## Slovene light pollution law advances quality outdoor lighting, and decreases glare and energy loss

The Slovene *Decree on limitation of light pollution of the environment* entered into force in September 2007. Its positive results may already be seen in Slovene municipalities. Many streets and roads in Ljubljana were renovated in 2007. The difference is perhaps most notable at the major city roads (Tržaška and Tivolska road, partly also Celovška in Dunajska road).



Tivolska road, during the renovation of street lighting. Old luminaires with a concave protective plastic shielding result in a lot of glare, while the glare is considerably reduced in the other half of the road where the luminaries emit 0% above the horizontal (in accordance with the Decree). All the photos: H. Mikuž and A. Mohar.



Two photos of Tržaška Road in Ljubljana: The left photo (year 2007) shows old luminaires using 250 W bulbs and emitting light into the sky. To the right is the situation in 2008 with fully shielded luminaries using 150 W bulbs. As a result, energy consumption has decreased by full 40%, the road is more intensely and more evenly illuminated, there is less intrusive lighting at the facades along the road. The type of the bulb has remained the same, but an improved optics allows the power of the bulbs to be reduced.

Less glare is particularly appreciated by older citizens, who feel the glare relatively more due to the natural process of ageing. Due to less glare and more even illumination the new city roads are safer. Less intrusive lighting enters the bedrooms of those living along the roads, all the taxpayers benefit from less energy consumption and there is less light pollution.

We all have gained from the Decree! Andrej Mohar, Dark-sky Slovenia (www.temnonebo.org)