

THE RIGHT TO STARLIGHT, ANOTHER STEP TOWARDS CONTROLLING POLLUTION AND AN EFFICIENT USE OF NATURAL RESOURCES

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Formulating the right to starlight: basic aspects of the legal regime.

When starlight, something so simple and consubstantial to mankind since the dawn of time, attempts to become a right that requires respecting, or restoring if has already been affected, it takes on a dimension that contains a complexity of relations that are only detectable when the other side of exercising rights comes into play: that is the obligations.

The right to starlight, or to dark skies if you prefer, entails the implicit obligation of avoiding, attenuating or correcting all elements or factors that have an impact on the “clarity” of the night, making light pollution the main risk factor that deteriorates the integrity of this right.

Light pollution is the unwanted consequence of an excess of lighting that, moreover, is poorly directed, producing the illumination of the dark sky. This definition is the result of a simplistic conception of what an excess of lighting means, as if light is energy, we are not only talking about dazzling the dark skies, we are also talking about energy corridors, vibrations and radiations, we are talking about burning fossil fuels, landscape and nocturnal wildlife, of cultural deterioration, obstacles to research of the cosmos, of health and welfare, of squandering and redistributing the wealth of finite or non renewable resources, of climate and of global warming.

Light pollution however, finds its best footing the recognition of the atmosphere and its associated components as a natural resource of undoubted transcendence for living conditions on Earth. Air pollution does not understand or respect administrative barriers or national sovereignties, as the consequences of its impact have a world wide repercussion, so emphasis must be given to developing conventions and conferences that make it possible to reach international agreements in which climate and pollution acquire a joint platform of analysis.

Legal regulation to control light pollution is merely another step in the complex task of regulating the origin and dispersion of pollutants, which is why we will touch upon the most frequent techniques that have been established for controlling and preventing pollution, if only briefly:

The classification of activities by their environmental impact

The regulatory classification of activities depending on their degree of environmental impact makes it possible to submit these activities to certain special processes to validate their development with regard to the corrective measures they should include and to

certain distances that should be maintained between them and other activities or human settlements in the territory.

The environmental nature impregnated in these regulations when they specify that the process for obtaining licenses or the technical requisites to be taken on board, must be based on objective criteria that guarantee protection. It would be advisable to include all activities that produce gratuitous or merely festive light pollution to be classed as bothersome or unhealthy, so that they adopt corrective measures or, if applicable, they are eliminated by direct ban.

Environmental Impact Evaluation

The Evaluation of the Environmental Impact is conceived with a double purpose: first as a technique of self control for the activity of the public administrations, and second, as an administrative intervention instrument, that is, the public or private nature of the activities is irrelevant to the purpose of the evaluation.

Apart from following the maxim coined in health matters: “prevention is better than cure”, the application of prior corrective measures means lower economic and social costs than when it is a question of remedying the harmful effects of the pollution produced after the event.

In the evaluation of any work or project, light pollution obviously must be evaluated just like any other kind of pollution, and corrective measures must be established, if necessary, to limit, restrict or eliminate the harmful consequences of its effects on heritage resources and the environment.

Application of Environmental Management Systems and Audits

The use of these techniques of implementing environmental management is aimed at stimulating the use of the best environmental practises by all kinds of companies and organisations. These Environmental Management Systems and their later audits, reviews and evaluations of the system, are the voluntary tools available for companies and organisations that operate in the traffic of goods and services in the world wide market to make environmental improvements.

Although the voluntary nature of sticking to these practises makes them far less efficient, it is also true that the quality of the products supplied and services provided in a highly competitive market depends on the accredited environmental behaviour of the companies involved.

Homologations

With the homologation procedure, the public administration can control the process of certain products and activities that have an impact on the environment, but, instead of conducting individual and case by case checks, they set out the compulsory requisites and conditions and check that the authorised prototypes are the same as the components that are to be mass produced.

This way, certain elements and products are subject to a preliminary administrative audit and if this is passed, these elements and products are accredited with the identification of a label or logotype placed on or built into them. The homologation of lamps that

meet the previously established requisites could thus become an effective instrument to control light pollution.

The declaration of Protected Natural Areas

Although the declaration of Protected Natural Areas is a legislative technique that acts to indirectly protect an area from light pollution, its repercussion in these matters is obvious, because the processes that affect or may affect the development of the essential ecological processes in their territorial area are analysed with greater stringency and in greater detail, as the conservation of their resources take priority over any other factor that is not backed by an express declaration of general interest.

Promoting and declaring “Starlight Reserves” as an extra declaration, or part of an already declared Protected Natural Area, or autonomously because of the climatic conditions and territorial location of the area in question, may open a door that is vital for the effective configuration of the right to starlight.



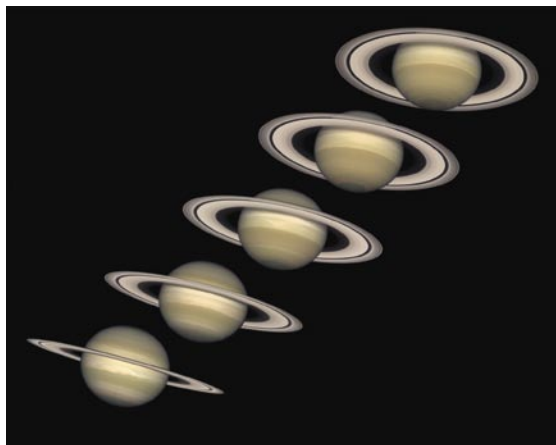
En zonas turísticas se producen ejemplos claros de la inutilidad del derroche lumínico, ya no tiene sentido ninguno iluminar el mar y playa durante la noche. Imagen superior de Cullera en Valencia (@ Francisco Colomer), imagen inferior, Playa de las Canteras, Gran Canarias (Source: <http://www.flickr.com/photos/rol1000/>, License terms: <http://creativecommons.org/licenses/by-nc-nd/3.0/>).

Light pollution in regional, environmental and town planning.

The spatial overlapping of activities and uses with polluting repercussions, will have a greater or lesser environmental impact depending on the exact location chosen for said activities and the correct application of the pertinent corrective measures. The relations between regional planning and the protection of the environment have been highlighted on many occasions, both to quantify the impact that incorrect or inexistent planning has and for extracting results from correct planning.

The European principal of subsidiarity recognised in the old slogan “*think global, act local*”, indicates that, whenever possible, decisions should be taken on the political-administrative level that is closest to the man in the street, and this principal finds an ideal place in regional, environmental and town planning for being put into effective practise.

From this viewpoint, measures to protect the dark skies should be introduced throughout the planning system so that, like a regulatory cascade, they flood down to the last step and person, where their application should be reflected in practise, that is, in



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Local Councils and with regard to planned building works and economic activities setting up in the region.

The lack of basic central government rules to regulate this situation is not an obstacle for regional authorities to exercise their legislative powers in the area of environmental protection and to regulate this right by imposing measures aimed at reducing or limiting light pollution. This is an aspect that has been profoundly reinforced

since the European Directive 2001/42/CE and of the Council of the 27th of June 2001 on Evaluating the effects of certain Plans and Programmes on the Environment² came into effect.

Therefore, if light pollution is an environmental aspect deriving from taking decisions associated with the power over regional and town planning, its effects should be evaluated and duly corrected like any other incident of this nature.

Nevertheless, and despite the autonomous character of the evaluation of this polluting factor in planning decision as a consequence of applying regulatory mandates, it is true that its express recognition in each and every planning instrument makes the system fire proof to avoid cracks that in practise translate into pollution and wasted energy.

This enables each Region to design its own policy, adapted to its specificities and to develop the best instruments for protecting its own resources. In the case of this Region, the host to the Starlight Conference, we have reached a point at which it is relatively simple to introduce this environmental variable in the tasks of planning.

In the case of the Canary Islands, apart from the Protection of the Quality of the Skies Act, there are several legal provisions and rulings of regional planning instruments that enable us to live in the hope that the islands can remain in the vanguard in this terrain.

The Canary Island Regional Guidelines for General Planning and Tourism Act, Law 19/2003, of the 14th of April, considers light pollution as a form of air pollution, and it takes on board rulings that contain clear and explicit mandates that have to be included in regional and town plans at all lower levels (parts or districts of the island or municipal plans). Hence, Guideline 20, established as a rule of direct application, indicates the following:

“1. The public administrations will pay relevant attention to the quality of the air, noise and exterior lighting, because of its everyday impact on the quality of life of residents and visitors to the islands, because of its influence on the harmonious life of citizens and because of its impact on the formation of an increasingly acute and desirable sensibility with regard to the environment. The Environmental Quality Planning Guidelines shall establish the planning framework in these matters.”

...

4. *The Canary Island Government shall care for the light quality of the archipelago and shall set adequate levels for maintaining the activity of astrophysical observation in optimum conditions, the saving and appropriate harnessing of energy and respect for the wild life”.*

For its part, Guideline 22, dealing specifically with light control, includes the following mandates:

1. *The Environmental Quality Planning Guidelines shall establish the criteria and rulings that guarantee an adequate light control of each one of the islands, on a foundation that will include the determinations contained in the regulations on protecting the astronomic quality of the observatories, including the elimination of intrusive lights.*
2. *With a view to preserving and improving the light quality of the Canary Islands, the Environmental Quality Planning Guidelines shall indicate, at the very least, the light quality objectives by island and, if necessary, as a function of the vulnerability to light pollution, by smaller areas, such as areas affected by astronomic observation, urban media, the proximity of protected areas, proximity to major roads, etc. All of this notwithstanding the competences of the State in matters of lighting and sign-posting of coasts, ports and airports.*
3. *The Environmental Quality Planning Guidelines shall determine the methods of control and monitoring for light quality, creating to this end a Light Prevention and Correction Commission made up of representatives of the main stakeholders involved.*
4. *Within the areas of their competence, the municipal by-laws shall develop the contents of the Guidelines in this matter, notwithstanding the convenience of regulating this area without waiting for the regional government to provide planning for this field. The Canary Island Government, in conjunction with the island and municipal authorities, shall design a standard model of environmental by-laws for possible adoption by municipal authorities”.*

These provisions of the Guidelines Act should be complemented in their respective functional and regional areas of planning by Island Planning Master Plans and by General Planning Master Plans (on a municipal scale). The hierarchical dependence of the Partial Plans (that plan parts of a municipal district, previously delimited and planned on a structural level by the General Plans), in turn, ensures that the entire legal town and country planning system and the natural resources planning system become impregnated with said determinations to avoid or prevent light pollution and preserve the quality of the sky for astronomic observation.

On the island scale, progress in this direction is slower, as there is a certain heterogeneity in the degree to which determinations of this nature are incorporated, given that some Island Plans include planning criteria and determinations, with a varying degree of precision and regulatory quality, while others do not contain even a minimum allusion to these matters.

The most precise plan in this area is the Island of Gran Canaria Plan³, which contains determinations that are directly applicable in this area, and which are presented below:

“Article 93.- Starscape: Light Pollution.

1. *In order to significantly diminish light pollution on the island, the competent Administrations will adopt the necessary measures to start a gradual process of adapting lamps, bulbs and other forms of exterior lighting so that these will minimise their light pollution. These measures must be applied, in any event, to new lighting projects (especially new building development projects and road lighting) and to plans to replace existing lamps.*
2. *The competent Administrations shall promote the design of a regulatory device for light pollution on Gran Canaria with the following aim:*
 - *To apply the criterion of energy efficiency and to obtain an energy saving in exterior lighting.*
 - *To prevent an alteration to the natural light rhythms (day/night) and its effects on protected wildlife.*
 - *To recover the starscape and the possibility of enjoying a star-studded sky throughout the island.*
 - *To eliminate intrusive interior and exterior lights, which will enhance the quality of life of the people.*
 - *To eliminate dazzle and, therefore, increase safety on the highways and byways.*
 - *To favour astronomic and astrophysical observations.*
3. *The aforesaid legislations will regulate both public and private exterior lighting, ornamental lighting, bulbs and other sources of light, and it shall establish the exceptions that are exempt from its application on urban, urbanisable and rustic land. The regulations shall address the following aspects at least:*
 - *It may establish a zoning of the island as a function of vulnerability to light pollution.*
 - *It shall determine the characteristics of exterior lamps so that their light bulbs will always emit their light beams below the horizon and in such a manner as to illuminate its object, while avoiding flows of light beyond the area intended to be lit and into the upper hemisphere, above the line of the horizon of the beams of light reflected in the glass.*
 - *It shall determine the kinds and characteristics of the lamps to be used, establishing preferentially those that achieve greater energy efficiency.*
 - *It shall establish provisions to avoid intrusive lights produced by both exterior and interior lights.*
 - *It shall establish the provisions necessary for projects subject to authorisation to define the characteristics of any interior or exterior lighting that could cause light intrusion in the exterior.*
 - *It shall establish the conditions for the Public Administration to include compliance with whatever provisions may be contained in the regulations in the terms and conditions of the administrative clauses of contracts.*
 - *It shall determine the regime of sanctions, inspections and control.*
 - *It shall establish the deadlines and the conditions for applying its contents”.*

The general situation is fairly heterogeneous and does not depend on, or bear the slightest relation to the distance or proximity of the respective municipal district to the sites of greatest astronomic quality, or their potential capacity to improve or aggravate the situation. It does however appear to depend on the professional expertise of those responsible for designing the plans, or on their capacity to keep their know-how up to date in matters and disciplines related to the techniques of town and country planning.

We have seen how legal planning deals unequally with planning in this matter, and this aspect of planning misses a common reference that is duly accepted by the International Community; a loophole that can be filled in by the final declaration of this Conference. A solid declaration is vital, not only to be able to openly demand compliance and to attribute responsibilities, but also so that suitable corrective measures can be taken whenever an activity is established in the territory that has an impact on the dark sky.

The future is, as always and in any event, inevitable. The recognition of new rights and obligations is on the table. The profiles of the legal regimen of the right to starlight are fast becoming clear. A final effort and we will all gain.



Notes and References

- 1 Nomenclature of Bothersome, Unhealthy, Harmful or Hazardous activities.
- 2 Strategic Environmental Evaluation, as this Regulation is known, has been enacted into Spanish Law with Law 9/2006, of the 28th of April.
- 3 Decree 68/2004, of the 25th of May, whereby the non substantial deficiencies of the Gran Canaria Island Planning Master Plan are corrected (BOC n° 112, of the 11th of June 2004, (continuation in BOC n° 113).