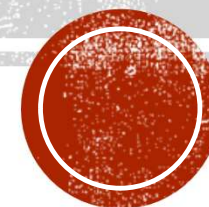




**MINISTRY OF ENERGY AND WATER RESOURCES
REPUBLIC OF TAJIKISTAN**

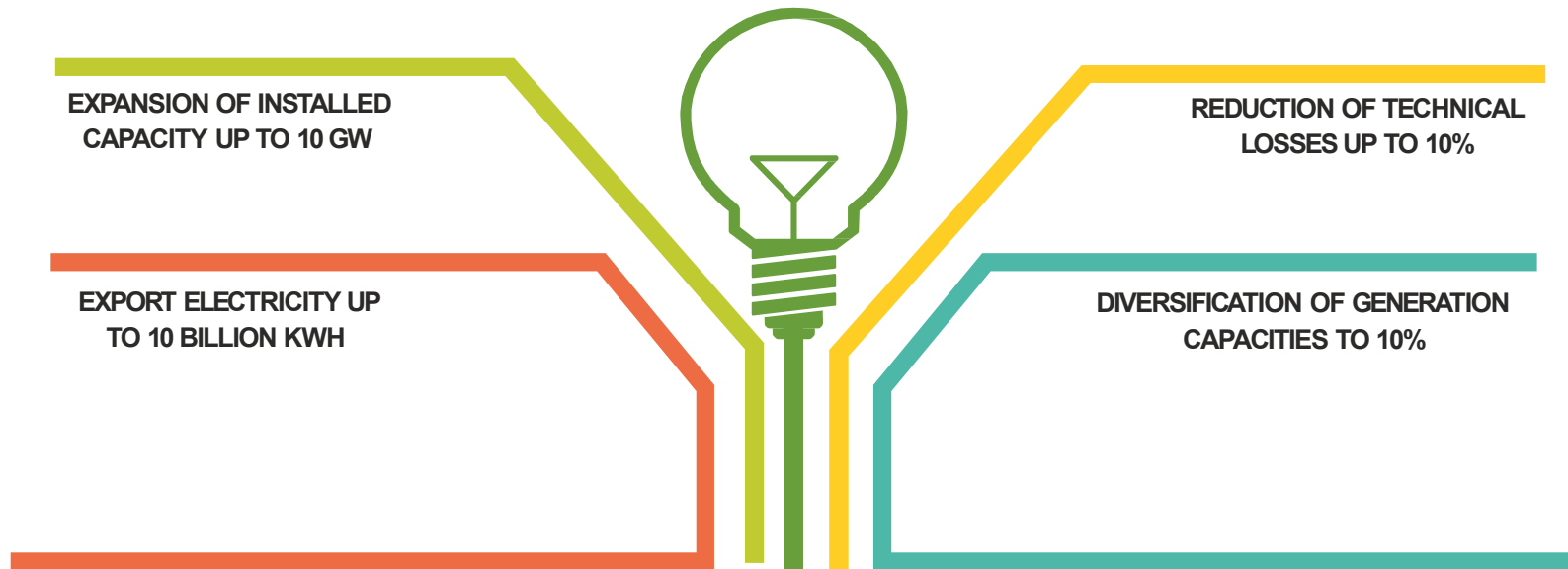


ACTION PLAN FOR ENERGY CONSERVATION IN TAJIKISTAN



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LONG-TERM ENERGY SECTOR DEVELOPMENT STRATEGY



MAIN DEVELOPMENT INDICATORS

Achievement of Energy Independence was determined by the Government of the Republic of Tajikistan as one of the four strategic tasks within the framework of the National Development Strategy until 2030.

In the National Development Strategy of Tajikistan up to period of 2030 were identified main indicators in energy sector as - 10/ 10/ 10/ 10-500, which means increasing the installed generation capacity to 10 GW, reducing technical and commercial losses in networks up to 10%, increasing electricity exports to 10 billion kWh per year, diversification of generation sources by 10% **and additional generation of more than 500 million kWh per year from renewable energy sources by the development of energy-efficient technologies and energy efficiency actions.**



LAWS AND REGULATIONS

Government participation in improving energy efficiency

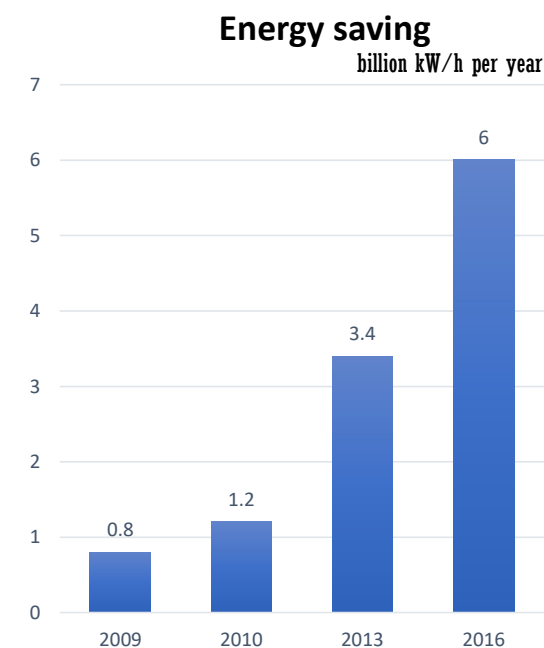
- ✓ Decree of the President of the RT “On additional measures for the economic use of energy and energy saving”, April 24, 2009, #653;
- ✓ Law of the RT “On Energy Saving and Energy Efficiency”, September 19, 2013, #560. Parliament of the RT;
- ✓ Energy Efficiency Strategy for the period until 2030.



EVALUATION OF THE *DECREE OF THE PRESIDENT OF TAJIKISTAN*
“ON ADDITIONAL MEASURES FOR THE ECONOMIC USE OF ENERGY AND ENERGY SAVING”,
APRIL 24, 2009, #653

Calculation of energy savings with the use of energy-saving lamps in Tajikistan

	2013	2016
1. The total number of lamps used	25472322	45063300
2. Energy consumption by using incandescent lamp of 60 watts (9 hours a day)	$0,06 \text{ kW/h} \cdot 9 \text{ h} \cdot 25472322 = 13755053 \text{ kW/h} \cdot 366 = 5,0 \text{ billion kW/h}$	$0,06 \text{ kW/h} \cdot 9 \text{ h} \cdot 45063300 = 24334182 \text{ kW/h} \cdot 366 = 8,9 \text{ billion kW/h}$
3. Energy consumption by using energy saving of 20 watts (9 hours a day)	$0,02 \text{ kW/h} \cdot 9 \text{ h} \cdot 25472322 = 4585017 \text{ kW/h} \cdot 366 = 1,6 \text{ billion kW/h}$	$0,02 \text{ kW/h} \cdot 9 \text{ h} \cdot 45063300 = 8111394 \text{ kW/h} \cdot 366 = 2,9 \text{ billion kW/h}$
4. Energy saving	$5,0 \text{ billion kW/h} - 1,6 \text{ billion kW/h} = 3,4 \text{ billion kW/h}$	$8,9 \text{ billion kW/h} - 2,9 \text{ billion kW/h} = 6 \text{ billion kW/h}$



GOALS

Our goals while participating in this program was to study the energy efficiency policy of Tajikistan based on Japanese experience, existing problems and propose actual measures/actions for successful implementation of energy efficiency projects and policies in Tajikistan, especially:

- ☐ What are the main challenges and barriers to improving energy efficiency in Tajikistan?
- ☐ What knowledge and lessons can be learn from Japanese energy efficiency policy experience to implement energy efficiency projects in Tajikistan?
- ☐ What methods can be used to improve energy efficiency in Tajikistan?

MAIN CHALLENGES

Old Energy Infrastructure

Energy Losses

Insufficient public awareness of energy efficiency

Lack of human resources

Imperfection of energy legislation

LEARNED LESSONS

Тепловые насосы, использующие возобновляемое тепло



(1) Окна: ударостойкое низкоэмиссионное стекло; тройная рама с резиновой прокладкой и заполнением криптоном

Ударостойкое ламинированное стекло 3 мм + 0,8 мм + 3 мм

Низкоэмиссионное стекло 3 мм x 2 листа

Заполнение криптоном
Полый слой 10 мм x 2

Резиновая прокладка

Высокоэффективная пластиковая створка



(2) Стены, полы и потолки

Высокоэффективная полиуретановая пена в стандартной комплектации во всех частях



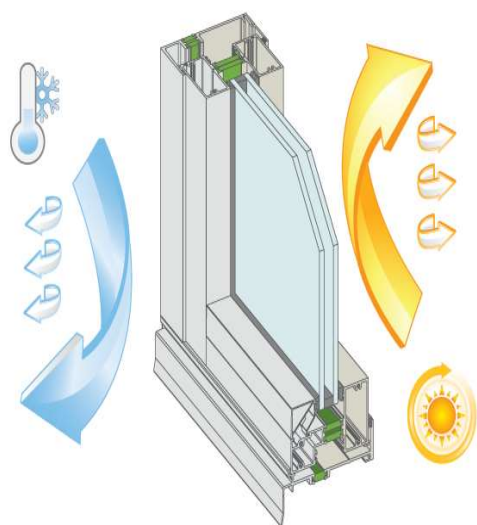
Внутренняя и наружная двойная изоляция

Теплоизоляционный эффект

ZEN UA=0,25 (стандарт ZEN: UA=0,6)

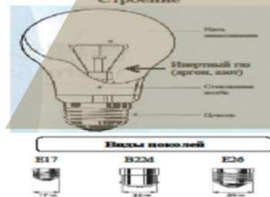
Стандартная спецификация подходит и для холодных регионов.

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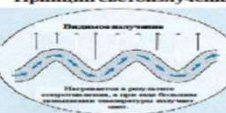
5.2 Лампочка накаливания

Строение



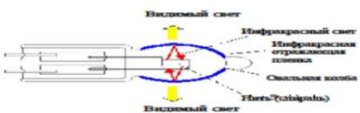
2500-2600°C

Принцип светозлучения



Видимое световое излучение — 10%
Инфракрасное излучение — 70%
Прочее — 20%

Галогенная лампочка



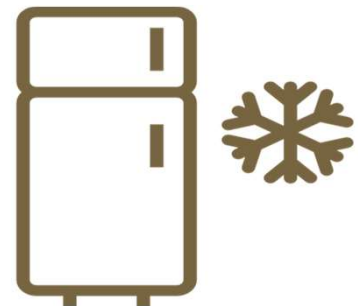
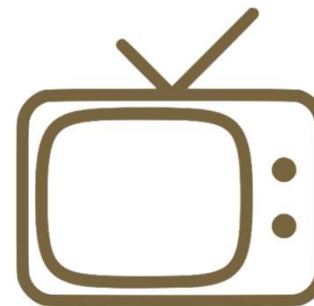
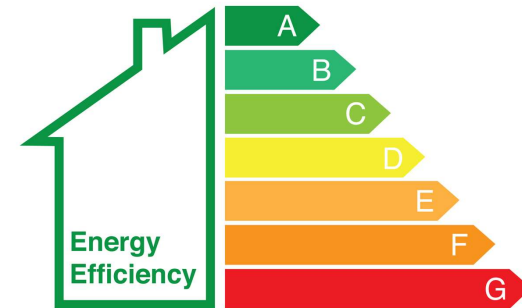
Почему галогенные лампы служат дольше, чем лампы накаливания?



Галогенный цикл (воспроизводимая повторная реакция с элементом в колбе галогеном (хлором, бромом и др.)) не дает вольфраму испаряться, тем самым предотвращает уменьшение светового потока и продлевает срок службы лампы.

Useful tips for energy saving

- 1) Use high-efficiency lamps, switch to LED lighting;
- 2) Turn the lights on only when necessary;
- 3) Don't forget to turn off the lights;
- 4) Purchase Energy Efficiency AC, TV, Refridg.;
- 5) To keep clean AC regularly;
- 6) Don't fill your refrigerator to capacity.



Action Plan 1/1

Actions	2025	2026	2027	2028	2029	Responsible Organizations	Financing
Updating of Law of the RT “On Energy Saving and Energy Efficiency”, September 19, 2013, #560. Parliament of the RT;						Ministry of Energy and Water Resources	Ministry of Energy and Water Resources
Raising Awareness activities and understanding the benefits of energy efficiency and transition to green technologies (to train Key Policy Makers & Implementers in Government Sector);						Ministry of Energy and Water Resources and relevant agencies and entities	By support of JICA an ECCJ
Establishment of Energy Conservation Center under the Ministry of Energy and Water Resources RT;						Ministry of Energy and Water Resources	Ministry of Energy and Water Resources
Development of Human Resources of energy efficiency (to train engineers and technical staff);						Ministry of Energy and Water Resources	By support of JICA an ECCJ
Compliance with international standards for the use of energy-efficient building materials for the construction of buildings;						Ministry of Energy and Water Resources, Committee of Architecture and construction	Social sector, Private sector

Action Plan 1/2

Actions	2025	2026	2027	2028	2029	Responsible Organizations	Financing
seminars and trainings in schools, universities, community centers; organization of master classes for the public, where experts will demonstrate practical energy saving methods, TV and radio: broadcasting educational videos, interviews with experts, and programs on energy saving;						Ministry of Energy and Water Resources, Ministry of Education	Government support, International financial institutions
To implement the measures / activities which led to energy saving and energy efficiency and using smart green energy technologies in the country;						Ministry of Energy and Water Resources	Budgetary funds, International financial institutions
Development of booklets, posters and leaflets informing about simple ways to save energy, e.g. insulation of the house, use of energy-saving lamps and household appliances.						Ministry of Energy and Water Resources and ECCJ	Ministry of Energy and Water Resources, OJSC «Shabakahoi taqsimoti barq» (TransCo)
Installation of energy efficiency technology and development of RES in light industry;						Ministry of Industry & New Technologies, Ministry of Energy and Water Resources	Government support, Private Sector
Provide subsidies for access to smart green energy solutions to households, particularly for rural households (direct subsidies for the installation of RES devices such as solar roof top and solar water heating collector through, the tax incentives: exemption from VAT and other taxes						Ministry of Energy and Water Resources	Government support, International financial institutions

EXPECTATIONS

- ✓ Reduction of energy consumption in the country;
- ✓ Increased public awareness of energy efficiency and using green energy technologies; Implementing more renewable energy and energy efficiency policies and measures in Tajikistan will affect energy savings, increasing investments in renewable energy and energy efficiency technologies, attracting new technologies, which contributed to the creation of new enterprises and new jobs in the country;
- ✓ Reducing the country's dependence on imported energy resources and improving energy security.
- ✓ Reducing the load on the energy system;
- ✓ Extending the service life of energy equipment and reducing the cost of its repair and maintenance.

CONCLUSION

In conclusion, energy efficiency and energy-saving measures are critical for reducing energy consumption, minimizing environmental impact, and lowering operational costs. Implementing strategies like upgrading insulation, using energy-efficient appliances, optimizing heating and cooling systems, and adopting renewable energy sources contribute significantly to achieving these goals. These measures not only help reduce greenhouse gas emissions but also promote long-term sustainability, making them an essential part of any energy management plan.

Together we can make our country more energy efficient and ensure sustainable development for future generations!



ありがとうございました
THANK YOU !

**ENERGY
EFFICIENCY**

