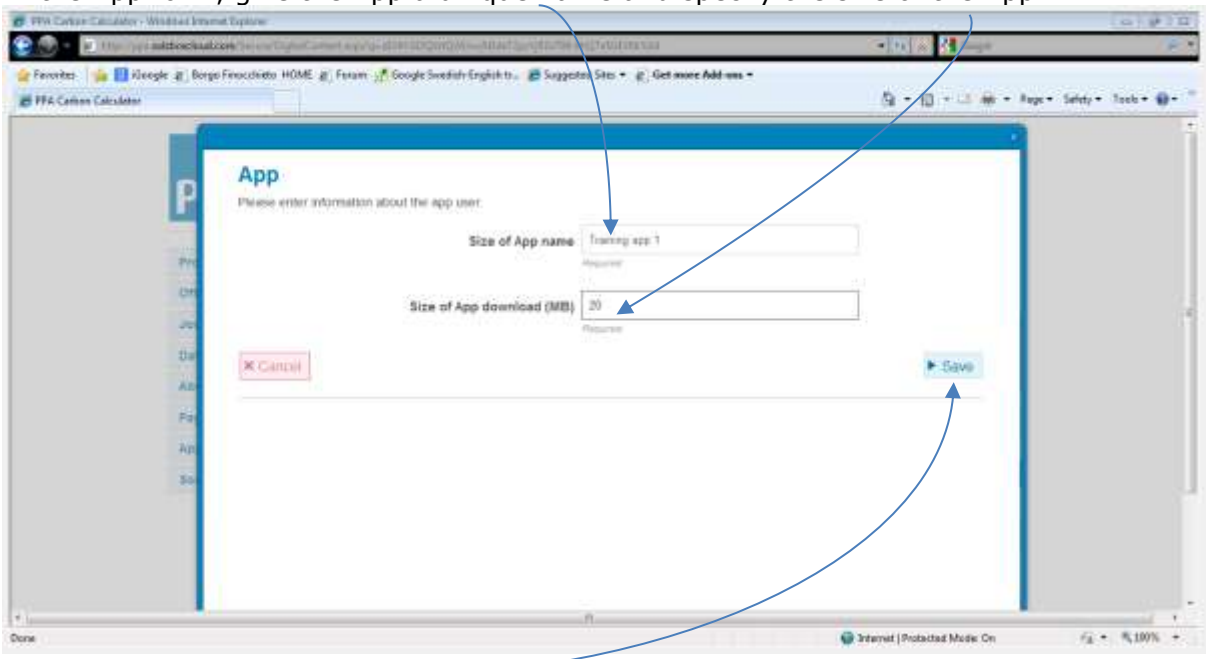
You may define as many different reader profiles as you need (e.g. to describe readers from different countries, etc). To do this, click on the Add Page Turner Reader Profile button again and repeat the steps. Otherwise, clicking on the "Next" button will take you to the next data form.

Step 9: This is the Apps page, for describing any Apps and their user profiles.



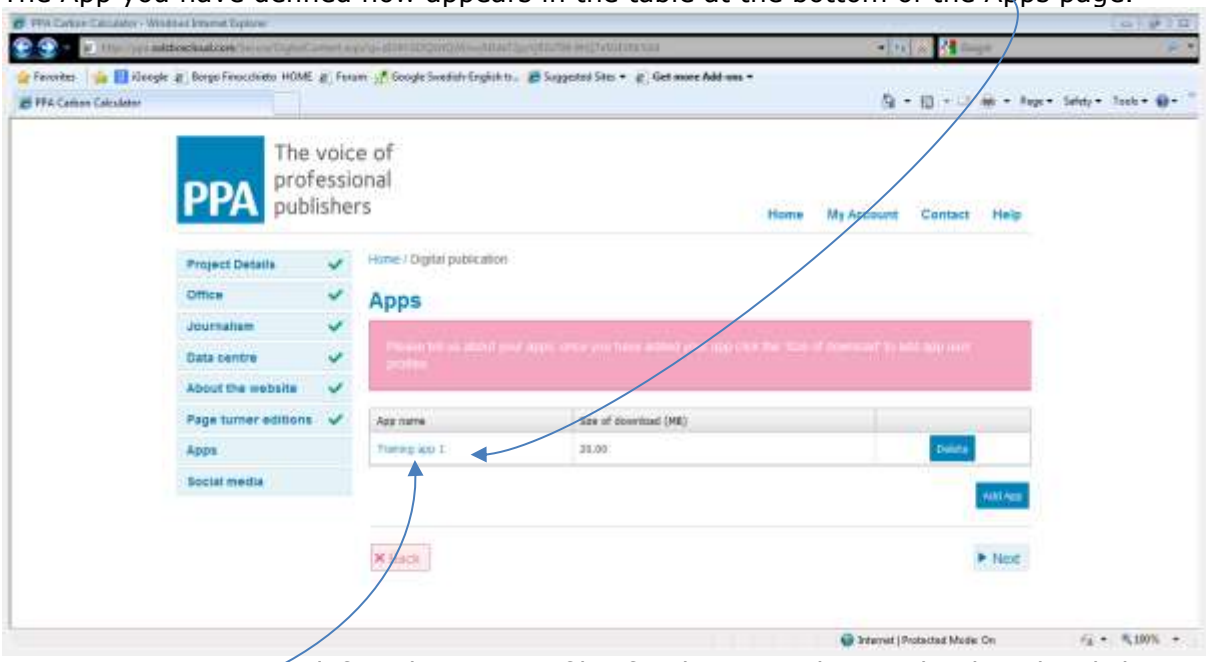
To define an App, click on the Add App button.

This opens up the App form.
In the App form, give the App a unique name and specify the size of the App in MB.



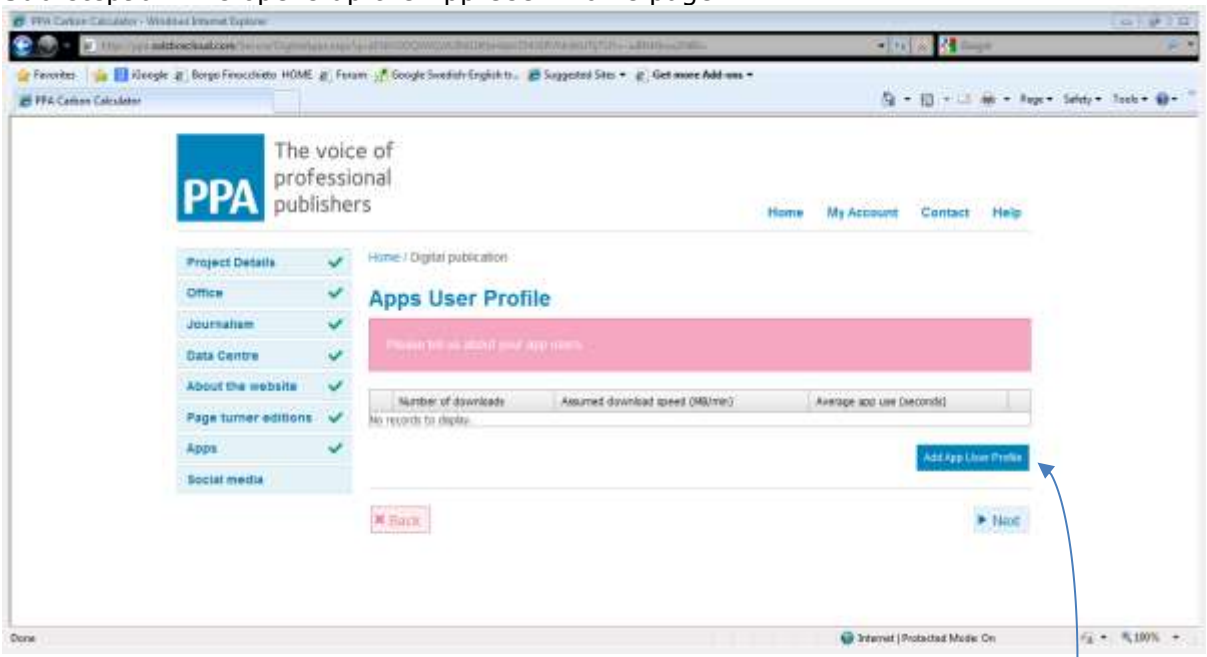
When complete, click Save.

The App you have defined now appears in the table at the bottom of the Apps page.



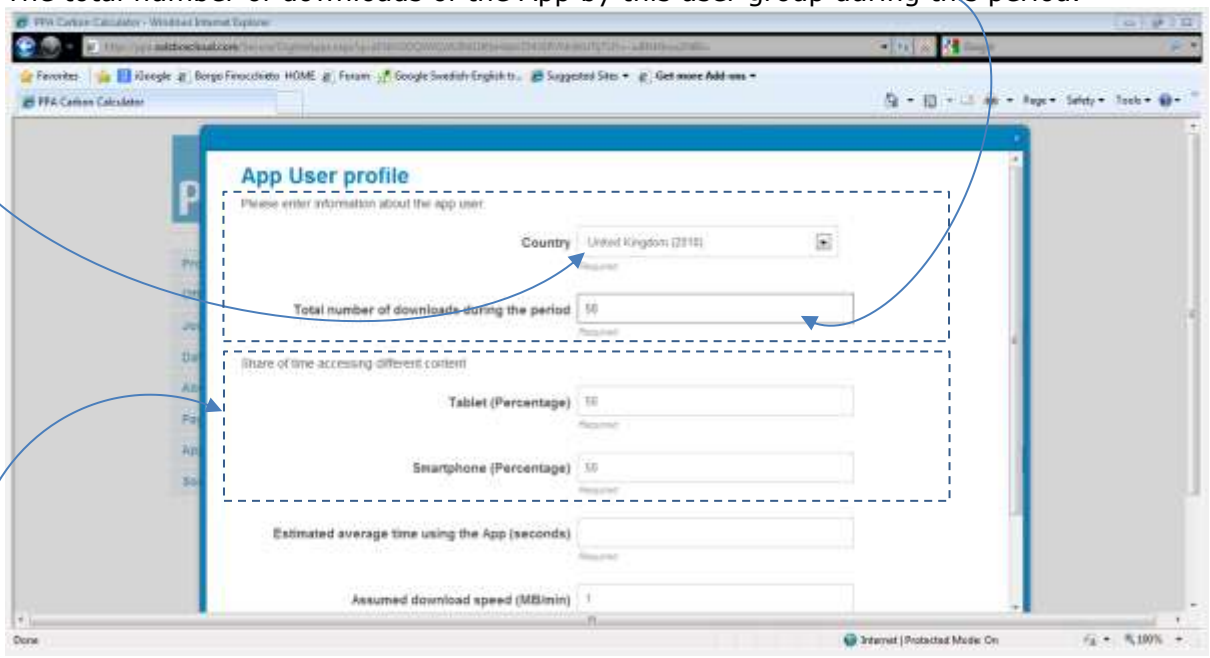
It is now necessary to define the user profiles for this App. This can be done by clicking on the App name.

Sub-step9a: This opens up the App User Profile page.



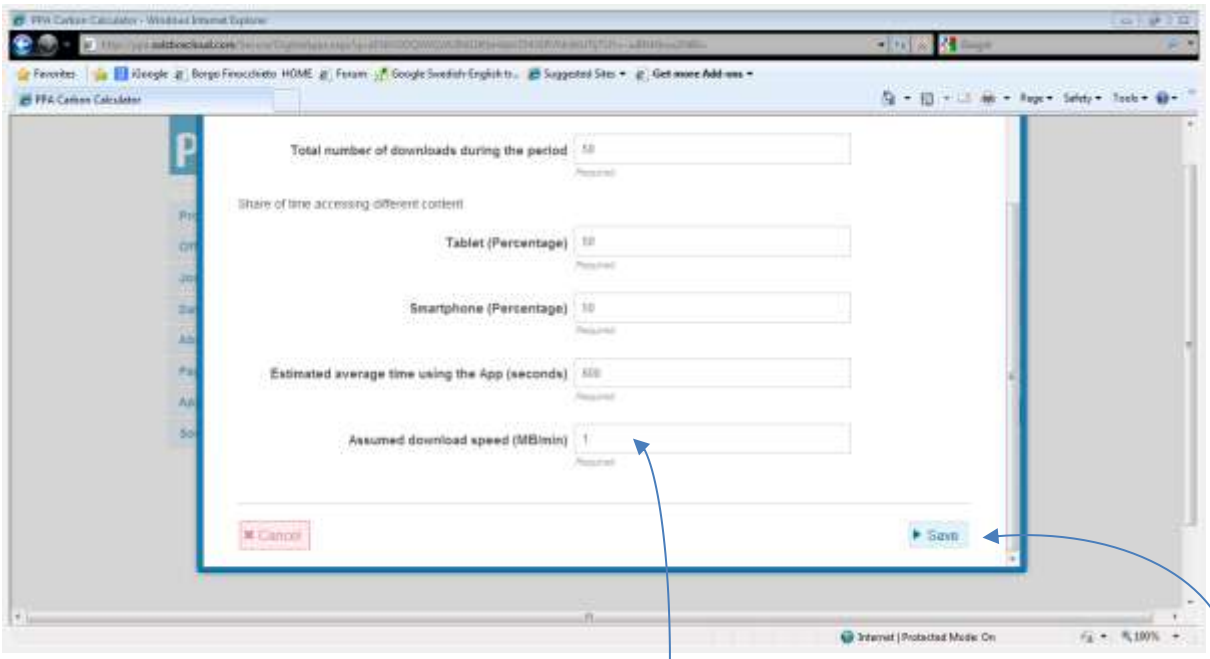
From this page, we can define the profiles of different users. Click on the Add App User Profile button. This opens up the App User Profile form.

In the first section of the App User profile form, define:
The country where it is anticipated that this user group will download and use the App
The total number of downloads of the App by this user group during this period.



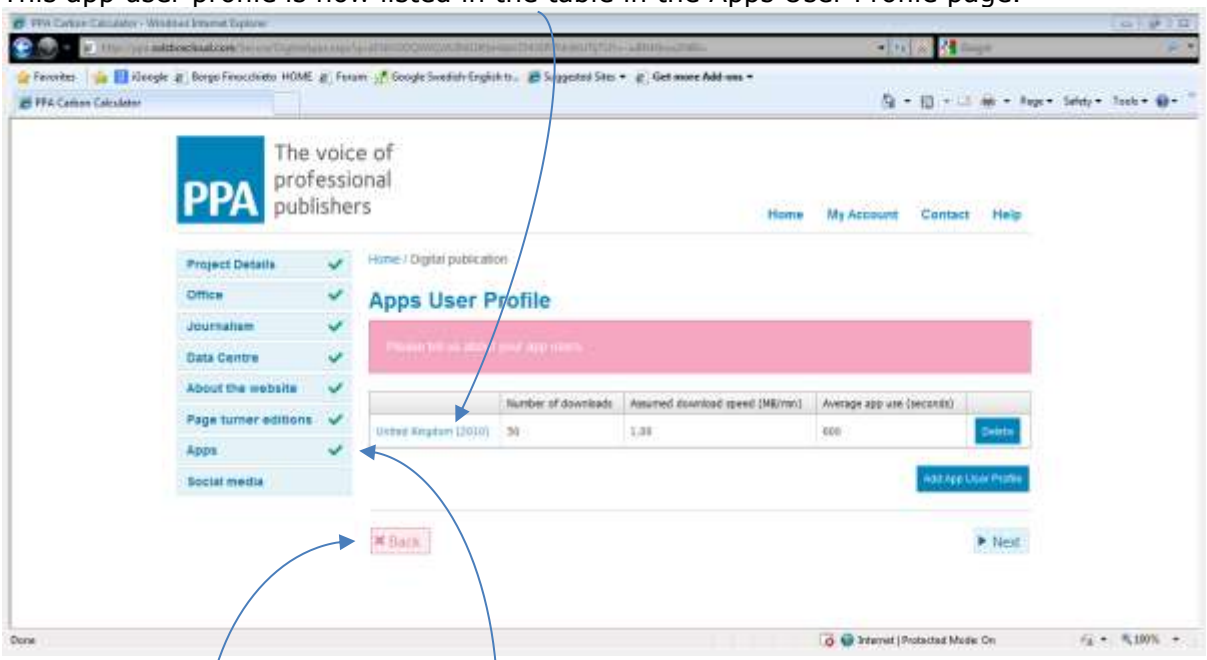
The second part of the form is used to specify the proportion of users accessing the app using tablets compared to smartphones. Specific information on this may be difficult to obtain, so an estimate may be required. As a default, this is set as 50% tablets, 50% smartphones.

The average time a user spends using the App now needs to be defined. This should be the usage time per user for the entire period of the analysis.



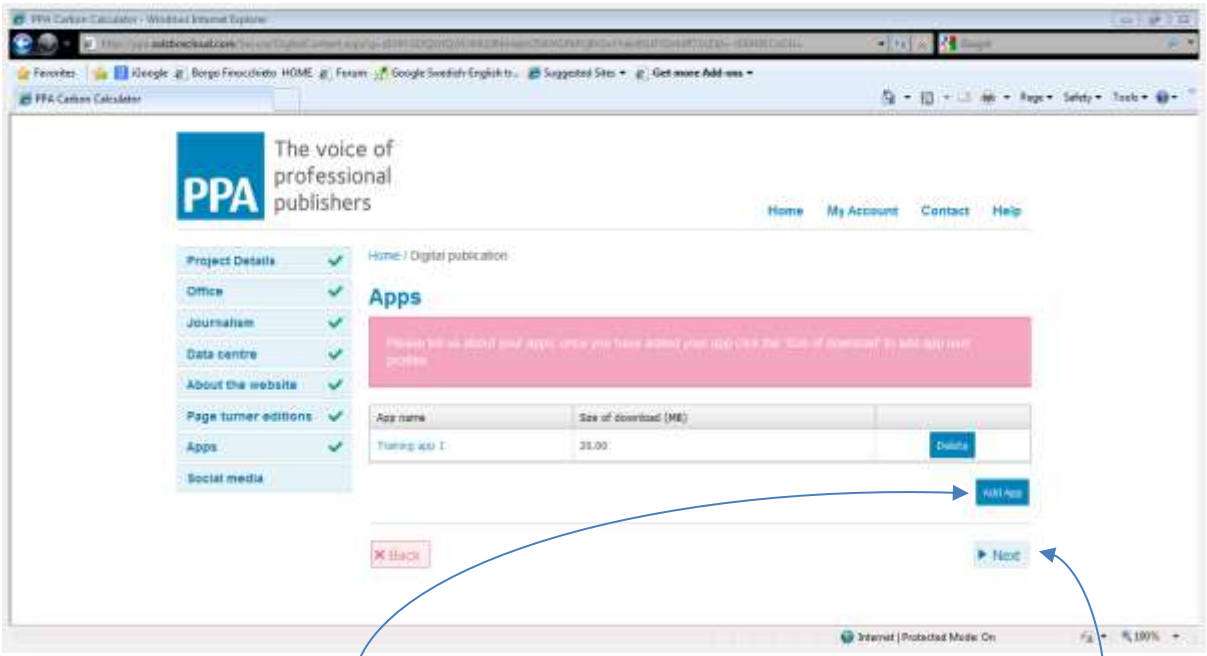
The final field is used to record the download speed in MB/min. It is unlikely that specific data for this is available, so a default speed of 1MB/min can be considered. A review of download speeds shows that this figure can vary considerably from country to country, but 1MD/min seems to be a sensible value to consider. Once the Page Turner Reader Profile has been completed, click Save.

This app user profile is now listed in the table in the Apps User Profile page.



For user profiles for this particular App can be added by clicking on the Add App User Profile button and repeating the process described in Sub-step 9a.

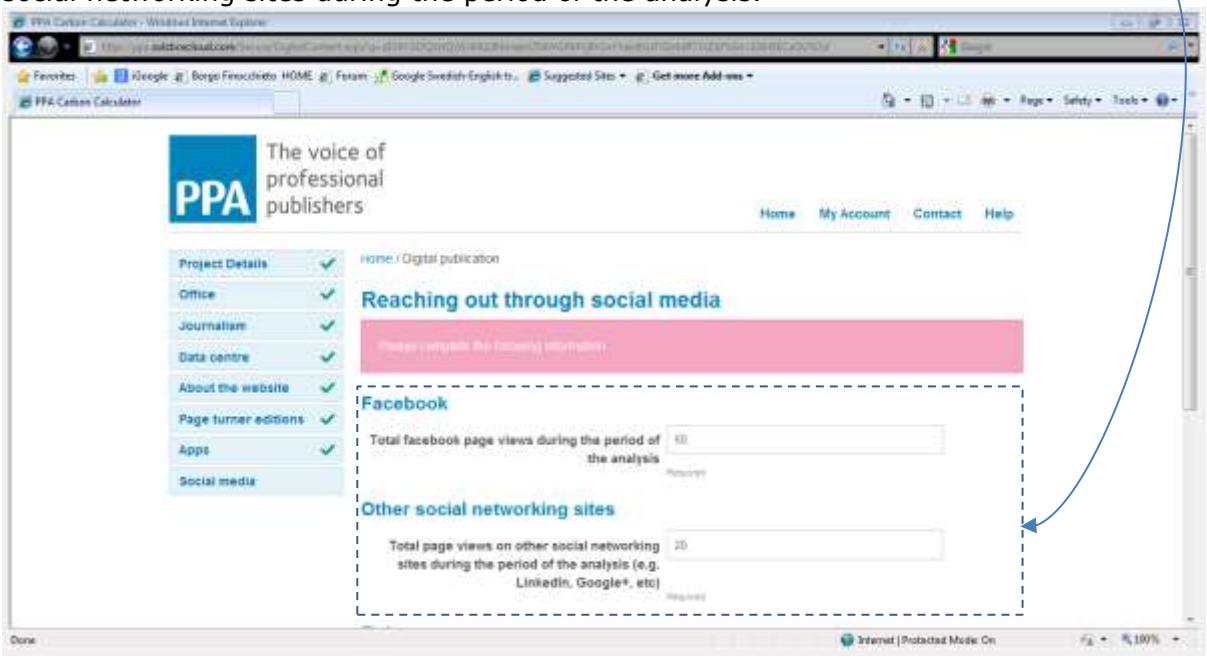
Once all user profiles for this particular App are defined, you can return to the overall Apps form by clicking on the Back button of on the Apps tab.



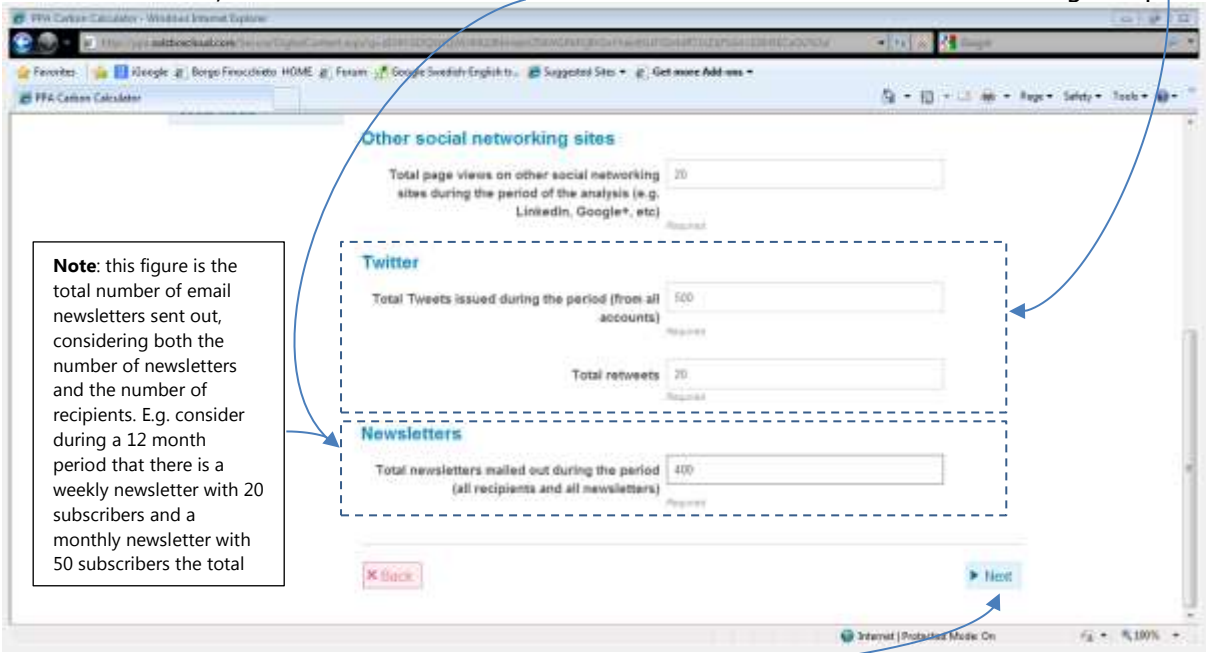
You may now add further Apps and define the user profiles for each of these by repeating the processes described in Step 9 and Sub-step 9a.

Once you have added all the Apps and defined all the associated user profiles, click Next.

Step 10: This is the Social Media page.
The first two fields can be used to record the number of page views on Facebook or other social networking sites during the period of the analysis.



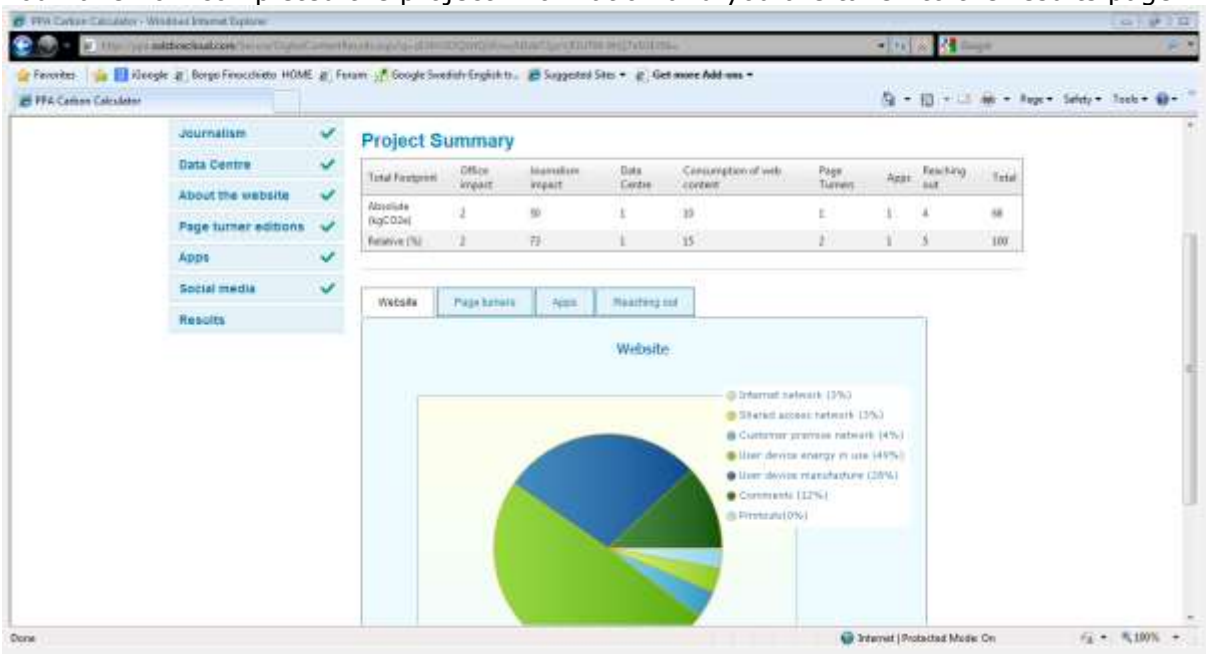
In the Twitter section, record the total number of tweets issued during the period and the total number of retweets
In the final field, record the total number of email newsletters distributed during the period.



Note: this figure is the total number of email newsletters sent out, considering both the number of newsletters and the number of recipients. E.g. consider during a 12 month period that there is a weekly newsletter with 20 subscribers and a monthly newsletter with 50 subscribers the total

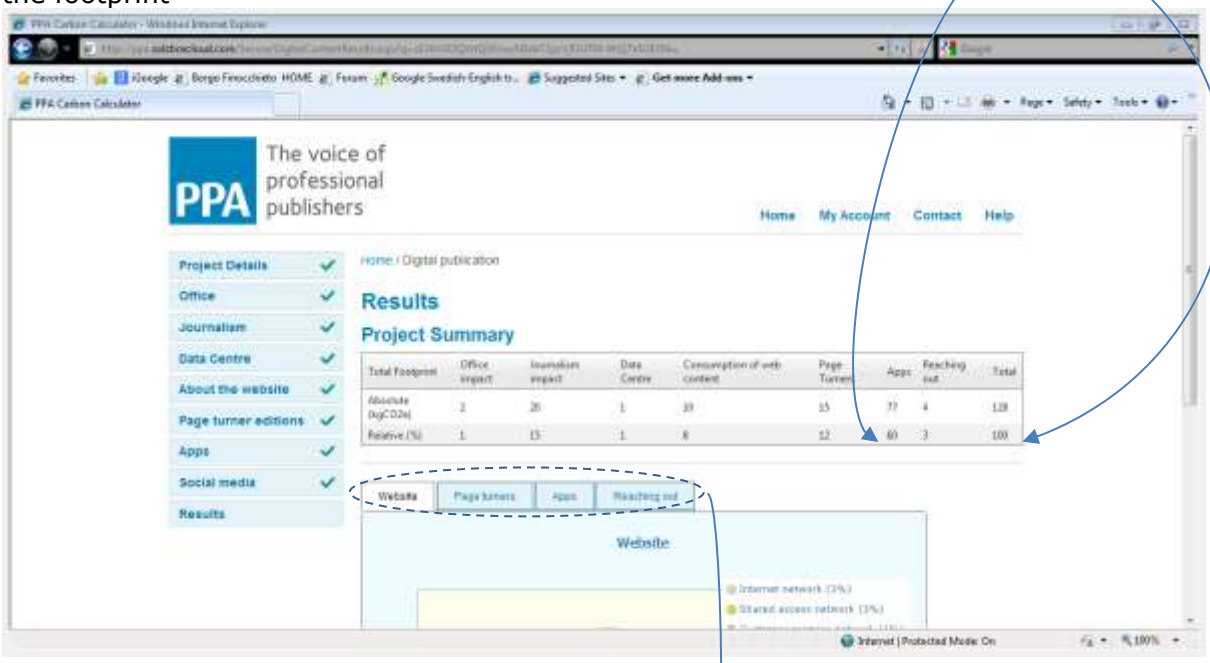
When this is complete, click Next.

You have now completed the project information and you are taken to the results page….



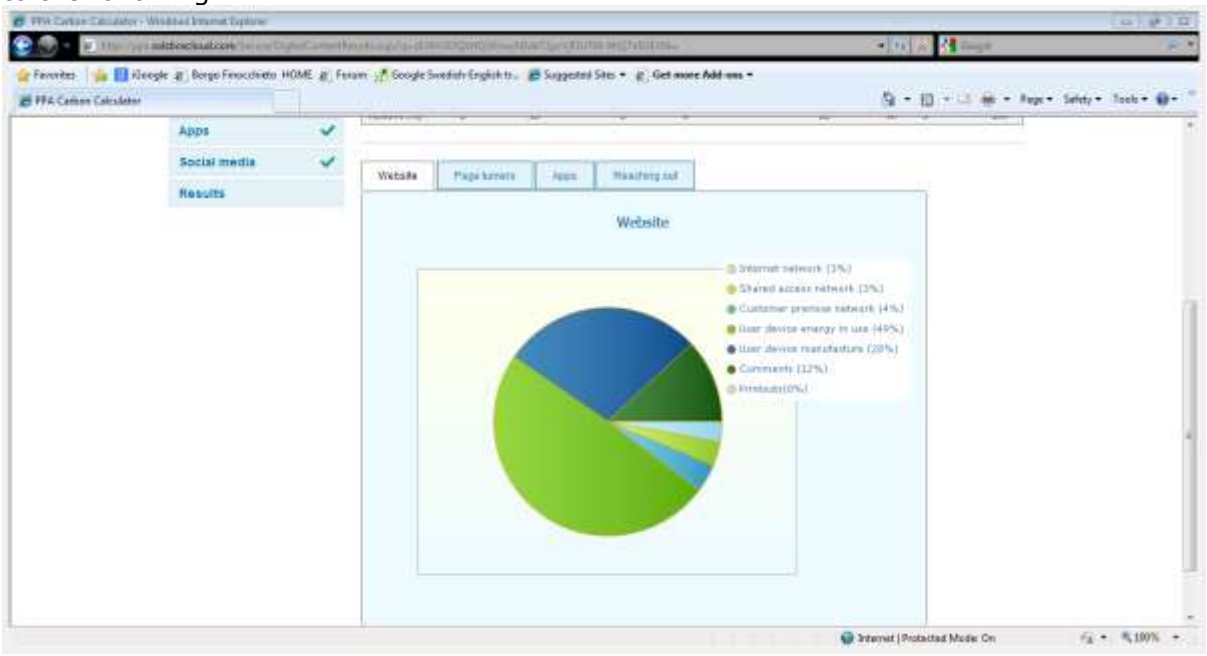
What do the digital project results mean?
The results are presented as a summary table with a series of supporting pie charts.

The table presents the total carbon footprint for this project in kgCO2e. The footprint is broken down according to the contribution of the different elements of the project. An absolute value is given and the relative contribution of the different stages is also identified. In this example, the total footprint for the project is 128kgCO2e.
Distribution and consumption of Apps has the biggest relative share accounting for 60% of the footprint



The pie charts, which can be accessed by clicking on the tabs, provide a break down for each of the elements.

For example, the Website pie chart shows the proportion of the website impacts according to the following:



- Internet network – i.e. the proportion of the total footprint due to energy consumed during the distribution of the content consumed across the Internet infrastructure
- Shared access network – i.e. the proportion of the total footprint due to energy consumed by the shared access networks
- Customer premise network – i.e. the proportion of the total footprint due to energy consumed by the customer premise networks
- User device energy – i.e. the proportion of the total footprint due to energy consumed by the device (desktop/laptop, tablet or smartphone) in order to access the content
- User device manufacture - i.e. a share of the impact for manufacturing the device allocated on a use-time basis to the activity of accessing web content
- Comments – i.e. the proportion of the total footprint due to energy consumed for distributing across the Internet any comments posted to the website
- Printouts – i.e. the proportion of the total footprint due to paper and energy consumed for any printouts made locally by the consumers of web content.