Business Context

The Problems being solved for Rolsa Technologies have varying reasons behind them.

Allow users to schedule consultations—The problem being solved here is that customers struggle to learn and get advice on different green solutions. By implementing an online booking system, users have a convenient way to schedule a consultation and get tailored advice on what green energy solutions are best for them, reducing their wait time and improving the user experience and satisfaction.

Provide customers with a way to schedule installations - The problem being solved here is the confusion and struggle when arranging an installation. By including an online scheduling system, customers have easy access to pick a date and schedule the consultation from anywhere, improving the booking process's efficiency and ease of use.

Provide customers with a way to calculate their carbon footprint – The problem being solved here is that many people are unaware of their own carbon footprint and how bad it is. By educating customers on their carbon footprint, they will realize the damage they are doing to the environment which allows them to make informed decisions and may prompt them to switch to more reliable energy sources.

Provide information about various green energy products – The problem being solved here is the lack of knowledge about the different green energy products leading to customers unknowingly missing out on products they might want or being hesitant to invest in them. By including information about these products users can learn about various products they might not know about which allows them to make informed decisions when purchasing.

Provide information about ways to reduce their carbon footprint – The problem being solved here is that most people don't know many ways to reduce their carbon footprint. By informing users about this topic, they may realize ways to implement green energy into their lives and reduce their carbon footprint.

Provide users with a way to track their energy usage – The problem being solved here is that users don't have a safe way to track their energy usage. By implementing a way to do this online, they can easily access and view their past energy usage anywhere and make informed decisions based on it. Also, it is secure and hard to lose as it is online.
Allow customers to register an account – The problem being solved here is customers not having the ability to see their past and upcoming consolations, and installations and view their

past energy usage in one secure place. By including account registration customers can see their personal history on the platform making it easy for them to track their own energy usage and view upcoming consultations so they don't forget. This also ensures users can only see their data as it is linked to their account and encrypted behind a hashed password.

Accessibility features for a wide range of users - The problem being solved here is the exclusion of users with different abilities and complying with regulations like W3Cs. This allows the company to reach a wider audience and comply with regulations and guidelines.

Empathy Map

Speaks:	**Thinks:**
- I wonder if I would benefit from solar panels? - I need someone to install an EV (Electric Vehicle) charging point at my house. - I don't think my carbon footprint is that bad. - All green products that help the planet are way too expensive. - I don't know how to reduce my carbon footprint? - I can't remember how much energy I used last month. - I can't keep track of all these apps, I have to track my energy usage, calculate my carbon footprint and manage my green energy consultations.	- I hope there is someone I can talk to about getting solar panels on my house. - I wish I could easily get someone to fit an EV charging station. - I hope there is a way I can calculate my carbon footprint? - I can't reduce my carbon footprint because solar panels cost too much. - I wonder if there is a site that can tell me how to reduce my carbon footprint. - I wonder if I'm being overcharged for my energy usage. - I wonder if there is a place where I can manage all my energy needs in one place?

- I can't see the text on most websites as it's too small.	- I wish there was a website where i could increase the text size
Dose: - Is ignorant about solar panels and losses money that could be saved with solar panels. - Is on calls for hours trying to answer questions and sort out dates to get an EV charging point fitted. - Doesn't have any green products and has a bad carbon footprint - Increases her carbon footprint without knowing. - It doesn't reduce their carbon footprint and damages the environment. - Get overcharged for their energy usage. - Uses multiple websites and apps to manage their green energy needs. - Can't read most websites properly and must zoom in a lot.	**Feels:** - Confused and ignorant. - I was frustrated and annoyed with the booking process. - Worried that they are damaging the planet. - Stressed and guilty for damaging the environment. - Confused about how to reduce their carbon footprint - Concerned and anxious they might be being overcharged for their energy usage. - Confused and forgetful due to all the different apps and websites they must use. - Frustrated due to the inability to read a website's information properly.

Project Aim

This project aims to develop a functional and user-friendly web application that provides a built-in energy tracker and carbon footprint calculator. While also allowing users to schedule consultations and installations for various products. It should also implement account registration so customers can manage their consultation data; this will also ensure customer data is kept private and secure. Furthermore, the solution must have informative pages that educate users on different green energy products and ways to reduce their carbon footprint. The platform will prioritize accessibility, ensuring that users of all abilities can easily interact with the service, and will provide a seamless, inclusive experience for a wide range of users.

Functional Requirements

Functional Requirements	**User Storys**	**Justification**	**User Acceptance Criteria**
The solution must allow users to schedule consultations	As a new customer, I want to schedule a consultation so that I can get recommendations on what green energy options would be best for my home.	Allowing an expert to provide consultation services will ensure the customer gets the best products that are tailored to their needs. This will result in the customer satisfaction rate increasing and the customer getting the most out of their money. Also, by having it online the scheduling process is made simple and easy to access for customers while also reducing the risk of human error like double bookings.	Users can easily access the "consultation" page from the main navigation. There should be a schedule consultation button on the page. Users can select the product the consultation is about. Users can select a date and time for the consultation. Users can enter their contact information. Users can enter their address. The solution must validate the required fields. The solution must validate fields are in the correct format The solution should save the bookings for users to view at later dates. Users should be able to cancel or reschedule consultations.

			Admins should be able to view all consultations User's personal details must be stored securely The solution must only allow admins to see all consultations booked Customers should only be allowed to view their own installations The page must comply with the Web Accessibility Guidelines (WCAG) e.g. keyboard navigation, adjustable text size, high contrast mode. The solution should not allow users to book two consultations on the same date.
The solution must allow users to schedule installations	As a returning customer I want to schedule an installation for solar panels so that I can arrange a time for installation to ensure it is hassle free.	By allowing users to schedule an installation online they can choose a date and time that is best for them, making the entire process simple and convenient, which will improve the	Users must be able to access the “installation” page. There should be a schedule an installation button on the page.

		user experience and satisfaction. This also means users can book an installation at anytime from anywhere making it easily accessible to the user, which increases the number of possible bookings for the company. Finally, because the entire process is handled online staff will have more free time to work on other tasks, increasing the efficiency of their workplace.	Users should be able to select the product for the installation e.g. solar panels, EV (Electric Vehicle) charging point. Users can select a date and time for the installation. Users can enter their contact information. Users can enter their address. The solution must validate the required fields. The solution must validate fields are in the correct format The solution should save the bookings for users to view at later dates. Users should be able to cancel or reschedule an installation. Admins should be able to view all installations User's personal details must be stored securely in

			compliance with the Data Protection act The solution must only allow admins to see all installations booked Customers should only be allowed to view their own installations The page must comply with the Web Accessibility Guidelines (WCAG) e.g. keyboard navigation, adjustable text size, high contrast mode. The solution should not allow users to book two consultations on the same date.
The solution must allow users to calculate their carbon footprint	As someone who is trying to lower their carbon footprint, I want to calculate my carbon footprint so that I can see if I need to reduce it.	Many individuals are ignorant about how many of their activities contribute to their carbon footprint. This feature would educate the user on this topic so they can make informed decisions. Also, this would reinforce the many benefits of having green energy, which would push	Users must be able to easily access the "carbon footprint calculator" page from the main navigation. The solution must prompt users to input the relevant data. The solution must validate required fields.

		users closer to scheduling a consultation or installation and boost the company's revenue. Finally, this feature would offer a unique selling point, encouraging users to keep coming back to track their progress and improving the company's brand awareness.	The calculator must generate results instantly with an estimate. The solution should provide personalized advice based on the estimate. The page must comply with the Web Accessibility Guidelines (WCAG) e.g. keyboard navigation, adjustable text size, high contrast mode.
The solution must provide information about green energy products	As a new homeowner I want to explore and learn about different green energy products I could add to my home so that I can lower my carbon footprint.	This feature will educate users on the variety of products available, making them more likely to find one they want to integrate one into their life. Furthermore, by having this feature the website will be able to attract users that are already interested in green energy, increasing the number of potential customers on the website. Finally, user satisfaction will increase due to the added value this brings to the site.	Users must be able to easily access the “green energy” page from the main navigation. The page must include a variety of products like solar panels, EV charging stations and smart home management systems. The information on the page must be clear and easy to read. The information must contain images. The products on the page must have product descriptions,

			benefits, potential savings and the expected CO2 reduction per year. The page should comply with the relevant WCAG guidelines as it is industry standard.
The solution must provide information about how customers can reduce their carbon footprint	As a returning customer I want to learn about different ways I can reduce my carbon footprint so that I can help the environment.	This feature will inform users on how they can reduce their carbon footprint. This shows users a clear path to reduce their carbon emissions, which adds value to the site and makes people more likely to return to the site for more guidance. Furthermore, it also would make the site a trusted source for environmental information, improving the company's	Users must be able to easily access the “reduce your footprint” page from the main navigation. The page must contain comprehensive information about how users can lower their carbon footprint. The information must be clear and easy to read. The information must contain images.

		credibility and brand awareness.	The page must comply with the Web Accessibility Guidelines (WCAG) e.g. keyboard navigation, adjustable text size, high contrast mode.
The solution must allow users to track their energy usage	As a homeowner I want to track my energy usage so that I can see if my green energy products work.	This allows users to visualise their energy usage. This unique selling point would motivate them to continually use the site, improving user engagement and brand awareness while also promoting the use of green energy, as users will want to reduce their energy usage and save money. Finally, this would also allow users who have had green energy solutions installed to see the effects of it and how it can reduce their energy usage.	Users must be able to easily access the "energy tracking" page from the main navigation. The page must display the user's past energy usage as a graph. The solution must allow the user to filter the graph by date. The solution must display recommendations based on the user's energy usage. The solution must display the user's average energy usage. The solution must have a button for users to make another energy log. The solution must prompt the user to

			enter the relevant data. The solution must validate the required fields. The solution must validate that the data entered is in the correct format. The solution must update the graph in real-time when an energy log is added. The page must comply with the Web Accessibility Guidelines (WCAG) e.g. keyboard navigation, adjustable text size, high contrast mode.
The solution must have account registration	As an existing user I would like to view the date of my upcoming consultation so that I don't miss it.	By implementing account registration, the solution can offer a better user experience and functionality as it allows the site to save bookings and energy-tracking logs, meaning the user can view them at later dates and modify them. This will also create a more secure experience for the user and help the site comply with the different data protection laws like	The solution must have a home page. The solution must allow users to register using their email and choose their password. The solution must validate the required fields. The solution must verify the user's email. The solution must save the user’s data to the database.

		GDPR and DPA, as users will only be able to see their own bookings and energy logs. It will also reduce the risk of people gaining unauthorized access to a user's personal data as it will be encrypted behind hashed passwords.	Registered users should be able to log in using their email and password. The system should support password and email updates. Registered users should be able to delete all their personal information. Registered users should be able to view, update or delete current consultations, installations and energy tracking logs. User passwords must be encrypted securely using password hashing. The solution must comply with relevant data protection laws. The page must comply with the Web Accessibility Guidelines (WCAG) e.g. keyboard navigation, adjustable text size, high contrast mode.

The solution must have accessibility features	As a user with accessibility needs, I want to use high contrast mode so that I can read the information on the site.	By including accessibility features, the site gives users the ability to enhance and change their experience in multiple ways to fit their needs, which ensures it complies with the WCAG guidelines. This means the site can be used by more users which means the sites traffic increases and so does the company's potential customers.	Users must be able to easily access the accessibility settings from every page. All images must include alt text. The solution must be fully responsive. Users must be able to easily enable high contrast mode. Users must be able to easily enable dark and light modes. Users must be able to change font size. Users must be able to easily enable text-to-speech. Content must be clear and easy to read. The error message must be descriptive. The solution must comply with the relevant WCAG guidelines. Accessibility features must be persistent, meaning users don't have to re-enable them after a page re-loads.

Non-Functional Requirements:

Performance		
Non-Functional Requirement	KPI	Justification
The solution should provide high performance through page loading times by ensuring they are fast and timely.	All Pages should load in under 2s.	This is because even minor delays can cause the user to leave the site and find another. This will mitigate that by ensuring the website meets industry standards, making it competitive, and improving overall customer satisfaction and retention rate.
Videos and images should load quickly after the page has loaded.	Images and videos should load in under 5s.	Users are already accustomed to fast load speeds due to the industry standard, so by meeting that standard, the risk of the user getting frustrated with load times, which could result in them exiting the site, is mitigated. Furthermore, due to the pages having fast load times, the images also having them will create a consistent experience on the site for the user
All images should be high quality without effecting the loading speeds.	The images should be at a minimum of 1920 x 1080 pixels.	This will provide the user with a more visually appealing experience and make the site look professional without damaging loading speed

		times. Resulting in users trusting the website and the information that is on it. This will improve the brands credibility which will result in users coming back to the site.
The energy usage graph should display updated information within 5 seconds of it being requested.	Data retrieval requests must be fulfilled within 5s.	Users must be able to view and track their energy usage without delay to promote a seamless user experience. This will improve the website and user efficiency and help to keep the user engaged in the content, which will prompt the user to return to the website in the future while also increasing customer satisfaction.

Scalability		
Non-Functional Requirement	KPI	Justification
The system should be built for scalability, ensuring it can sustain sudden traffic spikes, such as if energy bills drastically rise.	The website performance should stay consistent during peak times without lag or crashing.	This ensures that even during peak times, the website is still accessible, maximising the potential customer base during the spike. Furthermore, as the company grows, so will the website user base, which requires the system to handle more users. By making it scalable from the start, it is already ready for

		when the company grows, reducing errors or downtime when it eventually does.
The code should be easily maintained and understandable by others.	A third party should be able to understand and maintain the code after a week of review.	This allows for fast and efficient updates by others not familiar with the code and allows third-party collaborators to help develop the code. This means that if the project is handled by two other developers, they will be able to continue development without any issues. Furthermore, the code will also be easy to maintain and update, reducing downtime when changes are being made.
The system should be designed for fast integration of new services.	Intergration time for new services shouldn't be longer than 3 weeks.	Due to the fast-changing nature of the industry, they are likely to require new services included in their site to meet demand. This would allow a timely response to this demand with quick integration of new services which would also allow them to stay ahead of competitors without this they risk falling behind company's who can adapt to industry changes and new features.

Capacity		
Non-Functional Requirement	KPI	Justification
It must also be able to handle high traffic volumes at once like multiple people attempting to register an account at once.	There shouldn't be any complaints of delay or errors when multiple user attempt to register an account.	By designing the system to handle high traffic spikes like multiple users trying to register an account, the risk of a system overload, which would lead to downtime or crashes, is mitigated, which would improve the user's experience on the site, leading to higher retention rates.
The energy tracker should be able to handle a large amount of user without compromising its performance.	The energy tracking system must support at least 1,000 users logging and retrieving energy data without damaging the systems performance.	Users expect instant access to their data, and if the system cannot provide that, users are likely to stop using the website as it becomes an inconvenience. By having fast response times, the system reduces frustration and encourages user satisfaction. Furthermore, this ensures the system can handle growth without major changes being made to the code, essentially future proofing the site, which will result in lower costs in the future for fixes and updates. This also allows the site to keep up with industry

		standards and user expectations.
The solution should support a heavy load of active users while maintaining reliability and responsiveness under heavy load.	The solution should be able to run with no lag at a maximum of 200,000 active users.	This will ensure users can still access the site even under peak traffic and will create a smooth and consistent user experience. Furthermore, this will also reduce the amount of down time and crashes which will result in users trusting the website and coming back to it in the future.
The solution must have robust data storage of 100TB.	The solution should be able to store up to 100TB without affecting performance.	This will ensure fast data retrieval without effecting performance ensuring a fast and efficient users experience reducing the chance of users getting frustrated. Furthermore, this will also account for the website's growth over time allowing many users to create accounts and store data before more storage is required which reduces constant maintenance costs and potential down time required when adding extra storage.

Reliability

Non-Functional Requirement	KPI	Justification
The solution should be designed to mitigate downtime and crashes providing uninterrupted service to customers.	The website should have a 99.99% uptime.	This follows the industry standard ensuring the site is almost always accessible. This will help grow the users trust in the site making them more comfortable to store important information on it as they know it is reliable. This will help the site gain long-term returning users and improve their trustworthiness and credibility towards customers.
The system must have a crash recovery plan to minimise downtime and ensure full site recovery.	The solution should take no longer than 30m to get back online.	If there was not a recovery plan in place any crashes would result in extended periods of down time stopping users from booking consultations and instillations. By having one it reduces downtime and allows business operations to continue functioning boosting revenue. Finally, a website that can recover from downtime fast increases customers confidence in the website there using.
The solution should always provide up to date information ensuring the validity and reliability of the information on the website.	The solutions information should be checked and updated weekly.	This will ensure all the information on the website is correct and up to date which prevents the site from showing misinformation which would damage

		the company's reputation and trustworthiness. This will allow users to trust the information on the site resulting in the brands credibility increasing. Finally, many environmental sectors are governed by government policy's which can constantly change this will ensure the sites with all the environmental policy's, rules and regulations.

Security		
Non-Functional Requirement	KPI	Justification
The solution must make use of secure authentication methods.	100% of user passwords must be encrypted using a secure hashing algorithm.	Implementing this helps the website comply with various data protection laws like the Data Protection Act while also reducing the risk of hackers gaining unauthorised access to users' private data, making the solution more robust, and more users will be confident providing their personal data, allowing the company to grow a larger customer base.

The solution must include role-based authentication.	100% of user specific data only be accessible by authorised accounts.	By only allowing users to see their own data, e.g. consultations, the site is complying with the different data protection and privacy laws like the DPA and GDPR as it keeps data private and safe from data leaks while it also reduces the chance of unauthorised personal gaining access to user's personal data which improves the credibility of the site. It also allows users to have a personalised experience tailored to them, improving user satisfaction with the site. Furthermore, it allows the admins to view all bookings, allowing them to better manage customers in a centralised location.
The solution must include protection against SQL Injections.	0 successful SQL injections while penetration testing.	This will reduce the chance of data leaks and hackers accessing unauthorised access to data and will help ensure data protection and integrity driving user trust. Furthermore, SQL injections have the capability to crash the system causing downtime and loss of revenue this will mitigate that risk.
The solution must have email verification.	100% of accounts must have been verified through email.	This will ensure that all accounts created are legitimate users,

		preventing fraudulent activities like spam and fake accounts, improving the security and integrity of the software, and making it a safer environment. It also makes sure that users enter the correct email address and are reachable by it, ensuring the company can contact their users.

Useability		
Non-Functional Requirement	KPI	Justification
Users must be able to follow external links with no issues.	100% of external links should take the user to a correct and working destination.	By doing this the site is seen as more reliable and trustworthy by users improving the sites credibility and useability. It also allows the site to send users towards relevant information improving the user experience and value the site provides while also reducing any frustration that could be caused by broken or incorrect links.
The navigation menu should be built for functionality and ease of use.	The buttons on the navigation menu should take users to the correct destination 100% of the time.	This allows users to go to their intended destination faster without any issues, which would improve the user experience and reduce the chance of any confusion when

	The navigation menu should appear the same on every page.	navigating the site, which could lead to the site becoming hard to use and losing credibility. Also, this would create a consistent user experience, making the site reliable and professional, which makes users more likely to trust and continue using the site.
The solution must be built to handle errors in an informative and easy to understand way.	There should be no complaints of users being confused or unable to resolve errors.	By implementing proper error handling users are less likely to input incorrect data into a field which improves the accuracy and reliability of the data the site collects which intern provides a smoother experience for the users and the company reducing input errors and making the system more efficient.

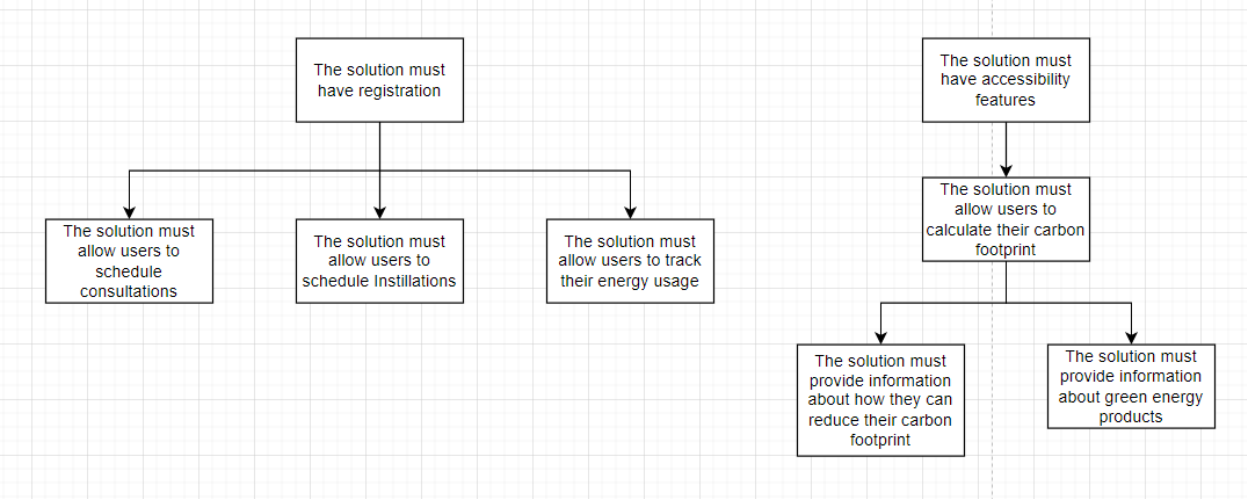
Accessibility		
Non-Functional Requirement	KPI	Justification
The solution must include informative clear Alt text for images and media.	100% of images and media should have clear and informative Alt text	This will act as a fail-safe in case images and media don't load properly, ensuring users

		can still understand what is meant to be there. Furthermore, it helps the site comply with the Web Content Accessibility Guidelines (WCAG) and support a wider range of users, as people who may not be able to see the image due to visual impairment can utilise the text to understand what the image is. This allows more people to use the site, increasing its potential user base and the company's potential revenue.
The solution should support users with visual accessibility needs by utilising a high contrast mode and dark mode.	Users must be able to toggle high contrast mode with no more than 2 clicks. There should be no complaints about users being unable to see the information on the site.	This ensures that people with visual impairments and colour blindness can easily read the information on the website, which makes the site more inclusive and user-friendly while also ensuring the site meets the Web Content Accessibility Guidelines and is accessible to a larger audience. This means that the company's potential user base has increased.
The solution must allow users to resize the text to their preferred size.	Users should be able to access the text resize function in no more than 2 clicks. There should be no complaints of users not being able to read the	This will allow a variety of users to navigate and use the site that previously wouldn't have been able to. It also means that people who may have small screens or devices with bad resolutions that

	text on the site due to size.	can't properly read the text on the site can now increase the size to improve readability and accessibility. Furthermore, this will also further comply with the Web Content Accessibility Guidelines by making the solution more inclusive to users with visual impairments.
The solution should allow users to utilise a screen reader.	100% of interactive elements on the website should be screen reader compatible.	This will help ensure legal compliance with various accessibility rules, regulations and guidelines like the Web Content Accessibility Guidelines mainly assisting people with visual impairment as this feature will allow them to properly navigate and use the site making the site more widely accessible.
The solution should be built for all devices ensuring responsiveness across them.	100% of the pages must be fully operable and functional on mobile, desktop and tablet. Less that 3% of customer complaints should be due to responsiveness.	This will allow a whole new range of users to access the site, boosting the company's potential revenue and promoting inclusiveness. Furthermore, it will present the site as professional. If users try to go on the website and it is unusable, they are likely to lose trust in the company and choose someone who has adapted to new devices. Building on this will also ensure the site can be used on any

		future popular devices, so the company won't fall behind and lose access to customers. Finally, Google (one of the most popular search engines) prioritises responsive websites when showing results to customers. By implementing this, there is a higher chance of Google showing the site to more users and the company generating more revenue.
Consistent and accessible colour schemes.	100% of text and elements must have a contrast ratio of at least 4.5:1 (WCAG 2.1 Level AA) for normal text and 3:1 for large text.	This will ensure that the website's colour scheme is consistent throughout the site, creating a more enjoyable user experience and helping the user recognise what site they are on. It also ensures that all the text on the website is readable and stands out against its background, which will also help reduce eye strain when trying to read text. Finally, it complies with the Web Accessibility Guidelines and ensures a wide range of users with accessibility needs can still use the site.

Hierarchy Diagram



UI Considerations

Some key aspects I have conceded for the design phase are the colour scheme, spacing, fonts, images and illustrations. First, I would like to go for a forest and nature theme for the colour scheme, utilising colours synonymous with nature, like green, blue and yellow, as this fits in well with green energy and sustainability. Furthermore, I intend to utilise white space to create a modern look and feel for the website, making key elements stand out. Also, I have chosen Montserrat as my font as it is already an established font used by many popular websites, which ensures its readability and means the user will most likely already be familiar with the font. This is also a modern and clean font that will match the theme of the website perfectly. I have chosen to use this font throughout all my sites to show consistency and ensure readability. Also, I have decided to use professional images that follow the website's nature theme to create consistency throughout the site and further convey the company's message of sustainability and green energy. Finally, I will consistently use professional, clean illustrations across my site, as the company's target audience is adult homeowners. This will show maturity and professionalism, allowing the user to trust the site.

Security considerations and risk mitigation

Risk: An attacker uses a DDoS (Distributed Denial of Services) attack by leveraging a botnet to send multiple automated requests to schedule a consultation or installation, overwhelming the system and cause the scheduling system to crash resulting in the it being unusable for legitimate users.

Mitigation: To mitigate this, I will include email verification to the register system to reduce the chance of fake emails being used to register bot accounts. Furthermore, I will require accounts to be logged in before they can use the scheduling system, stopping botnets from accessing this function and mitigating the chance of a hacker targeting this system with a DDoS attack. While this does not fully prevent a DDoS attack, it adds an extra layer of protection against bot accounts that overwhelm the system.

Risk: An attacker could utilise a SQL injection on the carbon footprint calculator to gain access to users' personal data.

Mitigation: To mitigate this, I will be using ASP.NET core MVC which has built in protection against SQL injections by implementing parameterized queries which means even if users attempt to write malicious SQL code it will be treated as regular text not exactable code that could affect the database.

Risk: An attacker could use a brute force attack to gain unauthorised access to a user's account and their personal data.

Mitigation: To mitigate this, I will include strict password policies like passwords must be six characters long, have at least one uppercase letter, have at least one lowercase letter etc this ensures that users passwords are strong and cannot be easily guessed mitigating the chance of a successful brute force attack.

Risk: An attacker could use a XXS (Cross-Site Scripting) attack to inject malicious code into the energy trackers input fields that executes code in other users' browsers putting them at risk of phishing attacks or stealing session cookies which would severely damage the company's reputation.

Mitigation: To mitigate this, I will be encoding all user inputted data in razor views this will ensure that any malicious or dangerous code entered into input fields will be treated as normal text not actionable code.

Legal and regulatory requirements

Due to the large verity of users that will use the site it must include accessibility features to no support these users when using the site and comply with WCAG (Web Content Accessibility

Guidelines). This will include features like a text resizer, text to speech and various colour modes all of this will support users when interacting with the site making it easier to use and providing them with a better user experience.

When a customer creates an account or makes a booking, their personal data is being collected and stored. This will require the website to comply with various data laws like the Data Protection Act and GDPR. This will be done by ensuring that data is secure by utilising password hashing and SSL encryption to ensure user accounts are secure and data is being transferred securely. The website will also include a privacy policy as this is also required when collecting personal data, it will inform the user on how the website and the company use their data and inform them of the rights they have. Furthermore, the website will make use of cookies to enhance the user experience. This means the website will include a pop-up asking if the user would like to accept or decline cookies. This ensures the platform has consent before collecting the user data, which ensures it complies with the DPA and GDPR.

The website will also include a term, and conditions pop up as it will limit legal liability as they may be able to dispute any claims towards the company as they are disclosed in the terms and conditions. Furthermore, it allows the company to legally prohibit acts like spam and hacking reducing the likely hood of it occurring. Finally, this will also ensure compliance with DPA and GDPR as it will inform users of the data being collected.

To ensure compliance with the Energy Act 2023, the site's carbon footprint tracker will be kept up to date with any new conversion factors to ensure the information provided is correct. Furthermore, when recommendations on how to improve the user's carbon footprint are suggested, it will align with the Energy Act goals of reducing the country's carbon footprint and moving to clean and renewable energy. The company will further show compliance with this act through the advice the company gives on consultations. They will ensure all advice given aligns with the act's goals. For example, any advice on home heating will align with the act's focus on low-carbon technology.