



# Energy Card Game

Age group	10 years and above
Duration	15 – 90 min
Group size	4 – 12 people
Location	Indoors or outdoors
Possible on rainy days	Yes
Keywords	Energy use in the household, saving energy, energy consumption



## Short description

The energy cards are used to visualise the electricity consumption in a household and to learn which “consumers”<sup>1</sup> really make a big difference and which are less of a problem.

One to three groups use the cards to model a certain type of household (savers, wasters, etc.). Everyone then discusses ways of saving energy (and money!) by swapping or removing cards.



## Remark

The cards are intended exclusively for a non-commercial use.



## Materials

These are the materials you need:

- The PDF file (Energy Cards and number cards) printed (maybe laminated) and cut to size
- Sticky notes and pens for the scale
- Maybe a big piece of paper for the scale
- Sheets of paper / flipchart paper or whiteboard (for the calculation of the total consumption)



## Instructions

That’s how the Energy Card Game is played:

1. Form groups of about 5 people. Each group receives a set of Energy Cards. The people with experience in energy-related topics are divided among all the groups.
2. Prepare a “scale” for each group. This can be a large piece of paper or cardboard, on which horizontal lines are drawn every 10cm, or sticky notes stuck on a long table at regular intervals. Mark the lines “0 kWh/day”, “0,5 kWh/day”, “1 kWh/day”, etc.
3. Introduce the procedure, show the Energy Cards and explain how the respective energy consumption per day is calculated (see below in “Explanations and further information”).
4. Each group has 15-30 minutes to select devices and put together their household. **The most important part of the game is the discussion:** What do we really need, which are the major consumers and where there are opportunities to save money?
5. For each card, the group decides how many hours per day the device is in use. Each card has

<sup>1</sup> Definition: «Consumers» are all devices/household items using electricity.

a suggested number of hours. If this value is changed, the number cards can be placed on top of the suggested number.

6. The group calculates the energy consumption per day for each card.
7. The card is placed at the appropriate place on the scale according to its energy consumption.
8. Ideally, one person per group creates a list with the selected devices and the calculated energy consumption per day. This is used to calculate the total consumption per day or per month at the end.
9. When the households have been “laid out”, the whole group looks at the cards and discusses which type of “consumer” in a household consumes the biggest part of the electricity and which devices are hardly reflected in the electricity bill.
10. Now the participants turn into “energy experts” and make suggestions on how and where electricity can be saved in their households. This can be done by replacing devices with more economical ones, by reducing the number of operating hours or by completely doing without certain devices. In this case, zero-consumption cards are also useful, for example drying laundry in the sun instead of using an electric tumble dryer. During this discussion, cards are continuously exchanged or adjusted with the number cards.
11. If the list of all consumers has been established, it can now be adjusted and the savings as a percentage calculated.

**Possible variants:** Two groups are formed. One group lays out the household of a very humble family, the other the household of a “waster” family.

If the number of cards is limited when selecting the cards / “consumers” (point 4 above), this saves time (e.g. “Choose 15 cards that you need in your household”).

If there is little time available, the number of cards offered can be greatly reduced. An example task: “Next week, your group is starting university studies in a new city and moving into a shared apartment. Choose the 5 most important devices for your shared apartment from these 15 cards”.



#### Practical advice

Before the game starts, you define who lives in the household, e.g. a family with two children. The same rules apply to all groups.


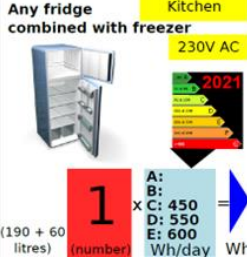

For some cards, the energy class can be selected from A to E. Explain the European energy labelling system before starting the game!

Divide the cards into “Kitchen”, “Office” etc. *before* starting. The groups should discuss each category in turn.

Create new cards! Use the blank cards in the set for this purpose.

**Explanation and further information**

Examples of how the energy consumption is calculated:

Normal cards:	Cards with consumption <i>per day</i> :	Cards with other units (for example per km/ride/meal/washing cycle, etc.):
		
<p>Energy consumption per day =  <math>1 \text{ Laptop} \times 5 \text{ hours/day} \times 40W</math>  <math>= 200 \text{ Wh/day}</math></p>	<p>Energy consumption per day =  <math>1 \times 400Wh/day \text{ (energy class E)}</math>  <math>= 400Wh/day</math></p>	<p>Energy consumption per day =  <math>1 \text{ car} \times 40 \text{ km/day} \times 150Wh/km</math>  <math>= 6000 \text{ Wh/day}</math></p>

**Reflective questions**

Efficiency or sufficiency<sup>2</sup>? Or, in other words, when does it make sense to use technically better devices and when is it advantageous to do without them? How many “things» do we really need to live happily?

**Impressions**



<sup>2</sup> Renunciation to the superfluous, to own only the strictly necessary.