RETAIL ENERGY CODE

Green Deal Central Charging Database Service Definition

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RETAIL ENERGY CODE

Technical Specification Document

Green Deal Central Charging Database (GDCC) Service Definition

Version: 2.0 Effective Date: 1 September 2021

Change History

Version Number	Implementation Date	Reason for Change
0.1	n/a	Initial draft for December 2020 consultation
2.0	1 September 2021	Incorporating respondents comments

1 Description of Service

1.1. The primary purpose of the GDCC is to facilitate the creation and administration of Green Deal Plans in Great Britain, by providing a point of reference and interaction between relevant Green Deal Users.

1.2. The GDCC consists of an application set comprising:

(a) the GDCC database, which has the capability to securely store data and support data exchange transactions between Green Deal Providers, Green Deal Finance Parties and Green Deal Remittance Processors to, or from, Electricity Suppliers and/or MPAS Providers in accordance with relevant provisions of the Green Deal Arrangements Schedule;

(b) the GDCC application layer, being the infrastructure that supports interactions to and from the database, via agreed transfer methods; and

(c) a user web interface, which provides secure web-based, read-only access to the GDCC database, where access permissions have been provided in accordance with the Green Deal Arrangements Schedule.

2 Definition of Users

2.1. In this Service Definition, the term 'Green Deal User' refers to the organisation granted access to data in accordance with the Green Deal Arrangements Schedule; the term 'Authorised Person' refers to the individual representative of a Green Deal User accessing the GDCC.

2.2. Green Deal Users include:

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(a) organisations with direct access to view GDCC data - the GDCC provides Green Deal Users with access to data, in accordance with the access provisions set out in the Green Deal Arrangements Schedule. This includes the Code Manager who has direct access to update Green Deal User Data; and

(b) organisations wishing to send and receive data to / from the GDCC – messages shall be sent in the format defined within the Data Specification, with all data being exchanged via the Data Transfer Network.

2.3. The following table shows the different categories of Green Deal User and the access they are provided with. A single organisation may fulfil a number of roles.

User Category	Direct Access Para 2.2(a)	Send/Receive Para 2.2(b)
Green Deal Providers	✓	✓
Green Deal Finance Parties	✓	✓
Electricity Suppliers	✓	✓
Green Deal Remittance Processors	✓	✓
Distribution Network Operators	✓	✓
Metering Point Administration Service (MPAS) Providers	✓	✓
Code Manager	✓	

2.4. With the exception of the Code Manager, Authorised Persons with direct access will not be able to create new records or update existing ones.

2.5. The following organisations have system interfaces with the GDCC for data validation and data exchange purposes:

(a) the Electricity Enquiry Service, so that data inputs can be validated and data flows routed correctly; and

(b) the EPC Registers (for both England & Wales, and Scotland) providing validation to ensure that Authorised Persons enter only correct and valid energy performance certificate data into the GDCC database.

3 Service Functionality

3.1. The GDCC is designed to support a number of business processes, as documented in the Green Deal Arrangements Schedule.

3.2. The key functions of the GDCC are:

(a) to pass Market Messages between Green Deal Providers, Electricity Suppliers

and MPAS Providers, in accordance with the Green Deal Arrangements Schedule. These Market Messages will conform to the message structure defined in the Data Specification and will be validated in accordance with the requirements in the Green Deal Arrangements Schedule;

(b) to exchange data between the GDCC and the relevant EPC Register at various points in the lifecycle of the Green Deal Plan for validation purposes. Where a request for validation is made to the relevant EPC Register in relation to data provided by the Green Deal Provider, the GDCC Provider shall not carry out any additional validation on responses received. These will be passed on to the Green Deal Provider as received by the GDCC where the values received are in the valid set for GDCC response codes;

(c) to provide updated data to the relevant EPC Register where events occur in the lifecycle of the Green Deal Plan, based on the information held on the GDCC and used in the EPC Register pre-installation validation;

(d) to store Green Deal Arrangements Data with associated effective dates and make it available to Authorised Persons. The Code Manager shall be responsible for the maintenance of Green Deal User Data in the GDCC and shall ensure that relevant updates are provided to Green Deal Users via a Market Message generated by the GDCC; and

(e) to create reports that provide the total number of days in a given Quarter that a Green Deal Provider or Green Deal Finance Party is liable to make a payment in respect of each Green Deal Plan that it is associated with for all or part of that Quarter.

General Functionality

3.3. The GDCC shall:

(a) maintain a record of Market Participant Identifiers (MPIDs) and associated Market Participant Role Codes as input by the Code Manager to be used to route Market Messages and in validation checking;

(b) apply unique identifiers to all Market Messages generated by the GDCC;

(c) ensure that data output has date and time stamps attached to it, identifying when the relevant Market Message was created; and

(d) record every transaction sent to, and received by it, in a form that can be traced to an individual source, subject to agreed data retention policies.

Web Interface Functionality

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3.4. In order to meet the requirements set out in the Green Deal Arrangements Schedule, the GDCC web interface shall include:

(a) screens to allow Authorised Persons to locate and view information relating to specific Green Deal Plans and/or Green Deal Metering Points (based on the associated MPAN Core);

(b) functionality to allow for user maintenance;

(c) reports relating to Authorised Person activity;

(d) functionality to allow the Code Manager to maintain standing data on the GDCC; and

(e) dedicated secure access to report outputs for the Code Manager.

3.5. The GDCC web interface allows for searching by Green Deal Plan ID, MPAN Core, or a combination of both. The ability to utilise these search combinations shall be restricted depending on the role of the Green Deal User as illustrated in the table below.

User Category	Search criteria allowed
Green Deal Providers	GD Plan ID only
Green Deal Finance Parties	GD Plan ID only
Electricity Suppliers	GD Plan ID and MPAN Core
Green Deal Remittance Processors	GD Plan ID only
Meter Point Administration Service (MPAS) Providers	MPAN Core only
Code Manager	GD Plan ID and / or MPAN Core

3.6. Electricity Suppliers, Green Deal Providers, Green Deal Finance Parties, Green Deal Remittance Processors, Distribution Network Operators and MPAS Providers will only be able to view data for periods for which they are (or were) the party carrying out defined activities in relation to that data as set out below:

(a) with the exception of Green Deal Charges, Electricity Suppliers shall only be permitted to view data relating to Green Deal Plan records for periods that they are (or were) the Registered Supplier for the associated Metering Point;

(b) Green Deal Providers, Green Deal Finance Parties, and Green Deal Remittance Processors shall only be permitted to view data relating to Green Deal Plan records for the period that they are (or were) associated with that Green Deal Plan record in the GDCC; and

(c) Distribution Network Operators and MPAS Providers shall only be permitted to

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view data relating to those Metering Points for which they are responsible, based on the element of the MPAN Core that identifies the relevant Distribution Network Operator.

3.7. Following a successful search, where the Authorised Person is permitted to view data relating to the Green Deal Plan or MPAN Core, they will be provided with information via a screen. Search results must return all plans that meet the search criteria entered (taking into account the Authorised Person's access rights), thus allowing selection of an individual Green Deal Plan or MPAN Core.

3.8. Certain user types will only be permitted to see certain tabs when a search is successful; these restrictions are set out below:

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Company Type	Tabs viewable							
	Green Deal Details	GD Plan Status History	GD Licensee History	GD Provider History	GD Remittance Processor History	Default Bill Payer History	EPC Register Details	GD Charges
Code Manager	X	X	X	X	X	X	X	X
MPAS Provider	X							
Electricity Supplier	X	X	X	X	X	X	X	X
Green Deal Provider	X	X	X	X	X	X	X	X
Green Deal Finance Party	X	X	X	X	X	X	X	X
Green Deal Remittance Processor	X		X	X	X	X		X

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System Interface Functionality

3.9. The interface between the GDCC and the EPC Registers is via web services, with a language independent application programming interface (API).

4 System Access and User Management

Access via the Web Interface

4.1. Each Authorised Person shall have an individual user account, which shall only be accessed via entry of the correct username and password.

4.2. On creation of the user account, the GDCC shall generate a single use randomly generated password to the Authorised Person's email account as stored on the GDCC, the Authorised Person shall be required to change this password when they first log on.

4.3. Each Authorised Person shall only be able to log on via one session at a time to prevent password sharing.

4.4. User accounts which are not used for 30 days shall be automatically disabled.

4.5. Each Authorised Person shall only be able to access data that are appropriate to the user type for their organisation once access has been granted in accordance with the Green Deal Arrangements Schedule.

5 Service Availability

5.1. The web interface shall be available 24 hours a day, seven days a week, except during scheduled maintenance periods and unplanned outages.

5.2. The GDCC web-based viewer shall have 99% availability between 09:00 and 17:00 hours on Working Days over each calendar month.

5.3. Any planned outage shall be notified to the Code Manager with as much notice as possible, but in any event no later than 10 Working Days before any such event. Scheduled maintenance shall be scheduled for the period after 18:00 hours on a week day.

5.4. Any unplanned suspension in the availability of the GDCC shall be notified by the GDCC Provider to the Code Manager as soon as is practicable. Such notification shall also include an estimate for the restoration of services, with further confirmation provided when services are restored.

5.5. Both the web and database servers and any primary back-ups must be covered under an uninterrupted power supply system, with the appropriate software installed to gracefully shut down servers in the event of uninterrupted power supply failure. The GDCC shall ensure that power is available 100% of the time.

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6 User Support

6.1. The GDCC Provider shall provide a service desk to provide technical support between 09:00 to 17.00 on Working Days. This service desk will manage all user service contacts such as reporting issues and queries.

6.2. Issues will be categorised as follows:

Severity	Description	Target Response Time	Target Resolution Time
Critical	The service is not usable. Primary functions do not work and there is no known workaround. Business is impacted severely.	30 minutes during GDCC working hours	2.5 hours during GDCC working hours
Major	The software is still functional, but at least one primary function has been impacted and a workaround, if available, is severely time consuming.	30 minutes during GDCC working hours	4.5 hours during GDCC working hours
Minor	Inconvenience increased. Functionality not highly affected and workaround is an acceptable alternative.	30 minutes during GDCC working hours	3 Working Days of fix in next software release
Cosmetic	Intended functionality not impacted Including fonts, colours, labels, etc and involving workarounds / patches that can be held in abeyance pending a combined	30 minutes during GDCC working hours	Fix in next software release

	release.		

7 Service Levels

Processing of DTN Market Messages[2]

[2] "Processing" is defined as the time from receipt of an incoming Market Message from the DTN at the GDCC gateway to the production of an outbound Market Message back to the DTN to the GDCC gateway or, in the event that the incoming Market Message fails validation such that a response cannot be generated, this failure is reported to the Code Manager by the GDCC.

7.1. Each Market Message received by the GDCC gateway by 14:00 hours on a Working Day shall be deemed as having been received for processing on that Working Day (in this paragraph, the "GDCC Deemed Received Date") and shall be processed by the end of the Working Day.

7.2. Each Market Message received by the GDCC gateway after 14:00 hours on a Working Day shall be deemed as having a GDCC Deemed Received Date of the following Working Day and shall be processed by the end of the next Working Day.

7.3. Processing of Market Message within the agreed timescales shall be subject to the agreed volumes of data set out in section 8 not being exceeded and the DTN, EPC Register interfaces and/or the Electricity Enquiry Service interface being available.

7.4. Notwithstanding the above, data may be processed in shorter time periods, dependant on the volume and nature of the data received for processing.

Web Interface

7.5. The latency between the web server and the first router in the public internet or DTN shall remain below 250ms (milliseconds).

7.6. The GDCC shall respond to a request for information via the web interface within three seconds.

System Interface

7.7. The interface between the GDCC and the EPC Registers must support an end-to-end processing time of less than 5 seconds.

Update of data to the EPC Register

7.8. Updated data shall be provided to the relevant EPC Register within one Working Day of the update in the GDCC in the following scenarios:

(a) the Green Deal Plan ID when created;

(b) the Market Participant Identifier of the Green Deal Provider when created;

(c) the Green Deal Plan record status each time it is updated;

(d) details for each Green Deal Charge period, being the effective dates and Green Deal Plan daily charge each time it is updated; and

(e) the Green Deal Plan end date as expressed by the proposed end date, and subsequently the Green Deal Plan Actual End Date, each time it is updated.

8 Maximum Design Volumes

Total Volume of Green Deal Plans

8.1. The GDCC shall accommodate a total of 11,795 live Green Deal Plans.

Total Volume of Green Deal Users

8.2. The GDCC shall be capable of accommodating a maximum of 60 active GDCC Users.

9 Reporting

9.1. Reports shall only show information relating to the user(s) or company that the Authorised Person is entitled to view, as appropriate. All the reports shall be viewable in two possible ways:

(a) viewed on the screen with the option to select different pages; or

(b) downloaded into a CSV file that is compatible with versions of Microsoft Excel currently supported by Microsoft.

9.2. In order to provide for a secure transfer of data, all ad hoc reports will be visible and transferrable via HTTPs, except where the volume of data requires a download to be provided by the GDCC (e.g. for weekly reports to the Code Manager, in which case data shall be extracted and provided via secure and encrypted means).

9.3. The following reports will be made available to the Code Manager (the Code Manager will then send to other recipients where required). The format of reports to be agreed bilaterally with the Code Manager.

Report Name	Description
Initial Supplier Validation Report	Shows all instances where either: a) A D0341 is not received by 3 Working Days after the corresponding

	D0319; or b) A D0341 with response code 101 is received, but more than 2 Working Days after the corresponding D0319; or c) A D0341 that does not include response code 101 is received, but more than 1 Working Day after the corresponding D0319. Report generated monthly, effective from date minus 3 Working Days.
Progression of Green Deal Plan Report	Shows all Green Deal Plans that are, or have been, at a status of 'NEW' for more than 20 Working Days. This report also includes the subsequent status i.e. 'PENDING' or 'CANCELLED' Report generated monthly, effective from date minus 21 Working Days.
Subsequent Supplier Validation Report	Shows all instances where either: a) A D0341 is not received by 2 Working Days after the corresponding D0336; or b) A D0341 is received, but more than 2 Working Days after the corresponding D0336; or c) A D0341 is not received, by 2 Working Days after the corresponding D0325 with a GDCC instruction type of I; d) A D0341 is received, but more than 2 Working Days after the corresponding D0325 with a GDCC instruction type of I. Report generated monthly, effective from date minus 3 Working Days.
MPAS Response Report	Shows all instances where either: a) A D0340 is not received by 2 Working Days after the corresponding D0324; or b) A D0340 is received, but more than 2 Working Days after the corresponding D0324. Report generated monthly, effective from date minus 3 Working Days.
Request to End Green Deal Plan for Disconnection Report	Shows all instances where either: a) A D0322 is not received by 7 Working Days after the corresponding D0337; or b) A D0322 is received, but more than 7 Working Days after the

	corresponding D0337. c) A D0320 data flow is not received by 7 Working Days after the corresponding D0322; or d) A D0320 is received, but more than 7 Working Days after the corresponding D0322 data flow. Report generated monthly, effective from date minus 8 Working Days.
Remittance Processor Responses Report	Shows all instances where either: a)A D0329 is not received by 2 Working Days after the corresponding D0328; or b) A D0329 is received, but more than 2 Working Days after the corresponding D0328. Report generated monthly, effective from date minus 3 Working Days.
General Response Check Report	Shows all instances where either: a) A D0235, D0334 or D0338 are not received by 5 Working Days after the relevant data flows was generate by the GDCC; or b) A D0235, D0334 or D0338 is received more than 5 Working Days after the relevant data flows was generate by the GDCC. Report generated monthly, effective from date minus 6 Working Days.
Reason Code Monitoring Report	Shows all instances where the following response codes are used: 301 not all mandatory data provided; 321 invalid Initial proposed Green Deal Plan end date; 327 invalid reason code provided; 329 daily charge amount outside permitted parameters; 330 daily charge EFD outside permitted parameters; 331 daily charge ETD outside permitted parameters; 337 invalid effective date for Provider transfer; 338 Gaining Green Deal Provider has no valid MPID for

	transfer EFD; 340 Green Deal Plan ETD less than requested transfer EFD; and 360 invalid Green Deal Plan Actual End Date requested Report generated monthly on effective from date.
Flow Summary by Participant Report	Provides a monthly count of all events reported in each of the type "F" reports, summarised by MPID and Market Participant Role Code. It will include the number of all events for each report and a total for that participant.
Reason Code by Participant Summary	Provides the monthly count of each reported unique reason code value summarised by MPID and role code.
Secretary of State Monthly Status Report	A report including the following: a) Total and average estimated savings on a Green Deal Plan and number of Green Deal Plans; b) Total and average Green Deal daily charge as provided to the GDCC by the Green Deal Provider; c) Total and average length of Green Deal Plans; d) Number of Green Deals repaid full amount early (indicated by a new GD Plan Actual End Date value being entered into the GDCC by the Green Deal Provider that is less than that present when the Green Deal Plan achieved a status of 'LIVE' and no future charges being present); e) Number of Green Deals with partial repayments as indicated by a new GD Plan Actual End Date value being entered into the GDCC by the Green Deal Provider that is less than that present when the Green Deal Plan achieved a status of 'LIVE' and/or with revised future charges being present; f) Number of Green Deals by Green Deal Licensee; g) Number of Green Deals by Green Deal Provider; h) Number of Green Deals by Remittance Processor; i) Number of Green Deals at initial checking stage, installation stage and repayment stage as determined by the Green Deal Plan ID Status in the GDCC being "NEW","PENDING" or "LIVE" respectively;

	j) Green Deal Plans that have not had any changes to GD Actual End Date as held on the GDCC; k) Green Deals that are terminated at initial checking stage as indicated by the Green Deal Plan status in the GDCC changing from "NEW" to "CANCELLED"; l) Green Deals that are terminated at installation stage/before repayment commences as indicated by the Green Deal Plan status in the GDCC changing from "PENDING" to "COMPLETED".
Erroneous Registration Daily Report	Highlights the receipt by the GDCC of a valid notification of an Erroneous Registration from a Green Deal Licensee. The report includes GD Plan ID, MPAN, GD Licensee, Date of Erroneous Registration (EFSD Regi), Date Erroneous Registration Resolved.

9.4. The following reports will be generated by the GDCC and made available to the Green Deal Users.

User Details Report	Enables the MAU to download details of all their Authorised Persons (other than password).
Usage Report	To determine transaction levels for both individuals and groups of Authorised Person, including by user type and organisation.
Daily Late File Report	The late responding Market Participant will receive an email showing their own late replies. The email will include: a. Date of Flow; b. Number of days that the flow is now outstanding; c. MPAN; d. Green Deal Plan ID; e. Flow type and Subtype; f. Instruction Number; and g. Market Participant (who should reply).

10 Business Continuity/Disaster Recovery

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10.1. The GDCC Provider shall have the ability to remotely power all systems back up after systems have had a graceful shutdown.

10.2. Penetration testing of the GDCC infrastructure shall be undertaken at least once in each 12-month period, and a report provided to the Code Manager regarding the outcomes of this test, to include any observations or findings, and recommendations for any required remedial actions.

10.3. A test of the business continuity plan for the GDCC shall be undertaken at least once in every 12-month period, and a report provided to the Code Manager regarding the outcomes of this test, to include any observations or findings, and recommendations for any required remedial actions.

10.4. The GDCC disaster recovery plan ensures that the GDCC can be reinstated within 24 hours following a catastrophic loss of service. The disaster recovery plan will be periodically re-tested at least every six months.

11 System Audit

11.1. The GDCC will maintain audit information to provide an immediate view of who last changed the current record. The following information will be recorded::

(a) transaction identifier (a unique and sequential identifier assigned to each transaction, whether screen or batch);

(b) date of the creation;

(c) creator of the record (Authorised Person, flow type, message identifier);

(d) date of last update; and

(e) identifier of the record (Authorised Person, flow type, message identifier).

11.2. The system is capable of accommodating the scrutiny of formal and informal audits by RECCo (or its agent), or any other person legally entitled to carry out such an audit.

12 Data Handling

12.1. The GDCC shall maintain a record of all transactions that are processed. The information captured shall include:

(a) the unique transaction reference for any transaction initiated from the GDCC;

(b) relevant identifiers for all incoming transactions from Authorised Persons;

(c) timestamps; and

(d) the relation between each transaction and the next in a processing event (i.e.

where a transaction is generated, a response will be associated to it via the transaction references for both).

12.2. Where data is required to be stored, the GDCC shall maintain historical records for a period of 14 months following which they shall be maintained outside the database. Records in the database relating to the relevant Green Deal Bill Payer and that Green Deal Plan shall be maintained for a period of no less than seven years following the cancellation, early repayment, expiry or ending of a Green Deal Plan.

12.3. Where data is archived, it shall be available within 3 Working Days on request from Authorised Persons.

12.4. The GDCC shall prioritise data handling for time-critical data to ensure that the service levels in Paragraph 7 are met.

13 Security

13.1. Market Participant bank details and Default Bill Payer details shall be stored in the GDCC and shall be encrypted and maintained in a secure environment (including archived data). Encryption will be to 256-bit Advanced Encryption Standard.

13.2. The GDCC shall be capable of detecting unauthorised activity and shall:

(a) record successful and rejected system access attempts; and

(b) record all successful and rejected data.

13.3. All data transferred between the GDCC and EPC Registers shall be encrypted and transferred via a secure interface. Transport Layer Security (TLS v1.2) shall be used for web-based traffic.

13.4. The primary back-ups for the GDCC application set are located at a separate secure location to the production systems. Both the web and database servers and any primary back-ups shall be covered under an uninterrupted power supply system.

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