

Eco-Sgolion



Eco-Schools

Energy Explorers

Exploring what energy is, how we use it, and why it's important to save energy.



Ariennir gan
Lywodraeth Cymru
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Practitioner Knowledge

Energy is all around us and helps us do everything, from walking and playing to turning on lights and cooking food. Energy is at the heart of everything we do, it lights our classrooms, powers our technology, heats our homes, and fuels our journeys. Every action we take uses energy, and the choices we make about how we use it have a direct impact on the planet.

We get energy from different sources; renewable sources like sun, wind or water, and non-renewable fossil fuels, like coal, oil and gas. However, when we use too much energy, especially from fossil fuels, it harms our planet by releasing gases that warm the Earth. That's why we need to use energy wisely and save it where we can.

Energy is fundamental to modern life, powering everything from lighting and heating to transportation and communication. However, the way we produce and consume energy has significant environmental implications. Traditional energy sources, such as fossil fuels, release greenhouse gases like carbon dioxide into the atmosphere, contributing to global warming and climate change (CFR Education, 2025).

Conserving energy involves using less energy by being more efficient and reducing unnecessary consumption. Simple actions like turning off lights when not in use, using energy-efficient appliances, and opting for renewable energy sources. By reducing energy use, we decrease the demand for fossil fuels, thereby lowering greenhouse gas emissions. This not only helps combat climate change but also reduces air and water pollution, leading to a healthier environment (Walton, et al.)

Moreover, energy conservation is essential for sustainable development. It promotes the efficient use of resources, reduces costs, and supports the transition to renewable energy sources. As educators, understanding and teaching the importance of energy conservation equips students with the knowledge and skills to make informed decisions that contribute to a sustainable future.

Exploring energy through sensory, movement, and practical experiences helps learners make real-world connections. Feeling warmth from the sun, hearing sound through vibration, or seeing a fan spin brings the concept of energy to life. These experiences build awareness that energy is something we all rely on and that it doesn't last forever.

Through music, movement, and tactile exploration, learners experience what energy is, how it is used in daily life, and why it's important to save it. Learners will:

- Recognise that energy makes things move, light up, heat up, or make sound.
- Experience different forms of energy through movement, music, and sensory play.
- Take part in activities that show how we can save energy at school and at home.

Activity

We're going to move, listen, and feel to learn all about energy — what it does and how we can save it!

Materials Needed:

- A speaker or drum (or just clapping hands!)
- Flashlight or lamp
- Fan or hairdryer (for wind energy)
- Warm pad or hot water bottle (for heat energy)
- Simple household items (toy car, ball, windmill, etc.)
- Blankets or scarves for movement
- “Energy Explorers” picture sheet (showing lights, cars, people walking, wind turbines, etc.)

Key words: hot, bright, fast, slow, moving, quiet, energy.

Step 1: Feel the Energy

Sensory exploration

- Learners explore what energy does through touch and sound:
 - Turn on a light – feel the warmth and brightness.
 - Feel wind from a fan – talk about movement.
 - Hold a warm pad – talk about heat.
 - Listen to music or a drumbeat – talk about sound energy.
- Encourage learners to say or show what they notice (hot/cold, bright/dim, loud/quiet, moving/still).

Step 2: Move Like Energy

Music and movement

- Play rhythmic music and ask learners to move like energy:
 - Jumping = kinetic energy (movement)
 - Stretching arms to the sun = solar energy
 - Spinning scarves = wind energy
 - Curling up in a blanket = stored energy (resting)
- Stop the music — everyone freezes! Discuss what happens when the energy stops.
 - Are the learners tired?
 - Did those curling up in a blanket use much energy?
- Repeat a few times until learners are visibly tired – discuss why they are, and that our lights, music, heating etc. feel like that when they use energy.

Step 3: Where Do We Use Energy?

Matching and sorting

- Show pictures/toys or real objects (lamp, cooker, car, phone).
- Ask: “Does this use energy?” (Yes/No cards, symbols, or gestures).
- Talk about what happens when we use too much — “The Earth gets too hot.”
- Learners can match each picture to a symbol (sun, plug, movement) showing what kind of energy it uses.

Step 4: Energy Explorers

Exploration around school

- Go on a short walk around school to spot where energy is used: Lights, computers, heaters, taps, doors, etc.
- Learners can use a tick sheet, photos, or symbols to record what they find.
- Discuss: “Can we turn anything off?” “Can we use less?”

Step 5: Energy Song and Reflection

Sing-along song (to a tune like *If You're Happy and You Know It*):

Finish with quiet breathing — “Our bodies rest when we save our energy too.”

Relaxing music for reflection/ relaxation:

<https://youtu.be/rpWwqFugjmo?list=RDrpWwqFugjmo>

Curriculum Links

Purpose(s)	AOLE(s)	Statement Of What Matters
Ambitious, capable learners	Science and Technology	Understanding how energy is used and changed.
Ethical, informed citizens	Humanities	Understanding how people's actions impact the natural world.

Healthy, confident individuals	Health & Well-being	Making choices that support well-being and sustainability.
Enterprising, creative contributors	Expressive Arts	Expressing ideas through sound, rhythm, and movement.

Next Steps and Other Ideas:

- Art: Make a collage of “Good Energy Choices” using magazine cut-outs or drawings.
- Sensory Science: Use torches, fans, and sound tubes in an “Energy Sensory Tray.”
- Class pledge: Create a big sun poster and add handprints around it with energy-saving promises (“Turn off lights”, “Unplug chargers”).
- Outdoor link: Feel the warmth of the sun or watch a windmill spin — real renewable energy in action!

UN Sustainable Global Goals Links

