



Wake up the Town: Arctic Experiment Results

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PHILIPS

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Foreword



“When I heard that Philips was going to an Arctic town to test its Wake-up Light with the residents during their winter months of 24 hour darkness, I was very excited. It presents a rare opportunity to conduct a lab-quality study in a real-life situation that is completely isolated – no sun, no traffic, city noises or light pollution that could affect the outcome. The *Wake up the town* project allows us to validate what scientists have known for decades: we need natural light signals to function properly.

As darkness turns to dawn, the body clock starts producing active hormones that awaken us so that we feel alert and ready for the day. This is why it is so much easier to wake up with the sun rather than with an alarm clock. But what happens if you don't see the sun for 4 months? Can the Philips Wake-up Light help wake you up more naturally so you feel more refreshed at the moment of wake-up? From the results we have gathered over the past 2 months from 186 volunteers in Longyearbyen, Svalbard, the answer seems to be a resounding yes. Anywhere other than the Arctic, one might say that the beneficial effects of the Philips Wake-up Light could be due to some other factor like outdoor light, but Longyearbyen is one of the few places on earth where people live in total darkness for four months.

This report will introduce you to the project and the volunteers that took part in trialing the Philips Wake-up Light so that you get a better idea of what it is like to live in such harsh conditions. It will also present data collected throughout the trial alongside comments from the volunteers about how they have benefited from using the Philips Wake-up Light since their winter began. I hope you are as excited about the results of this project as I am. You don't need to be a scientist to appreciate the relevance of a Philips Wake-up Light to our daily lives far away from the Arctic Circle.”

Daniel Adams, light therapy expert and Senior Application Scientist at Philips

Project objectives



The ultimate product test

The Philips Wake-up Light has been clinically proven by a number of independent clinical studies. Two scientific studies published in the summer of 2010 revealed that waking up with gradually increasing light prior to the alarm time is of overall better quality than waking up without light*. Participants reported easier rising, improved energy levels and better mood thanks to the Philips Wake-up Light, even after only one day. In fact, those who struggled most to wake up were fully alert nearly 25 minutes earlier than when waking up with an alarm clock. These effects were also measured objectively with EEG, skin temperature and blood chemistry, and they persisted well into the morning.

But can the Philips Wake-up Light stand up to the toughest product test by having residents of the northernmost town in the world trial it for 2 months during their polar night?

The *Wake up the town* project charts the progress of ordinary people in an extraordinary environment changing their waking up habits to see whether their mornings feel brighter by using the Philips Wake-up Light over their previous wake-up method. Will they find it easier to get out of bed? Will their new wake up method give them energy? Will the Philips Wake-up Light improve their mood?

***Study 1:** Giménez MC, Hessels M, van de Werken M, De Vries B, Beersma DGM, Gordijn MC. Effects of artificial dawn on subjective ratings of sleep inertia and dim light melatonin onset. *Chronobiol. Int.* 2010;27:1219.

Study 2: Werken MV, Gimenez MC, De Vries B, Beersma DG, Van Someren EJ, Gordijn MC. Effects of artificial dawn on sleep inertia, skin temperature, and the awakening cortisol response. *J Sleep Res* 2010;19:425.



“Longyearbyen is just it; there is no road going anywhere. You are stuck here. And when it’s dark, you sometimes feel that darkness”

Birger Amundsen

Ordinary people, extraordinary environment

Longyearbyen is situated 78 degrees north and is the northernmost town in the world with 2,000 inhabitants (and 3,000 polar bears!). The small and colorful community of Longyearbyen has developed from a typical mining community into a community with a number of businesses and industries and a wide range of cultural activities and opportunities. The population of Longyearbyen is young with many small children and few senior members.

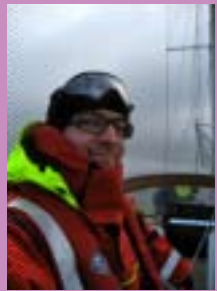
Because of its proximity to the North Pole, Longyearbyen experiences the midnight sun from 19 April to 23 August but from 28 October to 14 February, the sun never peaks over the horizon and Longyearbyen enters a period of total darkness. The residents of Longyearbyen were therefore ideal for the *Wake up the town* project because they were genuinely curious about how light affects the human body.

The people recruited to take part in the project were all volunteers from Longyearbyen. Philips did not select the volunteers; anyone who showed an interest and wanted to take part was included. In total, over 200 volunteers signed up to receive the Philips Wake-up Light with an equal split of men and women, and an age range from 12 years old to over 55 years of age. The volunteers were therefore an accurate representation of the population of Longyearbyen.



"I'm trying the Wake-up Light because I wish to start my day with more energy and a better mood."

Ulrika Sjöo, massage therapist



"I'm trying the Wake-up Light to see if it works and to hopefully get a more comfortable morning."

Mats McCombe, sports centre Svalbard and guide



"I'm trying the Wake-up Light because I want to have an easier wake up."

Eva Grondal, photographer & preserver of historical photographs

Methodology



On 20th October 2010, Philips Wake-up Lights were handed out to the volunteers at a town gathering in Longyearbyen. From then until the end of December 2010, the volunteers trialed the lights in home. They were advised to wake up using the Philips Wake-up Light at the same time each morning for more accurate results.

To find out if the Longyearbyen volunteers benefitted from a new way to wake up during their polar nights, Philips sought to gather quantitative and qualitative data as transparently as possible and via non-invasive methods to the volunteers' daily lives.

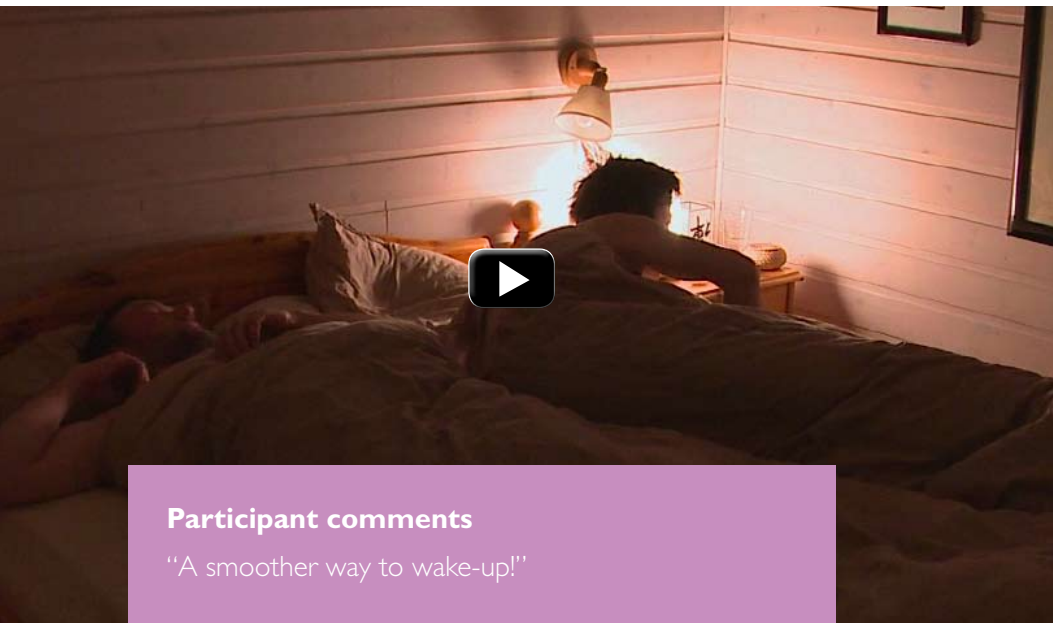
Research:

In exchange for keeping the Philips Wake-up Lights, the volunteers were asked to anonymously answer three short online questionnaires devised by Philips' resident light therapy expert, Daniel Adams. Results were gathered from 186 volunteers. The research, carried out independently by a third party, Opinion Matters, was designed to gather pre-trial data and then assess the impact of the Philips Wake-up Light on sleep/wake patterns two weeks into the trial and six weeks after first using the product. The research enabled Philips to gather quantitative data from the project.

Sharing experiences:

Residents also reported their experiences and shared their stories via a Facebook fanpage (www.facebook.com/philips.wakeup). Philips was interested in their honest feedback so comments were not screened on the Facebook page. Award-winning documentary film director, Doug Pray, also recorded the experience of some Longyearbyen residents in five short films that are available on a dedicated site (www.philips.com/wakeup). Both social media and the documentary enabled Philips to gather more qualitative data from the project.

Results



Participant comments

"A smoother way to wake-up!"

"Earlier I used to snooze for at least 30 minutes before I dragged myself out of bed, now I am actually awake when I wake up."

"When I set my Wake-up Light in the evening, I look forward to the "sunshine" and the singing of the birds the next morning."

After trialing the Philips Wake-up Light for six weeks during the polar winter, **87%** of residents in Longyearbyen, Svalbard, agree that they awake feeling more refreshed, alert and ready for the day.

Pre-trial, three quarters of residents (**72%**) had found it difficult to get out of bed in winter. The Philips Wake-up Light has changed the morning routine of Longyearbyen residents for the better with improvements in the ease of waking up, energy levels and mood.

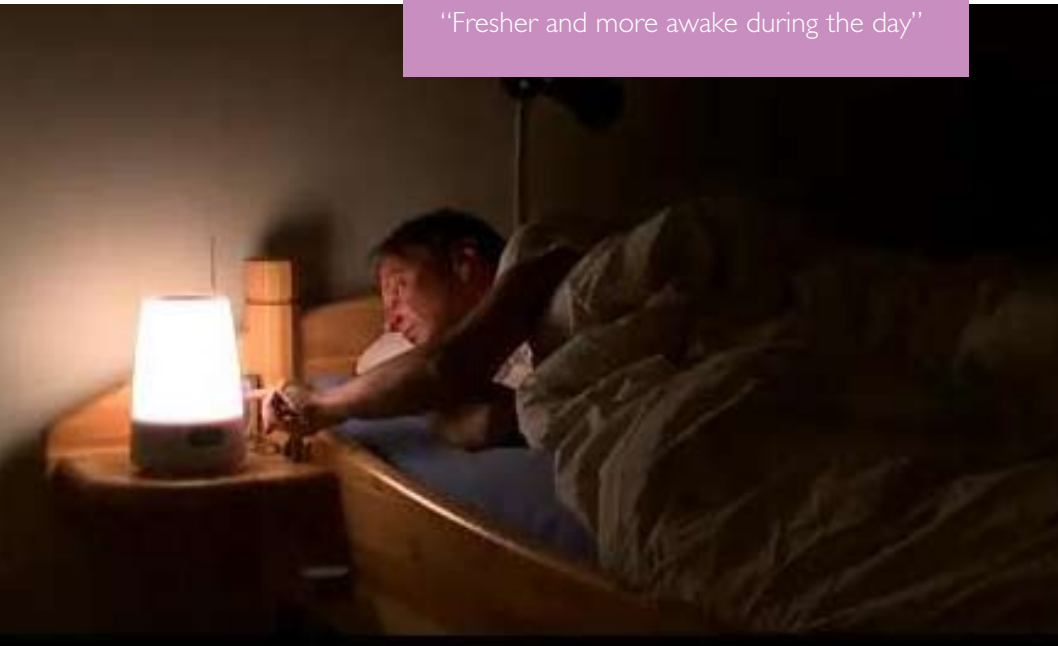
Wake-up experience

- Residents felt better in the mornings since using the Philips Wake-up Light: the mean was **7.2** (where 1 is 'extremely worse', 5 is 'no different' and 10 is 'extremely better') after six weeks
- After six weeks, **87%** of respondents found they were waking up feeling more refreshed, alert and ready for the day.

Participant comments

“More energy in the morning”

“Fresher and more awake during the day”

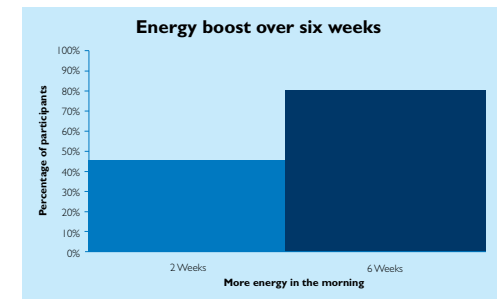
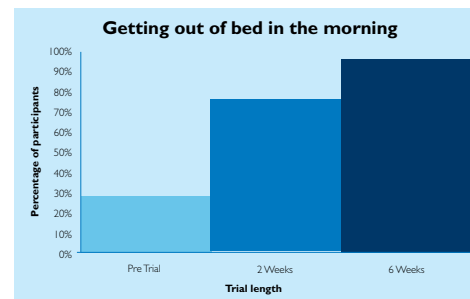


Getting out of bed

- After six weeks of using the Philips Wake-up Light, a huge **97%** of those who previously had trouble getting out of bed during the winter months before the experiment began were finding it easier to get up in the morning
- **62%** of residents with school age children found it easier to wake them in the morning after six weeks
- **70%** of teenagers too found it easier to get out of bed after six weeks using the Philips Wake-up Light

Energy boost

- **81%** said they have more energy in the mornings thanks to a more natural wake up experience
- The older generations in particular benefited from increased energy with **82%** of 45-54 year olds feeling more energetic after a month.





Participant comments

"I feel more happy when I wake up"

"Feeling good in the morning!"

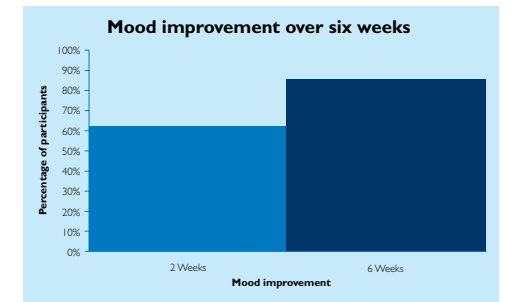


Mood improvement

- **86%** confirmed the Philips Wake-up Light's positive impact on their mood after six weeks

- Women in particular benefited from the impact of the Philips Wake-up Light on their mood, with **90%** reporting positively compared with **81%** of men after six weeks

- Adults and children alike experienced positive effects – **80%** of teenagers confirmed improved mood after six weeks



Conclusion

98% of residents will continue to use the Philips Wake-up Light rather than return to their previous method of waking up, the ultimate affirmation that the Philips Wake-up Light has helped the people of Longyearbyen, Svalbard, to simply benefit from a more natural wake up experience.

"After years of clinical studies, we can now say that the Philips Wake-up Light is not only clinically proven to help people wake up more naturally, it has been proven by real people in real conditions."

Daniel Adams, light therapy expert and Senior Application Scientist at Philips

Product



The volunteers in the project used the Philips Wake-up Light model HF3470. The model is part of a wider range of Wake-up Lights from Philips as well as other products within the Philips light therapy portfolio.

Advanced 'sun rising simulation' light technology gradually increases the light intensity, gently preparing your body for wake up. To make waking up even more pleasant the model also includes two natural wake-up sounds and digital FM radio.



Wake-up Light



goLITE BLU energy light

New Philips Wake-up Light

The new Philips Wake-up Light was launched in Q4 2010 and combines advanced 'sun rising simulation' light technology with new, personalized sound options. Browsing and selecting sounds for the Philips Wake-up Light is simple thanks to the easy-to-use navigation panel on the front of the product. In addition to four embedded sounds, the new Philips Wake-up Light is the first of its kind to feature a USB port for uploading additional, personalised sounds via USB. So if you want to start the day to the sound of your child laughing, your favorite music or the sounds of the surf you recorded on your latest holiday, the Wake-up Light makes it possible to create a morning wake up ritual that's yours alone. Waking-up has never been so easy!

Philips goLITE BLU energy light

Philips energy light products help you to restore and retain your energy and overcome winter blues. Philips goLITE BLU is a compact light device that provides the right level of blue light to help regulate our body's clock and improve mood and energy levels. Because it produces more concentrated light, it is more efficient than the traditional white light boxes and considerably smaller. With its compact design and rechargeable battery you can use the goLITE BLU at home and in the office, or even on long journeys. By regulating your body clock, the Philips goLITE BLU can also help reduce the effects of jetlag, caused by long-haul journeys across time zones.

Further information



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About *Wake up the town* project:

Wake up the Town Facebook page - www.facebook.com/philips.wakeup

Wake up the Town Campaign website - www.philips.com/wakeup

About Longyearbyen:

For more information on Longyearbyen, Svalbard, please visit <http://www.svalbard.net>

About Royal Philips Electronics:

Royal Philips Electronics of the Netherlands (NYSE: PHG, AEX: PHI) is a diversified health and well-being company, focused on improving people's lives through timely innovations. As a world leader in healthcare, lifestyle and lighting, Philips integrates technologies and design into people-centric solutions, based on fundamental customer insights and the brand promise of "sense and simplicity". Headquartered in the Netherlands, Philips employs approximately 116,000 employees in more than 60 countries worldwide. With sales of EUR 23 billion in 2009, the company is a market leader in cardiac care, acute care and home healthcare, energy efficient lighting solutions and new lighting applications, as well as lifestyle products for personal well-being and pleasure with strong leadership positions in flat TV, male shaving and grooming, portable entertainment and oral healthcare. News from Philips is located at www.philips.com/newscenter.

