

LIGHTWAY s.r.o.
The manufacturer of Lightway
tubular skylight

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 **lightway®**

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**WHY ILLUMINATE
WITH LIGHTWAY
DAYLIGHT?**





THE MAIN MISSION OF LIGHTWAY IS TO BRIGHTEN DARK SPACES IN OUR CUSTOMERS' BUILDINGS WITH REFRESHING AND NATURAL DAYLIGHT IN PLACES WHERE WINDOWS CANNOT REACH.

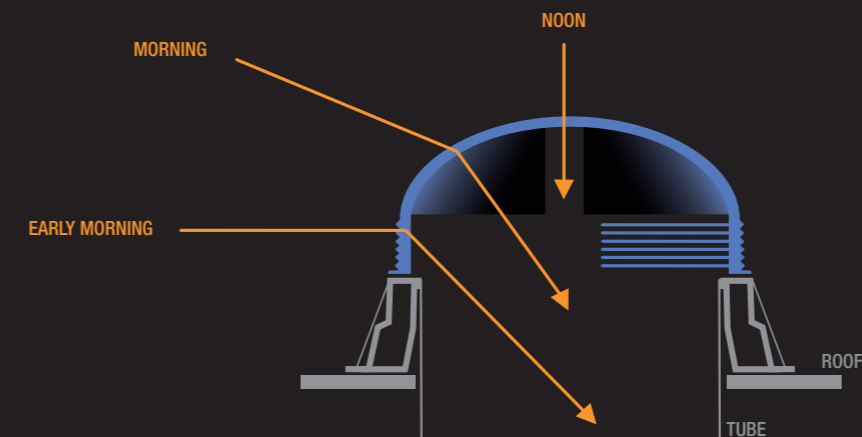
To change dark rooms into sun-lit environments through simple facilities - tubular skylights which convey daylight from the sky without demands by electrical energy.

To contribute to the removal of the symptoms of tired eyes caused by electrical lighting, to the renewal of

the qualities of sight and to prevent development of diseases from artificial light.

To stimulate our customers' good mood and state of mind in the trans-illuminated spaces of their homes and workplaces

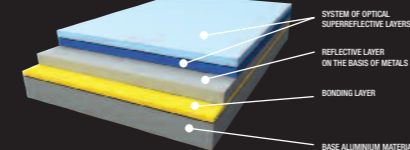
THE LIGHTWAY CRYSTAL DOME
Allows catching even morning and evening light



THE TUBE HAS THE REFLECTANCE OF 99,8 % AND VERY LOW PERCENTAGE OF DIFFUSION OF THE RAY OF LIGHT. THE DIFFUSION AT THE REFLECTION IS LESS 4 %.
25 YEAR GUARANTEE FOR THE MIRROR FINISH.

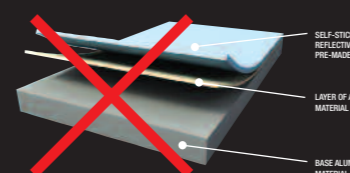
HIGH 25 YEAR GUARANTEE FOR THE MIRROR FINISH

CROSS SECTION OF THE REFLECTIVE LIGHTWAY SILVER SHEET METAL PHYSICAL VAPOUR DEPOSITION PROCESS APPLYING OF SUPERREFLECTIVE AND REFLECTION-ENHANCING LAYERS IN VACUUM



Thanks to the unique technology Physical Vapour Deposition process during which superreflective and reflection-enhancing layers are applied gradually to the base material the result is a homogenous, super reflective, flexible, mechanical and chemical resistant surface.

CROSS SECTION OF METAL SHEET WITH PRE-MADE SELF-STICKING REFLECTIVE FOIL



Many types of light pipes use the technology of sticking a reflective foil on aluminium metal sheet because of the cost cutting which brings the high risk of peeling and forming bubbles on the reflective surface.

OFFICES, PRODUCTION, SHOPS

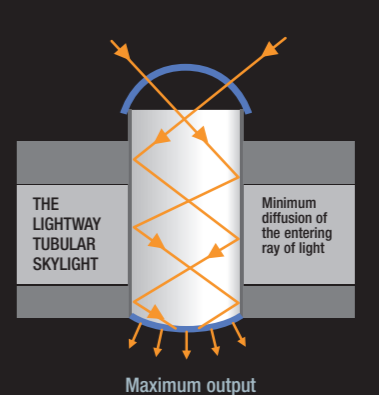


LIVING



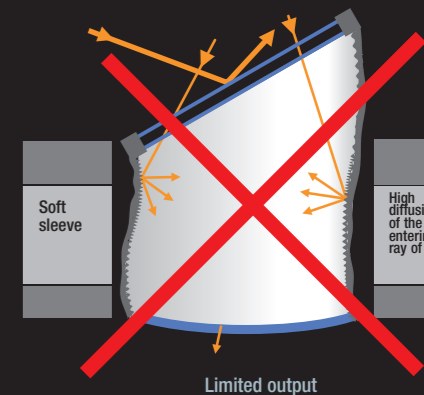
OVER STANDARD PERFORMANCE IN THE FIELD OF TUBULAR SKYLIGHTS

PIPING AND REFLECTION OF THE RAY OF LIGHT IN THE TUBE OF THE LIGHTWAY TUBULAR SKYLIGHT



The Lightway tubular skylight provides 300% higher brightness than tubular skylights using soft sleeves for piping light. To illustrate this point the Lightway tubular skylight of 320 mm diameter provides on average almost

PIPING AND REFLECTION OF THE RAY OF LIGHT IN A TUBULAR SKYLIGHT WITH SOFT SLEEVE



twice as much light as a 550 mm diameter tubular skylight with soft sleeve. The Lightway superreflective surface has reflectance of 98% and very low percentage of diffusion of the ray of light at the reflection inside the light pipe.

Back reflection on the uneven surface of the glass of a roof window means 30% loss of the intensity of light

HOW DO THE LIGHTWAY TUBULAR SKYLIGHTS WORK?

THE ROOF DOME CATCHES DAYLIGHT AND DIRECTS IT INTO THE TUBE. THE TUBE CONVEYS DAYLIGHT THROUGH A BUILDING TO A ROOM. THE ORIGINALLY DARK ROOM CHANGES INTO A SUN LIT SPACE.

iRCG | Intelligent Ray Catcher Glass

It is based on using sodium potassium and crystal glass, a computer designed shape and structure. The unique ability to catch indirect sun radiation on overcast days and direct the ray flow into the tube guarantees an illuminated space under all light conditions. In comparison with plastic

materials IRCG has a longer lifetime period, colour stability, aggressive atmosphere resistance, self-cleaning ability and fire resistance. IRCG is protected by the Organisation of Harmonization in the Internal Market of EU.



The reflective surface of the Lightway Crystal tube is produced by a very sophisticated method of chemical vapour deposition in a vacuum. Single layers are gradually applied in very thin microscopic thicknesses. The process guarantees their excellent flexibility and the ability to be bound to the preceding layers. The result is not only a high percentage of reflection at low

diffusion but also a repeatedly bounced ray. The technology also guarantees mechanical and chemical resistance. The surface is stable at changing temperatures and it is not sensitive to humidity. The complex of properties results in a 25 year warranty for the reflective surface of the Lightway Crystal tube.

Typ	summer full sun	summer overcast	winter clear sky	winter overcast	area lit
Lightway Crystal 200HP	290 lux	200 lux	140 lux	80 lux	6m ²
Lightway Crystal 300HP	440 lux	320 lux	190 lux	120 lux	9m ²
Lightway Crystal 400HP	700 lux	450 lux	250 lux	180 lux	13m ²
Lightway Silver 600	1100 lux	830 lux	410 lux	280 lux	27m ²
Lightway Silver 800	2900 lux	1500 lux	820 lux	400 lux	40m ²
Light bulb of 100 W	160 lux	160 lux	160 lux	160 lux	

Standard application with the length of the tube of 1250 mm
 With the type 200 HP, 300 HP, 400 HP the maximum recommended length of the tube is up to 10 m. With the type LW 600 and LW 800 the efficiency can be counted on up to 25 m.



THE LIGHTWAY DOME

The Intelligent Ray Catcher Glass technology was developed to optimize the light output of an overcast sky. The shape of the Crystal dome is designed to minimize the reflection of sunlight. Owing to the significant reduction of the surface reflection, up to 30% more sunlight gets into the Lightway Crystal tube in comparison with the systems which use the flat glass of a roof window as the starting point of the tubular skylight.

THE LIGHTWAY TUBE

The reflective surface of the Lightway Crystal tube piping light has the reflectance of 99,8% and a very low diffusion of ray at multiple bounces along the entire length of the tubular skylight. The result is the fact that the transmitted rays of daylight do not lose the intensity even through maximum lengths of tubes and are deliberately spread in the end part of the tubular skylight - the diffuser.

THE LIGHTWAY DIFFUSER

The Crystal Diffuser is made of sodium - potassium glass and provided with an optical antireflective layer containing titanium oxide. Back reflection up into the tube is significantly reduced. The improvement to the performance is 15% higher compared to plastic diffusers. The Crystal diffuser does not modify the daylight colour spectrum. It evenly diffuses and directs the flow of rays to the tubes. The purity of the basic material guarantees high light transmission. The combination of glass and metal trim of the diffuser comes in several variations.



HOW DOES LIGHTWAY DAYLIGHT HELP?

DO OUR EYES BURN AND DO WE PAY FOR THE ELECTRICITY USED DURING THE DAY FOR IT?

WE LIVE AND WORK IN BUILDINGS AND ON SUNNY DAYS ELECTRIC BULBS AND FLUORESCENT TUBES ILLUMINATE THE SPACE THERE. WHO DESIGNS SUCH BUILDINGS?



HOW DOES LIGHTWAY DAYLIGHT HELP?

When do we find out that we need glasses for reading? And how long have we been working under a fluorescent tube?

We do not wake up well in the morning, we go to the bathroom and the electric bulb shines into our eyes. Can we imagine a bathroom alight with the fresh sun?

We cook in the kitchen, do we illuminate the space with the electric bulb all morning? Are our eyes sore? Who has designed the building? Why did we pay so much money for our house or flat?

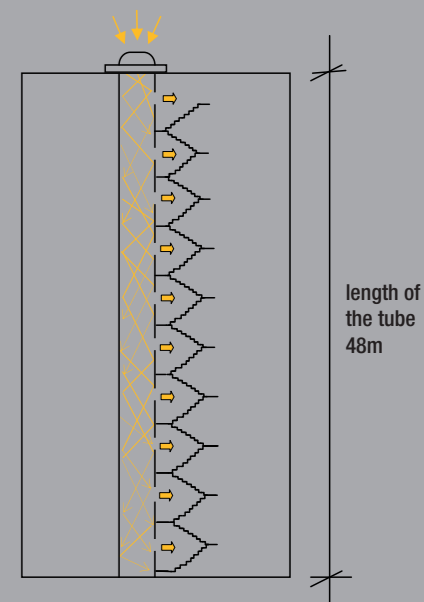
THE LIGHTWAY COMPANY S.R.O. WAS GIVEN A SPECIAL ASSIGNMENT. TO CONVEY DAYLIGHT IN A DIFFERENT WAY...

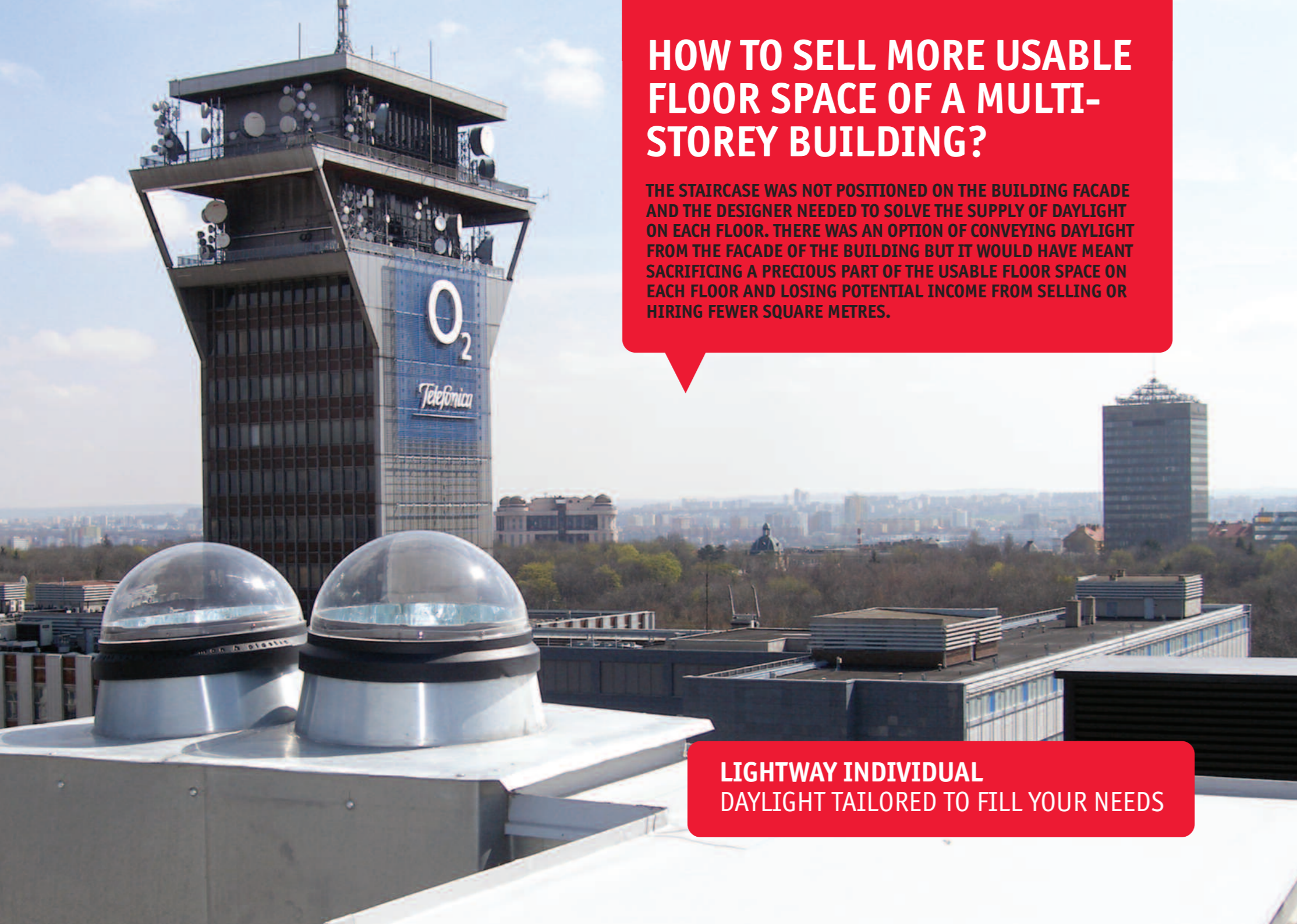
TO ILLUMINATE A STAIRCASE WITH DAYLIGHT AND WITHOUT SACRIFICING THE MOST PRECIOUS SPACE ON THE BUILDING FACADE.

FLATS OR OFFICES ARE AS NEAR THE FACADE AS POSSIBLE AND THE WINDOWS ENABLE NATURAL LIGHTING WITH THE VIEWS OF THE NEIGHBOURHOOD. THE INVESTOR DOES NOT HAVE BIG TROUBLE SELLING ALL THE FLATS AND OFFICES. ON TOP OF THAT THE PRICE FOR THE USABLE FLOOR SPACE GOES UP AND THANKS TO THE MORE PLEASANT ENVIRONMENT WITH THE WINDOWS, THE CUSTOMER IS SATISFIED AS WELL. THE ARCHITECT AND THE DESIGNER CAN PLAN ON USING ALL THE BUILT-UP FLOOR SPACE OF THE MULTI-STOREY BUILDING FUNCTIONALLY.

In the Central Park project in Prague both the mission of the Lightway company s.r.o. and the requirements of the regulation no. 26/1999 of the Code of the town of Prague, part 4, paragraph 50 for the chosen types of buildings and institutions where the main staircase must be illuminated by daylight were fulfilled.

THE CENTRAL PARK BUILDING
Schematic picture





HOW TO SELL MORE USABLE FLOOR SPACE OF A MULTI-STOREY BUILDING?

THE STAIRCASE WAS NOT POSITIONED ON THE BUILDING FACADE AND THE DESIGNER NEEDED TO SOLVE THE SUPPLY OF DAYLIGHT ON EACH FLOOR. THERE WAS AN OPTION OF CONVEYING DAYLIGHT FROM THE FACADE OF THE BUILDING BUT IT WOULD HAVE MEANT SACRIFICING A PRECIOUS PART OF THE USABLE FLOOR SPACE ON EACH FLOOR AND LOSING POTENTIAL INCOME FROM SELLING OR HIRING FEWER SQUARE METRES.

**LIGHTWAY INDIVIDUAL
DAYLIGHT TAILORED TO FILL YOUR NEEDS**



HOW DOES LIGHTWAY DAYLIGHT HELP?

We women know that applying make up only under electric bulbs is not easy. How do the colours on the face change outside in daylight? How can we bring Lightway daylight into our bathrooms?



Every day we go through a dark corridor. The sun is shining outside and we have to touch that light switch again. Is there not any other way to do it?

Are we able to imagine how our uncomfortable bathroom or closet can change into a gleaming and fresh space, thanks to Lightway daylight?



HOW DOES LIGHTWAY DAYLIGHT HELP?

Are we amused by our guests' astonishment why it is not necessary to switch off the Lightway daylight? And how much will electricity cost in 10 years?

Do they always forget to switch off the light? How many times should we repeat it? Do they know that electricity costs us money? Who will send the bill for the Lightway daylight from the sky?

HOW DOES LIGHTWAY DAYLIGHT HELP?

Burning eyes can be tranquilized by eyedrops, a bad mood can be improved by friends, tiredness can be slept off... But a disease can develop from the lack of daylight. Its name is bone thinning.

Do we look exhausted and older? And for how long will we be under artificial light during daylight hours? Do the employees work under electric

lighting all day long? Are they in bad moods? How much do we pay for electric power for the whole year? How much does it cost us when their eyes are burning and they cannot concentrate on their work?