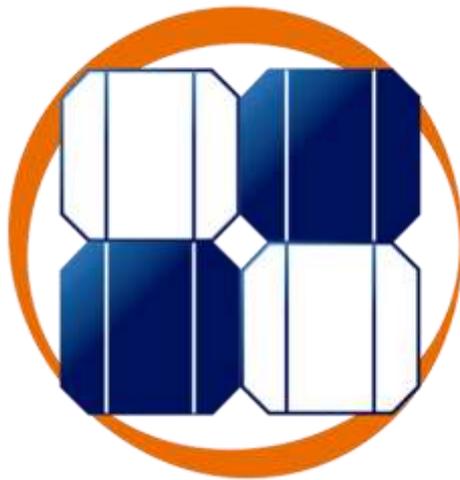


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CHESSET UP

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D2.3 Legislation reports

1. Introduction

Energy affects all aspects of life and the energy industry is a constantly evolving market with new policy, legislation, and directives being introduced by the government on a regular basis. Every project in any field should be developed and exploited under the requirements of the applicable legislations in order to accomplish and ensure that all the elements follow the mandatory rules.

The aim of this Deliverable is to elaborate a guide with all the normative frameworks required and necessary for the design, construction, and maintenance of the CHESSETUP system in the countries of the three different pilots.

It should be pointed out that there is very limited regulation in both the UK and Spain that relates specifically to large thermal energy storage systems. Hence, this report aims to explore the different legislation pertaining to the building fabric, construction, energy, equipment and the health and safety regulations that govern each of the Spain and UK pilots in both domestic and public installations. It also aims to summarise the regulations that affect or relate to the whole heat systems used in the CHESSETUP project.

The document is divided in two parts, one for each country, following a coherent order despite the small normative frameworks structure differences existing between each other. In each chapter the normative frameworks concerned are named and described in their latest version, making particular emphasis to the parts and technical instructions that may apply to CHESSETUP project.





2. Spain

2.1. The Spanish Technical Building Code

While talking about civil works, the *Código Técnico de la Edificación* or CTE is a normative framework that establishes the requirements that must be met by all the buildings in order to ensure the basic requirements defined by the Spanish Building Ordinance Law (LOE).

This set of legal regulations defines the objectives, exigencies and verifications that should be fulfilled in a construction work to be approved, even for new and existing buildings. The CTE is composed by different groups of regulations depending in if they refer to Security or Habitability. The use of all these legislations should be confirmed and contrasted with the *RealDecreto 314/2006* (RD) by which the CTE is approved.

Despite the CTE groups together almost all the building legislations of Spain, there are many others in use such as the EHE-o8 (Spanish Instruction of Structural Concrete) and NCSE (Seismic Legislation) not contained in CTE to be considered. In addition, CTE would be completed with the local and municipal regulation in any case.

Concerning the CHESSE-SETUP project, the different Basic Documents of the CTE should be taken into account, especially during the construction period in the civil works. Those are:

- Security:
 - DB-SE: Basic Document of Structural Security whose objective is to establish the basic exigencies and procedures that allow the compliance with the basic security exigencies, those are the legislations concerning Structural stresses in buildings (BB-SE AE), Foundations (DB-SE C), Steel (DB-SE A), Factory (DB-SE-F) and Wood (DB-SE-M). Depending on the civil works needed in each CHESSE-SETUP pilot and the structural construction or modifications required the legislations related should be taken into account.
 - DB-SI: Basic Document of Fire Safety, in order to minimize fire risks and establish the safety rules and procedures in case of fire in the installation. The DB-SI currently has 4 support documents (DA – DB-SI/1/2/3/4), the DB-SI M with the modifications of the RD 173/2010 and the DB-SI C with comments of the *Ministerio de Fomento* (December 2016) that should also be taken into account.
 - DB-SUA: Basic Document of Work and Accessibility Security to ensure the basic safety and accessibility exigencies as well as reduce all type of risks of the building users. The DB-SUA is also supported by 3 other documents (DA – DB-SUA/1/2/3) and the DB-SI M with the modifications





of the RD 173/2010 and the last version DB-SI C with comments of the *Ministerio de Fomento* (December 2016).

- Habitability:
 - DB-HS: Basic Document of Healthiness. Establishes the basic requirements of health and environmental protection such as waste, water supply, waste water, air quality, humidity, etc. Its last version (DB-HS C) comes with the comments of the *Ministerio de Fomento* (December 2016).
 - DB-HR: Basic Document of Noise Protection which restricts the damage that the noise may cause on building users. A part from its last version (DB-HR C – 23 December 2016) counts with the following documents of support: DB-HR/1 concerning acoustic insulation magnitudes, the application guide from December 2016, and the IEE Guide.
 - DB-HE: Basic Document of Energy Savings, one of the most important and related with the CHES-SETUP project. Its principal objective is establishing the rational use of the energy in buildings: energy consumption and demand (HE 0 and 1), thermal and illumination installation efficiencies (HE 2 and 3), minimum solar contribution for DHW (HE 4) and minimum photovoltaic contribution for electricity (HE 5). Its last version is from Mars 2016 and counts with 6 documents of support.

2.2. Thermal Installations in Buildings

Concerning the thermal energy legislation in buildings in Spain the *Reglamento de Instalaciones Térmicas en Edificios* (RITE) is the normative framework that regulates the design, the construction and the maintenance of heating and DHW production installations in buildings, establishing the exigencies of energy efficiency and security and determines the procedures to accomplish it.

In order to be consulted the last document is the RITE's Consolidated Version (*Reglamento de Instalaciones Térmicas en los Edificios Versión Consolidada*) of September 2013. It includes the latest version of the RD1027/2007 (20th July), with which the RITE is approved, with all the error corrections and modifications done on it since its publication in the B.O.E. (*Boletín Oficial del Estado*) the 29th July 2007.

RITE is basically composed of two parts:

- PART I: Contains de general provisions of the normative framework such as the general conditions of application of the RITE and the exigencies of wellness, healthiness, energy efficiency and security that must be accomplished.





- PART II: Comprised of all the Technical Instructions (*Instrucción Técnica* - IT) that establish the characterization of the technical exigencies, the values, procedures, verification methods, solutions, penalties, etc. The different points are summarised consecutively:
 - Design and dimensioning IT's: all the instructions concerning the verification procedures, all the documentation needed and characterisation and quantification of the exigencies of wellness, healthiness, energy efficiency and security.
 - Assembly IT's: all the instructions that establish the procedures that must be followed in order to do the placing in service tests of the thermal installations and their adjustments and balancing.
 - Maintenance and Use IT's: all the exigencies that must be accomplished by all the thermal installations in order to ensure that their functioning performs with the maximum energy efficiency ensuring the security, durability and environmental protection, as well as the exigencies established in the project of the final installation.
 - Inspection IT's: define the technical exigencies and procedures to follow in the inspections to be carried out in the installations.

Finally, despite the CHES-SETUP pilots in Spain will not use a borehole system the legislations that would be considered in that case are the RITE and the Ley22/1973, the Mines Law, in its latest version. Other secondary legislations to take into account would be RDL1/2001 and RD849/1986 for water and the Ley21/2013 for the environmental evaluation of the system. As well as some guides published by the Instituto para la Diversificación y el Ahorro de la Energía (IDEA) like the *Evaluación del Potencial de Energía Geotérmica, Estudio técnico PER 2011-2020* and the *Guía Técnica, Diseño de sistemas de intercambio geotérmico de circuito cerrado*.

2.3. Energy Efficiency Incentive Programs

In order to promote energy efficiency actions and projects many incentive programs have been approved by the IDAE (*Instituto para la Diversificación y el Ahorro de la Energía*), those incentives come from the Energetic Efficiency National Funds and the National State Budget. Some of these incentives come from Europe, those are the Fondos FEDER (European Regional Development Fund - ERDF) which are European Funds for the Regional Development given into the sustainable growth operational program 2014-2020 (also for the United Kingdom).

2.4. Spanish Equipment Regulations

Concerning the pressure equipment of the CHES-SETUP systems, the legislation applicable to them in Spain and that must be considered is the Reglamento de Equipos





a Presión (REP) in its latest version approved by the RD2060/2008 the 12th December 2008.

This normative framework regulates all the aspects related with the design, fabrication, commissioning, reparation, modifications and periodic inspections of pressure equipment with a maximum permissible pressure above 0.5bar. As well as the obligations, technical instructions, procedures, responsibilities and the project and installation companies requirements.

The Complementary Technical Instructions regulations for pressure equipment that also might be useful for the CHES-SETUP are:

- *ITC-MIE-AP-01: Calderas, Economizadores, Precalentadores, Sobrecalentadores y Recalentadores* – Concerning hot water production.
- *ITC-MIE-AP-02: Tuberías para Fluidos Relativos a Calderas* – Concerning hot water piping systems.
- *ITC-MIE-AP-05: Extintores de Incendios* – Concerning fire extinguishers.
- *ITC-MIE-AP-11: Aparatos Destinados a Calentar o acumular Agua Caliente Fabricados en Serie* – Concerning hot water storage.
- *ITC-MIE-AP-13: Intercambiadores de Calor* – Concerning heat exchangers.

Meanwhile, concerning an important part of the CHES-SETUP system which is the Heat Pump, a normative framework to take into account concerning the refrigerating system is the *Reglamento de Seguridad para Instalaciones Frigoríficas (RD3099/1977)* whose newest version was approved by the RD138/2011 the 4th February 2011 with its complementary technical instructions.

Its main objective is to define the conditions that must be accomplished in the refrigerating installations in order to ensure and improve the safety measures all the people and elements. This normative framework includes:

- The classification and use of the refrigerants.
- Construction and assembly of the refrigerating installations and their protection (materials, etc.).
- Suppliers, installers, maintenance companies, authorized personnel, and holders instructions and requirements.
- Safety installation instructions.
- Obligations and Penalties

On the other hand, for all the stuff of the CHES-SETUP installation related with electricity the *Reglamento Electrotécnico para Baja Tensión REBT* (Low voltage electrotechnic regulation) is the normative framework to consult in Spain.

REBT establishes the technical conditions and guarantees that must have the electrical elements and installations connected to a source of supply with the following voltage limits: lower or equal to 1.000V for alternating current and lower or equal to 1.500V for direct current. The objectives are to preserve the security of the people and equipment,





ensure the correct function of the installations, contribute to technical feasibility, ensure the economic efficiency and prevent the disturbance of other installations and services.

The normative framework applies to:

- New installations, their modifications, and extensions.
- Existing installations after a modification, repair or extension.
- Inspections of existing installations.
- Installations whose state or characteristics may present a risk for people or other elements functioning.

The last version of REBT was approved through the RD 842/2002, the 2nd August 2002 replacing the ancient 2413/1973 approved in 1973. The 12th December 2014 the RD1053/2014 approved a new instruction in the REBT concerning electrical vehicles charge.

This last version maintains the old structure and is divided into two parts. On one hand, the first part contains 29 Articles concerning legal and administrative subjects of the installations; on the other hand, the second part is focused on the technical subjects and is composed of 52 Complementary Technical Instructions or ITC's (*Instrucciones Técnicas Complementarias*) concerning the installations, elements connected, UNE references, installation crew requirements and additional prescriptions for specific uses and characteristics.

2.5. Health and Safety Regulations in Spain

Even though almost all the previous normative frameworks have distinct safety and prevention chapters, in Spain, there is the LEY 31/1995 in relation to the occupational risk prevention, with its most recent version approved in December 2014.

This normative framework establishes all the measures and procedures that must be carried on in any work and installation, even if the installation is under construction, maintenance or function. It is structured in a large number of Articles concerning scope and application, risk prevention policies to ensure safety and healthiness at work, rights and obligations, prevention services, consultation and participation of the workers, producers and supplier's obligations and responsibilities and penalties.

At the same time, another point to take into account in the health and environmental field is the Legionella. While talking about legionella in Spain, the legislation that regulates it is the one approved by the RD 865/2003 by which the criteria hygienic-sanitary for the prevention and control of legionellosis is established. Its last modification was in 2010 with the RD830/2010.

The main chapters of the normative frameworks to be considered for the CHES-SETUP, especially considering the DHW systems, are the notifications to the health authorities, the installations owner's responsibilities, the maintenance operations registration and programs, general and specific preventive measures, the prevention of





occupational risks, health inspections, procedures in case of legionellosis detection, installation actions, installation treatment methods and infringements and penalties.

3. United Kingdom

3.1. Building Regulations in the United Kingdom

Prior to any building construction, projects must first seek Building Regulations Approval, in line with UK Building Regulations and the UK Building Act 1984.

These building regulations govern different requirements of the construction of buildings, with the most recent Building Regulations being commissioned in 2010. These regulations are split into 15 headings, with the most recent being added in 2015 (Security).

It is also worth noting that the UK itself experiences differences in the building regulations and building act. While England and Wales abide by the Building Act 1984, Scotland's building regulations are set out in the Building (Scotland) Act 2003.

The most relevant part of the building regulations to the CHESS-SETUP project is the Part L. Conservation of Fuel and Power. This regulation looks at insulation of buildings, energy efficiency, and hot water storage. It also addresses the Carbon Emission Targets and the requirements for Standard Assessment Procedure (SAP) calculations.

This Part L building regulatory framework is split into 4 parts: L1A New Dwellings, L1B Existing Dwellings, L2A New Buildings other than Dwellings, and L2B Existing Buildings other than Dwellings. All parts are similar, so we will focus on L1A New Dwellings, as this is most relevant to the UK Pilot for CHESS-SETUP. Part L1 is supported by the Domestic Buildings Compliance Guide, which is discussed below.

Building Regulation 25A

One particular Building regulation to highlight is Building Regulation 25A, which directly relates to thermal storage and heat pumps. Building Regulation 25A states regulation around the consideration of high-efficiency alternative systems for new buildings (4. Source: Approved Document L1A: Conservation of fuel and power in new dwellings). While it does not require high-efficiency alternatives are installed, it does provide guidance towards the analysis that should take place when these systems are to be installed, and whether this analysis is included in the building design. Specifically, they state that the person carrying out the work must analyze the technical, environmental and economic feasibility of using high-efficiency systems before construction of a new building. These systems can include:

- Decentralized energy supply systems based on energy from renewable sources
- Cogeneration
- District or block heating or cooling





- Heat Pumps
- Other low and zero carbon systems that are not listed above.

On the other hand, there is also the Domestic Building Services Compliance Guide, a publication by the UK government which provides guidance on the design, installation and commissioning of building services in new and existing properties in order to support the compliance of energy efficiency requirements of the Building Regulations. It aims to support the Approved Documents L1A: Conservation of fuel and power in new dwellings, and L1B: Conservation of fuel and power in existing dwellings. These approved documents are a Government publication designed to give practical guidance of how to meet the requirements of Building Regulations 2010 for England.

Section 9

Chapter 9 of the Domestic Building Services Compliance Guide gives guidance for warm and hot water heat pumps. It states that “heat pump systems are at their most efficient when the source temperature is as high as possible, the heat distribution temperature is as low as possible and pressure losses in air and water system are kept to a minimum”. It also cites that heat pumps should comply with the EU Directive 2037; 2000 in the use of their refrigerants.

It also provides guidance with how to comply with other EU directives in the CE marking of the heat pumps, such as the machine safety and low voltage directives.

Section 11

Section 11 of the Domestic Building Services Compliance Guide is also relevant for thermal storage. It addresses the use of Solar Water Heating and indirect solar systems. The UK pilot will be using an indirect solar system, which is more appropriate than direct systems for colder climates, and circulates a fluid (usually a glycol mixture) between a solar thermal collector and a heat exchanger that heats the water, instead of a direct system that passes water through the thermal collector to heat it.

The Domestic Building Services Compliance Guide highlights minimum standards for this indirect solar water heating. These include the products storing the heated water, insulation requirements of the hot water storage systems, and the minimum standards for the volume of solar pre-heated water storage. Additionally, the guide also addresses the labeling requirements for the storage of solar pre-heated water.

3.2. Energy Performance Certificates and the Environment Agency

According to the Regulation 7A of the Energy Performance of Buildings (England and Wales) Regulations 2012, owners of new dwellings must be given an energy performance certificate by the person who carried out the work on the dwelling.

These energy performance certificates (EPCs) gives a dwelling a rating from A to G based on its energy efficiency and is valid for 10 years. They give the owner the





estimated energy cost of the property and give the potential rating that the dwelling could achieve if it makes certain energy efficiency improvements.

The Environment Agency also provides a framework that addresses thermal storage with their 'Environmental good practice guide source for ground source heating and cooling'. This guide covers good practice and legislative requirements for both open and closed loop ground source systems in terms of location, excavation and drilling, and good practice for pollution prevention and installation of closed-loop schemes. As the UK (Corby) Pilot Borehole Thermal Energy Storage is closed loop, we will focus on this aspect of the guide.

The Environment Agency guide also highlights that these Ground Source Heating and Cooling systems, as seen as part of the Corby Pilot, should be distinguished from deeper geothermal schemes, which can be several kilometres deeps and use the internal heat of the earth as a thermal energy source, whilst GSHC schemes are much shallower at only a few meters.

Whilst this framework provides guidance for the good practice of these closed-loop schemes, there is currently little regulation around these schemes, and permits are only required for open loop schemes. Nevertheless, the Environment Agency highlights the main environmental risks with these schemes that affect both open and closed loop GSHC systems. These include:

- The possibility that GSHC systems can result in undesirable temperature changes in the ground. However, it is worth noting that the Corby pilot does not only draw heat from the ground but recharges the ground when storing heat energy in the boreholes.
- Drilling can result in the interconnection of different aquifers, which can affect water quality or flow.
- Closed Loop systems may contain thermal transfer fluids which are toxic. These could then pollute groundwater if they leak.

As a result, the guide states that the Environment Agency should be contacted by the developers of the closed loop scheme if there may be environmental risks, such as the scheme being within a groundwater source protection zone. However, there is no formal need to obtain consent from the environmental agency for a closed loop scheme.

3.3. The Renewable Heat Incentives

The Renewable Heat Incentive (RHI) is a UK Government Scheme that provides financial incentives to homes, communities, and businesses for the generation of heat through renewable sources. Established in April 2014, it is the first of its kind in the world. It was set up to help fulfill the governmental aim of having 12% of the heat coming from renewable sources by 2020.





The UK Government Department of Business, Energy, and Industrial Strategy makes key policy decisions for the scheme, however, the scheme is managed and regulated by the UK energy regulator Ofgem.

The Renewable Heat Incentive is split into two different schemes; Domestic RHI and Non-Domestic RHI. Both Schemes have different application processes and joining conditions, and both will be discussed in further below.

The Domestic RHI is a scheme that aims to encourage homeowners to uptake renewable heat technologies. The Domestic RHI offers people who join the scheme quarterly payments for seven years if they comply with the scheme's rules. It only applies to single homes, and houses that receive renewable heat through the same source (e.g. a community scheme) must apply for the Non-Domestic RHI scheme.

The renewable heat systems that are eligible for the Domestic RHI include the ground source heat pumps and solar thermal panels. The solar panels are only able to provide hot water for the home and not space heating in order for it to be eligible for RHI. However, it is the inclusion of these technologies that make this applicable for the CHES-SETUP project.

Although the pilot homes of the CHES project will not be able to claim RHI as the European Grant prevents the claiming of further government funding, however, this means that any future replications of the CHES-SETUP renewable heat system in the UK will be able to apply for this financial incentive.

The Non-Domestic RHI scheme is a governmental incentive to increase the use of heat energy from renewable sources for businesses, the public sector, and non-profit organisations. Eligible Non-Domestic RHI installations receive the get quarterly payments for 20 years as against 7 years for the domestic RHI.

3.4. UK Equipment Legislations

The Microgeneration Certification Scheme (MCS) is a quality assurance scheme that certifies technologies that are used to produce heat and electricity from renewable sources. This scheme is supported by the UK Governmental Department for Business, Energy, and Industrial Strategy.

The MCS not only certifies microgeneration products, but also the installation companies themselves. This is to ensure that the products are installed and commissioned to the highest standard. The products covered by the MCS include electricity generating sources with a capacity of up to 50kW, and heat generating sources with a capacity of up to 45kW. The technologies covered by MCS include:

- Ground Source/Water Source Heat Pumps
- Solar Thermal
- Solar Photovoltaics





While the Microgeneration Certification Scheme is not a UK regulation, it is a certification that is supported by both the industry and the UK government, acting as a standard for high quality, and ensures that consumers of these products receive consumer protection from MCS accredited installers and a high-quality service.

Furthermore, the MCS is linked to governmental financial incentives for renewable technology, including the Feed-In Tariff and the Renewable Heat Incentive scheme. Without MCS certification, a person cannot apply for these government incentives, and so MCS accreditation is a way for the UK government to regulate the standards of renewable energy generation products.

Chapter 9 of the Domestic Building Services Compliance Guide provides guidance on the specification of heat pump systems in dwellings for the provision of space heating and domestic hot water (DHW) to meet relevant energy efficiency requirements in building regulations.

Also, Chapter 9 requires heat pumps to be CE marked in accordance with applicable EU Directives: e.g. the machinery safety, low voltage, pressure equipment and electromagnetic compatibility directives. It also cites that heat pumps should comply with the EU Directive 2037; 2000 in the use of their refrigerants.

The UK Pilot will be using an indirect solar system, which is more appropriate than direct systems for colder climates and circulates a fluid (usually a glycol mixture) between a solar thermal collector and a heat exchanger that heats the water, instead of a direct system that passes water through the thermal collector to heat it. The indirect solar heating system employed is covered under the 'Domestic Building Services Compliance Guide, Chapter 11' which highlights minimum standards for this form of indirect solar water heating. These include the products storing the heated water, insulation requirements of the hot water storage systems, and the minimum standards for the volume of solar pre-heated water storage. Additionally, the guide also addresses the labeling requirements for the storage of solar pre-heated water.

3.5. Health and Safety Legislations in the United Kingdom

The UK also holds legislation around preventing accidents at work and ensuring the health and safety of employees, employers, and contractors. The most prominent of these is the Health and Safety in Work etc. Act 1974.

Health and safety is also a prevalent theme in other UK regulation around Thermal Storage and Energy Generation. The MCS addresses health and safety as a factor for installers. To be a qualified MCS accredited installer, employees are expected to comply with health and safety rules, and in order to fit the competency criteria, installers must have a Health and Safety Co-ordinator.

Finally, the Health and Safety Executive (HSE) provides specific guidance regarding Legionella Risk Assessments for residential accommodation. The Control of Substances Hazardous to Health Regulations 2002 also provide a framework of actions





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designed to assess, prevent or control the risk from bacteria like Legionella and take suitable precautions. The Approved Code of Practice: Legionnaires' disease: The control of Legionella bacteria in water systems (L8) contains practical guidance on how to manage and control the risks within the system.





4. Conclusion

The aim of this report has been to provide useful information and general guidelines in order to consult the main normative frameworks that must be taken into account during the design, construction and exploitation phases of the CHESSE-SETUP pilot's project in the United Kingdom and Spain. Notably, the regulation related specifically to large thermal energy storage systems are very limited in both countries. Nevertheless, the document brings together all the normative frameworks regarding construction works and energy in buildings, system elements regulations and certificates and health and safety legislations.

Concerning regulations in buildings the two main normative frameworks to consider in Spain are the *Código Técnico de la Edificación* or CTE (Technical Building Code) and the *Reglamento de Instalaciones Térmicas en Edificios - RITE* (Regulation on Thermal Installations in Buildings). The first one defines the objectives, exigencies and verifications that should be fulfilled in a construction work to be approved, even for new and existing buildings. The document is formed by many Basic Documents that may specially apply to CHESSE-SETUP design and construction period. The second one regulates the design, the construction and the maintenance of heating and DHW production installations in buildings, establishing the exigencies of energy efficiency and security.

For the UK, projects must first gain Building Regulations Approval, which shows that the project complies with UK Building Regulations and the UK Building Act 1984 that govern different requirements of the construction of buildings. Out of the building regulations the UK Building Compliance is divided in many parts and sections, some of them very relevant to the CHESSE-SETUP project, supported by the Domestic Buildings Compliance Guide. A part from this, owners of new dwellings must be given an energy performance certificate by the person who carried out the work. Finally, the Environment Agency also provides a framework that addresses thermal storage with special attention to their environmental good practice guide source for ground source heating and cooling in the case of Corby's Pilot.

Also, the incentive programs promoted by the governments are an existing tool to promote energy efficiency actions and projects as well as renewable energies use. While in the case of Spain few incentive programs have been approved, in UK, one important support framework for heat generation is the Domestic and Non-Domestic Renewable Heat Incentive (RHI). RHI is a key policy driver in incentivising renewable heat generation and encouraging home-owners and businesses to install renewable technology. As such, any future replications of the CHESSE-SETUP renewable heat systems can apply for renewable heat incentives.

Also, other normative frameworks should be considered with regards to the CHESSE-SETUP system elements. For Spain, to be considered is the *Reglamento de Equipos a Presión* (REP) that regulates all the aspects related with pressure equipment by many technical instructions concerning hot water production equipment, pipes, tanks or heat





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exchangers, etc., *Reglamento de Seguridad para Instalaciones Frigoríficas* concerning the refrigerating system of the heat pump and the *Reglamento Electrotécnico para Baja Tensión* REBT for all the stuff of the Chess-Setup installation related with electricity.

In the case of the UK, chapters of the Domestic Building Services Compliance Guide provide guidance on the different elements of the system, such as Chapter 9 in relation to the heat pumps and chapter 11 in relation to the solar and energy storage systems. The UK Government Department for Business, Energy, and Industrial Strategy supports the Microgeneration Certification Scheme that certifies technologies that are used to produce heat and electricity from renewable sources.

Finally, notwithstanding the fact that all the normative frameworks have their own safety and prevention, chapters within both country's legislation have their own legislations regarding occupational risk prevention as well as specific legislation and guidance concerning legionella which should be considered by the pilots that use CHESSE-SETUP system for DHW production.





5. Acronyms

CTE: Código Técnico de la Edificación (Technical Building Code)

DB: Documento Básico (Basic Document)

DHW: Domestic Hot Water

GSHC: Ground Source Heating and Cooling

HSE: Health and Safety Executive

IDAE: Instituto para la Diversificación y el Ahorro de la Energía (Institute for Energy Diversification and Saving)

IT: Instrucción Técnica (Technical Instruction)

ITC: Instrucción Técnica Complementaria (Complementary Technical Instruction)

MCS: Microgeneration Certification Scheme

RD: Real Decreto (Royal Decree)

REBT: Reglamento Electrotécnico para Baja Tensión (Low Voltage Electrotechnic Regulation)

REP: Reglamento de Equipos a Presión (Pressure Equipment Regulation)

RHI: Renewable Heat Incentive

RITE: Reglamento de Instalaciones Térmicas en Edificios (Regulations of Thermal Installations in Buildings)

SAP: Standard Assessment Procedure





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