



MDCLT

Conflict between Foz Tua dam and the Alto Douro Wine Region

Report by local development, environmental NGO and companies of the Alto Douro,
to UNESCO's World Heritage Centre and the World Heritage Committee
May 2013

EXECUTIVE SUMMARY

- 1. History.** The Alto Douro Wine Region was inscribed in the World Heritage List in 2001. First reports by ICOMOS and WHC identified a conflict between the Foz Tua dam (approved in 2009) and the value of the property, but in June 2012 the World Heritage Committee admitted the compatibility, based on misleading information.
- 2. Management and stakeholders.** As yet there is no agency or management plan capable of ensuring the protection of the ADWR. Development projects and planning procedures continue to ignore key stakeholders, such as wine producers, local inhabitants and NGO.
- 3. Risks of damage to viticulture.** The dam will cause microclimate changes that will probably affect the quality and productivity of vineyards and wine, the very essence of ADWR.
- 4. The irreversible damage caused by the Foz Tua dam.** The dam will cause the total destruction of the landscape and ecosystem of the lower Tua valley, 164 archaeological sites, the Tua railway, and the touristic value of those unique assets.
- 5. The Tua railway and future mobility.** Keeping the unique Tua railway, 140 years old, is much less expensive than the ridiculous “alternate” scheme, composed of an expensive combination of tram, funicular, boat and rail, useless for real transportation.
- 6. The Foz Tua-Armamar power line.** As yet there is no acceptable solution for the power line that links the dam to the grid, and it is dubious whether there will ever be.
- 7. Cost effectiveness.** Going on with the dam will have a direct cost about three times as much than stopping it. In the long run, the large dams strategy is a burden to the consumers, while the alternate energy efficiency strategy provides a net gain.
- 8. The positions of UNESCO.** UNESCO has criticized heavily the Portuguese authorities, but actual decisions do not ensure protection of the ADWR nor comply with standing operational guidelines for the protection of World Heritage property.

1. Brief history

“Wine has been produced by traditional landholders in the Alto Douro region for some 2 000 years. Since the 18th century, its main product, port wine, has been world famous for its quality. This long tradition of viticulture has produced a cultural landscape of outstanding beauty that reflects its technological, social and economic evolution.”

In: <http://whc.unesco.org/en/list/1046>

The Alto Douro Wine Region (ADWR) was inscribed in the World Heritage List in 2001.

Following a national program to build several large dams, in 2009 the Foz Tua dam, proposed by EDP-Electricidade de Portugal (the largest utility company in Portugal), was approved by the Portuguese Government. Works on the dam site, located in the Alto Douro Wine Region, began in 2011. During the decision process for the dam program and Foz Tua dam, the Portuguese Government did not inform UNESCO of the threat to the World Heritage property and ignored other relevant interested parties. This was strongly criticised by all UNESCO and advisory bodies missions, but with no practical consequences: works at Foz Tua go on in full force.

The impact of the Foz Tua dam on the ADWR is immensely significant, as shown beyond doubt by the official environmental impact statement (Profico Ambiente 2008), independent scientific evidence (as summarized by GEOTA et al. 2012), and the reports of ICOMOS/IFLA (2011), the World Heritage Centre (WHC 2012a) and the Reactive Monitoring Mission (WHC/ICOMOS/IUCN 2012).

The evidence of overwhelming impact of the Foz Tua dam was unfortunately ignored by both the Portuguese authorities and UNESCO’s World Heritage Committee. In their 36th meeting, convened at Saint Petersburg in 2012, the Committee were deceived into believing that the Foz Tua dam could be compatible with the Alto Douro Wine Region. The resulting Committee decision (WHC 2012b) is hopelessly ineffective, as are the ensuing demands by the Reactive Monitoring Mission.

The Committee may have felt that by offering this huge concession, the alleged “compatibility” of the Foz Tua dam, they would ensure better protection for the Alto Douro Wine Region; they are wrong. EDP and the Portuguese State will not comply with UNESCO’s demands, as we shall prove in this paper. Major impacts are physically impossible to compensate, and other demands will not be fully met, because they are too expensive or politically unacceptable. The information sent to UNESCO by the Portuguese State has been incomplete, misleading and in some instances plain false.

We are a large consortium of local development and environmental non-governmental organizations and wine producers, that for many years have opposed the dam, due to its uselessness, unsustainability and impact on the Alto Douro Wine Region. We are now filing a lawsuit to stop the works at Foz Tua. We are also making a significant effort to keep UNESCO apprised of true information on the Foz Tua process, hoping that, this time, UNESCO will fulfil their mandate, conferred by the peoples of the World.

This paper is focused on exposing the wrong and false information set forth by EDP the Portuguese authorities regarding the demands of UNESCO. It should be read in conjunction with our previous position paper (GEOTA et al. 2012) to avoid unnecessary repetitions. The previous paper discussed: (i) a brief history of the process until 2012, (ii) the threat to authenticity and integrity of the Alto Douro Wine Region property, (iii) the unsustainability of the Foz Tua dam, iv) the flawed arguments for not stopping the dam, and v) the positions of Portuguese State and UNESCO.

2. ADWR management and stakeholder involvement

UNESCO has shown justifiable concern about the vulnerability of the Alto Douro Wine Region to incremental impact, given the absence of an effective management plan:

Although the key attributes are satisfactory the overall property is vulnerable to incremental change and lack of structured management and appropriate planning: as long as there is no operational Management Plan and an agency enabled to implement it and to put this into action, the conservation of the site is not effectively guaranteed. (WHC/ICOMOS/IUCN 2012, p. 40)

In the past few years the ADWR file was handled by Estrutura de Missão do Douro (EMD, the Mission Structure for Douro), a governmental agency without any planning competences or power to enforce protection measures.

The management plan for the ADWR is now being prepared without meaningful consultation to the interested parties. Cultural and environmental NGO, including the ICOMOS Portuguese chapter, as well as wine producers, have consistently been ignored.

The January 2013 progress report by the Portuguese State (EMD 2013) is quite poor. It claims myriad good intentions, but offers no guarantee at all that the future ADWR management body, yet to be decided upon, will have any more effectiveness in preventing undesired impacts than the present EMD. The Foz Tua-Armamar power line is a case in point, which will be discussed later in this paper.

One of the “measures” announced by ADVRT (Development Association for the River Tua Valley), with the patronage of EMD, was the creation of the “Nature Park of the Tua Valley (ADVRT 2013). This is a particularly ridiculous piece of advertisement because: (i) the Foz Tua reservoir will totally destroy the most interesting natural habitats in the valley, and (ii) ADVRT immediately clarified that the so called “nature park” will create no new conditions or restriction apart from those included in the municipal plans: <http://www.ionline.pt/artigos/boas-noticias/parque-natural-vale-tua-900-mil-euros-ano-financiar-proiectos> This “nature park” is a foretaste of what the “planning” strategy for ADWR may be.

EDP is giving some money away as a means to convince local people and authorities that development is coming to the region. We estimate promised expenditure, based on protocols signed and publicized in the media by EDP and ADVRT, at about 6 M€ within the next few years. Attendance to events promoting those subsidies has been imposed by mandating the people registered in the employment offices to attend. The following letter was sent to people registered in the employment centre of Mirandela:

Your presence is required at Praça D. Lopo Vaz de Sampaio, Carrazeda de Ansiães, on the 14th May 2012, at 14:00, to attend the “Jornadas de empreendedorismo e dinamismo empresarial Tua 2012”, under the subject “Heritage and Sustainable Tourism”. Your absence or refusal to participate may imply the following consequences: annulment of your inscription for employment. (IEFP 2012)

However, unemployment in the region is rising in line with the rest of the country. All available evidence of past cases indicates that hydropower dam construction never brought significant local development in Portugal (Simão and Melo 2011).

3. Risks of damage to viticulture by microclimate change

UNESCO recognised the impact of the Foz Tua dam in the future of wine production:

The changes could also alter the micro climate of the property in terms of its relative humidity which might have a detrimental impact on the viticultural processes. (WHC/ICOMOS/IUCN 2012, p. 41)

Added moisture in the air in a Mediterranean climate such as the Alto Douro will cause higher vulnerability to vine diseases and changes in meteorological patterns such as the occurrence of mists, thus affecting the growth season (Sequeira 2012).

The Reactive Monitoring Mission put a lot of faith in on-going studies; but of course they will not solve the problem. Proved scientific evidence on this particular case is as yet not fully conclusive, and is likely to remain inconclusive for many years, until it is too late to stop the degradation of the quality of the Douro and Port wines. On the other hand, analogical evidence is plentiful: large reservoirs have changed the microclimate pretty much everywhere in Portugal. The Cela dam in the Minho river, between Portugal and Spain, another quality wine region, was reprovved for precisely that reason.

Wine production is the very reason of existence of the ADWR. The Foz Tua dam is a very significant threat to the integrity of those values.

4. The irreversible damage caused by the Foz Tua dam



Present view (top) and impact of the Foz Tua dam on the ADWR landscape (bottom); views from the southern bank of the Douro, 2 km away (left), and from the road bridge, 0,5 km away (right). The difference in size between the dam and the original power plant project is clearly visible.

UNESCO has shown justifiable concern about the destruction of the Tua valley:

The mission considers that there is certainly severe and permanent damage by the FTDD on the ecological system of the Tua River located in the buffer zone. The mission fully agrees with the Declaracao do Impacto Ambiental drawn up by the State Party that the dam will produce a significant alteration in the river's ecosystem, as a result of the barrier effect of the dam and also, when working in reversible mode, as it might create in the dry periods a eutrophic reservoir. Equally, it will mean a loss from a nature protection point of view of the river. (WHC/ICOMOS/IUCN 2012, p. 41)

Unfortunately, no action whatsoever was taken to prevent such damage.

As the project goes on, the impacts become progressively more deleterious and more irreversible. We may distinguish four phases:

- a) Pre-construction (present phase). So far only infrastructure has been built: worksite, watercourse derivation. There is a significant impact on the landscape, but as yet the affected area is restricted (only a few hectares) and reversible with relatively small cost — simple revegetation of the valley slopes will do;
- b) Dam construction (not yet begun). The dam will have a brutal impact on the landscape: it is a wall of concrete 108 m high and 275 m wide, a few hundred meters from the Douro river. It is much higher than the nearby dams in the Douro proper, it is impossible to conceal, and objectively it has an even stronger visual impact than the power station. The “mitigation measure” of interring the power station is therefore next to useless, no more than a very expensive piece of deception. Once the dam is built, its demolition will be unlikely, so it will become a permanent ugly blotch in the very core of the ADWR landscape;
- c) Reservoir filling. This will totally destroy the ecosystem of the Tua river, including the aquatic, riverbank and cliff habitats, along with river-dependent species (e.g. the otter) and all migratory fish. This is a certainty recognized by all scientific analysis. It will also imply the permanent and irreversible destruction of the unique landscape of the Tua valley, the 126 archaeological sites identified so far, the railway line, and their value for white water sports, cultural tourism and eco-tourism. Even if later the reservoir is emptied, once the soil is destroyed (that will happen with a few months submersion) the recovery time can be measured in thousands of years — irreversible for all practical purposes. The river banks will be reduced to naked stone, turning the valley into a veritable frying pan in summer. All “mitigation measures” proposed against this loss are totally ineffective to the point of ridicule, including the protection of riparian habitats (the best of those will be destroyed by the reservoir) and the transport of fish by truck (pure fantasy). Images of the valley can be viewed e.g.: <http://www.linhadotua.net/3w/index.php>; <http://alinhaetua.blogspot.pt/2013/02/linha-do-tua.html>;
- d) Eutrophication. The Tua is nowadays a moderately polluted river, self-cleaned by the strong current and oxygenation. Because of the stale deep water, the effects of the same amount of pollution are much more serious in a reservoir than in a free-flowing river: oxygen levels fall, nutrients accumulate, noxious vegetation, algae and bacteria overgrow; this process is called eutrophication. It will set in shortly after reservoir filling (as happened in many other reservoirs and is clearly predicted in the environmental studies) and will remain until years after all polluting sources are eliminated. The combination of water pollution, rapid water level variation (mandatory in this kind of power plant) and harsh climate will also render the reservoir useless for bathing water and tourism purposes. The allegation by the EMD that pumping may lessen pollution is irrelevant: the effect is minimal and the water quality reservoir will always be much worse than it is now in the river; no amount of poetry will change that.

In short, the worst impacts result from filling the reservoir, but the critical moment to stop the project is now, before the dam is built, before more resources are committed and recovery becomes impossible or prohibitively expensive.

5. The Tua railway and future mobility

The Tua railway is 140 years old, the last and most awesome testimony of a whole way of life, the 1 metre gauge mountain railway in the Trás-os-Montes e Alto Douro region. Other similar lines, in the Sabor, Corgo and Tâmega valleys, have already been decommissioned. Not many years ago the Tua line still linked Foz Tua to Bragança, 134 km away near the northeastern border with Spain, a fabulous trip through beautiful landscapes.

The Tua line has been decommissioned bit by bit for two decades, allegedly for financial reasons, a shameful process well documented by Pelicano (2010). Part of it is still being operated as a light rail. It is true that nowadays the line cannot be economically viable with local traffic alone; however, the same can be said of a number of public services in impoverished, demographically depressed regions. This line however can have two other important sources of revenue:

- a) The line is a true wonder with high touristic value (see e.g. Conde 2010), that was beginning to be explored when most of the line was shut down, due to the advance of the dam project;
- b) It is the only viable rail route between the Douro line and the future high-speed train at Puebla de Sanabria. This represents a huge potential for passenger traffic, business and tourism alike.

The Reactive Monitoring Mission seems to believe that the closing of the line is a consummated fact. They are again wrong. Only a couple km of rail were actually dismantled, and the line needed repairs anyway. The whole line could be re-commissioned at fraction of the cost of the purported alternative.

The “alternative” mobility scheme proposed by EDP, EMD and ADVRT is to create a combination of cable car (1,7 km), a funicular from bottom to top of the dam, then a boat to Brunheda, 20 km upstream, then a (new?) train to Mirandela, 32 km away. The whole scheme is hopelessly inefficient as a means of transportation. All this is prohibitively expensive, and EDP has already declared they will not pay but a small fraction of it (<http://www.valetua.pt/desenvolvimento-regional/plano-de-mobilidade/>). So, this ridiculous scheme will almost certainly be abandoned.

For years local officials and non-governmental organizations have been complaining about the faults and failures of the current “public transportation” scheme: a taxi that some times is, and sometimes is not, at Foz Tua station... <http://expresso.sapo.pt/linha-do-tua-movimento-civico-indignado-com-suspensao-de-transportes-alternativos-sem-aviso=f737476>;
<http://5l-henrique.blogspot.pt/2012/07/foz-tua-autarcas-ameacam-opor-se.html>;
http://www.jn.pt/paginainicial/pais/concelho.aspx?Distrito=Bragan%EA&Concelho=Mirandela&Option=Interior&content_id=2642951

Contrary to declarations of EMD, the navigation in the Douro is not guaranteed, as the project is far from completed. <http://cidadaniaix.blogspot.pt/2012/05/barragem-do-tua-vai-afectar.html>

6. The Foz Tua - Armamar power line

Aerial power lines are already a problem to the authentic landscape of the Alto Douro, as the report by WHC/ICOMOS/IUCN (2012) correctly noted.

Contrary to good practice, the Foz Tua dam was approved in 2009 without any evaluation of the impacts of the associated power line Foz Tua-Armamar; the environmental impact studies for the power line were submitted only in 2011. The

Portuguese authorities reapproved the route then proposed by EDP in 2012. The process was reinitiated and submitted for public consultation in 2013. The official EDP proposal suggested eight alternative routes for further study, aerial lines only. The option of interring part of the line (that would eliminate the visual impact on the landscape) was discarded by EDP because it was deemed both unsafe and too expensive.

Of those eight alternatives, REN-Redes Energéticas Nacionais, the national grid operator, considered that only three may be viable, with costs varying between 12 to 26 M€ (Ecosistema 2012, annex 2). All of those routes either cross the Douro valley or have a large extension within the ADWR buffer zone; all of them are all likely to have a huge visual impact; the lowest cost alternative is the one reapproved before. The Portuguese Environmental Agency (APA) added two more routes to be studied, that may or may not have lesser impacts on the ADWR, but are certain to increase the cost significantly.

The public consultation produced a number of position papers (e.g. GEOTA/LPN 2013) recommending that an overall assessment of the project. This recommendation was totally ignored in the requirements made by APA to EDP.

7. Cost effectiveness

In previous papers (e.g. GEOTA *et al.* 2012) we have demonstrated the uselessness of the Foz Tua dam. One of the key arguments of the Portuguese Government that appears to have convinced the World Heritage Committee is that it would be terribly expensive to stop the dam. This allegation is false. In fact, the direct cost of going ahead with the dam is about three times higher than stopping it now. The indirect cost is much higher.

Direct cost of building the dam	Direct cost of stopping the dam
Dam construction: 300 M€ Power line: ~ 26 M€ Excavation for the power plant: ~ 50 M€ Mobility plan: ~ 40 M€ Navigation in the Douro: ~ 20 M€ Compensation measures: ~ 6 M€	Reimburse concession fee: 53 M€ Reimburse initial works: ~ 50 M€
Total: ~ 442 M€	Total: ~ 103 M€
Estimated total burden to the consumers and taxpayers in 75 years, including financial cost and EDP's profit: 3 000 M€	Substituting the Foz Tua plant with equivalent energy efficiency measures would have a <u>net benefit</u> of 2000 M€

8. The positions of UNESCO

UNESCO's various bodies and advisers criticized harshly the fact that the Foz Tua dam was approved without paying any heed to its impacts on the Alto Douro Wine Region (ICOMOS/IFLA 2011, WHC 2012a, WHC/ICOMOS/IUCN 2012, WHC 2013).

ADWR is protected by the Portuguese Cultural Heritage Law, and as such regarded as a National Monument. (...) The Ministry of Culture gave a negative evaluation report on the FTDD, on the basis of potential impacts it would have on ecological, landscape and cultural values of the World Heritage property. It is noted that it is the only authority which analyzed the project with regard to the World Heritage status. The management of the property, the Estrutura de Missão do Douro, made a favorable report on the FTDD, and disregarded the Ministry of Culture's report. (WHC/ICOMOS/IUCN 2012, p. 25)

One would think that such an evaluation would lead to some serious sanctions. Unfortunately, the 2102 Committee decision (WHC 2012b), the Reactive Mission report (WHC/ICOMOS/IUCN 2012) and the draft decision currently tabled (WHC 2013)

assumed, wrongly, that the dam is a consummated fact and compatible with the ADWR. Those documents do make a number of relevant and positive recommendations, namely on the management plan and governance of the ADWR; but they are very poor regarding the conflict between the dam and the ADWR. It is not acceptable that the Reactive Mission ignored evidence that the Foz Tua dam is not necessary and has excessive impacts by any objective performance evaluation.

Legislations, policies and strategies affecting World Heritage properties should ensure the protection of the Outstanding Universal Value, support the wider conservation of natural and cultural heritage, and promote and encourage the active participation of the communities and stakeholders concerned with the property. (WHC 2011, p. 29, no. 119)

According to ICOMOS Portugal (2013), so far the decisions of UNESCO clearly contradict the Operational Guidelines for the Implementation of the World Heritage Convention.

Conclusion

The Foz Tua dam is a crime against the cultural and natural heritage and a blatant disregard for World Heritage requirements and guidelines. It opens the door for a permanent lax management of the Alto Douro Wine Region.

The one and only way how UNESCO can assert they are serious about defending the ADWR is to declare immediately the Foz Tua dam as incompatible with the World Heritage classification and request immediate cessation of the works pending a thorough evaluation.

Failing to do so will not only cause irreversible damage and pave the way for further degradation of the ADWR, but it also will also stain the reputation and credibility of UNESCO.

The signatory organizations represent directly some 25 000 people — association members, employees and managers of companies, subscribers of manifestos and petitions, citizens from the Alto Douro region, Portugal and all over the world:

Plataforma Salvar o Tua — Associação de Defesa do Ambiente

GEOTA - Grupo de Estudos de Ordenamento do Território e Ambiente

LPN - Liga para a Protecção da Natureza

Quercus - Associação Nacional de Conservação da Natureza

COAGRET - Coordenadora de Afectados pelas Grandes Barragens e Transvases

SPEA - Sociedade Portuguesa para o Estudo das Aves

FAPAS - Fundo para a Protecção dos Animais Selvagens

MCLT - Movimento Cívico pela Linha do Tua

AAVRT - Associação dos Amigos do Vale do Rio Tua

ALDEIA - Acção, Liberdade, Desenvolvimento, Educação, Investigação, Ambiente

GAIA - Grupo de Acção e Intervenção Ambiental

MCDLT - Movimento de Cidadãos em Defesa da Linha do Tua

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The drafting of this Position Paper took 90 hours of voluntary work (not including previously available data and expertise).

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(Note: further references are cited in the above referred documents)