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**PREPARING FOR
DISCOMFORT**



Encourage People To Participate In Physical Therapy

Participating in physical therapy can help reduce pain and fatigue, making it easier to conserve energy.



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Suggest mind-body techniques

Mind-body techniques, such as relaxation, meditation, and positive thinking, can help reduce the need for pain medication and increase energy levels.



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Use peer pressure

Encouraging people to participate in group energy-saving activities.



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Suggest performing household tasks manually

Performing household tasks manually, such as washing dishes by hand or hang-drying clothes.



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Provide incentives

Providing incentives, such as rewards or recognition, can help motivate people to adopt energy-saving habits.



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Share results and benefits

Regularly communicate the energy-saving achievements and associated cost reductions to occupants.



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Monitor and adjust

Continuously monitor energy usage, comfort levels, and occupant feedback.



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Provide personal comfort solutions

Offer suggestions and resources for occupants to improve personal comfort while minimizing energy consumption.



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Offer opt-out options

Provide occupants with the opportunity to opt out of specific energy-saving measures if they have valid reasons or specific needs.



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Engage occupants in decision-making

Involve occupants in the decision-making process by seeking their input and feedback.



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Enhance thermal comfort

Implement measures to enhance thermal comfort even at slightly higher or lower temperatures.



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Set realistic expectations

Clearly explain to occupants that there may be instances where certain comfort levels need to be compromised to achieve energy savings.



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Shoe

Warm boots ,fabric made of
wool.



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**PREPARING FOR
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Headgear

A piece of headgear, for example a cap, a beanie.



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Coffee cup

A warm cup of coffee.



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Building Insulation.



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**PREPARING FOR
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Clothing

Any piece of ordinary clothing, for example a sweater, a pair of trousers or a shirt.



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**PREPARING FOR
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Bike

Ride to warm up.



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**PREPARING FOR
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Sport equipment

Playing any kind of sports
keeps body warm.



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Custom discomfort strategy

Sketch or describe your new discomfort strategy here.



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Shower

Cold shower help to keep warm.



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Make it personal:

Providing personalized information and feedback can help motivate people to make changes.



**PREPARING FOR
DISCOMFORT**



IOT ANALYSIS



Temperature sensor

Temperature of the object or the ambient in its surroundings.



DATA CHANNELS



IOT ANALYSIS



Humidity sensor

Air humidity of the ambient where the object is placed.



DATA CHANNELS



IOT ANALYSIS



Weight sensor

Weight or change of weight of the object.



DATA CHANNELS



IOT ANALYSIS



Water quality sensor

Water quality of the environment where the object is placed.



DATA CHANNELS



IOT ANALYSIS



Air pollution sensor

Pollution of the air surrounding the object.



DATA CHANNELS



IOT ANALYSIS



Moisture sensor

Humidity and water contained in the soil where the object is placed.



DATA CHANNELS



IOT ANALYSIS



Sound sensor

Noise and sounds from the ambient surrounding the object in terms of energy conservation.



DATA CHANNELS



IOT ANALYSIS



Energy sensor

Energy usage of the object.



DATA CHANNELS



IOT ANALYSIS



Distance Sensor

Distance measured from the object to an external obstacle.



DATA CHANNELS



IOT ANALYSIS



Pressure sensors

Pressure sensors measure changes in pressure or force and find applications in areas like industrial monitoring or weather forecasting.



DATA CHANNELS



IOT ANALYSIS



Motion sensors

Motion sensors, such as passive infrared (PIR) sensors or microwave sensors, detect motion by sensing changes in the environment.



DATA CHANNELS



IOT ANALYSIS



Tangibles

Heaters, thermostat.



DATA CHANNELS



IOT ANALYSIS



Light sensors

Light sensors, such as photodiodes or ambient light sensors, measure light intensity or detect changes in ambient light conditions.



DATA CHANNELS



IOT ANALYSIS



Gas and air quality sensors

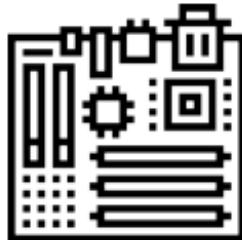
Gas sensors and air quality sensors, including carbon monoxide (CO) sensors or volatile organic compound (VOC) sensors.



DATA CHANNELS



IOT ANALYSIS



Accelerometers

Accelerometers measure changes in acceleration, tilt, or vibration.



DATA CHANNELS



IOT ANALYSIS



Proximity Sensors

Proximity sensors, like infrared (IR) sensors or ultrasonic sensors, are designed to detect the presence or absence of objects in their proximity.



DATA CHANNELS



IOT ANALYSIS



Environmental sensors

Environmental sensors, such as temperature sensors or humidity sensors, typically have low power requirements.



DATA CHANNELS



IOT ANALYSIS



Location sensor

Latitude and longitude
coordinates of the object.



DATA CHANNELS



IOT ANALYSIS



Passive sensors

Passive sensors do not require a power source and rely on external factors such as light, heat, or motion to generate a response.





IOT ANALYSIS



Meter interfaces

Meter interfaces with wireless communication capabilities can be used to provide third-party meters with wireless communication capabilities.



DATA CHANNELS



IOT ANALYSIS



Custom data channels

Sketch or describe your new data channels here.





DATA CHANNELS



Email

A service that allows to send and receive emails eg power usage is above certain level so message should be received.



DATA CHANNELS



DATA CHANNELS



Bank account

A service allowing to update or retrieve data from an online banking account e.g. energy expenditure.



DATA CHANNELS



DATA CHANNELS



Social media

A service connecting to social media accounts to retrieve or post data.



DATA CHANNELS



DATA CHANNELS



Cloud Storage

A database or generic online document-based storage service.



DATA CHANNELS



DATA CHANNELS



Weather

Data from a weather forecast service, for example temperature, rain probability, UV index, etc.



DATA CHANNELS



DATA CHANNELS



Smart home

A service allowing to retrieve sensor data and control the components of a smart home.
Eg. smart thermostat.



DATA CHANNELS



DATA CHANNELS



Health and fitness

A service providing access to health and fitness data of the user.



DATA CHANNELS



DATA CHANNELS



Instant messaging:

SMS or other instant messaging services.



DATA CHANNELS



DATA CHANNELS



Text

The object displays a short text message to the user.



DATA CHANNELS



DATA CHANNELS



Emoji

the object displays some kind of emotional response.



DATA CHANNELS



DATA CHANNELS



Calendar and time

A service connecting to your calendar, allowing to schedule appointments or check availability. Eg setting alarms and dates for controlling thermostat.



DATA CHANNELS



DATA CHANNELS



Blink

A point of light on the object starts blinking.



DATA CHANNELS



DATA CHANNELS



Shapeshift

The object changes its shape in some way.



DATA CHANNELS



DATA CHANNELS



Motion

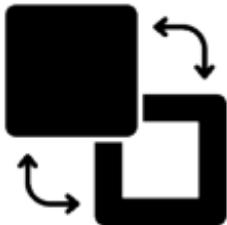
The object moves in response to a trigger.



DATA CHANNELS



DATA CHANNELS



Colour change

A light on the object changes or fades from one colour to another.



DATA CHANNELS



DATA CHANNELS



Sound

The object emits a sound.



DATA CHANNELS



DATA CHANNELS



Vibrate

The object starts vibrating.



DATA CHANNELS



DATA CHANNELS

Custom data channels

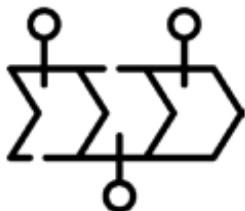
Sketch or describe your new data channels here.



DATA CHANNELS



DATA CHANNELS



Timeline

The object provides a visualization of data over time.



DATA CHANNELS



DATA CHANNELS



News

To know updates from other communal network.



DATA CHANNELS



HUMAN ACTIONS



Shake

The user shakes the object to see the change in energy usage.



HUMAN ACTIONS



HUMAN ACTIONS



Efficient appliance use

Using them in an efficient manner.



HUMAN ACTIONS



HUMAN ACTIONS



Insulation and weatherization

By preventing heat loss during winters and heat gain during summers.



HUMAN ACTIONS



HUMAN ACTIONS



Efficient lighting practices

Replacing traditional incandescent bulbs with energy-efficient alternatives.



HUMAN ACTIONS



HUMAN ACTIONS



Smart thermostat usage

Utilizing programmable or smart thermostats.



HUMAN ACTIONS



HUMAN ACTIONS



Renewable energy adoption

Investing in renewable energy sources like solar panels or wind turbines.



HUMAN ACTIONS



HUMAN ACTIONS



Behavioural changes

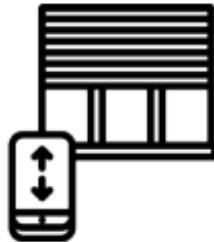
Adopting energy-conscious behaviours.



HUMAN ACTIONS



HUMAN ACTIONS



Regular maintenance

Ensuring regular maintenance
of HVAC systems.



HUMAN ACTIONS



HUMAN ACTIONS



Education and awareness:

Educating oneself and others
about energy-efficient
practices.



HUMAN ACTIONS



HUMAN ACTIONS



Decorate with lighter colors

Lighter colors reflect light and can help reduce the need for artificial lighting.



HUMAN ACTIONS



HUMAN ACTIONS



Identify and unplug energy vampires

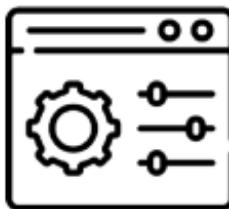
Energy vampires are devices that continue to draw power even when they are turned off.



HUMAN ACTIONS



HUMAN ACTIONS



Ensure your home is properly insulated

Proper insulation can help keep your home warm in the winter and cool in the summer.



HUMAN ACTIONS



HUMAN ACTIONS



Plant trees and use natural shade

Strategically plant trees and use natural shade to reduce direct sunlight on your home.



HUMAN ACTIONS



HUMAN ACTIONS



Optimize water usage

Reduce hot water usage by taking shorter showers.



HUMAN ACTIONS



HUMAN ACTIONS



Use energy-saving settings

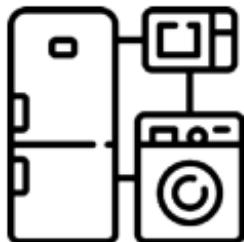
Use sleep mode or power-saving features to reduce standby power consumption.



HUMAN ACTIONS



HUMAN ACTIONS



Opt for energy-efficient appliances

Look for appliances with high
energy efficiency ratings.



HUMAN ACTIONS



HUMAN ACTIONS



Seal air leaks

Inspect doors, windows, and other areas for air leaks and seal them with weather stripping or caulking.



HUMAN ACTIONS



HUMAN ACTIONS

Custom human actions

Sketch or describe your new actions here.



HUMAN ACTIONS



HUMAN ACTIONS



Adjust thermostat settings

Set your thermostat to an energy-efficient temperature.



HUMAN ACTIONS



HUMAN ACTIONS



Use Natural Lighting

Take advantage of natural light during the day by opening curtains or blinds.



HUMAN ACTIONS



HUMAN ACTIONS



Location change

The user moves the object to a specific location, or away from it.



HUMAN ACTIONS



HUMAN ACTIONS



Energy conservation:

By turning off lights and
appliances when not in use.



HUMAN ACTIONS



USE CASES



Energy conservation

Turning off lights and electronics when not in use, using energy-efficient appliances, and unplugging chargers when not in use.



USE CASES



USE CASES



Lighting efficiency

Opening curtains and blinds during the day and using task lighting for specific tasks, replacing incandescent bulbs with LED or CFL bulbs.



USE CASES



USE CASES



TEmperature Control

Set thermostats at a reasonable temperature, to dress appropriately for the weather.



USE CASES



USE CASES



HVAC Optimization

Work with building management to optimize the heating, ventilation, and air conditioning systems.



USE CASES



USE CASES



Smart Technology

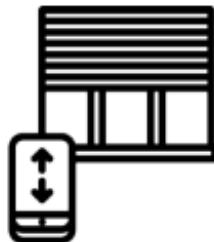
Smart thermostats, smart plugs, and other IoT devices to monitor and control energy usage in real-time.



USE CASES



USE CASES



Daylight harvesting

automatic shading and
dimmable lighting controls.



USE CASES



USE CASES



Behavioural Changes

Using stairs instead of elevators.



USE CASES



USE CASES



Building retrofits

Retrofitting the building envelope and mechanical systems, such as upgrading windows and insulation.



USE CASES



USE CASES



Occupancy sensors

Installing occupancy sensors in common areas, such as conference rooms, restrooms, and corridors.



USE CASES



USE CASES



Energy Dashboards

This can help to educate and engage occupants in energy conservation efforts by showing them the direct impact of their actions on energy consumption.



USE CASES



USE CASES



Biophilic design

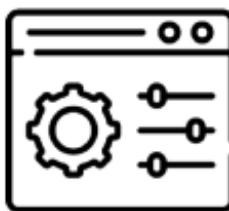
such as plants, natural light, and views of nature.



USE CASES



USE CASES



Dynamic Glazing

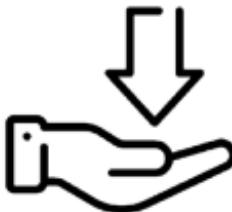
control the amount of light and heat entering a building.



USE CASES



USE CASES



Demand response

By adjusting energy usage
during high-demand periods.



USE CASES

Lorem ipsum



USE CASES



Energy monitoring and management:

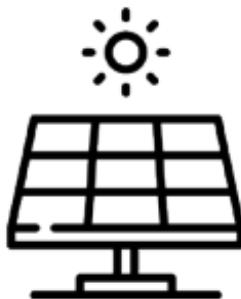
By identifying energy inefficiencies and making informed decisions based on the data, users can optimize their energy usage, reduce waste.



USE CASES



USE CASES



Distributed energy resources (ders)

Implementing smart grids that integrate distributed energy resources, such as solar panels, wind turbines, and energy storage systems.



USE CASES



USE CASES



Microgrids and peer-to-peer energy trading:peer-to-peer

Energy trading platforms based on blockchain technology can enable direct energy transactions between participants.



USE CASES



USE CASES



Time-of-use pricing

Consumers can take advantage of lower rates during off-peak hours.



USE CASES



USE CASES



Energy storage optimization

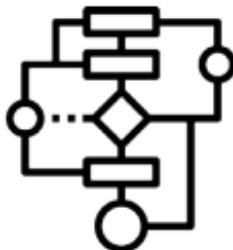
By intelligently managing the charging and discharging of energy storage, excess energy can be stored during low-cost periods and utilized during high-cost periods.



USE CASES



USE CASES



Predictive analytics and maintenance

By utilizing data analytics and machine learning algorithms, smart technologies can predict equipment failures, optimize maintenance schedules, and minimize downtime.



USE CASES



USE CASES

CUSTOM USE CASES

Sketch or describe your new use cases here.



USE CASES