









IMG Source	Description	Usage	License	Link
Pixabay	Solar Panel 	Used in	free	<a href="https://pixabay.com/photos/solar-panels-solar-energy-8244680/">https://pixabay.com/photos/solar-panels-solar-energy-8244680/</a>
Pixabay	Installation worker 	Used in	free	<a href="https://pixabay.com/photos/solar-panel-installation-worker-7518786/">https://pixabay.com/photos/solar-panel-installation-worker-7518786/</a>
*Pixabay	Panels placement 	Used in	free	<a href="https://pixabay.com/photos/solar-panels-placement-green-energy-944000/">https://pixabay.com/photos/solar-panels-placement-green-energy-944000/</a>
Pixabay	Solar panels on roof 	Used in	free	<a href="https://pixabay.com/photos/solar-panels-heating-1477987/">https://pixabay.com/photos/solar-panels-heating-1477987/</a>
Pexels	Solar panel and sky 	Used in	free	<a href="https://www.pexels.com/photo/blue-solar-panel-board-356036/">https://www.pexels.com/photo/blue-solar-panel-board-356036/</a>
Pexels	Solar panels in forest 	Used in	free	<a href="https://www.pexels.com/photo/a-house-in-the-mountains-with-a-solar-panel-on-the-roof-28286652/">https://www.pexels.com/photo/a-house-in-the-mountains-with-a-solar-panel-on-the-roof-28286652/</a>
*Pexels	Charge point 1 	Used in	free	<a href="https://www.pexels.com/photo/close-up-view-of-a-person-holding-the-ev-charger-5391511/">https://www.pexels.com/photo/close-up-view-of-a-person-holding-the-ev-charger-5391511/</a>

Pexels	Charging station 	Used in	free	<a href="https://www.pexels.com/photo/road-industry-cable-charging-9800002/">https://www.pexels.com/photo/road-industry-cable-charging-9800002/</a>
*Pexels	Charger 	Used in	free	<a href="https://www.pexels.com/photo/person-holding-black-and-gray-metal-tool-9799725/">https://www.pexels.com/photo/person-holding-black-and-gray-metal-tool-9799725/</a>
Pexels	Charging station 2 	Used in	free	<a href="https://www.pexels.com/photo/fuel-dispenser-in-black-and-white-18328715/">https://www.pexels.com/photo/fuel-dispenser-in-black-and-white-18328715/</a>
*Pexels	 Sakura	Used in	free	<a href="https://www.pexels.com/photo/close-up-shot-of-an-electirc-car-charging-9799729/">https://www.pexels.com/photo/close-up-shot-of-an-electirc-car-charging-9799729/</a>
Pexels	Charging station 3 	Used in	free	<a href="https://www.pexels.com/photo/electric-car-while-charging-24376862/">https://www.pexels.com/photo/electric-car-while-charging-24376862/</a>
Unsplash	Thermostat 	Used in	free	<a href="https://unsplash.com/photos/gray-nest-thermostat-displaying-at-63-RFAHj4tI37Y">https://unsplash.com/photos/gray-nest-thermostat-displaying-at-63-RFAHj4tI37Y</a>
Unsplash	Lightbulb in grass 	Used in	free	<a href="https://unsplash.com/photos/bulb-photography-UfEyDdXIRp8">https://unsplash.com/photos/bulb-photography-UfEyDdXIRp8</a>

Pexels	Speaker 	Used in	free	<a href="https://www.pexels.com/photo/round-grey-speaker-on-brown-board-1072851/">https://www.pexels.com/photo/round-grey-speaker-on-brown-board-1072851/</a>
Pexels	Speaker 2 	Used in	free	<a href="https://www.pexels.com/photo/black-amazon-echo-on-table-977296/">https://www.pexels.com/photo/black-amazon-echo-on-table-977296/</a>

## Logo

I created the Rolsa Technologies logo using Canva. I chose an icon of a solar panel with the sun above it to directly represent a purpose of the company. I selected a user-friendly font for the company name placed beneath the icon, to make sure that it is clear, easy to read, and professional, which enhances the overall design.



## Colours

When I was choosing colours for the Rolsa Technologies website, I focused on how these colours would represent the company's message, ensuring that users could clearly understand they were on a green energy company's website. I decided to use the colours grey, white, black, and dark green. Dark green symbolizes nature, connecting the website to the environment and emphasizing the company's core purpose. White represents clarity and professionalism. Black provides contrast, making the website visually appealing. Grey creates balance by softening the sharp contrast between white and black, while also representing the calm and stability of the company.

Dark green: #266429

Black: #000000

White: #FFFFFF

Grey: #E8E8E8

I used WebAIM website to check the contrast of the colours I was using.

### Foreground

Hex Value

#266429

Color Picker

Alpha

1

Lightness

### Background

Hex Value

#FFFFFF

Color Picker

Lightness

Contrast Ratio

**7.14:1**

[permalink](#)

## Normal Text

WCAG AA: **Pass**  
WCAG AAA: **Pass**

The five boxing wizards jump quickly.

## Large Text

WCAG AA: **Pass**  
WCAG AAA: **Pass**

The five boxing wizards jump quickly.

## Graphical Objects and User Interface Components

WCAG AA: **Pass**

★

Text Input

All the attached designs for Rolsa Technologies digital solution were created using Figma. The designs may undergo minor changes during future development.

Pseudocode for calculators:

Carbon footprint calculator:

BEGIN

DISPLAY "Select Heating Type: Gas, Electric, Solar"

heating\_type ← USER\_INPUT

DISPLAY "Adjust Energy Consumption (0 - 1000 kWh/cubic meters)"

energy\_consumption ← USER\_INPUT

// Retrieve emission factor based on selected heating type

IF heating\_type = "Gas" THEN

    emission\_factor ← GAS\_EMISSION\_FACTOR

ELSE IF heating\_type = "Electric" THEN

    emission\_factor ← ELECTRIC\_EMISSION\_FACTOR

ELSE

emission\_factor ← SOLAR\_EMISSION\_FACTOR

// Calculate carbon footprint

total\_emission ← energy\_consumption \* emission\_factor

DISPLAY "Your estimated carbon footprint is: " + total\_emission + " kg CO2"

// Provide a consistent recommendation

DISPLAY "Consider switching to renewable energy sources and reduce energy consumption with energy-efficient appliances."

END

### Energy Consumption Calculator:

BEGIN

DISPLAY "Select Appliance Type (e.g., Refrigerator, Light Bulb, Microwave)"

appliance\_type ← USER\_INPUT

DISPLAY "Enter Usage Time Per Day (hours)"

usage\_time ← USER\_INPUT

DISPLAY "Enter Number of Appliances"

num\_appliances ← USER\_INPUT

// Retrieve typical wattage for selected appliance

wattage ← GET\_WATTAGE(appliance\_type)

// Calculate total energy consumption

total\_consumption ← wattage \* usage\_time \* num\_appliances

DISPLAY "Your total daily energy consumption is: " + total\_consumption + " kWh"

// Provide a consistent energy-saving recommendation

DISPLAY "Consider switching to energy-efficient appliances and reducing usage where possible."

END

Links for Ai:

## Web Development & UI/UX Design

WCAG Accessibility Guidelines: <https://www.w3.org/WAI/standards-guidelines/wcag/>

User Experience Best Practices: <https://www.nngroup.com/>

## Security & Data Protection

GDPR Compliance Guide: <https://gdpr.eu/>

### Testing Strategy

Date of test	Component to be tested	Type of test to be carried out	Prerequisites and Dependencies
23 April 2025	Navigation bar	Black box testing: Functional testing: Integration testing	No data inputs needed, navigation bar will be checked for page loading if clicked on it
23 April 2025	Home page	White box testing, Black box Testing: Functional testing: Integration testing, Unit testing	No data inputs are needed, Testing if all the buttons are functional, testing homepage unit, testing integration of homepage within the website.
23 April 2025	Information page (Solar Panels)	White box testing, Black box Testing: Functional testing: Integration testing, Unit testing	No data inputs are needed. Testing if all the buttons are functional, testing information page unit, testing integration of information page within the website.
23 April 2025	Information page (EV chargers)	White box testing, Black box Testing: Functional testing: Integration testing, Unit testing	No data inputs are needed. Testing if all the buttons are functional, testing information page unit, testing integration of information page within the website.
23 April 2025	Information page (Smart Home Systems)	White box testing, Black box	No data inputs are needed. Testing if all the

		Testing: Functional testing: Integration testing, Unit testing	buttons are functional, testing information page unit, testing integration of information page within the website.
23 April 2025	Information page (How to reduce carbon footprint)	White box testing, Black box Testing: Functional testing: Integration testing, Unit testing	No data inputs are needed. Testing if all the buttons are functional, testing information page unit, testing integration of information page within the website.
23 April 2025	Booking page	White box testing, Black box Testing: Functional testing: Integration testing, Unit testing	No data inputs are needed. Testing if all the buttons are functional, testing booking page unit, testing integration of booking page within the website.
24 April 2025	Booking system	Backend: database testing	Test if any errors are shown while executing queries. Test data needed for booking a consultation: bookingID customerID consultationID selectedDate selectedTime  Test data needed for installation booking: bookingID customerID installationID selectedDate selectedTime
23 April 2025	Login page	White box testing, Black box Testing: Functional testing:	No data inputs are needed. Testing if all the buttons are functional, testing login page unit,

		Integration testing, Unit testing	testing integration of login page within the website.
24 April 2025	Login system	Backend: database testing	Test data needed: Valid username and password and invalid to check the robustness
23 April 2025	Register page	White box testing, Black box Testing: Functional testing: Integration testing, Unit testing	No data inputs are needed. Testing if all the buttons are functional, testing register page unit, testing integration of register page within the website.
24 April 2025	Register system	Backend: database testing	Test data needed: Name, username, password, repeat password, email
23 April 2025	Carbon footprint calculator page	White box testing, Black box Testing: Functional testing: Integration testing, Unit testing	Heating type data, and monthly energy consumption data are needed
23 April 2025	Energy usage calculator page	White box testing, Black box Testing: Functional testing: Integration testing, Unit testing	Appliances data, appliance use hours data, and number of appliances data are needed
Every "page"	Every "page"	Black box testing -> Non-Functional testing: Compatibility testing	OS needed: IOS, MacOS, Windows, Android Browsers: Chrome, Edge, Firefox, Opera, or Safari

"Extra":



Add legal about energy sector

Dropdown -> Radio Buttons