

Association Contre l'Heure d'Eté Double (ACHED)  
"Pour la réduction des avancements de l'heure légale"

Marly-le-Roi, le 05 / 08 /2009

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to Mr The President of The USA  
Mr Barack OBAMA  
The Withe House  
1600 Pensylvania Avenue NW  
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**Daylight time (called Summer Time in Europe) does not provide savings, but brings expenses, casualties and unrest. The increasing use of low-energy light bulbs makes it still more absurd to enforce.**

Dear Mr President,

In this time of growing concern about global warming, while at the same time low energy light bulbs are more and more widely used, the enforcement of daylight time has to be reconsidered.

Daylight time may well allow us to enjoy longer evenings without electric lighting on, so saving on power, but it does not take into account seasonal temperatures, hence an increased use of electricity for heating and/or air-conditioning that must be taken into consideration.

Actually, highs and lows in daily temperature curves occur later than those of natural daylight.

A recent study by Matthew J. KOTCHEN found a 1 percent overall increase in residential electricity use for heating and air-conditioning, related to daylight time. (see attached document 1). M. Kotchen was able to conduct that study in Indiana, where daylight time was introduced statewide only in 2006; before that year, daylight time was in effect in just a handful of counties. In the European Union, a document from the Commission had already pointed out, in 1990, that the gains due to daylight time were "minute and uncertain" (see document 2), owing to extra energy use from heating and traffic. Please see the attached summaries of studies conducted on these extra uses in Germany and Belgium (documents 3 and 4).

It is then obvious that, according to each country's geographical situation and climate, daylight time induces various extra energy consumption that can be compared in size to savings on lighting. That over-consumption may concern either heating or air-conditioning, or both; and in our developed countries, it may concern as well over-consumption of car fuel with heavy traffic and car air-conditioning (see document 5, from a EU report).

In less developed countries, generally situated in tropical or equatorial areas, it is a different problem: night-time is nearly as long as day-time, so daylight time offers no savings in electric lighting. Such is the case for French overseas territories, and countries such as Hawaii and Puerto Rico. Moreover, those countries have, for a long time, used energy-saving neon lights. With such lighting, that burns little power, daylight time-induced savings (one hour a day for most households, at most) are lower than the savings measured up to now in our developed countries, where incandescent bulbs are still widely used.

But the world is today entering an era of widespread use of low-energy lighting ( LEDs, fluocompact bulbs

and fluorescent tubes mainly). That means that savings on lighting related to daylight time will grow steadily smaller, as more and more of these low-energy lamps are used in more households. Those savings will be greatly surpassed by over-consumption in heating, air-conditioning and car fuel, since energy efficiency gains will not grow as fast here. Eventually, in a near future, daylight time-induced lighting savings will make up about a quarter of the current savings. Daylight time-induced over-consumption will be at least four times higher than savings on lighting (15 times higher eventually for Indiana, owing to very high over-consumption due to household air-conditioning).

Daylight time impacts on transportation, health and work all negatively:

- Daylight time is sometimes shown as beneficial for transportation in general. But actually, daylight time disturbs transport systems. Those countries that have adopted daylight time have often done so to escape problems of inter-connection between their own transportation and communication systems and those of daylight time-using countries. The daylight time system does not help transportation at all. Being adopted by all only limits its negative effects. As a case in point, China has given up daylight time, denouncing the “chaos” that it had brought on its schedules, particularly for trains (see document #6, from the BELGA agency). In Brazil, problems have been pointed out, in that huge country that spreads on both sides of the equator (see document 7): North of the equator, daylight time starts at the end of March, whereas South of the equator, they go back to standard time on the same day (seasons being opposed in the two hemispheres). Beyond the problems linked to those changes for (inter)national transportation, it is obvious that traffic visibility conditions are worse in the morning during the week following the switch to daylight time, and those preceding the switch back to standard time. (see document 8, from the German Ministry of Interior). Moreover, several studies mention a rise in traffic accidents as an after-effect of daylight time. According to M.COREN from Canada, and to the Heidelberg University Clinic, Germany, its cause could well be the tiredness linked to daylight time. (see documents 8, then 9 and 9bis, and 10 and 11 too, for France).

- According to an important study recently published by the Karolinska Institute in Stockholm, Sweden (see document 12), the number of heart attacks rises by 5% during the week that follows the switch to daylight time. The study was conducted for twenty years all over Sweden; it did not show a symmetrical significant drop in the number of such strokes in the week preceding the switch back to standard time. When the researchers linked those results with the shortening of sleep time induced by daylight time, they showed the tip of an iceberg: the problem is, basically, less time devoted to sleep (since our sleep hormone, melatonin, is blocked by light) and more tiredness, which large numbers of people blame daylight time for. One must also mention the increased use of sleeping tablets and other such medicine, together with all the negative effects that they entail. Old people's and disabled people's suffering and weakening are a very painful and costly side-effect of that problem of daylight time.

- The physical effects quoted above make students less able and efficient in their studies; and all outdoors jobs like farming, building and so on are made far more tiresome. As for primary school students, a Russian study by KUNDTZI, AGATOVA et al. found “dis-synchronosis”, i.e. several biological functions lengthen their phases, while others do not (see document 13).

- Daylight time effects cannot be assimilated to 'jet lag'. It increases health costs nationwide from over-consumption of sleeping tablets and other such medicine, and their negative after-effects too (often serious effects for elderly people); it encourages obesity (lack of sleep makes people hungry); it leads to more intense UV exposure on afternoon outings, hence a very likely rise in skin cancers (the issue was studied in Australia).

Mr President, you can see that M. T. KOTCHEN (document 1) considers that the abolition of daylight time could work for your aims, the conservation of resources, saving on spending, the promotion of energy security and the fight against global warming. Time changes have not been considered in the Universal Convention on Time Zones, and rightly so, since harmonizing them is impossible worldwide. Spreading the

use of daylight time to numerous countries does not authorize its upholding. On the contrary, it is crucial to consider whether it is actually worthwhile (as some still claim it is), or whether it is an error that affects more than a billion and a half human beings.

Our association encourages you to promote giving up daylight time in the USA. The EU, with which we have been working since 1985, would undoubtedly follow suit, as well as other countries in the world, most of which have adopted the system only to avoid breaks in transportation and communication. Standard time +1h all year round, or a seasonal early schedule of working times, can be adopted by some countries, without disrupting their communications with other countries. A proposition to give up on daylight time, and time changes, would be seen as a sign of friendship towards Islamic countries, as they are situated in latitudes where the energy-saving effect of daylight time is most clearly non-operative; and their peoples suffer from it most particularly because their farming, cultural and religious practices are in close connection with the sun. (1) Sleep is a vital need of the human being. Respecting the conditions that allow each of us to get sufficient sleep is respecting an essential human right. We thank you very much for having read this, and for considering the problem. Please do not hesitate to contact us for all complementary information.

Yours faithfully,

Eléonore Gabarain (Agricultural Engineer) for the ACHED association

*Notes on pollution, and leisure time:* Many fields of activity are concerned by time changes, and human activities occurring while daylight time is on entail an increase in secondary photo-oxydizing pollutants. I formulated this idea, which was proved as early as 1985 by various European studies, and by a study by M. COREN in California (see document 14). The question of leisure time is often mentioned in relation to daylight time, but the latter can only favor working people's leisure time, and only on weekdays. Daylight time has a negative effect during weekends and holidays for most people. The main reasons are catching up with sleep lost on working days, and closing times of facilities when there is still some daylight.

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(1) In Iran, the switch to daylight time decided by the Shah (shortly before his fall) had caused public anger and unrest. The following regime had first abolished daylight time; then it has reverted to it because of the transportation and communication problems mentioned earlier.

**Last minute** : We just received one interesting study about « Chrono-obesity » (see Doc 15)