

Report on non-compliance of commitments by EDP and the Portuguese State on the Alto Douro Wine Region and Foz Tua dam

May 2014

Executive Summary

I — **History:** The Alto Douro Wine Region (ADWR) was inscribed in the World Heritage List in 2001. Reports by ICOMOS and WHC in 2011 identified a conflict between the Foz Tua dam and the value of the property, but in 2012 the World Heritage Committee was misled into admitting compatibility. We now have evidence that key demands by UNESCO on mitigation of impacts of the Foz Tua dam have not been and almost certainly are not going to be met.

II — Non-compliance with conditions by UNESCO and impact assessment

Topic	Conditions	Present situation: non-compliance
1. Impact of	UNESCO: "Dam structure has little visual	Dam structure has a brutal visual impact
dam on	impact as two technical structures (railway	from the Douro: it is much taller and ten
landscape	and road bridges) are already there"	times larger than existing structures.
2. Mobility	UNESCO: "The mission seriously questions the cable car solution proposed, as a means to connect between the railway station at Foz Tua and the reservoir, as the mobility rail/bus/cable car/boat/rail is not adapted to local needs at all." Impact assessment: Conditions 1/2: "Ensure equivalent public transport service, during dam works and after."	The mobility plan will not fulfil conditions: a) Local mobility needs are not satisfied; b) Regional mobility is irreversibly impaired, as the Tua-Bragança link is cut; c) No sense for touristic purpose; d) Financing for investment and operational viability are not guaranteed. No alternative railway was studied. Provisional means of transportation are far bellow former level of service.
	UNESCO: "The mission team strongly	No ground solution was studied.
	recommends to not cross the Alto Douro	From four alternative routes studied in the
	World Heritage property or to use an	last EIS, three cross the core of the Alto
3. High	existing line."	Douro Wine Region (ADWR) and one
voltage	Impact assessment: Conditions 8/9: "The	crosses highly sensitive birdlife habitats. All
power line	electric line should minimize affection of	routes are almost completely within the
	the Alto Douro; the possibility of a ground	core or buffer zone of the ADWR.
	line shall be studied; the line shall not cross	Last EIS acknowledges significant impact to
	any area with high sensitivity for birdlife."	the ADWR Universal Value.
4. Health	UNESCO: "Multiple fatality on construction	Multiple accidents resulted so far in four
and safety	site is an element of very serious concern"	deaths, the latest on 23 May 2014.
5. Heritage	UNESCO: "Feasibility study [of the	Financing not guaranteed for the proposed
investments	museums] not done. Cultural strategy	museums: insufficient for investment,
investinents	needs to be revised."	totally absent for operation.

III — **Conclusion:** If these poor compensation measures are inapplicable, the dam should never have been approved, and must be stopped now, before further damage to the ADWR.



I — 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

In the words of the Reactive Monitoring Mission (WHC/IUCN/ICOMOS 2012, p. 32):

The mission notes that there is discrepancy in the approval process and underlines that not all the elements of the project have yet been approved. It is highly unusual that the construction works have started in April 2011 while important elements of the works have not yet been designed, approved or publically consulted upon. This status of the approval could put a pressure on the approval authority and the public consultation process and undermine their credibility. Full transparency in the procedure has to be ensured for the public to have any credibility in the process.

There were however no practical consequences: works at Foz Tua have been going on full force since 2011. The impact of the Foz Tua dam on the ADWR is immensely significant, as shown by the environmental impact statement (Profico Ambiente 2008), scientific evidence (cf. GEOTA et al. 2012), and reports of ICOMOS/IFLA (2011), and WHC (2012a).

So far, both the Portuguese authorities and UNESCO's World Heritage Committee ignored the evidence of overwhelming impact of the Foz Tua dam. In their 36th meeting (2012), the Committee were deceived into believing that the Foz Tua dam could be compatible with the Alto Douro Wine Region. The resulting decision (WHC 2012b) is hopelessly ineffective, as are many of the ensuing demands by the Reactive Monitoring Mission (WHC/ICOMOS/IUCN 2012). This was shown in our report a year ago (PST 2013), which was ignored by the World Heritage Committee at their 37th meeting.

We now have overwhelming evidence that several key demands set out in the 2012 Reactive Monitoring Mission report, and in the impact assessment declaration, are not being fulfilled, and will likely never be fulfilled, as discussed in detail hereafter.

Platform Save the Tua is an "umbrella" organization created in 2013 to unite the efforts of local inhabitants, wine producers and environmentalists to save the Tua and stop the dam.



II — Non-compliance with conditions

1. Impact of dam on landscape

UNESCO conditions

The report of the ICOMOS 2011 mission clearly states the impact of the dam on the landscape (cf. p. 13-19 and p. 24):

We have demonstrated above that the building of the FTDD [Foz Tua dam development] would mean a major impact on the ADWR which would imply a loss of its OUV [outstanding universal value], and serious threats to its authenticity and integrity.

We can observe in Figure 1 the visual impact of different projected and existing structures. The dam is 108 m high, much taller, broader and conspicuous than any other structure in view. Up close, the effect is even more dramatic.



Figure 1 — Simulation of the visual impact of the Foz Tua dam and original power house project (highlighted in red). The visual field of the dam is five times larger than the power house.

Simulation source: ICOMOS 2011 (the red lines were added for clear identification of the items)



Strangely, the 2012 Reactive Monitoring Mission report states quite the opposite of the 2011 ICOMOS mission (cf. WHC/ICOMOS/IUCN 2012, p. 54):

Issue	2010/11	2012	Comments and recommendations	
Main building: power house	Height 25 m	Underground	The mission reviewed the plans and designs with the architect and considers this to be a major improvement to enhance visual integrity and to avoid visual impacts at the World Heritage site	
	Height 108 m	Height 108 m	Dam structure is at border of World Heritage property with the buffer zone and has little visual impact as two technical structures (railway and road bridges) are already there	

The opinion of the Reactive Monitoring Mission on this issue is plainly wrong, contradicting undisputable evidence. From the Douro or the roads on the opposite bank, the visual field of the dam is five times larger than the visual field of the original power house project; the change to an underground power house is therefore ineffective.

In comparison, the road bridge shows a very small visual field (and has been there since 1940). The Douro railway and bridge have been an essential part of the Douro life and landscape (as has the Tua railway line) for 130 years. Old dams in the Douro river have modest heights and took care not to disturb the railway line. None of those structures can seriously be compared with a new dam 108 m high and 270 m broad. It was this wrongful and groundless opinion that "supported" the 2012 World Heritage Committee decision to allow the dam to go on inside the ADWR.

The Reactive Monitoring Mission does acknowledge the uniqueness of the lower Tua valley, located within the buffer zone of the ADWR, which will be flooded and irreversibly destroyed (cf. WHC/ICOMOS/IUCN 2012, p. 28):

In the specific area of the FTDD [Foz Tua dam], the river Tua cuts through a granite area creating a deep gorge at the bottom of which the river gushes wildly. It is a very well preserved natural habitat, highly interesting from a conservationist and functional point of view. "Due to its singularity, rarity and beauty it is considered a landscape of high value and sensibility". The Environmental Impact Assessment (EIA) records a high ranking ecological landscape value for this area when analysing natural indicators (structural diversity, floristic diversity, rarity, rare or endangered species, hemerobius, maturity, resilience, resistance, phytocenoses threat and connectivity). This is surely due to the fact that this downstream section of the Tua Valley "has high scenic and ecological values in relation to the cultural and biophysical parameters that characterize its structure and dynamics".

Present situation

Should the Foz Tua dam construction go on, there will be an irreversible damage to the ADWR, both the degradation of landscape in the Douro valley and the destruction of the lower Tua valley. The building of an underground power house is irrelevant to mitigate these impacts, since the visual impact of the power house would be much smaller than the dam itself; it will just make the development more expensive.



2. Mobility

UNESCO conditions

The Reactive Monitoring Mission (WHC/IUCN/ICOMOS 2012) concluded the following:

Recommendations on Heritage Impact Assessments (p. 26)

The mission notes that there is one single paragraph in the annexes (page 22) of the DIA which states that "due to the significative heritage and landscape impacts the FTDD will generate in the declared both ADWR WH Site & National Monument, as well as in the Railway line of Tua, an historical railway line, the Direccao Regional de Cultura do Norte (the administrative body of the Portuguese government dealing with heritage issues in Portugal), does not approve this project".

Especially puzzling is the submersion of 15,9 km. of the Tua railway line, for which a designation process as Cultural Heritage began by the Ministerio da Cultura in September 2010 (Diario da Republica, Anuncio no 8665/2010). Backed up by 5003 signatures, the Ministry of Culture recognised its "exceptional heritage value in terms of historical, social, technical and landscape assets". Nevertheless, in November 2010, after a letter explaining that the consecution of the FTDD was independent of this classification and that the objective of the Ministry of Culture must be to conserve its patrimonial assets, regardless of other projects, the procedure was archived (letter dated 4 November 2010, by the Conselho Nacional de Cultura). The halting of the process of protection status of the Tua railway line is not justified in any document handed in by the State Party, it is only published in the Diario da Republica (11 November 2010, Anuncio 10853/2010).

3.3.7. Railway of Tua / Conclusions and recommendations (p. 37)

Concerning social issues, transport and mobility, it is necessary that the Douro Mission and the authorities ensure the connectivity within the Douro region to enhance the communication and interconnectivity among people in this living landscape. The disruption of the railway needs to be compensated by other means of public transport and the current mobility plan (tourist mobility/daily mobility) submitted does not seem to be sufficient. In this regard the mission seriously questions the cable car solution proposed, as a means to connect between the railway station at Foz Tua and the reservoir, as the mobility rail/bus/cable car/boat/rail is not adapted to local needs at all.

Annex VI Synthesis table: differences of the 2010 and 2012 Foz Tua Dam project (p. 54-55):

Issue	2010/11	2012	Comments and recommendations
line and	Proposals of mobility by EDP	Proposals of mobility by EDP	Final mobility plan needs to be approved and sent for revision. The mission recommends to leave the railway line from Tua station up to the dam and make an exploratory trail for tourists from the Foz Tua station/
	State Party;	State Party;	Museum
issues:	imeasures vet to	40 M€	The mission took note of the mitigation measures but raises questions as to their implementation: Mitigation measures need to be more clearly defined; the execution is to be demonstrated by State Party authorities.



Impact assessment conditions

The environmental impact declaration (*declaração de impacte ambiental*, DIA) of the Foz Tua dam demands the following (cf. MAOTDR, 2009, p. 1):

Conditions:

- 1. Ensure the public transport service of the Tua railway line in the section to be flooded, in order to guarantee and safeguard the interests and mobility of local populations and enhance socio-economic and touristic development. To this effect, an alternative review shall be made, including the analysis of viability of a new railway route.
- 2. From interruption of rail service, the regular passenger transport between Foz Tua and Brunheda stations must be guaranteed, with stops on the relevant villages, ensuring functionalities at least equivalent to the Tua railway.

Present situation



Figure 2 — The mobility plan proposed by EDP. Source: EDP 2011

The Reactive Monitoring Mission seems to believe that the closing of the railway line is a consummated fact. They are wrong. Only a couple km of rail were actually dismounted, 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 (http://www.valetua.pt/desenvolvimento-regional/plano-de-mobilidade/) 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, 16 km upstream, then a (new?) train to Mirandela, 32 km away. The whole scheme is hopelessly inefficient as a means of transportation.

The estimated cost of this scheme is 40 M€, of which EDP purports to contribute "up to 10 M€" (EDP 2011). No financing source is identified for the rest. So, this ridiculous scheme will almost certainly be abandoned.

The total travel time from Foz Tua to Mirandela, a 50 km trip, would be close on three hours, with three or four transfers. By contrast, the equivalent trip on the Tua railway would take less than an hour, with no transfers, enjoying a beautiful landscape (that will be destroyed by the dam). Renewing the railway from Foz Tua to Mirandela would cost only 26,5 M€ (PST 2014), with the real prospect of a viable operation serving both the local population and the tourism business.

The proposed "mobility plan" should more aptly be called "immobility plan". It disregards completely the demands of both UNESCO and the environmental impact assessment:

- a) The proposed plan is irrational by all counts: it is not economically viable and it is absurd as a touristic route (imagine tourists carrying travel packs doing four transfers in 50 km, especially in the sweltering heat of summer);
- b) By all counts, the project does not respect local interest, regional mobility or functionality minimally comparable to the Tua railway;
- c) No real alternatives were studied, specifically an alternate railway route to substitute the flooded section. Such a solution would be expensive but technically possible;
- d) EDP's intent of paying only a quarter of the investment is a blatant disrespect of the environmental impact assessment. There is no viability study for its operation.

Another issue is that the destruction of the Tua railway eliminates the possibility of a future railway link between the Douro, Bragança and the future high speed Galician line at Puebla the Sanabria, Spain. Such a link would be a major positive factor to invert the current poverty and depopulation trend in the region.

Regarding the substitute service, for years local officials and non-governmental organizations have been complaining about the faults and failures of the current "public transportation" scheme:

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%E7a&Concelho=Mirandela&Option=Interior&content id=2642951



3. High voltage power line

UNESCO conditions

Conclusions (p. 36):

The project for the power line is still not finalised. The mission recommends that a line with a minimal impact onto the WH property should be adopted. The potential visual impact of the various options needs to be evaluated formally and the preferred option submitted to the World Heritage Centre for appraisal

Requests (p.45):

Request the State Party to submit the missing documentation required especially on the high voltage power line grid and the Landscaping Master Plan of the affected construction area and its surrounding to the World Heritage Centre as soon as possible and at the latest by 1 February 2013 for review by the Advisory Bodies;

Annex VI Synthesis table to assess the differences of the 2010 and 2012 Foz Tua Dam project (p. 54):

Issue	2010/11	2012	Comments and recommendations
Dawar		,	The mission team strongly recommends to not cross the
Power	Intrusive	high voltage powerline not	Alto Douro World Heritage property or to use an existing
line		yet identified	line: plans need to be carefully reviewed

Impact assessment conditions

The environmental impact declaration (*declaração de impacte ambiental*, DIA) of the Foz Tua dam demands the following (cf. MAOTDR, 2009, p. 1-2):

Conditions:

- 8. The energy transport infra-structure should take into account technical solutions to minimize the visual impact and the affection of the Alto Douro Wine Region. The possibility of a non-aerial power line shall be studied.
- 9. The high voltage power line for the Foz Tua dam development cannot cross any birdlife special protection area or areas with high sensitivity for birdlife, and shall integrate all mitigation measures to avoid bird electrocussion or collision.

Present situation

The project for the 400 kV (very high voltage) power line that would link the Foz Tua dam to the national grid is in the third environmental impact assessment process. In the two previous processes (2011-2012 and 2013) EDP withdrew proposal to avoid their reproval.

The evaluation process is currently undergoing, based on a new environmental impact statement (EIS, ECOBASE 2013).

No non-aerial solution was studied, a direct violation of DIA. Among the four alternatives under study, three (solutions 1, 2 and 4) cross conspicuously the core of the ADWR; the other (solution 3) crosses areas highly sensitive for birdlife; all violate demand of UNESCO or DIA. All "solutions" are almost completely located within the buffer or core zones of the ADWR. Cf. Figures 3 and 4 — conflict with the ADWR and birdlife sensitive areas.



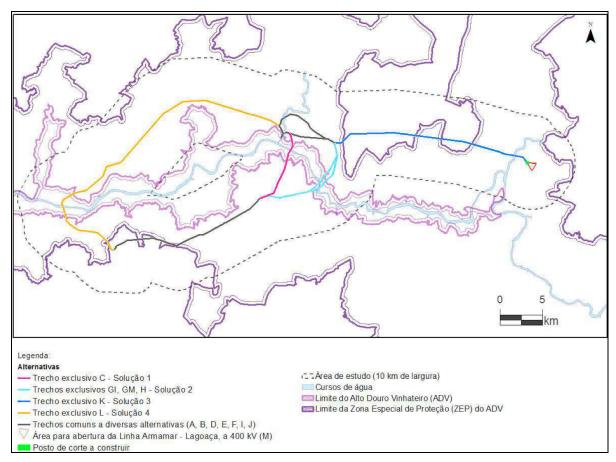


Figure 3 — Location of alternatives under study for the Foz Tua power line (bright colour and black lines) in relation to the Alto Douro Wine Region core and buffer zones (dull pink and purple double lines). Source: ECOBASE 2013.

In the words of the EIS (ECOBASE 2013, non-technical summary, p. 23), the main significant impacts of the power line, already with best compensation and mitigation applied, are:

- Restrictions to future land use management, particularly by the solutions that create new linear infra-structure rights of way;
- Affection of land use, mostly associated with the implantation of line supports;
- Affection of the biophysical structure of the landscape and visual impact;
- Affection of the visual context of elements of archaeological and architectural heritage and the scenic value of attributes that confer the Outstanding Universal Value to the Alto Douro Wine Region;
- Eventual collision of birds and bats with the power line;
- Affection of economic activities and population quality of life.



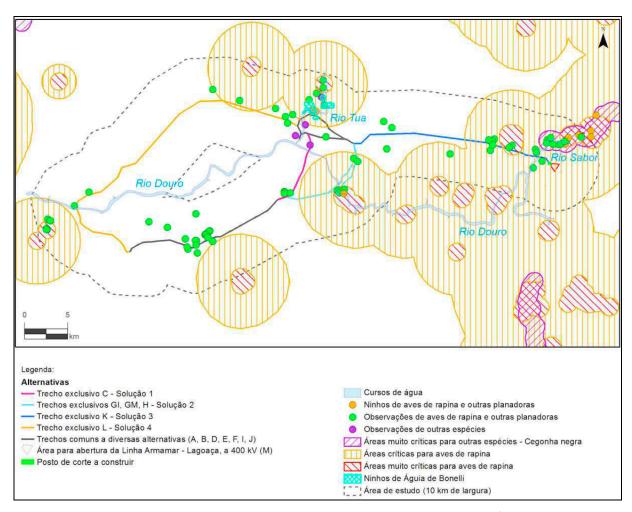


Figure 4 — Location of alternatives under study for the Foz Tua power line (bright colour and black lines in the figure) in relation to areas with high and very high sensitivity for birdlife (crossed yellow/red/purple areas and green/orange spots). Source: ECOBASE 2013.

This is a series of unacceptable impacts — especially taking into account that the Foz Tua dam development as a whole has insignificant benefits, brings no benefits at all for the ADWR and the local population, and causes major negative impacts on several counts, as shown by GEOTA et al. 2012 and PST 2013 and acknowledged by the reactive Monitoring Mission.

In short, all available information indicates there is not acceptable solution for the Foz Tua power line. Hence, the dam is useless.



4. Health and safety

UNESCO conditions

Annex VI Synthesis table to assess the differences of the 2010 and 2012 Foz Tua Dam project (p. 54):

Issue	2010/11	2012	Comments and recommendations
Health and safety	the last missi	appened since on of April 2011 ., January 2012 v 2012). One	A multiple fatality on any construction site is an element of very serious concern and it has a significant impact on how the project continues and it is being managed. Need to investigate the accidents and review the health and safety plan and mitigation measures (including impacts on the local community);

Present situation

Since the beginning of works on site in 2011, four major accidents caused four deaths (the latest a week ago, on 23 May 2014) and least eight seriously injured workers. Minor injuries are often not reported.

The Portuguese Authority for Working Conditions (Autoridade para as Condições do Trabalho, ACT) ordered the suspension of the works pending an inquire upon the causes of the accident (ACT 2014). The results are not known at the present time.

5. Heritage investments

UNESCO conditions

Annex VI Synthesis table to assess the differences of the 2010 and 2012 Foz Tua Dam project (p. 54):

Issue	2010/11	2012	Comments and recommendations
	Cultural Centres to be created	Heritage plan 1,5m 4 thematic museums to be built: "wine and bread" museum (already executed), Tua Valley railway museum (in preparation), and 2 other still	Feasibility study of how these museums meet criteria in management plan not done. Cultural strategy for ADWR needs to be revised and presented including the decentralized museum structures (4 new museums, besides definition of the 2
		not defined.	pending ones.)

Impact assessment conditions

The environmental impact declaration (*declaração de impacte ambiental*, DIA) of the Foz Tua dam demands the following (cf. MAOTDR, 2009, p. 1):

Conditions:

5. Completion of the project for conception, construction and financing of four thematic memorials of the Tua valley, according to element no. 2 to deliver within RECAPE [report of compliance of final project with DIA conditions].



Present situation

The Ministry for Environment evaluation committee, on their report of 12 April 2011 (CA 2011, p 4), state the following:

Following the analysis in RECAPE, the CA [evaluation committee] considers inviable the construction of four museums in the Tua valley. It was understood that the goals of the measure would be better served by the construction of only one museum, which would offers better guaranty of quality and sustainability and the implementation of a project for the valuation of the regional heritage, capable of improving the cultural offer in the region and hence partly compensate for the losses implicated by the [Foz Tua dam] development. A dotation of 2 M€ was proposed and accepted for the investment and 8 years of operation of the facility.

The subsequent report of the observation committee (cf. CAA 2013) simply omits the subject altogether.

The outcome of this process is that the evaluation committee took an illegal decision to downgrade the compensation measures regarding the memorial museums in the Tua valley, accepted a financial "solution" which would cover the operation for only eight years, and even this grossly downgraded project is not being properly implemented or supervised.

III — Conclusion

A consistent pattern emerges in the Foz Tua dam enterprise:

- The dam was approved with false premises and arguments;
- The "compensation measures" approved by the Portuguese State and accepted by UNESCO are far bellow standard, not even close to compensating the quality and magnitude of the destruction on cultural and natural heritage;
- Several key compensation measures, even though substandard, are still not being applied by EDP, or are being waived with arguments that are either absurd or well known at the time of their approval, hence showing incompetence and/or bad faith;
- The Portuguese State and UNESCO have consistently neglected to uphold their obligations regarding the supervision of the Foz Tua dam works and the protection of the Alto Douro Wine Region.

If even those weak compensation measures are not viable, then the dam should never have been approved or accepted, and should now be stopped, before further damage is caused upon the Tua Valley and the Alto Douro Wine Region.

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