Annex A – Mid-term evaluation of the OpenAIRE Post-grant OA Pilot

1. Background to the Pilot

The OpenAIRE Post-grant OA Pilot was launched by the European Commission (EC) for the period May 30th, 2015 to April 30th, 2017 in the context of the OpenAIRE2020 project. The Pilot aims to fund the OA publication of research outputs arising from Framework Programme 7 (FP7)-funded projects and was initiated as a consequence of the EC's "Communication Towards better access to scientific information: Boosting the benefits of public investments in research",[a] and the associated Recommendation on access to and preservation of scientific information.[b] The Communication confirmed that 'Gold' open access publishing costs would be maintained in Horizon 2020, and included a commitment to consider 'whether and under what conditions open access publication fees can be reimbursed after the end of the grant agreement' (para 6.2.2).

1.1 OA publishing fees

In the case of FP7, we estimate that some 20% of almost 200,000 research outputs are published after the end of the project (see Figure 1).[c] While OA publication fees were eligible as a project cost during the period of the grant agreement, credible support for immediate open access (OA) publishing thus implies some form of post-grant funding initiative. Without this a significant minority of FP7 outputs would have no clear route to reimbursement of OA publishing fees. Accordingly, the EC provided €4 million to the Pilot to explore the feasibility of supporting post-grant publications arising from FP7 projects.

Eligibility for funding is subject to criteria determined by OpenAIRE:

- No more than three publications per project can be funded
- The project must have ended no longer than 2 years before submission of the funding request
- Research outputs must be published in fully OA journals listed in standard directories (e.g., the Directory of Open Access Journals (DOAJ), Scopus, Web of Science, PubMed) and fulfilling a series of technical requirements
- Funding limits for the repayment of OA fees are set as:

[a] Please see https://ec.europa.eu/research/science-society/document_library/pdf_06/era-communication-towards-better-access-to-scientific-information_en.pdf for more information

[b] Please see https://ec.europa.eu/research/science-society/document_library/pdf_06/recommendation-access-and-preservation-scientific-information_en.pdf for more information

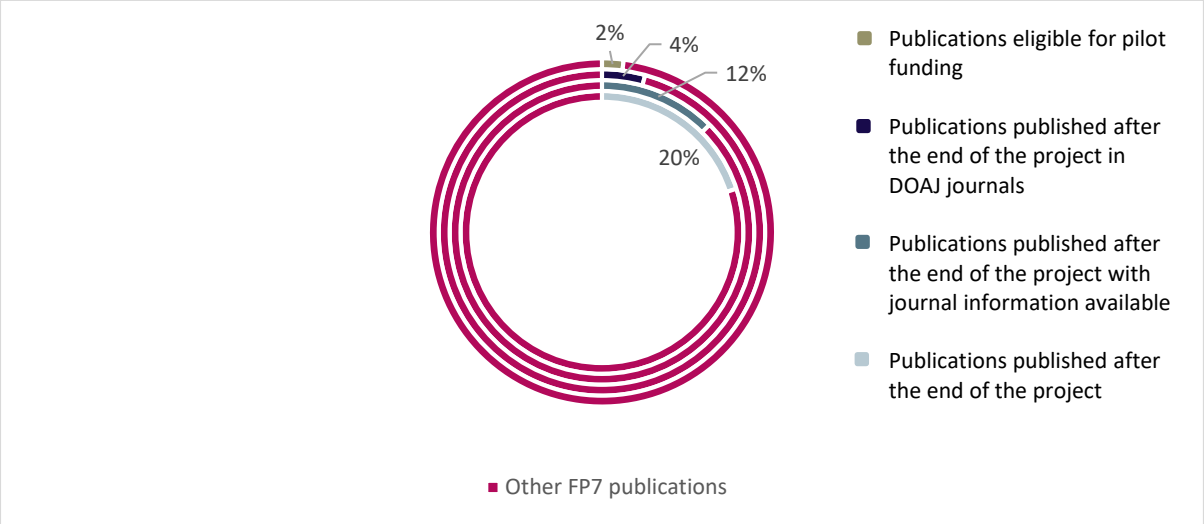
[c] Our estimate is based on data supplied from the OpenAIRE system and discussion with OpenAIRE staff.

- €2,000 for research articles, book chapters and conference proceedings
- €6,000 for monographs.[d]

In addition, all eligible publications are expected to be released in an OpenAIRE-compliant repository and under a CC-BY license (whenever possible). While the preferred mechanism is for the Pilot to pay APCs directly, a reimbursement mechanism is also made available.

These criteria significantly reduced the number of eligible publications from the above-mentioned 20% of FP7 publications. Post-grant publications for which journal information is available represent 12% of FP7 publications, while the subset published in DOAJ journals cover 4% of the total (see Figure 1). Once the Pilot timeframe is considered, only some 2% of overall FP7 publications (approximately 4,000 outputs) were potentially eligible for funding.

Figure 1 Share of eligible FP7 publications for the Post-grant Pilot



1.2 Support for APC-free journals and platforms

With effect from August 2016, the Pilot also launched an instrument to provide economic support to OA journals and platforms not charging Article Processing Charges (APCs) to their authors[e]. This was intended to support OA journals with limited resources through an alternative funding mechanism. A maximum budget of €200,000 was made available for this initiative and 11 bids from APC-free OA journals or platforms were funded.[f] In addition to technical requirements[g], the main eligibility criteria for qualifying APC-free OA journals were as follows:

[d] For more details on the requirements of the pilot, please see https://www.openaire.eu/fp7-postgrantoapilot-policy-guidelines

[e] For more details on the requirements of the initiative, please see https://www.openaire.eu/are-you-publishing-your-apc-free-oa-journal-on-a-shoestring

[f] Please see https://blogs.openaire.eu/?p=1139 for more information

[g] For more details on the requirements of the initiative, please see https://www.openaire.eu/are-you-publishing-your-apc-free-oa-journal-on-a-shoestring

- The journals or platforms could not charge Article Processing Charges (APCs) and submission fees to their authors
- The journals or platforms had to have published (or be in the process of publishing) articles resulting from FP7 projects within two years from the project end date
- The journals had to be registered in the Directory of Open Access Journals (DOAJ).[h]

2. Scope of work

Research Consulting undertook a mid-term evaluation of the OpenAIRE Post-grant OA Pilot in late 2016, as part of an economic analysis study of the Open Access publishing market. The aim of this element of the study was to evaluate the impact of the FP7 Post-grant OA Pilot and identify its implications for future similar initiatives and the transition to OA. The evaluation was designed to take into account the following features of the Pilot:

- Funding cap
- No funding for hybrid journals
- Deeper funding involvement in the policy implementation
- Post-grant nature of the initiative

3. Evaluation methodology

3.1 Approach

Three primary approaches were used to undertake the mid-term evaluation of the Pilot:

- A desk-based review of relevant documentation and data from the Pilot and on total FP7 publications
- An online survey of the recipients of post-grant open access funds
- A stakeholder consultation with the individuals listed in Appendix A to the main report. This included representatives from research performing organisations, research funders and the publishing community, including recipients of funding under the alternative funding mechanism. Stakeholders were selected to ensure appropriate representation from each European region (Northern, North-Western, Eastern, Southern).[i]

The survey was comprised of 21 multiple choice and open text questions. It was distributed to the 547 recipients of Pilot funding by email and received a total of 322 responses (59% response rate). Survey

[h] Please see https://doaj.org for more information

[i] Please see https://www.openaire.eu/regional-offices for more information (note that the OpenAIRE region called “West” on the website is here called “North-Western”)

responses are here analysed both as a whole and by region.[j] The results were analysed by Research Consulting, on behalf of the OpenAIRE consortium. All views have been treated in confidence in accordance with the Market Research Society's Code of Conduct. The dataset including anonymised survey results has been released on Zenodo as an output of this consultation along with a guidance document explaining how to read it or re-use it.[k]

The consultation consisted of interviews with 18 stakeholders in the OA publishing market from eight different countries.[l] The interviews lasted for one hour each, and the interviewed stakeholders are available in Appendix A to the main report.

3.2 Limitations

This study reflects the views of beneficiaries of the FP7 Post-grant OA Pilot, which are unlikely to be representative of the wider research community due to selection bias. Selection bias occurs when the choice of subjects in a study leads to results that may differ from what would have been found by enrolling the whole target population (i.e. all European researchers who actively publish their findings). When designing a study, it is desirable to select a sample that is representative of the population as this is expected to lead to accurate findings. Researchers who participated in the FP7 Post-grant OA Pilot are likely to have a predisposition towards OA publication, thus the sample is not representative of all European researchers.

In addition, this study is a mid-term evaluation of an ongoing Pilot initiative. The results outlined in this report are based on the scope of work described above and the evidence available as at the date of this report. As a result, it is not possible to determine whether the Pilot has had any long-term impact on changing beneficiaries' publication practices, and data from the latter stages of the Pilot's term may be incomplete (for example due to some 2016 publications not yet being indexed and reflected in OpenAIRE data).

4. Pilot uptake

4.1 General overview

As of November 30th, 2016, the FP7 Post-grant OA Pilot had approved 700 funding requests (about 16% of the potentially eligible publications within the period):

[j] Please see https://www.openaire.eu/regional-offices for more information (note that the OpenAIRE region called "West" on the website is here called "North-West"). The number of respondents for each OpenAIRE region was as follows: Northern Europe: 23 respondents, Southern Europe: 119 respondents, Eastern Europe: 14 respondents, North-Western Europe: 148 respondents

[k] The dataset is available at https://doi.org/10.5281/zenodo.290208

[l] The interviewees' countries of origin were Croatia, Finland, Germany, Hungary, Netherlands, Norway, Portugal, and the UK

- 94% of the requests were for journal articles
- 4.4% were for books
- 1.4% were for book chapters
- 0.2% (1 request) was for a conference proceedings volume.[m]

4.2 Pilot uptake by country

Uptake of the Pilot across Europe is uneven and does not reflect overall allocations of FP7 funding, as shown in Table 1, which presents data for the six countries receiving at least 5% of Pilot funding.

Table 1 Pilot uptake vs. FP7 funding uptake (Top 6 countries)

Country	Share of Pilot funding	Country	Share of total FP7 funding[n]
1. Spain	17%	1. Germany	18%
2. UK	15%	2. UK	17%
3. Germany	12%	3. France	13%
4. Italy	11%	4. Italy	9%
5. Netherlands	7%	5. Netherlands	8%
6. France	5%	6. Spain	8%

Spain and France in particular are placed very differently in the two lists. Varying levels of policy and institutional support for APCs payments is likely to explain these differences. For instance, almost 50% of the funding destined to Spain was shared between three research organisations or universities (CSIC, Universidad Politécnica de Madrid, and Universitat Politècnica de Catalunya) and a similar phenomenon was reported in the Netherlands, where about 31% of the funds went to a single institution (Radboud University).

A particularly effective way to increase uptake was the involvement of a dedicated office within an institution. This was the case at the Universidad Politécnica de Madrid (Spain), where the institution's European Project Office helped researchers access Pilot funding and provided support.[o] This made researchers more aware of funding opportunities and ensured that applications were dealt with efficiently and effectively.

Radboud University (Netherlands) also adopted a centralised approach to promoting Pilot funding availability and providing support to their academic staff. In addition, this institution received a block grant that allowed them to manage funds directly and assist their staff more easily. Meanwhile, other

[m] The full progress report on the pilot is available at https://blogs.openaire.eu/wp-content/uploads/2016/12/FP7PostGrant_OA_Pilot_8th_progress_report.pdf
[n] Please see https://ec.europa.eu/research/fp7/index_en.cfm?pg=country-profile for the underlying data
[o] Please see Best practices in the institutional implementation of the FP7 Post-Grant OA Pilot (III) for more information

Dutch organisations involved in a large number of eligible FP7 projects but without similar central support mechanisms, such as TNO or Deltares, yielded no applications.[p]

4.3 Spending

The funds used by the Pilot as of Dec 31, 2016, €1,392,800, were spent as follows:

- APCs paid directly from ATHENA Research Centre: € 900,000
- Block grants for libraries (+15.000 Euros pending): € 20,000
- Block grants for publishers: € 272,800
- Alternative funding mechanism: € 200,000

The total figure spent by the Pilot corresponds to only 35% of its overall budget, which is a clear indication that many authors have yet to accept OA as a mainstream publication route. It is expected, however, that the total spend will reach about €2 million by the end of the project, thus, reaching 50% of the overall budget.

5. Survey Results

5.1 Survey respondents

63% of the respondents were experienced researchers, followed by early-stage researchers (29%), members of institutional support staff (5%), and other roles (3%). This distribution is consistent across the various European regions, although no responses from members of institutional support staff were recorded for Eastern European countries.

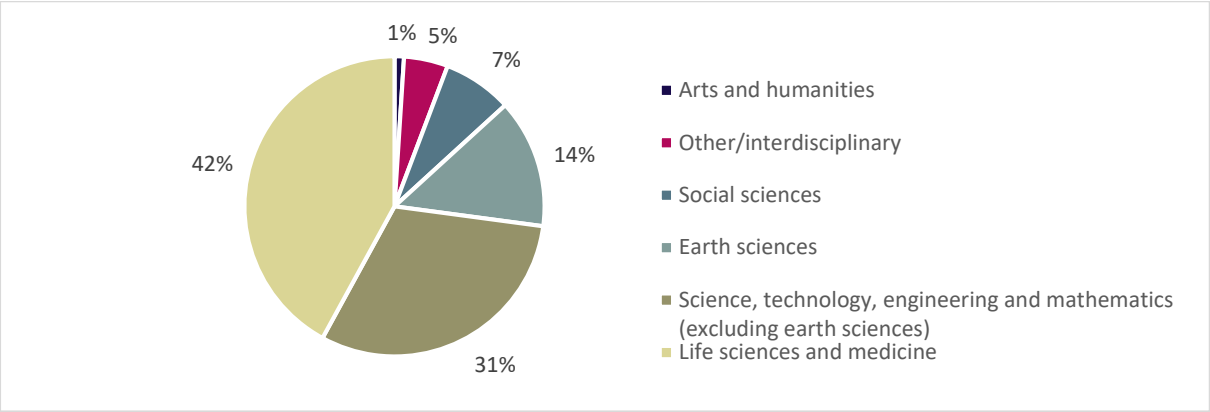
Respondents' fields of research of are represented in Figure 2. The arts and humanities are under-represented in the survey responses, which reflects the lower level of awareness and acceptance of OA in these fields.

The most represented countries among the respondents were Spain (17%), UK (14%), Italy (12%), Germany (11%), France (6%), and the Netherlands (4%). This distribution matches almost exactly the one reported in Table 1 for the Post-grant Pilot, indicating that the respondents constitute a representative sample of the surveyed population.

Further confirmation of this is provided by the types of publications for which funding was requested. 93% of the respondents received support for journal articles and 4% needed support for books, which covers the vast majority of responses and is consistent with the distribution seen for the Pilot as a whole.

[p] Please see the post Successful implementation of the FP7 Post-Grant Open Access Pilot in the Netherlands (2016) for more information

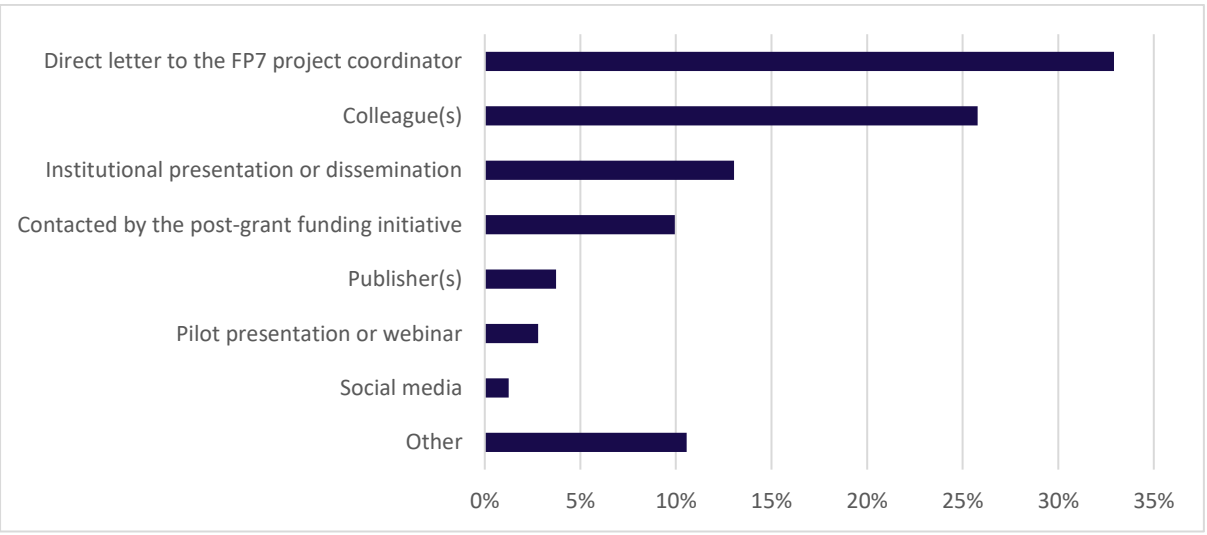
Figure 2 Fields of research of the survey respondents (n=295)



5.2 Accessing funding

Survey respondents became aware of the Pilot through a variety of methods (see Figure 3). While direct letters to the co-ordinator were the most effective single mechanism, it is notable that the following three methods, collectively representing almost half of respondents, relied on interpersonal interactions. More than 55% of respondents from Northern, Southern, and North-Western Europe stated that they became aware of the Pilot through a direct letter to the project coordinator or by word of mouth, while institutional presentations played a more important role for Eastern European respondents.

Figure 3 Dissemination of the FP7 Post-grant OA funding initiative (n=322)



Respondents selecting 'other' reported either slight variations from the existing categories in Figure 3, or learned of the pilot by word of mouth from a range of other stakeholders (e.g., library staff, administrative staff, other institutions/projects, project coordinators, or PIs).

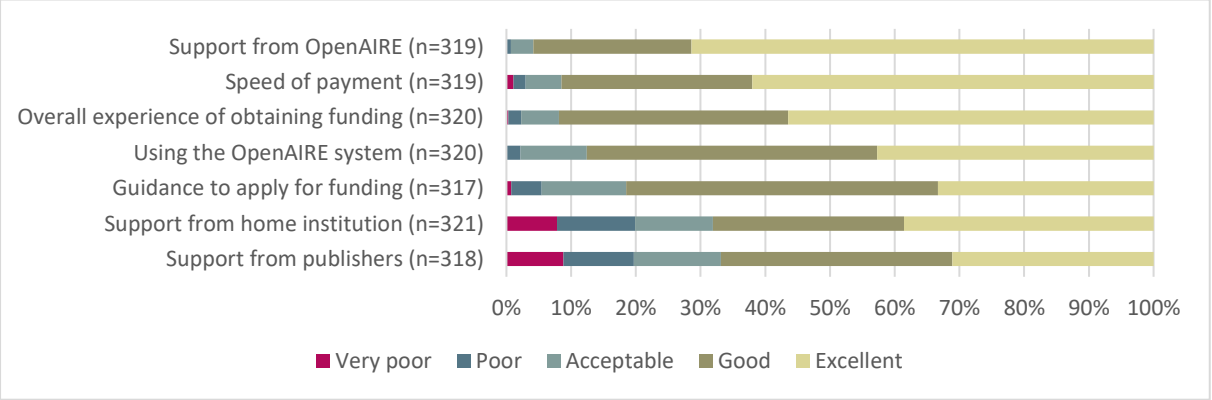
The vast majority of respondents submitted applications for Pilot funding themselves (81%) using the OpenAIRE system,[q] with only 13% stating that institutional support staff submitted the application on their behalf. The remaining respondents had prepayment arrangements with publishers (6%), had a colleague submit the application (3%), or followed other approaches (2%). It should be noted that respondents from Northern Europe were notably more likely to state that colleagues or institutional support staff submitted the application on their behalf (n=5).

Virtually all respondents agreed that the Pilot needed to be disseminated more effectively, in order for more authors to take advantage of the funding available. Suggestions included tailored marketing, emails/notifications to all participants in a project (not just the PI), and publicity when a grant is first awarded. In part this reflects the fact that the Pilot was launched without prior notice towards the end of Framework Programme 7, resulting in a suboptimal approach to its dissemination.

5.3 Quality of service

In terms of quality of service and support from OpenAIRE, the respondents seemed very satisfied (see , respondents stating 'Not Applicable' are not shown). Opinions on the quality of service were fairly consistent among the European regions considered. The only notable fact is that respondents from Eastern Europe (n=14) were very positive towards the first four categories in always rating them as good or excellent.

Figure 4 Evaluation of the service and support required to obtain Pilot funding



5.4 Efficiency

The system set up by the OpenAIRE consortium proved to be reasonably efficient, with respondents able to complete their first application for funding in 1.2 hours on average (mean value). The situation is similar when the time needed to resolve queries is considered, which, again, took 1.2 hours on average (mean value).[r] Medians are consistent with the mean values and corresponded to 1 hour for

[q] Please see https://postgrantoapilot.openaire.eu/ for more information

[r] These averages include only the time required by the applicants themselves to deal with the OpenAIRE systems and do not represent the overall time elapsed. For instance, some respondents stated '14 days' when asked how

both the first application and the time needed to resolve queries. No relevant differences among European regions were reported.

Survey respondents were asked how the process to apply for and obtain funding could be improved. Their responses can be summarised as follows:

- **Website and application process**: Most respondents were satisfied with the application process. It was highlighted that often the entire request must be filled before realizing that a particular journal is not covered. A possible solution to this issue would be the creation of a dedicated web-based portal to clearly state which journals are eligible for OA funding.
- **User resources**: Several respondents stated that better and clearer instructions should be produced for users. Even though a number of such resources already exist,[s] some respondents struggled with the complexity of the eligibility criteria, indicating that the underlying problem relates to the criteria themselves, rather than the accompanying guidance. In addition, clearer guidance on cases where publication costs are higher than the funding support could have been provided. A tutorial or an online assistant were seen as possible areas for improvement in this regard.
- **Administrative tasks and workflows**: Awareness of the Pilot amongst publishers and institutions was typically low, reflecting its small size. Thus, it was sometimes complicated for the respondents to arrange the payment of the required APCs. In addition, ensuring that a specific address was present on invoices from publishers sometimes proved difficult. Respondents would have liked clearer information on the details that the publishers should provide on invoices and an overall harmonisation with publishers' workflows (e.g., a direct contact between the OpenAIRE consortium and publishers). In the stakeholder interviews run by Research Consulting, the following points were highlighted:
    - If a University receives a block grant and then is free to administer it, the administrative overhead is lower and the invoicing process is smoother. (Radboud University)
    - Alternatively, if publisher prepayment agreements are used, it is possible to embed the funding application within the manuscript submission process. By doing this, the FP7 Post-grant OA Pilot was able to examine funding applications flagged at the time of submission. While this arrangement made the process smoother for institutions and authors, the OA publisher experienced only marginal advantages in terms of workflow improvements and time saved. (Copernicus)

long it took them to solve a query, however, the accompanying free text comments indicate that describes the total elapsed time rather than the time required for an applicant to deal with the issue. Thus, the averages reported in the text exclude all responses suggesting that the process took more than 24h and were calculated from 222 responses in the case of the time to complete and application and 197 responses in the case of queries.

[s] See, e.g., https://www.openaire.eu/postgrantoapilot-faq and https://www.openaire.eu/fp7-postgrantoapilot-policy-guidelines (official OpenAIRE material), http://openaccess.ox.ac.uk/fp7-post-grant-open-access-pilot/ (The University of Oxford), http://www.oai.uzh.ch/en/news/458-fp7-post-grant-open-access-pilot (University of Zurich), etc.

- The main issues with invoicing are the result of a requirement imposed by OpenAIRE, in accordance with EC funding guidelines, that they be addressed to Athena Research Centre. In many cases this required the credit and reissue of invoices by publishers before they could be paid. In addition, splitting APCs above the maximum limit of €2,000 between authors and the Pilot proved administratively burdensome for all parties involved. (FP7 Post-grant OA Pilot)

5.5 Eligibility criteria

The FP7 Post-grant OA Pilot applied strict eligibility criteria. Survey respondents were asked for their opinion on these and the results are summarised in Figure 5. The most controversial criteria were:

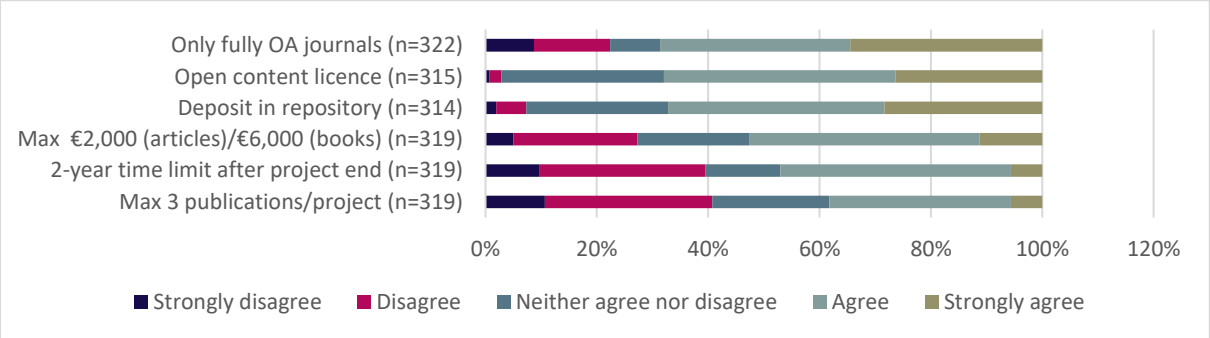
- The limit to 3 publications per project
- The time limit of 2 years after the project end
- The maximum funding allowance.

On the other hand, at least 50% of respondents agreed that the outputs funded by the Pilot should be openly accessible and re-usable and that only fully OA journals should be considered.

When the responses are split by region, the following further observations can be made:

- Support (defined as either 'Agree' or 'Strongly agree') among Eastern European respondents was very high, and often the highest, for most of the requirements in Figure 5, except for the 2-year time limit.
- Respondents from Northern Europe showed lower levels of agreement concerning the maximum of three publications per project and the requirement to deposit publications in a repository
- Respondents from Southern and North-Western Europe exhibited fairly similar views on all the requirements in Figure 5.

Figure 5 Respondents' views on the Pilot's eligibility criteria



Survey respondents had the chance to comment on what could be done to improve the Pilot in terms of eligibility criteria. To begin with, the maximum limit of €6000/project (i.e., when a maximum of three articles costing up to €2000 each or a book are funded) seemed too low to eight respondents. This issue is closely related to the maximum number of outputs that can be funded, which was also considered too low. A solution, perhaps, would be to make available a maximum of €6000 to each

project distributed between a non-specific amount of manuscripts. It was also noted that, in general, €6000 was not enough to fund an OA book, which strongly limited authors' choices.

In addition, respondents reported that the 2-year time limit was too strict. This issue was exacerbated by the fact that some journals have long review times, thus preventing authors from accessing funding even where the publication was submitted well within the time limit. The 2-year limit is also problematic in the case of collaborations with the private sector, where nondisclosure clauses may exist and delay publication. Other respondents suggested that the maximum number of publications and the 2-year limit should be more flexible and possibly vary based on the size of the project and team.

Finally, some authors noted that a number of important and leading journals are still only hybrid and that the requirement to publish in fully OA journals is too limiting. This was also the most common reason for rejection of authors' requests, as noted in the last OpenAIRE project progress report.[t]

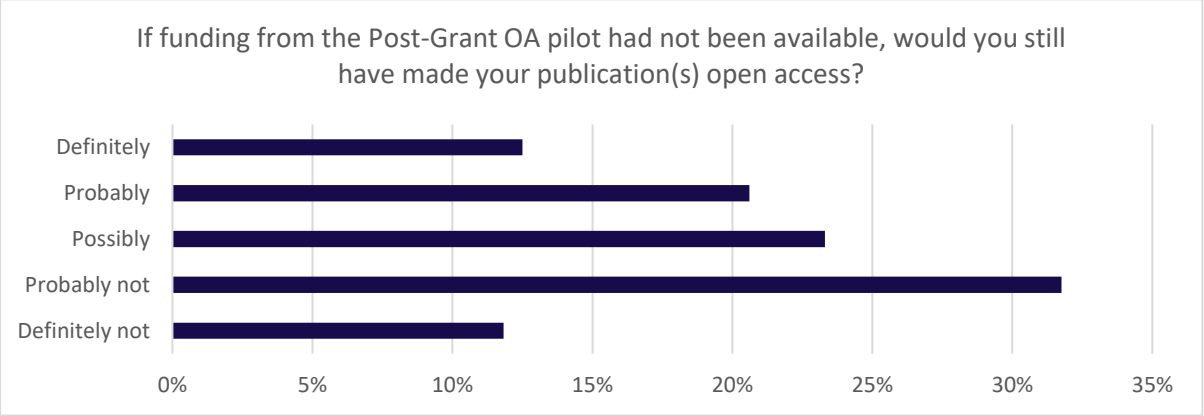
5.6 Impact on researchers' publishing practice.

The impact of the Pilot on researchers' publishing practice was reasonably positive and is shown in Figure 6. The fact that about 44% of respondents would not have published their work OA indicates that, at least in some cases, the Pilot funding was able to drive greater adoption of OA.

It is notable that, among the stakeholders responding 'Definitely', about 54% are from the fields of life sciences and medicine, where publishing OA is a more established practice.

Almost 60% of respondents from Northern Europe stated that they would have definitely or probably published OA even without Pilot funding. Their responses are rather different from those given by stakeholders from other European regions, where the response 'Probably not' ranged between 39% and 50%. This may be related to cultural differences or increased funding sources available to Northern European stakeholders (n=23).

Figure 6 Impact of the FP7 Post-grant OA Pilot on researchers' publishing practice (n=296)



[t] Please see https://blogs.openaire.eu/wp-content/uploads/2016/12/FP7PostGrant_OA_Pilot_8th_progress_report.pdf for more information

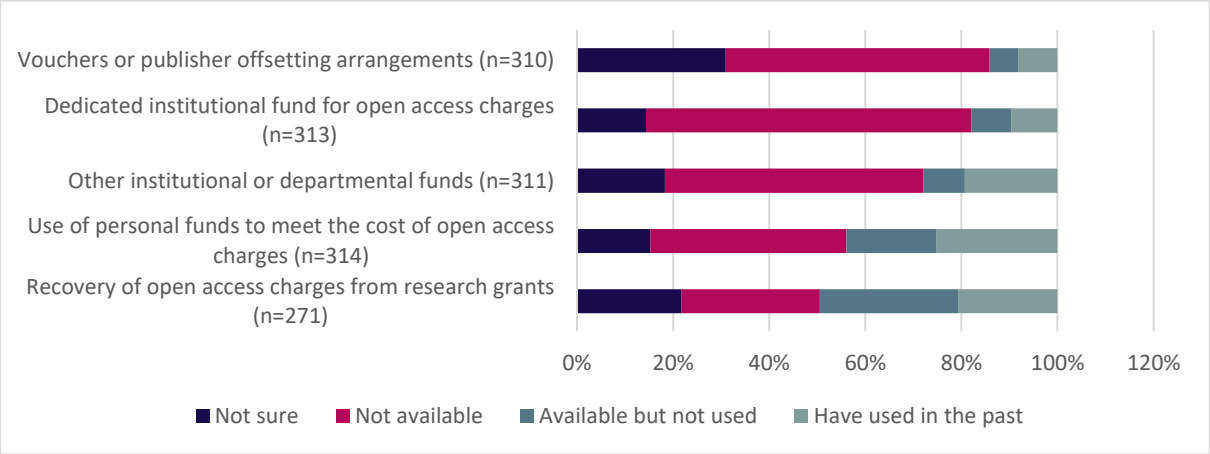
When asked what they would have done without funding for OA publishing, 56% of respondents stated that they would have still submitted their work to the same or to another OA journal. However, 37% of respondents would have switched to a subscription-only journal, indicating that mechanisms or instruments such as the FP7 Post-grant Pilot can be effective in changing authors' publishing practices.

5.7 Availability of other funding sources

Survey respondents were asked whether they had access to alternative mechanisms to cover OA charges (Figure 7) and reported that their level of satisfaction with these options is broadly neutral, with:

- 30% of respondents being neither dissatisfied nor satisfied
- 26% of respondents being satisfied
- 23% of respondents being dissatisfied
- 21% of respondents being either very satisfied (13%) or very dissatisfied (8%).

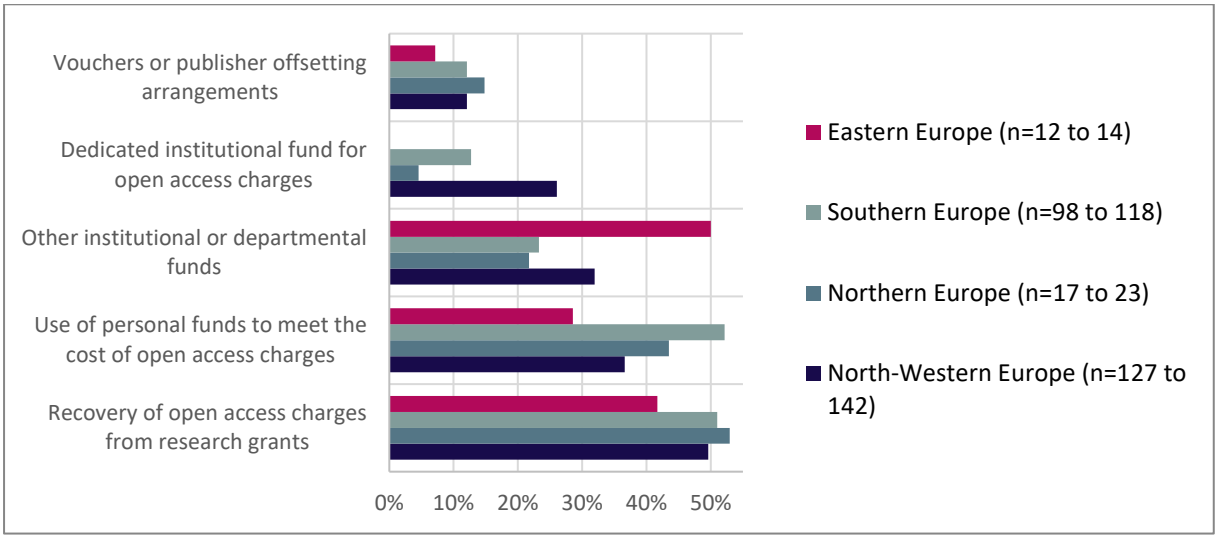
Figure 7 Availability of funding mechanisms for OA charges



In view of the limited availability of funding from other sources, it is not surprising that 98% of survey respondents stated that it is either Important (28%) or Very important (70%) for the EC to continue to offer a specific post-grant funding mechanism for OA publications.

When the information in Figure 7 is split by European regions, Figure 8 on the following page is obtained. The alternative funding mechanisms used or available in the various European regions were fairly different, with the most striking gap being the lack of dedicated institutional OA funds in Eastern Europe. Moreover, a large number of respondents in this region stated that they can or have used other institutional or departmental funds. Institutional OA funds are also not very common in Southern and Northern European countries. However, these regions reported a use (or availability) of other institutional or departmental funds in line with North-Western European countries, where institutional funds are most widespread. Finally, it is notable that the use of personal funds to meet the cost of OA charges is most common in Southern Europe.

Figure 8 Alternative funding mechanisms for OA charges either used or available in European regions



6. Comparison with other OA funding initiatives

APC funds have been shown to have two primary effects:

(1) a replacement effect (authors prefer using the APC-fund instead of their own discretionary funds) and

(2) a stimulating effect (authors publish OA who would not otherwise have done so).[u]

Slow uptake of centralised OA funding initiatives has been widely reported in the past[v] and is related to low levels of awareness and cultural resistance to change, especially amongst senior members of research staff. These issues are somewhat worsened by imperfect information[w] on OA in academia, which is manifested as "misunderstandings and unfamiliarity"[x] with the topic. Consequently, stakeholders perceive little benefit from OA, while being asked for a non-negligible commitment in terms of time and effort.

In Table 2, we gather some observations from the literature on similar initiatives (and, more generally, on the adoption of innovations) and show how these manifested themselves in the FP7 Post-grant OA Pilot. The information in Table 2 is further analysed and described in the remainder of this Appendix.

[u] Van der Graaf, M. (2017 – to be published). The financial and administrative issues around article publication costs for Open Access: the authors' perspective.
[v] Pinfield, S., and Middleton, C. (2016). Researchers' Adoption of an Institutional Central Fund for Open-Access Article-Processing Charges: A Case Study Using Innovation Diffusion Theory. SAGE Open.
[w] Ibid.
[x] Nicholas, D, Watkinson, A., Volentine, R., Allard, S., Levine, K, Tenopir, C., & Herman, E. (2014) Trust and Authority in Scholarly Communications in the Light of the Digital Transition: setting the scene for a major study. Learned Publishing 27.

Table 2 Observations on the uptake of OA funding and manifestation in the FP7 Post-grant OA Pilot

Observations on uptake of OA funding and innovative activities[y,z,aa,bb]	Pilot: consultation and survey results
Word of mouth is essential for uptake, especially from peers.	26% of survey respondents learnt about the FP7 Post-grant OA Pilot through colleagues.
In some cases, one-to-many channels (e.g., emails, newsletters) are ineffective.	The Pilot used these systems but they didn't affect uptake significantly. Direct letters to project coordinators were almost three times as effective as mass communication.
Funders' mandates can have a significant effect on uptake, depending on the nature of the requirements (e.g. Research Councils UK).	Uptake of the Pilot differs between countries due to different policy environments.
The system to arrange payment of APCs needs to be easier to use and quicker than using institutional funds.	While most stakeholders were satisfied with the usability of the Pilot, interviewees from UK HEIs reported that they paid APCs locally as it was simpler than applying through the Pilot.
If dedicated OA funding is unavailable or its use restricted (e.g. hybrid journals), OA publishing costs are instead covered from discretionary funds.	The use of personal funds was described as the second most frequent alternative to dedicated OA grants, after the use of research grants.
Dedicated OA funds stimulate OA publishing. In addition, it is essential to effectively persuade authors to switch to an OA model and to communicate its benefits.	44% of survey respondents stated that they would not have published OA without the Pilot's funding.
There exist marked differences between subject areas, with opinion leaders who act as innovators and early adopters. These are concentrated in specific areas, particularly in the health and life sciences community.	There were clear differences between the subject areas of survey respondents, with more than 40% coming from the field of life sciences and medicine.

Consequently, should the Pilot be extended or evolve into a more permanent initiative, it is reasonable to expect that uptake should grow with time, as the benefits offered will be better and more widely disseminated and understood. When the Pilot is framed in the overall context of OA funding, it is evident that many of the issues encountered are common to all initiatives of this nature, and are likely due to its young age.

[y] Pinfield, S., and Middleton, C. (2016). Researchers' Adoption of an Institutional Central Fund for Open-Access Article-Processing Charges: A Case Study Using Innovation Diffusion Theory. SAGE Open.

[z] Oguz, F. (2015). Organizational influences in technology adoption decisions: A case study of digital libraries. College & Research Libraries.

[aa] Rogers, E.M. (1983). Diffusion of Innovations, Collier Macmillan Publishers.

[bb] Van der Graaf, M. (2017 – to be published). The financial and administrative issues around article publication costs for Open Access: the authors' perspective.

7. Alternative Funding Mechanism (AFM)

As part of the FP7 Post-grant Open Access Funding Pilot, OpenAIRE also launched an Alternative Funding Mechanism (AFM) to support technical improvements in publishing processes and outcomes. The AFM provided financial support for APC-free journals and other OA publishing initiatives that do not charge APCs to their users. The fund was endowed with €200,000 and supported 11 bids.[cc] As part of the eligibility criteria, bidders had to be listed in the DOAJ, not charge APCs and must have published or accepted at least one research article funded by an eligible FP7 project. As part of our work, we consulted four OA publishers that received AFM support.

7.1 Case studies

Case study 1: Hrčak (Croatia)

Hrčak is the central portal of Croatian academic journals, hosting metadata and full text for over 160,000 articles from 431 OA journals - including academic journals, professional journals, popular journals and student journals. Hrčak was started in 2004 by a small group of information specialists and librarians, and is hosted and maintained by the University of Zagreb Computing Centre (SRCE). It was formally launched in 2006 and was supported through three small grants from the Ministry of Science (the last grant was disbursed in 2007). It initially focused on enabling journals to publish a digital version. The platform subsequently promoted OA among editors and publishers, most of which are university-sponsored and do not operate commercially.

Case study 2: eKT Publishing (Greece)

eKT Publishing provides information infrastructures to researchers and institutions, and publishing services using open source software (Open Journal System, OJS, version 2.4.6 for journals and open monograph press). It also provides training and technical support to publishers and researchers across all activities related to the collection, documentation management and dissemination of digital content and data. eKT started in 2007 as a collection of websites hosting scholarly journals, that were later merged into a single infrastructure with a common gateway. It focuses on social sciences and the humanities, and it now hosts 23 journals, 3 proceedings and 6 monographs. All hosted journals are full OA and APC-free.

Case study 3: Internet Policy Review (Germany)

The Internet Policy Review (IPR) is a pure gold, APC-free journal established in 2013, which publishes articles in the area of internet governance. It has a fast-track publication time of around 10 weeks and uses an 'open eye' peer review system (as opposed to double blind) whereby the names of both authors and reviewers are made known. After looking at Open Journal Systems (OJS), the journal developed its own publishing system that could be more easily customised and branded. In order to appeal to policymakers, journalists and the broader public the journal offers a multimedia reading experience which makes full use of digital publishing technology.

[cc] Please see https://blogs.openaire.eu/?p=1139 for more information

Case study 4: Journal.fi (Finland)

Journal.fi is a journal management and publishing service for members of the Federation of Finnish Learned Societies established 2006. It allows APC-free open access publishing, and provides the technical infrastructure for Learned Society publishers. Publishers can publish their journal on Journal.fi using OJS, or simply use the editorial functions (acceptance, peer review) and then publish their articles elsewhere. The platform allows hosted articles to be made OA after an embargo period of up to one year (delayed OA). The platform has basic citation metrics and is concluding an agreement with CrossREF for the introduction of DOIs, which will help develop more advanced metrics.

7.2 Experience with the Alternative Funding Mechanism

The consulted publishers used the FP7 OA Pilot's Alternative Funding Mechanism to make one-off technical improvements to their service. Interventions included:

- Improving the search interface
- Increasing interoperability
- Converting documents from PDF to machine-readable documents and implementing the JATS template (using Extensible Markup Language or XML)
- Developing an ORCID login Setting up functionalities that systematise and standardise the collection of funder information.

The interventions were often aimed at developing and testing new technologies and methodologies that will then be progressively implemented within each publisher's database.

In all cases, such improvements would have not been possible within a reasonable timeframe without AFM support. These interventions had generally been planned before the call for support was open, but could not be undertaken given the widespread lack of funding for technical interventions. The Pilot thus seems to have succeeded in providing additional resources of critical value to the beneficiaries, though it is too early to assess the long-term benefits arising.

Overall, satisfaction with the AFM was high. All respondents stressed the high quality of the relationship and the support received by the project managers and the communication with the project coordinator. They also commended the management of the application process in its initial phases, the simplicity of the bid, and the clarity of requirements. However, all four respondents also stressed problems in the later stages of the application process, including excessive bureaucratic requirements, communication problems with staff located in different countries, and delays in receiving the funds. Slow disbursement times created cashflow problems for organisations that had planned improvements, and considerable administrative overheads. In all but one case, however, the money had been disbursed by the time of our review.

8. Conclusions and lessons learned

8.1 Conclusions

Based on the results outlined in this Appendix, it is clear that the FP7 Post-grant OA Pilot had a measurable and positive impact on beneficiaries' publishing practice. However, its overall impact was limited due to low levels of uptake by eligible authors. This can be attributed to:

- the context in which the Pilot was launched (part-way through Framework Programme 7);
- very strict eligibility criteria;
- academic culture, which remains largely resistant to OA publishing.

According to the survey results, the strictness of the eligibility criteria represented a major weakness in the Pilot's design. These were chosen in order to allow as many researchers as possible to access the available funds, but the resultant complexity appears to have significantly inhibited use of pilot funding. Respondents indicated the maximum number of publications, the limit to €6,000/project, and the 2-year timeframe after the end of a project were all set too low. Most respondents were in favour of the use of price caps, though these results should be treated with care, since authors seeking to publish in hybrid journals and/or those with APCs above the price gap are not well-represented in our sample. The advantages and disadvantages of price caps should be carefully assessed in the context of the findings of the main report. They are effective in maintaining a low-cost and nominally competitive market for Gold-APC journals, but this comes at the expense of offering subscription publishers a commercially attractive pathway to open access business models.

A large portion of survey respondents (44%) stated that they would not have published OA (either 'probably not' or 'definitely not') without the Pilot's support, which shows that authors do and will require funding if a shift to OA is pursued. Survey respondents seem inclined to shift to an OA model, with more than 60% of respondents agreeing that research outputs should be available with open content licences and in fully OA journals, but as previously noted these individuals are not representative of the research community as a whole. Finally, survey respondents almost universally agree (98%) that it is important for the EC to pursue similar initiatives in the future.

In terms of the Alternative Funding Mechanism (AFM), the Pilot was highly promising but it is too early to assess the long-term benefits arising. Excluding bureaucratic delays, all the stakeholders from APC-free platforms reported that the funds provided by the Pilot allowed significant improvements that wouldn't have otherwise happened. We note that the distribution of Pilot funds was heavily skewed towards Gold-APC publishers (90% of the total expenditure) and that no restrictions were placed on how the funds could be used by these publishers. By contrast, Gold no-APC publishers were permitted to use EC funding only for improvements in their technical infrastructure.

8.2 Lessons learned and suggestions

Running the FP7 Post-grant OA Pilot was complex, as it was the first initiative of this kind for OpenAIRE. Thus, several lessons were learned which could guide the improvement of similar initiatives in the future. These lessons are grouped by topic in the following sections.

8.2.1 Usability

While most of the survey respondents stated that their experience with the Pilot's application process was smooth, others emphasised the need for improvements. It appears that the existing online interface was somewhat reviewer-centred, rather than user-centred. Thus, it would have been beneficial for greater effort to be focussed on improving usability of the online application process. On a similar note, users requiring support would have valued the ability to address a help desk directly rather than having to go through other personnel first. A more advanced system with self-checks from authors and automatic validation could have addressed the existing problems and reduced the likelihood of errors.

The payment system was also recognised as a feature where improvements could be made. This is partly due to the complex invoicing requirements and the need for invoices to be addressed to the Athena Research Centre, which slowed down the process for several survey respondents. This suggests that a smoother payment system could be beneficial. When the Pilot funded block grants to institutions rather than paying APCs to authors, handling of payments was reportedly simpler. Consequently, encouraging library support via block grants could lead to a simpler configuration and better distribution of the workload between the funder(s) and the authors.

8.2.2 Requirements

A portion of survey respondents were not satisfied with the Pilot's eligibility criteria. Some criticism was due to misunderstandings, which could be easily fixed with an improved FAQ section. However, other survey respondents criticised the eligibility criteria themselves and this suggests that simplification would have been beneficial.

For instance, dissatisfaction was reported with the maximum amount of funding available (€6,000 per projects) and the restrictions placed on how this could be used (maximum of 3 publications). An alternative approach, suggested by survey respondents, would be for the total available funding to be proportional to the size of a project, and distributable among a non-specific number of outputs, at the lead investigator's discretion.

Moreover, a journal's eligible for Pilot funding was not always clear to the survey respondents. Thus, it would have been helpful to create a portal similar to the SHERPA/FACT[dd] tool to help authors determine eligibility clearly and unequivocally.

In terms of publisher requirements, there is a growing tendency for funding initiatives to be more aspirational and set clear expectations in terms of, e.g., deposit, licences, and invoices. For example, Science Europe has issued a set of 'Principles on Open Access Publishers services',[ee] and The Wellcome

[dd] Please see http://www.sherpa.ac.uk/fact/ for more information

[ee] See Science Europe (2015), Science Europe Principles on Open Access to Research Publications, p.6

Trust has recently released a set of publisher requirements in an effort "to maximise the availability and reuse of publications" funded.[ff]

8.2.3 Dissemination

The dissemination of Pilot funding was not optimal, which led to low uptake and underspending of the budget. The situation was better where block grants were used, as institutions could take care of internal dissemination more effectively. Greater use of local entities (libraries/institutions/National Open Access Desks) for the dissemination of funding information to project coordinators could have led to increased uptake. In addition, raising awareness on the funding initiative at project start would likely have increased applications, as reported by several survey respondents.

The collaboration with publishers could be improved as well, since the Pilot showed that embedding the application for funding in the submission process reduces the administrative overhead for authors and institutions. In addition, more involved publishers could help in raising awareness on funding availability.

8.2.4 Back-end workflow

Some of the issues reported by the survey respondents were related to technical or administrative difficulties encountered during the application process. Co-location of technical support and administrative staff would have helped reduce these issues. Furthermore, training for local support services may be beneficial for a full understanding of the application process and its implications.

8.2.5 Alternative funding mechanisms

Stakeholders from APC-free platforms highlighted the fact that the administrative process to access funding was too burdensome and slowed down the timelines of activities they had previously planned. Nonetheless, the Pilot supported substantial improvements in APC-free platforms on only a small proportion of the total budget. Allocation of a greater proportion of the budget to these platforms, and allowing funds to be used for purposes other than technical improvements, could have delivered still greater benefits. This would also help to address concerns that Gold no-APC publishers are not operating on a level playing field with their APC-based competitors

[ff] Please see https://wellcome.ac.uk/funding/managing-grant/publisher-requirements for more information