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Afforestation and reforestation projects under UN REDD+ and the World Bank's Forest Carbon Partnership Facility strive to make forests more valuable standing than cut down, by creating financial value for the carbon stored in trees.
PDF/DIA Technical Roundtable
London, 2 Feb 2011

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Agenda

- An **illustration of current inefficiencies** in document and data management.
- **A possible way out** centralization and digitization of audit trail, documents and data.
- **Possible efficiency gains.**
- **How to get started**.

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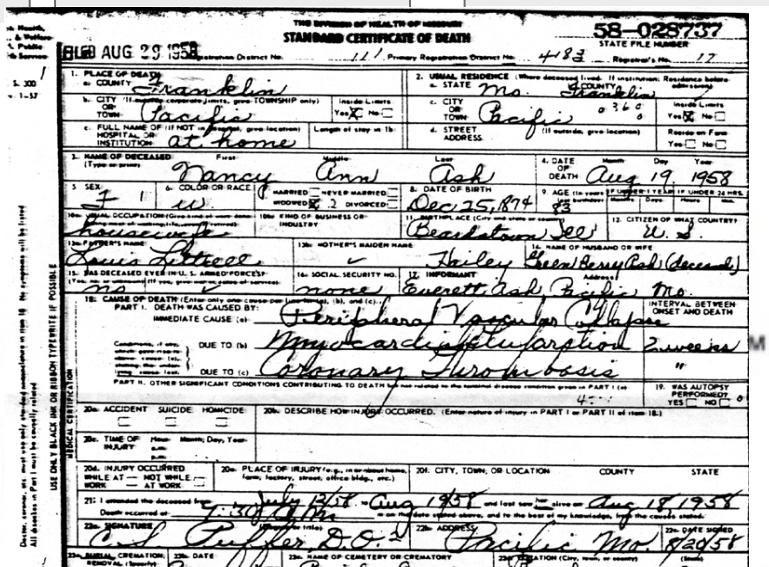
Situation Today: Files exist at each level

Owner Project Site	Developer/ Consultant	DNA	DOE	UNFCCC
Site related docs and data				
	PDD/Monitoring Report etc	LoA related docs		



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... they are emailed or uploaded from entitiy to entity ...

Owner Project Site	Developer/ Consultant	DNA	DOE	UNFCCC
Site related docs and data				
	PDD/Monitoring Report etc			
		LoA related docs		
			Val/Ver Reports etc	
				Registration and Issuance related

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... every entity keeps copies....

Owner Project Site	Developer/ Consultant	DNA	DOE	UNFCCC
Site related docs and data	Site related docs and data	Site related docs and data	Site related docs and data	Site related docs and data
	PDD/Monitoring Report etc	PDD/Monitoring Report etc	PDD/Monitoring Report etc	PDD/Monitoring Report etc
		LoA related docs	LoA related docs	LoA related docs
			Val/Ver Reports etc	Val/Ver Reports etc
				Registration and Issuance related

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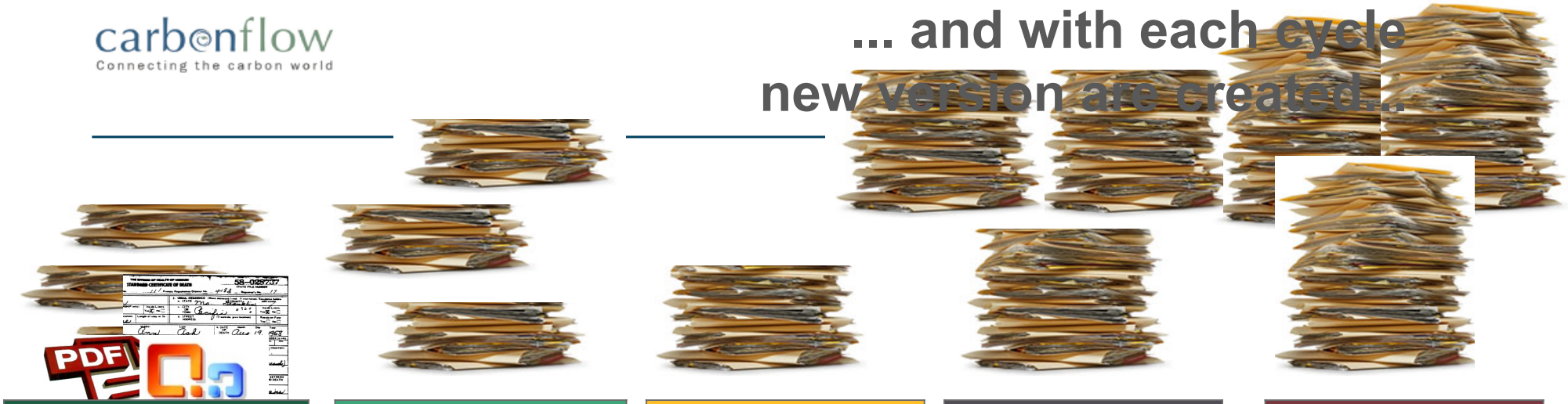
... and with each cycle new version are created...



Owner Project Site	Developer/ Consultant	DNA	DOE	UNFCCC
Site related docs and data	Site related docs and data	Site related docs and data	Site related docs and data	Site related docs and data
	PDD/Monitoring Report etc	PDD/Monitoring Report etc	PDD/Monitoring Report etc	PDD/Monitoring Report etc
		LoA related docs	LoA related docs	LoA related docs
			Val/Ver Reports etc	Val/Ver Reports etc
				Registration and Issuance related

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And you still wonder why there is...

- **Inconsistency** across documents that are supposed to quote the same information.
- **Confusion** about the latest version of a document and about who is in charge of what at what moment.
- **Mistrust** between entities that they all see the same version.
- **Fear** about security of confidential information.

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How much time and money do those inefficencies cost you?

- Chasing **missing documents** for days because contact unavailable
- **Mistrust** in the creation date for a document
- Need to **filter documents through a chain** instead of editing the one you already provided access to
- **Clogged email boxes** at your end and your contacts
- Needed **files deleted in error**
- **Wrong version** of document shared
- **Incomplete handovers** in your company or other project partners because of **decentralized audit trail**
- **Opportunity cost** of your staff wasting time on inefficiencies and not **working productively**
- **Inconsistant monitoring data formats** and calculation templates across different projects

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Can we put a Euro amount on those inefficiencies?

We all know that projects take longer than expected, hard to quantify as each entity is different. Two examples:

- Inefficient handover at any entity you work with causing just a one week delay in a 100‘000 CER p.a. Project? At 10 €/CER ≈ 20‘000 €.
- The extra hour spent each week chasing documents? 8.5 workdays a year = 4‘250 € at internal rate of 500 €, 8‘500 € at consultant rate of 1000€

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Solution to the problem

- Document, data (and workflow) management in a **single, secure and unbroken audit trail across all parties**
- **Digitization of documents and data collection** processes within that secure multi-party system

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Centralization of audit trail and electronic linkages

Owner Project Site	Developer/ Consultant	DNA	DOE	UNFCCC
Site related docs and data	Site related docs and data	Site related docs and data	Site related docs and data	Site related docs and data
	PDD/Monitoring Report etc	PDD/Monitoring Report etc	PDD/Monitoring Report etc	PDD/Monitoring Report etc
		LoA related docs	LoA related docs	LoA related docs
			Val/Ver Reports etc	Val/Ver Reports etc
				Registration and Issuance related

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Centralization of audit trail: Each file version exist only once

Owner	Dev / Cons	DNA	DOE	UNFCCC
Site docs and data	PDD/MR etc	LoA related docs	Val/Ver Reports	Registration and Issuance related

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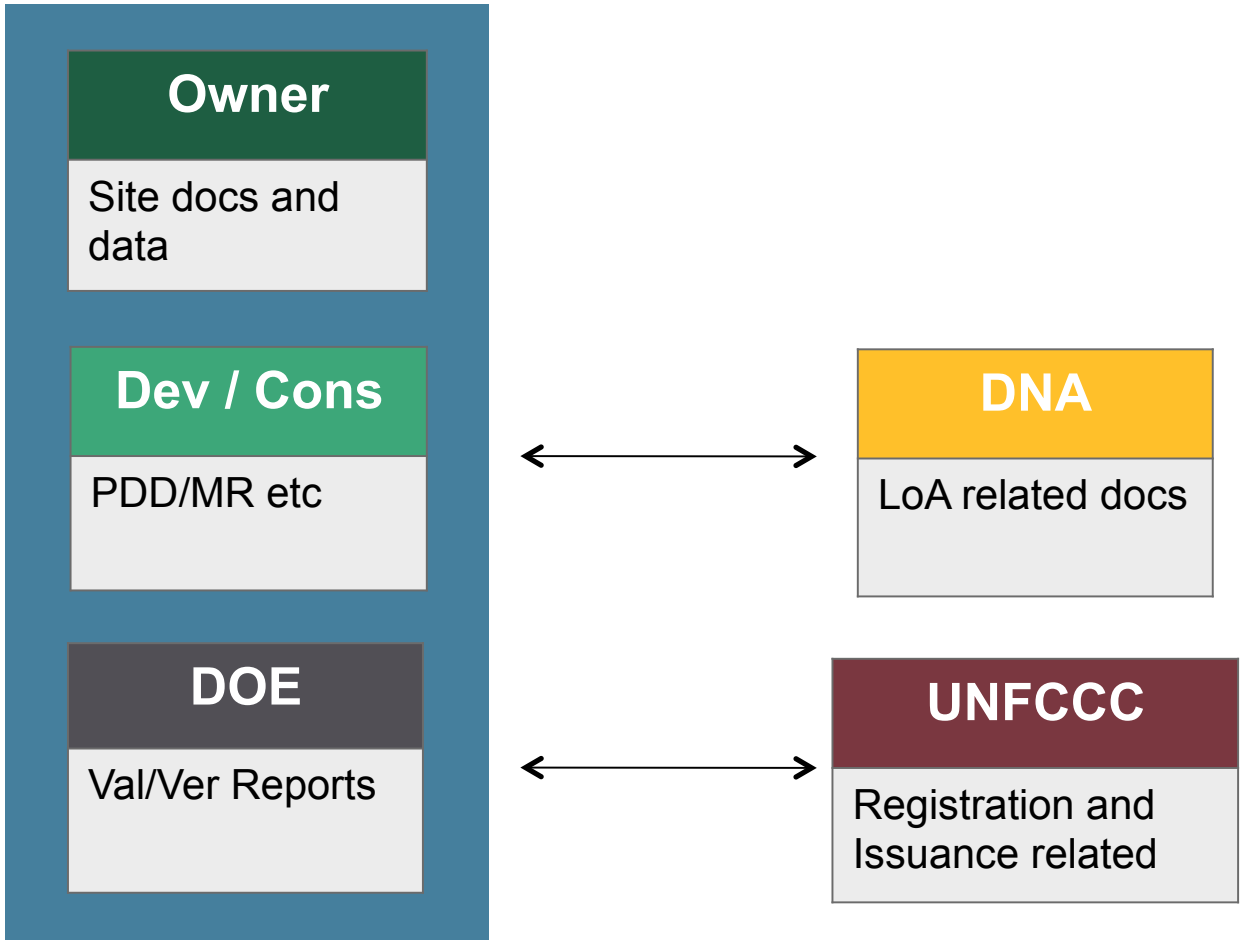
Centralization of audit trail
One secure multi-party file server



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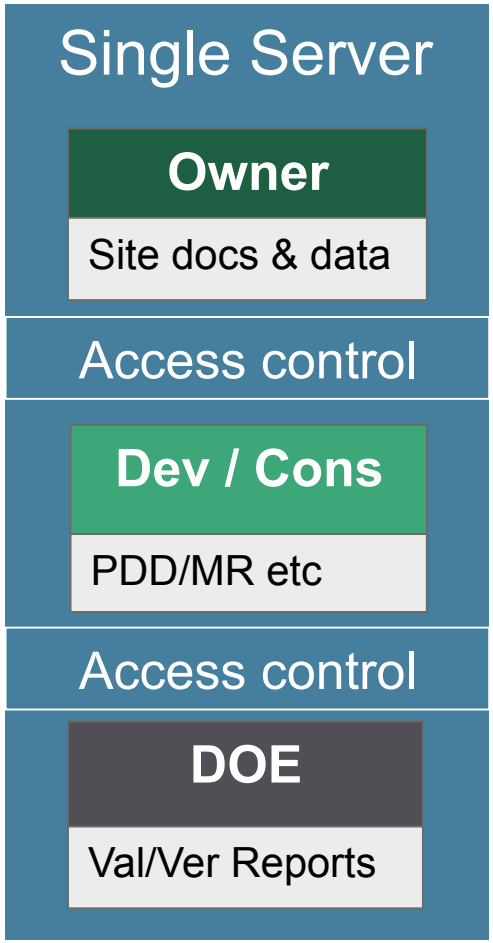
Centralization of audit trail: Document mgmt improvements



Process Improvements:

- Controlled access in one system instead of file/data sharing by email/upload
- Central audit trail with one copy of each file version
- Immediate updates across all viewers with access rights
- Automated email notification system
- Facilitates digitization of documents

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Centralization of audit trail: Straight through processing of data

- Meter readings entered into central database either manually or automatically via electronic link.
- Data management (normalization, missing values etc) performed in the same database
- Submission of data to digitized monitoring report
- Digital submission of Monitoring and Verification reports to UN in e.g. xml format
- Verification back to source in the same system
- Possibility to track each CER back to the “meter”

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Digitization of Documents

Digitization means

- Documents **structured into text and data fields**.
  - Digital monitoring reports contain tables of performance data and separately the formulae used to combine them.
- Digitized **template is „intelligent“**
  - can look for information in external sources (Previous versions of (related) documents, project term sheets, reference)
- Documents would typically be **transmitted in XML format**.
  - **Automated data entry** into DNA/DOE/UN systems as data files not documents. **Facilitates unbroken audit trail**.
- Digital version **can be converted into a PDF** document for readability.

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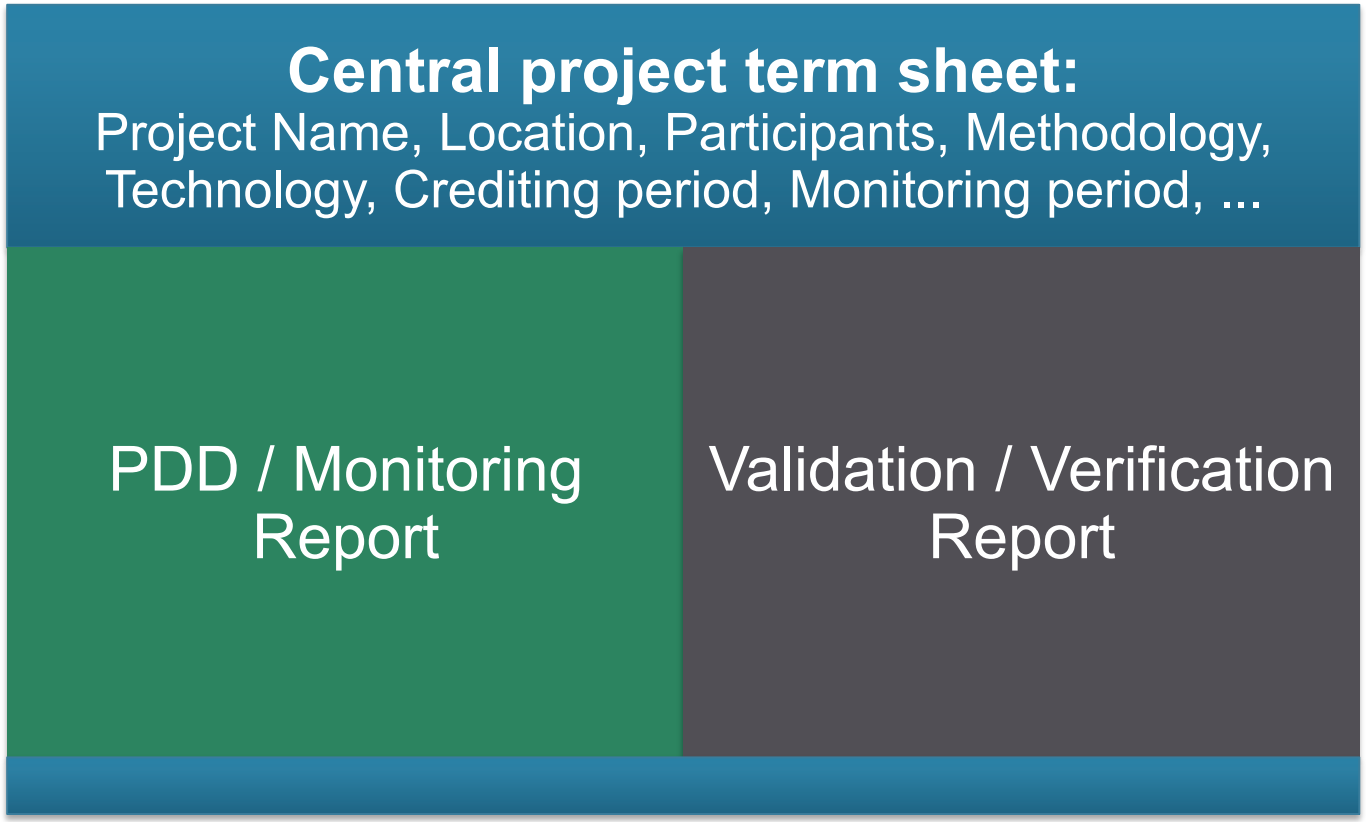
Use of a central term sheet across PP and DOE



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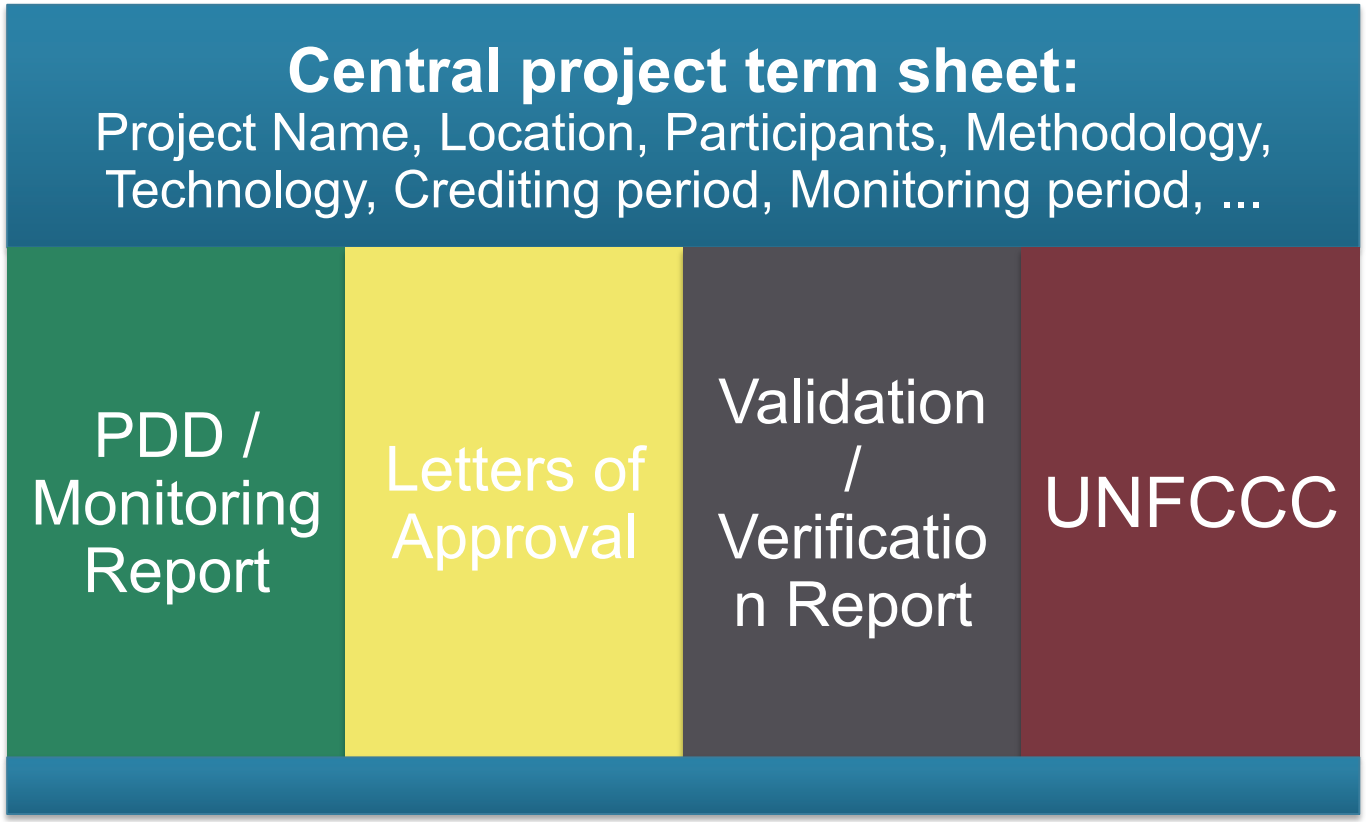
or even across all decision makers...



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Benefits of a digitized documents (1/2)

Avoid manual transmission and data entry errors

- Key users **enter data once**, which are combined into the digital PDD and can also be **used in other templates** throughout the project cycle.
- All documents using the data will have the exact same data, **no errors from manual transmission** possible.
- **Default values** for baselines etc. can be set in and **entered by the system** into the project documentation.

Facilitates automated checks

- **Search, analysis and comparison** of projects as document content is provided as data rather than text.
- **of data completeness** before allowing submission of the document to next level is possible. **Avoid work on incomplete files**.
- Check can include **compliance with a required/expected range** (e.g. IRR limits in additionality analysis). **Know where to drill deeper**.

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Benefits of digitized documents (2/2)

Avoid formatting errors and discrepencies

- **Automated structuring and formatting** of final documents to comply with expected standard.
- Facilitates **consistent format** of (planned) performance data from PDD to monitoring report.

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Benefits of digitized monitoring reports (2/2)

Reduce verification effort, improve trust :

- **Sets of formulae can be pre-certified** as correct. Unlike spreadsheets, no examination of formulae is necessary for each project. Formulae deviations will be flagged by system.
- **Additional tools** can be build on the standardized data, e.g to assess the influence of every single monitored parameter on the final CER value.
- Facilitates analysis project **performance across monitoring periods**, allowing deviations to be pinpointed for further analysis.
- **Facilitates drill down** into the original data recorded by the instruments and stored in the system.
- **Complete audit trail:** Date and time and original units of all measurements are recorded along with the person responsible for entering.

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Benefits of digitized monitoring reports (2/2)

Avoid errors and omissions

- **Unit conversions are automatic**, removing another source of error.
- If data has to be revised, locating, tracking and **validating the changes is much easier**. Revised data available immediately to all with viewer access to file (DOE, UN), no need to send files through chain.
- Combination with multi-party workflow management tool would Assure automated **reminders for meter calibration** and central storage of related evidence.

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Required Design Principles

- **Accessibility**
  - The technology has to be accessible to everyone, including those in developing countries with limited internet access
- **Data and Information Security**
  - Server system has to satisfy highest security standards, safer than inhouse systems
  - Access to confidential information to be fully controlled by the information owner
- **Cost efficiency**
  - Has to run on all hardware and operating systems
- **Ease of use**
  - Has to make people quickly feel comfortable and minimize the need for training
- **Independence**
  - Should be provided by an independent party(ies) that understands business needs and provide systems that guarantee required confidentiality.

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First steps towards digitized documents that the PDF/DIA can drive

- Agreement on data and text parameters in PDDs across different methodologies.
- Agreement on standard template for monitoring data in different methodologies, as a start in spreadsheet format.

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At the end of 2009, worldwide capacity of wind-powered generators was 159GW. China installed more wind turbines in the first half of 2010 than any other country — 7,800 megawatts of potential power production, or more than the United States, the European Union, and India combined.
Company Background

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Carbonflow in Brief

- Carbonflow provides **an integrated suite of software applications** used by organizations worldwide **to manage, monitor, and monetize** their emission reduction and sustainable energy **projects**
- We host **unique Software-as-a-Service (SaaS)** products that empower participants to undertake these projects on a **secure multi-party platform**
- Our goal is to **reduce the time, cost, and complexity** of carbon projects to **reduce risk and improve trust** between parties

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Selected Clients and Partners

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Join Carbonflow‘s Vision

Let us create a carbon market with

- efficient project, document and data management
- parties trusting each other
- manageable individual project risks
- fair carbon prices
- more emission reductions.

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Testimonials

"Standard Bank chose to manage its projects using Carbonflow to **increase transparency and control** over project deadlines and milestones. From our viewpoint **Connect+ is unique** in the market and is ideal for the needs of the carbon market."
Geoff Sinclair, Head of Carbon Sales & Trading, Standard Bank, UK

"The South African DNA is pleased to be working with Carbonflow, looking forward to Connect+ helping us connect with project developers directly and **manage our country's projects efficiently**."
Chauke Lindiwe Olga, Designated National Authority for Clean Development Mechanism, Department of Energy- Republic of South Africa

"Carbonflow is **THE benchmark for carbon project management** and controlling. It has dramatically improved the efficiency, speed and quality of the whole project cycle in our company – from screening to monitoring – and saves our time, money and resources any given day. **Great value for money**."
Georg Schattney, Head of Market Development, Forest Carbon Group

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Testimonials

"We believe that Connect+ will help us **streamline** our own internal processes, and furthermore **improve efficiency and transparency** in our client relations. LRQA appreciates the **excellent level of support** we have received form Carbonflow in helping us implement Connect+. "
Madlen King, Global Climate Change Manager, LRQA, United Kindom

"**SGS is implementing Connect+** as we see lot of benefits. It will help us to make the validation and verification process more efficient and transparent which will **benefit us and the other stakeholders**."
Shivananda Shetty, Director, Environmental Service, SGS India Pvt Ltd

"IDB chose Carbonflow because of its **unique solution** for a Development Bank to help project developers **improve** their **project management** and at the same time **ensure transparency of the project we provide funding to**."
Maria Netto, Climate change lead specialist, Inter American Development Bank (IDB)

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south pole
Carbon Asset Management Ltd.