Annex 4

INFORMATION NOTE ON DIGITIZING CDM PROJECT INFORMATION

I. Background

1. The concept of a "fully digitized PDD" was first presented in the CDM Information System (CDM-IS) workshops for DOEs in April 2009. Since then it has been discussed in CDM forums, such as: the Integrated Workshop on Project Standard, Validation and Verification Standard, Project Cycle Procedure and Programme of Activities Standards, 24-26 August 2011, Bonn; and in stakeholder forums such as the Project Developer Forum. In 2011, the CMP requested further efficiency improvements of the CDM project cycle through measures such as digitization (paragraph 26 of Decision 8/CMP.7).

II. Purpose

2. Whilst digitization is a common thread to the discussions, there are different perceptions of what exactly digitisation is and what a digitized PDD or other documents might be. Although there are potential benefits, there is also common perception that digitization will lead directly to improvements in areas such as reduced processing time or improved information retrieval and analysis, but little discussion about the costs and impacts of realising these benefits.

3. This information note defines digitization in the context of the CDM and the expected benefits and costs. It also provides a roadmap on how the benefits would be realised.

III. Key issues

1. Current situation

4. The CDM, and its supporting computer system, the CDM-IS, are both document-centric. Stakeholders submit sets of documents to the secretariat by uploading them and adding some limited metadata, which is often repeated in the documents. The submissions are mostly assessed by humans, with very limited automatic validation and assessment of submissions. This approach is changing over time with the capture of structured data on sustainable development (i.e. the SD Tool) and the digitization of existing Modalities of Communication (MoC) forms both being examples of the transition from a document-centric to a structured data approach.

2. The digitization concept

5. In general usage, digitization refers to the conversion of analogue data to digital form, typically for storage or processing by a computer. In the context of the CDM, this refers more specifically to a structured digital form that can be stored and is amenable to easy retrieval and manipulation. In essence, it refers to the capture and storage of machine-usable data rather than human-readable documents.

6. Digitization as a concept has been discussed by the secretariat and various stakeholders over the past years. The common core of all the perspectives is the transition from communicating unstructured information (for example, as "documents" such as the PDD, monitoring report, validation report and verification report) to the capture of structured data. There are alternative ways to capture digitized data other than presenting web forms, such as accepting the data directly from another computer system or

uploading structured information in a standard file format. Once captured, a computer system can easily format and display the data, validate the data and perform cross-checks and calculations.

3. Where does digitization take place in the process?

7. There are options on where in a flow of information digitization takes place, and by implication, who would undertake the digitization. In the current system, the limited digitization that takes place is upon submission or during processing, although there have been some initiatives to digitize on an ad-hoc, post-processing basis. The main points are:

(a) Prior to submission to the secretariat, implying the data provider already works with the data in a digitized format;

(b) At the point of submission, typically by humans entering data into a computer system. This is how DOEs submit the limited digitized information about documents now;

(c) During processing of a submission by the secretariat, where staff enter in data from the submitted documents;

(d) After processing of a submission by the secretariat.

8. The points above are described in the context of the common DOE (i.e. the data provider) secretariat (i.e. the data recipient) relationship, but they can equally apply to other relationships. Other examples are PP to DOE, or DNA to secretariat.

IV. Impacts

1. Potential benefits

9. Digitization in itself does not provide any benefits; it is when the digitized data is used that benefits start to accrue. The table below list the types of benefits that are expected from digitization in the CDM.

Function	Expected benefits
Process and task automation	• Faster processing of submissions • Reduction in resources required to process a submission • Increase in “right first time” submissions
Data analysis and reporting	• Ability to analyse and aggregate data to provide information on the mechanism and the processes • Reduction in ad-hoc and manual data collection exercises

Data sharing	• Ability to share data efficiently, accurately and reliably with stakeholders • More manageable data sharing than offered by the current web site (e.g. slow performance of web site as automated tools attempt to query many pages of information)

2. Potential costs

10. Some CDM forms are simple, perhaps of the order of ten or so data items to enter, but the documents that are often the focus of attention for digitization, such as the PDD, monitoring reports, validation reports, and verification reports, are all data rich documents. If fully digitized, these could result in thousands of individual data items being captured. This increases:

(a) The effort to capture the data;

(b) The risk of human error (assuming humans enter the data);

(c) The complexity of the capture interface.

11. The complexity is more easily managed through the standard protocols and common technologies to support exchange of structured data. A set of web forms to capture a large number of data items, say many hundreds, successfully would be quite complex. The issue of complexity and scale is relevant both to the data provider as well as the recipient. A high quality data capture interface is essential as without one, this could significantly impact the data provider's operations. Since costs tend to rise with complexity, careful consideration will be given as to the extent of digitization to ensure the costs do not outweigh the benefits.

12. Digital exchange of structured data also introduces issues with respect to access and security. To ensure equitable access, all relevant stakeholders will need to have the capability to use not only the technologies to capture the data but to use this digitized data wherever it is needed. As well, the management of security, authentication and users would have to be enhanced (perhaps by introducing digital signatures) and a consideration of any legal implications of doing so (i.e. transitioning from ink signatures to digital ones).

13. Moving from a document-centric to a data-centric system would also mark a significant change in the approach of the mechanism by having digitized data being the authoritative sources of information, instead of documents. This may require changes to the current working practices, documents, and procedures. These changes will have to be achieved as the mechanism operating, which entails an extra challenge.

14. To assess the benefits and costs for digitizing any particular interaction with stakeholders, collaboration with data providers is required to ensure there is a benefit to the mechanism as a whole. The assessment will need to take into account the expected volumes of submissions since a decline in submissions reduces the potential benefits of digitization and automation. There is also the question of existing document-based submissions and whether or not we can accrue sufficient benefits without digitizing data we have already received.

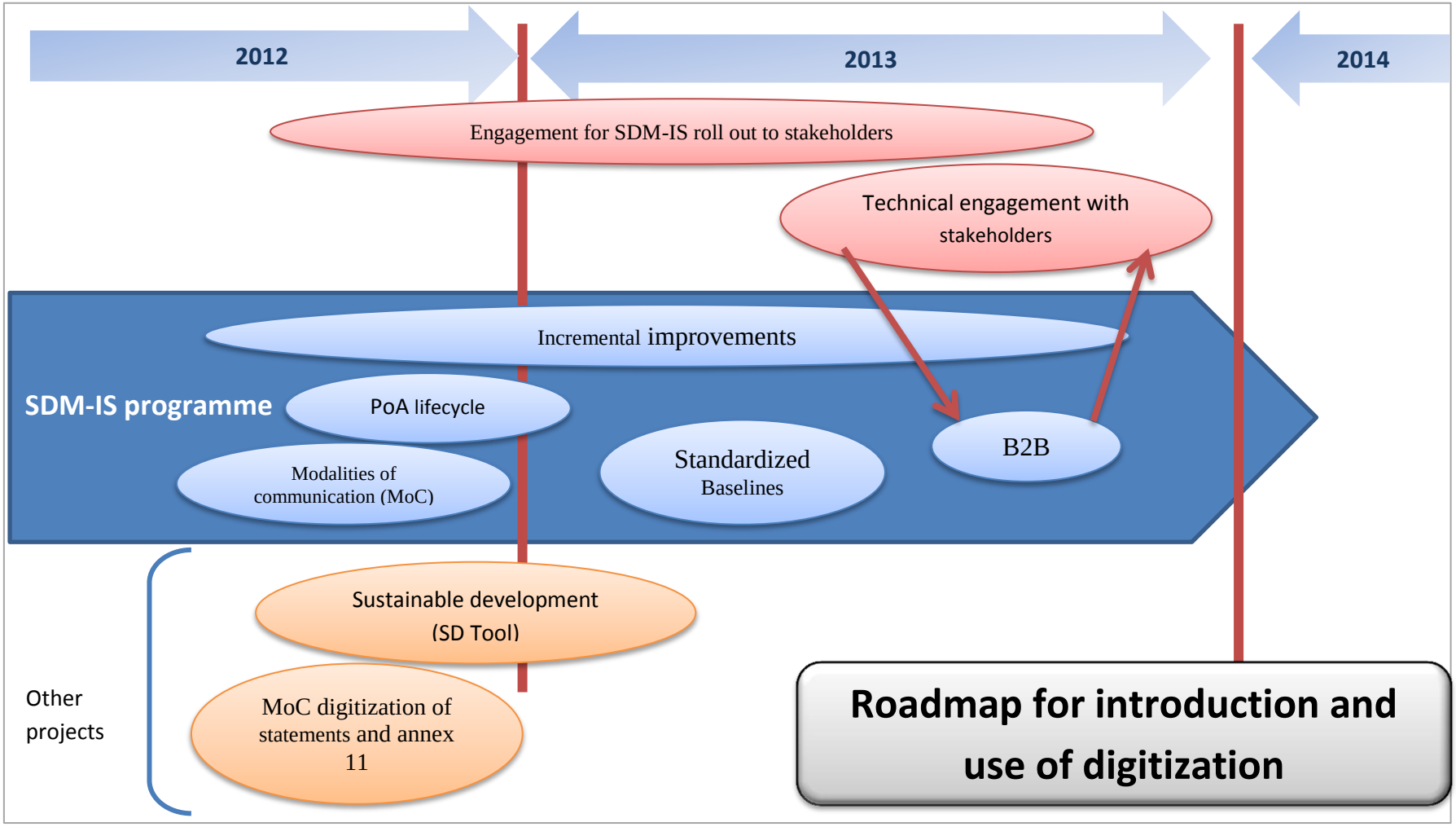
V. Proposed work and timelines

15. The SDM-IS programme is introducing a new computer system to support the mechanism based on a common secretariat platform. This system will provide the basic capacity to support capture and provision of digitized data, both from humans and in machine-to-machine interactions.

16. The SDM-IS programme will migrate existing processes and data from the existing CDM-IS to the new computer system on an incremental basis. Once a set of processes have been migrated, further improvements can be made by leveraging the strengths of the new computer system.

17. During the migration of processes, new data capture screens will be developed and there is the opportunity to make improvements in the quality and quantity of data captured digitally. Although digitization in itself is not the objective of the SDM-IS programme, the programme will regard capture and transmission (inward and outward) of digital data as part of its toolbox for building the new system and introduce it where appropriate.

18. Within the SDM-IS programme, there may be further opportunities to implement low risk machine-to-machine interactions that will demonstrate, in a practical way, the technology and protocols needed to undertake this form of data exchange. This will be tackled in the Business-to-Business (B2B) part of the programme. One possibility would be the provision of a web service to query public project data as an alternative to querying it via the web interface, or a similar low risk interface. It would be beneficial to engage with external stakeholders to explore the status of digitization in their systems, identify opportunities for direct submission of data, and agree the technical protocols and mechanism to support for data exchange.


2012
2013
2014
Engagement for SDM-IS roll out to stakeholders
Technical engagement with stakeholders
Incremental improvements
SDM-IS programme
PoA lifecycle
Modalities of communication (MoC)
Standardized Baselines
B2B
Sustainable development (SD Tool)
Other projects
MoC digitization of statements and annex 11
Roadmap for introduction and use of digitization

VI. Recommendations to the Board

19. The secretariat recommends that the CDM Executive Board takes note of the information presented above.

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