

0.9%), despite the fact that Russia has huge resources of renewable energy. Only 179 TWh of Russia's energy production comes from renewable energy sources, out of a total economically feasible potential of 1823 TWh. Only 16% of Russia's electricity is generated from hydropower, and less than 1% is generated from all other renewable energy sources combined. The abundance of fossil fuels in the Soviet Union and the Russian Federation has resulted in little development of the renewable energy sector.

Renewable energy in Russia mainly consists of hydroelectric energy. But at the hydro power plant the water coming out of the power station still has some potential energy. This energy cannot be used within the given surroundings of the plant (no adequate slope available). Rather, the remaining potential energy is dissipated to the environment with the water leaving the station. In other words, the potential energy of the water can be used only down to the level where it is in equilibrium with the environment, in this case expressed as altitude.

At the moment, renewable energy development is slowed by low investment, economic instability, low public demand and low tariffs on heat and electricity.

There are currently plans to expand the share of renewable energy in Russia's energy output. Russian leadership has taken steps to promote the development of renewable energy.

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ИНТЕРАКТИВНЫЕ ФОРМЫ РАЗВЛЕЧЕНИЯ

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Interactive entertainments have entered our life. Almost everyone nowadays has a small pocket computer – a smart phone, personal computer or video game console at home. All this platforms offer you to visit fictional universes, take part in rescuing the whole world or visit the places where a man has never been. Every year games become more complicated, sceneries much deeper and they get closer to the status of art. So, how actually games are developed, how universes are created and filled with life?

Every game is a programme that works with the data given to it where everything depends on this data: what the characters look like, what the world sounds like and what physical rules are correct. The central core of everything is a game engine. In this way, the game without data is the game engine, a programme which has an amount of tools for displaying graphics on the screen, playing sounds, music and reading required data. There are a lot of specialists involved in the development of games: 2D/3D-artists, programmers, musicians and sound engineers, animators and writers. The artists create a visual representation of the world. The main task is to create such an image, that players should believe in. The programmers work about the engine, create its architecture and develop how to pack the data in different file formats. For example, it has to be the format for 3d model, 2d image (called texture), sound file etc. Also they develop the game logic, they make the world behave in the right way. The musicians and sound engineers make the world sound as it should do because the sound is one of the ways to believe in the reality of the virtual world. The writers create a story which is full of events linked with each other making a logical chain in the

story. The animators make the entertainment world alive. Otherwise it will be the sequence of a static image and it will be dead.

Thus the more popular the games are, the more responsible the game developers should be for their ideas, which they fill the games with.

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ЛЕДОКОЛОСТРОЕНИЕ

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An icebreaker is a special-purpose ship or boat designed to move and navigate through ice-covered waters, and provides safe waterways for other boats and ships. Although the term usually refers to ice-breaking ships, it may also refer to smaller vessels, such as the icebreaking boats that were once used on the canals of the United Kingdom [1, 59].

For a ship to be considered an icebreaker, it requires three traits most normal ships lack: a strengthened hull, an ice-clearing shape, and the power to push through sea ice.

Icebreakers clear paths by pushing straight into ice pockets. The bending strength of sea ice is so low that usually the ice breaks without noticeable change in the vessel's trim. In cases of very thick ice, an icebreaker can drive its bow onto the ice to break it under the weight of the ship. Because a buildup of broken ice in front of a ship can slow it down much more than the breaking of the ice itself, icebreakers have a specially designed hull to direct the broken ice around or under the vessel. The external components of the ship's propulsion system (propellers, propeller shafts, etc.) are at even greater risk of damage than the vessel's hull, so the ability of an icebreaker to propel itself onto the ice, break it, and clear the debris from its path successfully is essential for its safety [2, 22].

Even in the earliest days of polar exploration, ice-strengthened ships were used. These were originally wooden and based on existing designs, but reinforced, particularly around the waterline with double planking to the hull and strengthening cross members inside the ship. Bands of iron were wrapped around the outside. Sometimes metal sheeting was placed at the bows, stern and along the keel. Such strengthening was designed to help the ship push through ice and also to protect the ship in case it was "nipped" by the ice. Nipping occurs when ice floes around a ship are pushed against the ship, trapping it as if in a vice and causing damage. This vice-like action is caused by the force of winds and tides on ice formations. Although such wind and tidal forces may be exerted many miles away, the ice transmits the force [3, 139].

The first boats to be used in the polar waters were those of the indigenous Arctic people. Their kayaks are small human-powered boats with a covered deck, and one or more cockpits, each seating one paddler who strokes a single or double-bladed paddle. Such boats, of course, have no icebreaking capabilities, but they are light and well fit to carry over the ice.

In the 9th and 10th centuries, the Viking expansion reached the North Atlantic, and eventually Greenland and Svalbard in the Arctic. Vikings, however, operated their ships in the waters that were ice-free for most of the year, in the conditions of the Medieval Warm Period.

In the 11th century, Russians started settling the coasts of the White Sea, named so for being ice-covered for