

March 2022

High Energy Accelerator Research Organization
Environment · Global Warming · Energy Conservation Committee

Action plan for global warming countermeasure and energy saving 2022

Item	Action plan
1. Reduction greenhouse gas emissions (CO₂)	◇ The target value of greenhouse gas emissions (CO₂) of FY 2022 is : At most 260,262(t) <ul style="list-style-type: none">○ We set the target value of the reduction "-2,739(t)" in every fiscal year from 2018. (CO₂ emission of FY 2005 "273,960(t)" is used as the baseline, 2,739(t)/FY is 1% of this amount)○ KEK will try to make efforts below to achieve the goal.
2. Pay consideration when to construct or when to maintain the buildings	1. Saving water <ul style="list-style-type: none">• Install apparatus at the end of water supply system to save water. (e.g.) a sensing flushing valves, automatic faucet. 2. Conserve the environment of KEK campus. <ul style="list-style-type: none">• Pruned branches/leaves, fallen leaves etc are reused as much as possible to reduce the waste. 3. Others <p>KEK will check if the contractors doing below</p> <ul style="list-style-type: none">• Use energy-efficient machines as possible.• Treat construction waste properly. 4. Visualize our action <p>Make the report to announce our concrete action.</p>
3. Pay consideration when to purchase the goods when to use them	1. Consider purchasing low pollution car. 2. Pay attention when using cars. <ul style="list-style-type: none">• Carry out car maintenance regularly. (e.g.) check the tire pressure.• Eco-drive• Turning-off the car engine when stopped.• Driving with less accelerate and decelerate.• Use business communication bus. 3. Use energy-saving office equipment. <ul style="list-style-type: none">• OA machine((e.g.)computers, copy machines) or appliances((e.g.)refrigerators) need lots of energy. We will replace them to energy-saving types.• Save standby power.

4. Reduce paper consumption

- By simplifying the conference materials
- By double-sided printing
- By reusing envelopes

5. Use recycled paper

- copy paper, toilet paper

6. Use Recycled products

- Stationary
- Working wear made of recycled fiber

7. Purchase the air conditioners or refrigerators that HFC(hydrofluorocarbon) is used as refrigerant.

- HFC is one type of the Freon gas. It doesn't destroy ozone layer as chlorine is not included in their molecule.
- As HFC is greenhouse gas, we will try not to discharge the gas in the atmosphere based on the law : Act on Rational Use and Appropriate Management of Fluorocarbons (Act No. 64 of 2001)

8. Use the products with low greenhouse gas emissions

9. Replace the vending machines to eco-friendly type

- Old type of vending machine may be consuming lots of energy.
- After investigating the actual condition, we will try to replace eco-friendly ones as possible.

10. Others

- Select simple packaging
- Try to repair products as possible

<p>4. Pay consideration to greenhouse emission</p>	<p>1. Suppression of energy consumption</p> <ul style="list-style-type: none"> • Turn off the lighting where there are no people. • Turn off the lights during the lunch break. • Set the temperature of the air conditioner properly. Encourage cool biz warm biz. • Clean the air conditioner filter. (In summer and winter, try cleaning the filter before using the air conditioner.) • Close the cover when not using heating toilet seat. • Turn off the air conditioner in the room not in use. • Do not open or close doors or windows more than necessary when using air conditioners. Use blinds to reduce thermal load. • Turn off the computer when not in use. <p>2. Reduce waste</p> <ul style="list-style-type: none"> • Shredder should only be used for documents containing personal information created by the organization. • Collect the toner cartridge of the printer and proceed with reuse. • Appropriate disposal is required when OA equipment and cars are disposed of. <p>3. Strategic approach to measures against global warming</p> <ul style="list-style-type: none"> • It shows a model to be a reference for energy conservation. And introduce it on the website. • Clean the outdoor unit of the air conditioner. • Check plant management and water supply facilities. • Efficient operation of equipment • Discussion with the researcher on the utility operation during the quiescence period in KEKB · PF and plan for economical operation.
<p>5. Consideration for work-life balance · Training for staff</p>	<p>1. Provide staff training and information on global warming and energy conservation.</p> <ul style="list-style-type: none"> • Make staff actively participate in training of other agencies concerning environment consciousness. • Provide staff with information on environmental considerations by website and e-mail. <p>2. Transmission of information</p> <ul style="list-style-type: none"> • Publish and announce the operation plan on the website. • Publish the amount of electricity and water usage on various conferences and on the website.

	<ul style="list-style-type: none"> · Notify the amount of electricity generated by sunlight. · Publish KEK's CO2 emissions in fiscal 2022. <p>3. Education on energy conservation</p> <ul style="list-style-type: none"> · Distribute posters and seals that enlighten energy conservation to various places. · Conduct energy saving patrol. Report the results at various meetings. Post it on the website. <p>4. Promote energy conservation measures</p> <ul style="list-style-type: none"> · Verify at the end of the fiscal year plan and prepare the next year action plan.
<p>6. others</p>	<p>1. Promote energy conservation of laboratory equipment and effective use of resources</p> <ul style="list-style-type: none"> · By full-scale operation of SKEKB accelerator, greenhouse gas emissions will increase from the previous year. Suppress this increase by considering the operation plan. · Reduce CO2 emissions by effectively utilizing the energy of experiment equipment. At the same time strive to raise research results. · Advance energy conservation of laboratory equipment. · Reuse experimental equipment and laboratory materials as much as possible. · Advance superconductivity for accelerator devices such as electromagnets.